

Groundwater Monitoring Report

JUNE 2020 SAMPLING EVENT

Sandoval County Landfill
Rio Rancho, New Mexico

Submitted To:

New Mexico Environment Department
Solid Waste Bureau
P.O. Box 5469
Santa Fe, NM 87502

Prepared For:

Sandoval County
2708 Iris Road N.E.
Rio Rancho, NM 87144

Prepared By:

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September 24, 2020

Parkhill Project #: 01802320

Parkhill



September 24, 2020

Mr. George Schuman
Permit Section Manager
New Mexico Environment Department
Solid Waste Bureau
PO Box 5469
Santa Fe, NM 87502

Re: Sandoval County Landfill: Groundwater Monitoring Report
June 2020 Sampling Event [01802320]

Dear Mr. Schuman:

On behalf of our client, Sandoval County, Parkhill (f.k.a. Gordon/PSC) is submitting groundwater monitoring results corresponding to samples collected at the Sandoval County Landfill on June 17, 2020. 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.

A comparison of the laboratory analytical results for replacement wells MW-2R and MW-3R (installed in March and April 2020) and the historical groundwater quality database for wells MW-2 and MW-3 (deactivated) is also provided. The comparison shows that the geochemical signatures of replacement wells MW-2R and MW-3R are statistically consistent with the historical groundwater quality database for wells MW-2 and MW-3, respectively. Correspondingly, SCLF is requesting SWB approval to adopt the background water quality parameters/concentrations, statistical parameter values, and reduced parameter list for replacement wells MW-2R and MW-3R that have already been established for wells MW-2 and MW-3. The water level (as detectable) in wells MW-2 and MW-3 will continue to be recorded during each subsequent groundwater sampling event to assist in characterizing groundwater elevation, flow direction, and velocity.

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.

Sincerely,

PARKHILL (f.k.a. Gordon/PSC)

Diego Y. Ramirez
Civil Engineer

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

DYR/pg Enclosures

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

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1.0 INTRODUCTION

On June 17, 2020 Parkhill (f.k.a. Gordon Environmental/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). The 06/17/20 event consisted of sample collection at each of the site's five active monitoring wells.

Samples collected from wells MW-2R, 3R, 5R, 6R, and 7R were analyzed for the current NMED-approved alternate list of parameters (**Attachment 2**). Laboratory analytical results for wells MW-5R, 6R, and 7R were compared to the established assessment monitoring levels (AMLs) and upper tolerance limit values (UTLVs) approved by the NMED in 2015. In addition, a comparison of the laboratory analytical results for replacement wells MW-2R and MW-3R to existing wells MW-2 and MW-3 (**Attachment 5.2**) is provided in order to obtain SWB approval to adopt the following MW-2 and MW-3 groundwater monitoring program criteria for replacement wells MW-2R and MW-3R:

1. background water quality parameters/concentrations
2. statistical parameter values (i.e., BCV, AML, UTLV)
3. reduced parameter list

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* (Parkhill, 06/25/18), which was approved by SWB on 07/04/18.

On 08/12/19, Parkhill submitted the *Groundwater Monitoring Wells MW-2 and MW-3 Replacement Workplan* (“the Workplan”) to NMED for review and approval. Due to insufficient flows and declining recharge rates observed during routine monitoring, the Workplan provided the rationale for the deactivation of wells MW-2 and MW-3 (i.e., exclusion from the groundwater monitoring network and conversion to piezometers) and replacement with new wells MW-2R and MW-3R. On 09/18/19 SWB approved the Workplan and the removal of wells MW-2 and MW-3 from the groundwater monitoring network (**Attachment 7.2**). The field activities related to the installation of replacement monitoring wells MW-2R and MW-3R between 03/20/20 and 04/07/20 are documented in the *Groundwater Monitoring Well Installation Report: Wells MW-2R and MW-3R* (Parkhill, 07/02/20), which was approved by SWB on 08/19/20 (**Attachment 7.3**).

To demonstrate the suitability of wells MW-2R and MW-3R as proper replacements for wells MW-2 and MW-3, **Section 4.3** of this Report provides a comparison of the recent historical analytical data from wells MW-2 and MW-3 to the current results of wells MW-2R and MW-3R, respectively. Similar to wells MW-1, MW-5, MW-6, and MW-7, the water level (as detectable) in wells MW-2 and MW-3 will continue to be recorded during each subsequent groundwater sampling event to assist in characterizing groundwater elevation, flow direction, and velocity.

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**). 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 06/17/20 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-2R, 3R, 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 that allows the flow rate to be controlled at the ground surface as the groundwater exits the discharge tubing. On 06/17/20, a minimum of 3 well volumes of water were removed from wells MW-5R, MW-6R and MW-7R prior to sampling. Due to low yield, a minimum of one well volume of water was removed from wells MW-2R and MW-3R prior to sampling using the low-flow purging method.

As presented in the *Groundwater Monitoring System Plan Update (Updated June 20, 2017)*, the objective of low-flow purge and sampling is to collect a sample of water from the natural, unimpeded flow of groundwater across the screened section of the well. The slow removal of water ensures that stagnant water above the screened water column, and/or highly turbid water settling in a sump below the screened section, is not captured with water passing naturally through the screened section.

In the practice of low-flow purge and sampling, purge volumes are dependent upon field parameter stabilization and the recharge rate of each well. Consistent with the low-flow purge/sampling protocol outlined in the *Groundwater Monitoring System Plan Update (Updated June 20, 2017)*, wells MW-2R and 3R were purged until field measurements of pH, temperature, specific conductance (SC), had stabilized to within acceptable ranges for three successive readings.

Following collection, the groundwater samples were immediately placed in a cooler containing ice and maintained at approximately 4°C until delivery to the laboratory on 06/18/20. 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 well 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 June 2020 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 eleven existing groundwater monitoring wells on 06/17/20. 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; new data for wells MW-6, MW-6R, and MW-7R from a survey performed on 06/11/18; and new data for wells MW-2R, MW-3R, MW-7 from a survey performed on 05/26/20. The survey data indicate that the current groundwater table ranges in elevation from 4989.68 feet above mean sea level (fmsl) in upgradient well MW-5R to 4972.81 fmsl in downgradient well MW-3R. The groundwater flow direction is generally northeastward, following a hydraulic gradient of 0.0059 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 0.1358 ft/year to 13.57 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 06/17/20 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
- One duplicate sample (labeled “Dupe”) collected from well MW-5R

In addition, one trip blank, prepared and sealed by the laboratory, was included with the samples to ensure sample quality. The field blank was prepared by filling sample containers with VOC-free deionized water 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-2R, 3R, 5R, 6R, and 7R were analyzed for the alternate list of organic parameters provided in **Attachment 2**; and the laboratory analytical results were compared to the corresponding established AML. With the exception of the parameters listed in **Table 1** for wells MW-2R and MW-3R, no organic parameter was reported as detected above the respective laboratory PQL in any of the groundwater samples. Discussions for the well-specific organic parameter detections are presented below:

Table 1
Organic Parameters Exhibiting Established AML or UTLV Exceedances

Well I.D.	Sampling Date	Parameter	Analytical Result (µg/L)	Established AML (µg/L)	Regulatory GWPS (µg/L)	Established UTLV (µg/L)
MW-2R	06/17/20	Toluene	160	500	1,000	N/A
		Phenolics	25	3.75	5.0	N/A
MW-3R	06/17/20	Toluene	130	500	1,000	N/A
		Phenolics	40	3.75	5.0	N/A

Notes:

- N/A indicates UTLV not assigned

Toluene

Toluene was reported as detected in wells MW-2R and MW-3R at nominal concentrations of 160 µg/L and 130 µg/L, respectively, considerably less than the established AML of 500 µg/L. Given the potential for exposure to ambient exhaust emissions (i.e., generator used to power the sampling pump) and spray paint during recent construction of these wells, the detection of toluene in groundwater samples for these two wells is likely attributable to a source other than the landfill.

Phenolics

Phenolics were reported as detected in wells MW-2R and MW-3R at concentrations of 25 µg/L and 40 µg/L, respectively, considerably higher than the established AML of 3.75 µg/L and GWPS of 5.0 µg/L. Preliminary notification of the total phenolics AML exceedances was provided to NMED Solid Waste Bureau on 07/28/20 (**Attachment 7.1**).

The term “phenolics”, in this case, refers to a class of semi-volatile organic compounds (SVOCs) that occur both naturally as a product of microbial activity in groundwater, and as a man-made compound. Phenolics are also known to be a byproduct of combustion. The presence of phenolics in newly constructed wells MW-2R and MW-3R during the June 2020 event most likely indicates natural microbial activities or ambient exhaust impacts from the generator used to power the sampling pump.

Inorganic Parameters

Groundwater samples collected from wells MW-2R, 3R, 5R, 6R, and 7R were also analyzed for the alternate list of inorganic parameters provided in **Attachment 2**; and the laboratory analytical results were compared to the corresponding established AML. With the exceptions of the parameters listed in **Table 2**, no inorganic parameter exceeded its respective, established AML. As required, preliminary notification of the exceedances was provided to NMED Solid Waste Bureau on 07/28/20

(Attachment 7.1). Table 2 provides a summary of the inorganic parameters exhibiting apparent exceedances of the established AML.

Table 2
Inorganic Parameters Exhibiting Established AML or UTLV Exceedances

Well I.D.	Sampling Date	Parameter	Analytical Result (mg/L)	Established AML (mg/L)	Regulatory Presumptive AML (mg/L)	Established UTLV (mg/L)
MW-2R	06/17/20	Manganese Arsenic	0.33 0.0070	0.15 0.0057	0.15 0.005	0.304 0.0079
MW-3R	06/17/20	Manganese	0.76	0.15	0.15	N/A
MW-7R	06/17/20	Nitrate	6.2	5.0	5.0	N/A

Notes:

- N/A indicates UTLV not assigned
- **Bold italics** indicates that Established UTLV has been met or exceeded

Well MW-2R

Manganese

The concentration of manganese in well MW-2R (i.e., 0.33 mg/L) exceeds the established AML of 0.15 mg/L, and the established UTLV of 0.304 mg/L. A comparison of historical total and dissolved manganese concentrations in well MW-2 (**Attachment 5.2**) indicates 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-2R (i.e., 0.0070 mg/L) exceeds the established AML of 0.0057 mg/L, but is below the established UTLV of 0.079 mg/L. The data demonstrate that no statistically significant increase (SSI) is apparent for this constituent (i.e., the concentration is less than the established UTLV). In addition, a comparison of historical total and dissolved arsenic concentrations in well MW-2 (**Attachment 5.2**) indicates 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.

Well MW-3R

Manganese

The concentration of manganese in well MW-3R (i.e., 0.76 mg/L) exceeds the established AML of 0.15 mg/L. A UTLV has not been established for this parameter for well MW-3R. A comparison of historical total and dissolved manganese concentrations in well MW-3 (**Attachment 5.2**) indicates

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

Nitrate

Nitrate was reported as detected at a concentration of 6.2 mg/L, higher than the established AML of 5.0 mg/L. A UTLV has not been established for this parameter for well MW-7R. The June 2020 analytical result is likely a result of natural fluctuations in groundwater quality monitored by this replacement well.

4.3 Comparison of MW-2 to MW-2R and MW-3 to MW-3R

Attachment 5.2 provides a comparison of pertinent historical analytical data for wells MW-2 and MW-3 (i.e., 2012-2020) to the analytical data for wells MW-2R and MW-3R for the 06/17/20 event. In general, the analytical data show a strong and predictable correlation in water quality between the two wells; and the results for wells MW-2R and MW-3R are statistically consistent with the historical database for wells MW-2 and MW-3, respectively. In addition, the spatial proximity of MW-2R to MW-2 (i.e., approximately 20 feet) and MW-3R to MW-3 (approximately 90 feet) ensures a similarity in groundwater elevations. Therefore, SCLF is requesting SWB approval to adopt the following MW-2 and MW-3 groundwater monitoring program criteria for replacement wells MW-2R and MW-3R:

1. background water quality parameters/concentrations
2. statistical parameter values (i.e., BGV, AML, UTLV)
3. reduced parameter list

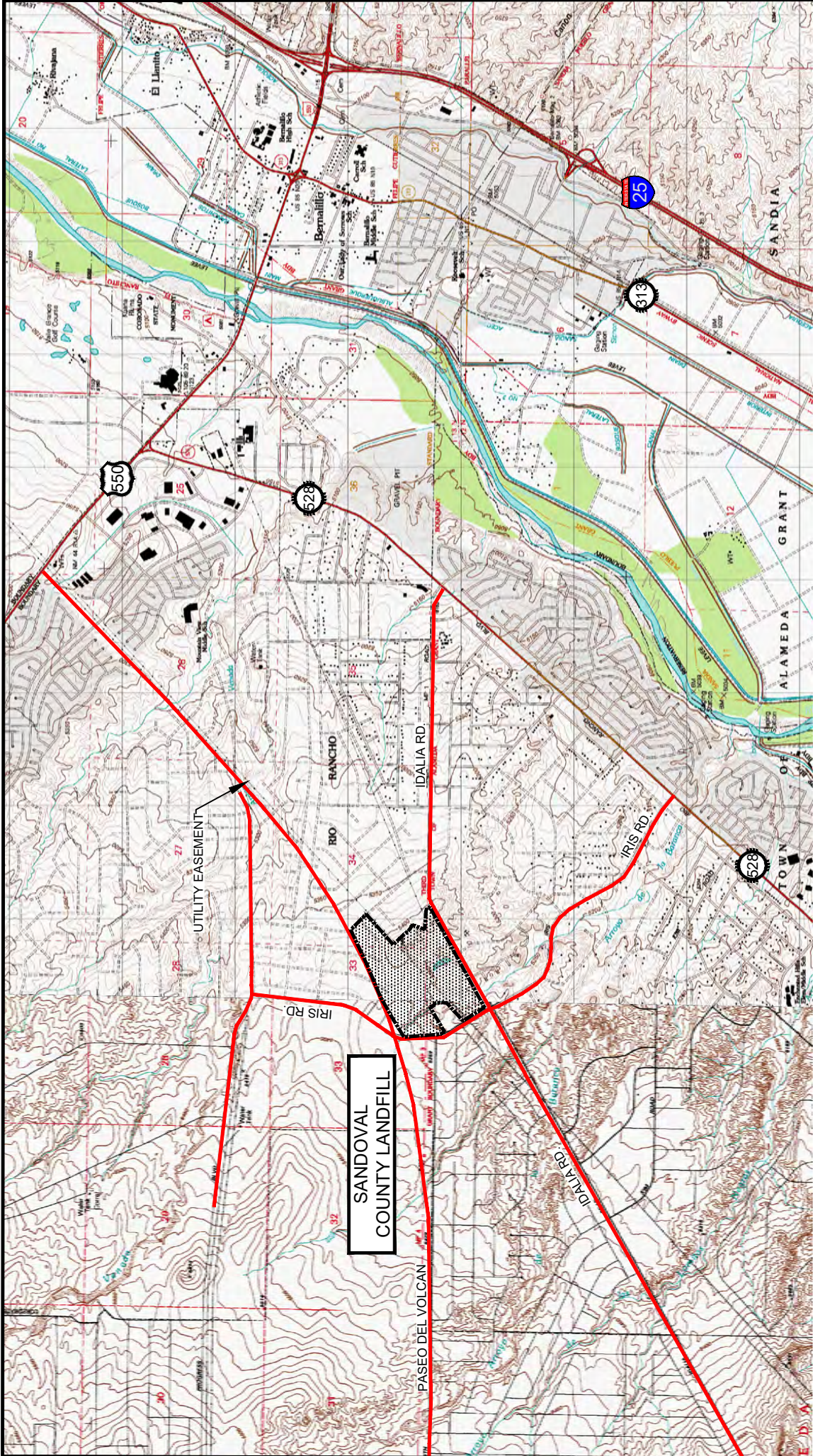
Upon SWB approval of the above request, SCLF plans to update the site's Groundwater Monitoring Plan and Groundwater Monitoring System Plan.

5.0 SUMMARY AND CONCLUSIONS

With the few exceptions noted above, 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 historical background water quality. Therefore, it is recommended that annual groundwater sampling at wells MW-2R, 3R, 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
JUNE 2020 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

Parkhill	PROJECT #:	01802320	DATE:	09/09/20
	DRAWN BY:	DYR	REVIEWED BY:	MJC
	CAD:	SITE LOCATION.DWG		
	ISSUING OFFICE:	RIO RANCHO		
WWW.PARKHILL.COM		ATTACHMENT 1		

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 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

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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
Methlyn tert-butyl ether (MTBE)	X	X
Methylene chloride (Dichloromethane, DCM)	X	X
Styrene	X	X
1,2,4-Trichlorobenzene	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

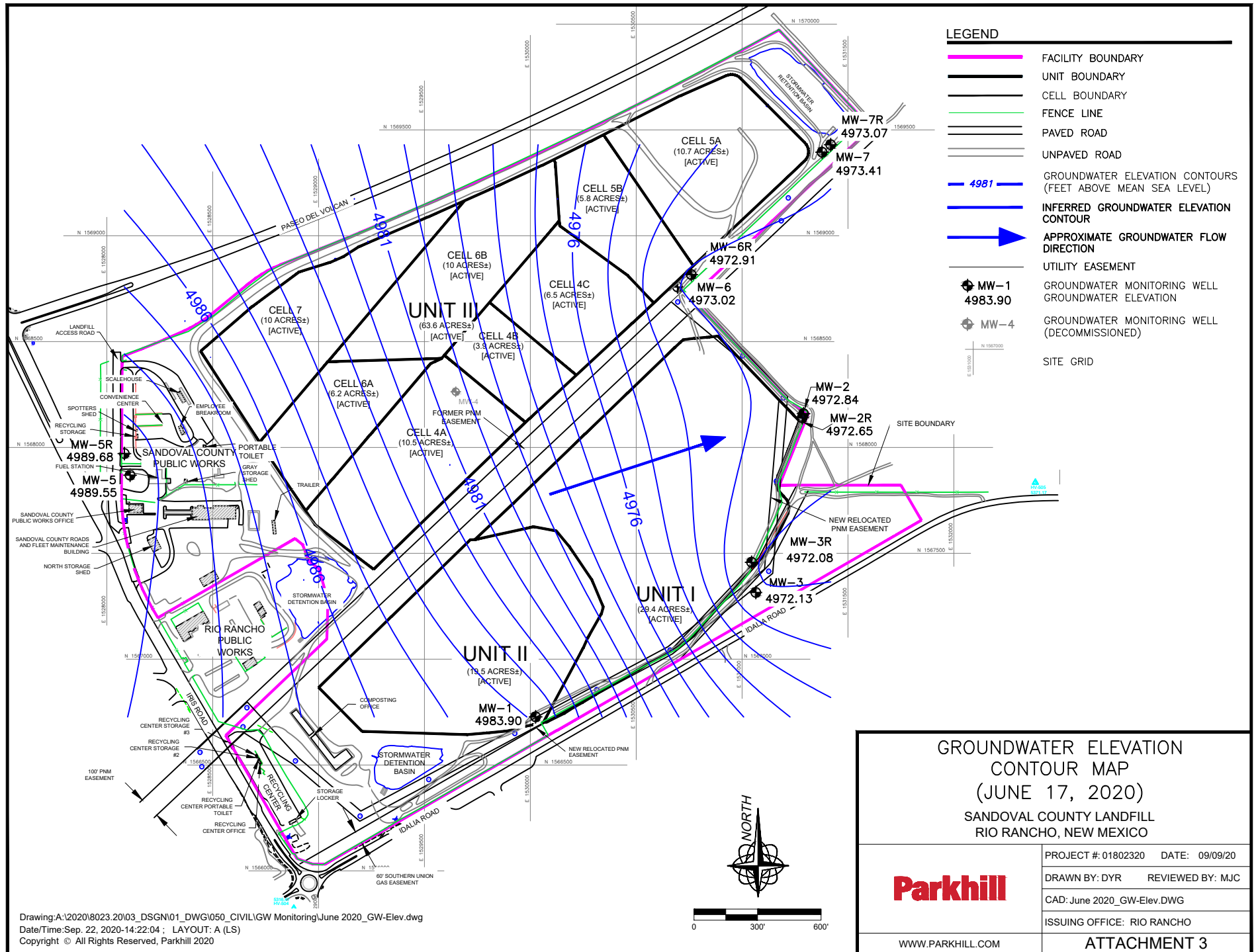
Approved 08/09/2009; next 5th year event scheduled for 2024

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**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 3

Groundwater Elevation Contour Map
(June 17, 2020)



**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 4

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

**Groundwater Monitoring Report
Sandoval County Landfill
June 2020 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	340.92	NS	NS	NS	NS	4983.90
MW-2	NS	5416.19	443.35	NS	NS	NS	NS	4972.84
MW-2R	06/17/20	5417.39	444.74	22.9	7.80	944	28.0	4972.65
MW-3	NS	5376.25	404.12	NS	NS	NS	NS	4972.13
MW-3R	06/17/20	5380.42	408.34	22.5	7.63	1,070	27.60	4972.08
MW-5	NS	5364.40	374.85	NS	NS	NS	NS	4989.55
MW-5R	06/17/20	5366.52	376.84	20.9	7.82	878	110.0	4989.68
MW-6	NS	5423.65	450.63	NS	NS	NS	NS	4973.02
MW-6R	06/17/20	5421.99	449.08	19.8	7.84	735	130	4972.91
MW-7	NS	5363.96	390.55	NS	NS	NS	NS	4973.41
MW-7R	06/17/20	5363.32	390.25	19.3	7.91	570	115.0	4973.07

Notes:

⁽¹⁾ Survey data for wells MW-1 through MW-5 (03/26/2015); well MW-5R (06/21/2016); wells MW-6, 6R, and 7R (06/11/2018); and wells MW-2R, 3R, and 7 (05/26/2020).

⁽²⁾ Recorded prior to well purging.

⁽³⁾ Stabilized field parameter values recorded during purging.

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

fmsl: feet above mean sea level

fbtow: feet below top of well

► For wells MW-1, 2, 3, 5, 6, and 7, top of well is top of PVC well casing

► For wells MW-2R through MW-7R, top of well is top of sounding tube

NS: Not Sampled

**Groundwater Monitoring Report
Sandoval County Landfill
June 2020 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)	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	342.92	340	30	1566727.43	1530025.087	6/10/1993
MW-2	Sch 80 PVC	4	5416.19	450.64	448	30	1568159.39	1531290.849	4/12/1996
MW-2R	Sch 80 PVC	4.8	5417.39	476.39	484	40	1568140.73	1531284.39	4/7/2020
MW-3	Sch 80 PVC	4	5376.25	411.47	410	30	1567315.35	1531065.172	4/2/1996
MW-3R	Sch 80 PVC	4.8	5380.42	443.42	451	40	1567457.23	1531045.3	3/26/2020
MW-5	SDR 17 PVC	4.5	5364.40	381.57	384	30	1567869.08	1528110.294	8/11/2003
MW-5R	Sch 80 PVC	5	5366.52	411.12	430	40	1567970.78	1528082.99	4/15/2016
MW-6	Sch 40 PVC	4	5423.65	458.85	462	30	1568758.24	1530695.53	1/28/2004
MW-6R	Sch 80 PVC	5	5421.99	487.14	495	40	1568816.59	1530759.48	5/31/2018
MW-7	Sch 40 PVC	4	5363.96	399.89	404	30	1569394.01	1531377.30	3/5/2004
MW-7R	Sch 80 PVC	5	5363.32	427.93	430	40	1569430.16	1531418.57	3/19/2018

Notes:

⁽¹⁾ Survey data for wells MW-1 through MW-5 (03/26/2015); well MW-5R (06/21/2016); wells MW-6, 6R, and 7R (06/11/2018); and wells MW-2R, 3R, and 7 (05/26/2020).

⁽²⁾ Well elevation and location data:

- ▶ For wells MW-1, 2, 3, 5, 6, and 7, survey data recorded at top of PVC well casing (north side)
- ▶ For wells MW-2R through MW-7R, survey data recorded at top of sounding tube (north side)

fmsl: feet above mean sea level

fbtow: feet below top of well

- ▶ For wells MW-1, 2, 3, 5, 6, and 7, top of well is top of PVC well casing
- ▶ For wells MW-2R through MW-7R, top of well is top of sounding tube

fbgs: feet below ground surface

Site: Sandoval County Landfill

Samplers: AY/TZ

Observers: -

Site/Well Condition: Good/Good

Equipment Information

Sampling Method: Low Flow

One Well Volume (feet, gallons)	$(476.74 - 444.74) = 31.65$ feet	
	(Total Depth - DTW) = well column	
	$31.65 \times 0.95 = 30.06$ gallons	
	(Well Column \times 0.95) = 1 well-volume	
Three Well Volumes	$30.06 \times 3 = 90.20$ gallons	
	1 well-volume \times 3 = 3 well-volumes	

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1449 Water Out: 1454

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

Notes: _____

Well ID: MW-2 E

Depth-to-water: 444.74

Total Depth: 476.79

Measured from: N. Sealing hole

Date: 6/17/20

Ambient Temperature: 94°F

Wind Direction/Speed: 3-50

Recent Precipitation: 6/6/20; 0.09"

Time	Gallons Removed	°C	pH	SC units <u>4.5</u>	Observations	Pumping Rate
1457	1.0	21.3	7.82	1023	fine sand pl sulfur	456.09
1507	5.0	19.8	7.74	1034	" "	457.40
1515	9.0	19.6	7.74	1030	clr, sl. sulf. odor	458.80
1523	13.0	19.3	7.74	1008	clr, less odor	460.61
1531	17.0	19.9	7.77	1010	clr., no odor	462.19
1541	22.0	21.4	7.75	972	" "	463.68
1551	26.0	22.0	7.81	945	" "	464.67
1554	27.0	22.9	7.80	941	" "	464.95
1557	28.0	22.9	7.80	944	" "	465.17

Volume Purged: 30 gallons

Sample Start: 1600

Sample End: 1608

Field Blank: -

Duplicate: -

Filtered: NO

Sampler(s):

Amy Young

Name

[Signature]

Signature

Tyler Zack

Name

[Signature]

Signature

Site: Sandoval County Landfill

Samplers: AY/TZ

Observers: _____

Site/Well Condition: Good/good

Well ID: WJ-312

Depth-to-water: 408.34

Total Depth: 443.12

Measured from: Top of sanding hole

Date: 6/17/20

Ambient Temperature: 80°F

Wind Direction/Speed: 6-SSW

Recent Precipitation: 6/6/20; 0.09"

Equipment Information

Sampling Method: low flow

One Well Volume (feet, gallons)	$(443.12 - 408.34) = 34.78$ feet	
	(Total Depth - DTW) = well column	
	$34.78 \times 0.95 = 33.04$ gallons	
	(Well Column \times 0.95) = 1 well-volume	
Three Well Volumes	$33.04 \times 3 = 99.12$ gallons	
	1 well-volume \times 3 = 3 well-volumes	

Pump Make: Grundfos® Refi-Flo 4

Pump On: 0934 Water Out: 0938

Generator Fuel:				Electric Pump
	Beginning	Mid	Final	
Hz	90		92	
disch. Rate				

Notes: _____

Sampler(s):

ANDY YUHAS
Name

[Signature]
Signature

Date:

Tyler Zack
Name

[Signature]
Signature

Time	Gallons Removed	°C	pH	SC units/L	Observations	Pumping Rate
0944	5.0	19.0	7.59	1122	clr, sulfur odor	421.38
0950	8.0	19.1	7.60	1129	— " —	422.75
0958	11.0	19.1	7.60	1117	clr. less odor	423.66
1007	14.0	19.8	7.60	1100	— " —	424.85
1014	17.0	19.4	7.56	1085	— " —	426.15
1016	20.0	20.2	7.58	1082	— " —	427.42
1021	25.0	21.0	7.58	1101	clr. no odor	429.75
1035	26.75	22.3	7.69	1080	— " —	428.97
1039	27.25	22.3	7.66	1074	— " —	428.90
1041	27.60	22.5	7.63	1070	— " —	428.85

Volume Purged: 27.6 gallons

Sample Start: 1045

Sample End: 1050

Field Blank: —

Duplicate: —

Filtered: 100

Site: Sandoval County Landfill

Samplers: AY/TZ

Observers: —

Site/Well Condition: Good/good

Well ID: MW-512

Depth-to-water: 376.84

Total Depth: 411.12

Measured from: N sounding hole

Date: 06/17/20

Ambient Temperature: 60°F

Wind Direction/Speed: calm

Recent Precipitation: 6/6/20 ; 0.09"

Equipment Information

Sampling Method:

One Well Volume (feet, gallons)	$(411.12 - 376.84) = 34.28$ feet	
	(Total Depth - DTW) = well column	
	$34.28 \times 0.95 = 32.56$ gallons	
	(Well Column \times 0.95) = 1 well-volume	
Three Well Volumes	$32.56 \times 3 = 97.68$ gallons	
	1 well-volume \times 3 = 3 well-volumes	

Pump Make: Grundfos® Refi-Flo 4

Pump On: 0737 Water Out: 0758

Generator Fuel:				Electric Pump
	Beginning	Mid	Final	
Hz	90	90	90	
disch. Rate				

Notes: _____

Sampler(s):

Aray YUHAS

Name

[Signature]

Signature

Field Blank: 0840

Duplicate: 0849

Filtered: NO

Name

Tyler Zook

Signature

[Signature]

Time	Gallons Removed	°C	pH	SC units <u>SS</u>	Observations	Pumping Rate
0800	5.0	17.6	7.13	887	clean, no odor	378.2
0805	20.0	19.6	7.63	869	— " —	378.25
0811	35.0	20.6	7.80	873	clean, no odor	378.31
0816	50.0	20.5	7.80	872	— " —	378.31
0821	65.0	20.3	7.82	875	— " —	378.31
0827	80.0	20.7	7.85	878	— " —	378.32
0834	95.0	20.3	7.81	879	— " —	378.32
0841	110.0	20.9	7.82	878	— " —	378.32

Groundwater Monitoring Field Notes

Site: Sandoval County Landfill

Samplers: AY / TE

Observers: —

Site/Well Condition: good / good

Well ID: MW-6R

Depth-to-water: 449.08

Total Depth: 487.14

Measured from: top of sounding tube

Date: 06/17/20

Ambient Temperature: 92° F

Wind Direction/Speed: 5 mph - SW

Recent Precipitation: 6/6/20: 0.09"

Equipment Information

Sampling Method: 3WV

One Well Volume (feet, gallons)	<u>(487.14 - 449.08) = 38.06</u> feet	
	(Total Depth - DTW) = well column	
Three Well Volumes	<u>38.06 x 0.95 = 36.157</u> gallons	
	(Well Column x 0.95) = 1 well-volume	
Three Well Volumes	<u>36.157 x 3 = 108.47</u> gallons	
	1 well-volume x 3 = 3 well-volumes	

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1331 Water Out: 1334

Generator Fuel:				Electric Pump
	Beginning	Mid	Final	
Hz	<u>100</u>	<u>—</u>	<u>—</u>	
disch. Rate				

Notes: _____

Sampler(s):

ANDY YUHAS
Name

Signature

Volume Purged: 130 gallons

Sample Start: 1418
1420

Sample End: _____

Field Blank: —

Duplicate: —

Filtered: NO

Tyler Zack
Name

Signature

Tyler A. Yuhas
Signature

Time	Gallons Removed	°C	pH	SC units <u>445</u>	Observations	Pumping Rate
1335	2.5	18.6	7.81	737	clear, no odor	450.65
1339	15	18.4	7.73	745	— 4 —	450.60
1344	30	19.3	7.75	730	— 1 —	450.65
1351	50	19.4	7.82	749	— 4 —	450.70
1357	70	20.2	7.78	747	— 4 —	450.73
1404	90	20.1	7.86	740	— 4 —	450.75
1410	110	19.9	7.88	744	— 4 —	450.75
1416	130	19.8	7.84	735	— 4 —	450.74

Groundwater Monitoring Field Notes

Site/Well Condition: good/good

Equipment Information

Sampling Method: 30V

One Well Volume $(427.43 - 390.25) = 37.08$ feet
(Total Depth - DTW) = well column

$$\frac{37.68}{(Well\ Column \times 0.95)} \times 0.95 = \frac{35.79}{1\ well\ volume} \text{ gallons}$$

Three Well
Volumes $\frac{35.79}{1 \text{ well-volume} \times 3 = 3 \text{ well-volumes}} \times 3 = \frac{107.38}{\text{gallons}}$

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1210 Water Out: 1212

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

Notes: _____

Well ID: MW-712

Depth-to-water: 390-25

Total Depth: 427.93

Measured from: Spawning hole

Date: 06/17/20

Ambient Temperature: 90 °F

Wind Direction/Speed: 7 mph / SW

Recent Precipitation: 10/26/20 : 0.09"

Time	Gallons Removed	°C	pH	SC units <u>mg</u>	Observations	Pumping Rate
1214	3.0	18.0	7.78	565	(clear, no odor)	392.65
1217	20.0	18.7	7.84	565	— " —	392.68
1221	40.0	19.2	7.86	563	— " —	393.30
1227	60.0	19.4	7.86	569	— " —	393.18
1231	80.0	19.4	7.90	566	— " —	393.31
1235	100.0	19.5	7.90	568	— " —	393.36
1240	115.0	19.3	7.91	570	— " —	393.25

Other

Groundwater Monitoring Field Notes

Volume Purged: 115.0 gallons

Sample Start: 1244

Sample End: 1017

Sampler(s): Hand YUHAs

Name 5 7

Signature _____

Field Blank: _____

Duplicate:

Filtered: ND

Name _____

Signature _____

Site: SCCF

Samplers: A4/T2

Date: 6/17/20

Ambient Temperature: 64°-95°F

Wind Direction/Speed: 5-10 SW

Recent Precipitation: 6/6/20; 0.09"

Well ID: MW-1

Depth-to-water: 340.92

Total Depth: 342.92

Measured from: North Mark

Notes: _____

Well ID: MW-2

Depth-to-water: 443.35

Total Depth: 450.64

Measured from: N Mark

Notes: _____

Well ID: MW-3

Depth-to-water: 404.12

Total Depth: 411.47

Measured from: TCC

Notes: _____

Well ID: MW-5

Depth-to-water: 374.85

Total Depth: 381.57

Measured from: W casing

Notes: _____

Well ID: MW-6

Depth-to-water: 450.63

Total Depth: 458.85

Measured from: Top of casing (N)

Notes: _____

Well ID: MW-7

Depth-to-water: 390.85

Total Depth: 399.89

Measured from: Top of casing (N)

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
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 5

Summary of Inorganic Parameter Analytical Results

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 5.1

Summary of Inorganic Parameter Analytical Results: Wells MW-5R, 6R, and 7R

Attachment 5 - Summary of Organic 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 ($\mu\text{S}/\text{cm}$), Field Temperature ($^{\circ}\text{C}$), and Phenolics ($\mu\text{g}/\text{L}$).

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 (Updated January 2020)

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 (Updated January 2020)

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-5R	MW-5				MW-5R					2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
PARAMETER ⁽¹⁾	03/13/12	03/13/13	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19	06/17/20						
Fluoride, F	0.78	1.60	0.70	0.75	0.70	0.65	0.58	0.71	0.62	0.77	0.8	0.8	0.9399	0.940	1.6
Chloride, Cl ⁻	170	160	170	180	170	170	160	180	160	176.00	187.5	187.5	206.4	206.4	250
Nitrate as N, NO ₃ -N	<1.0	<1.0	<0.10	<0.10	0.60	0.75	0.71	0.63	0.60	1.0	5.0	5.0	0.5	N/A	10
Sulfate, SO ₄ ²⁻	20	<5.0	27	1.3	32	29	31	34	32	29.84	450	450	47.94	N/A	600
Aluminum, Al	<0.15	<0.15	0.086	0.050	<0.020	9.6 (<0.020)	<0.020	<0.020	<0.020	0.16	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.12	0.14	0.19	0.20	0.093	0.21	0.09	0.082	0.083	0.12	1.0	0.5	0.2291	N/A	2.0
Chromium, Cr	<0.01	0.02	0.025	0.0064	0.015 (<0.0060)	0.045	<0.0060	<0.0060	<0.0060	0.047	0.025	0.047	0.14	0.14	0.05
Cobalt, Co	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.03	0.0375	0.0375	0.015	N/A	0.05
Iron, Fe	0.98	0.82	1.4	0.83	0.15 (<0.020)	11 (0.020)	0.0220	0.022	<0.050	1.20	0.75	1.20	1.649	1.649	1.0
Manganese, Mn	0.082	0.073	0.41	0.17	0.024 (0.023)	0.30	<0.0020	<0.0020	<0.0020	0.11	0.15	0.15	0.4475	0.4475	0.2
Zinc, Zn	0.18	0.95	1.2	2.0	0.015	0.029	<0.010	<0.010	<0.010	0.80	7.5	7.5	1.3	N/A	10
Arsenic, As	0.0057	0.0091	0.0062	0.0067	0.0044 (0.0042)	0.011	0.0069	0.0073	0.0079	0.0080	0.005	0.008	0.012	0.012	0.01
Lead, Pb	<0.01	0.013	0.011	0.025	<0.00050 (<0.00050)	0.0060	<0.00050	<0.00050	<0.00050	0.020	0.0015	0.025	0.017	N/A	0.0075
Uranium, U	<0.015	<0.015	0.0012	0.0019	0.0024	0.0028	0.0019	0.0017	0.0018	0.0026	0.015	0.015	1.25	1.25	0.03
Total Dissolved Solids, TDS	479	472	490	454	460	473	462	462	466	478.47	750	750	545.5	N/A	1,000
Field pH (standard units)	7.5	7.4	7.5	7.5	7.69	8.2	8.0	7.67	7.82	7.53	6 - 9	6 - 9	6.622 - 8.435	N/A	6 - 9
Subsection A Organic Parameter	03/13/12	03/13/12	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	0.0049	<0.0025	<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	03/13/12	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19	06/17/20	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	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	51	54	50	48	48	63	45	50	46	45	—	—	—	—	—
Magnesium, Mg	5.6	6.3	5.7	5.4	5.2	8.5	4.9	5.4	5.1	5.1	—	—	—	—	—
Potassium, K	5.8	6.6	6.6	6.7	5.3	7.3	5.2	5.6	5.1	6.0	—	—	—	—	—
Sodium, Na	100	94	97	100	110	110	110	110	120	105	—	—	—	—	—
Total Organic Carbon, TOC	16	9	6.5	1.8	4.0	<1.0	1.6	1.3	1.8	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	1.0	—	—	—	—	—
Total Nitrogen, TN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	130	140	130	138.4	104.5	102.3	101.8	100.4	102.0	119	—	—	—	—	—
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	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	—	—	—	—	—
Field Temperature (°C)	17.4	16.0	15.3	17.1	22.4	19.1	21.5	20.9	20.9	16.6	—	—	—	—	—
Field SC (mS/cm)	855	835	801	854	768	834	792	868	878	798	—	—	—	—	—

Attachment 5 - Summary of Inorganic Parameter 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⁾	03/10/11	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19	06/17/20						
Fluoride, F	0.71	0.66	0.67	0.69	0.62		<0.50	0.53	0.65	0.55	0.70	0.8	0.8	0.8235	0.8235	1.6
Chloride, Cl ⁻	130	120	120	120	130		120	100	120	110	124.29	187.5	187.5	130	N/A	250
Nitrate as N, NO ₃ -N	<1.0	<1.0	<1.0	0.74	0.60		<0.50	1.1	1.2	1.2	0.89	5.0	5.0	1.0	N/A	10
Sulfate, SO ₄ ²⁻	47	46	43	44	49		<2.5	42	48	44	48.86	450	450	53.59	N/A	600
Aluminum, Al	<0.15	0.19	0.15	0.12	0.026		0.040	<0.020	<0.020	<0.020	0.15	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.06	0.061	0.056	0.055	0.069		0.10	0.050	0.050	0.050	0.053	1.0	0.5	0.06468	N/A	2.0
Chromium, Cr	<0.01	<0.01	0.013	0.0064	<0.0060		0.024	<0.0060	<0.0060	<0.0060	0.012	0.025	0.025	0.016	N/A	0.05
Cobalt, Co	<0.025	<0.025	<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
Iron, Fe	0.11	0.17	0.22	0.14	0.14		3.4 (2.9)	0.081	0.064	<0.050	0.17	0.75	0.75	0.22	N/A	1.0
Manganese, Mn	<0.03	<0.03	<0.03	0.0079	0.025		0.35 (0.45)	0.0040	0.0032	<0.0020	0.079	0.15	0.15	0.15	N/A	0.2
Zinc, Zn	<0.05	<0.05	<0.05	0.010	<0.010		<0.010	<0.010	<0.010	<0.010	0.030	7.5	7.5	0.05	N/A	10
Arsenic, As	0.0091	0.0068	0.0078	0.0066	0.0056		0.0018	0.0062	0.0074	0.0082	0.009	0.005	0.009	0.011	0.011	0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.0010	<0.0010		<0.00050	<0.00050	<0.00050	<0.00050	0.01	0.0015	0.025	0.005	N/A	0.0075
Uranium, U	<0.015	<0.015	<0.015	0.0024	0.0031		<0.00050	0.0018	0.0017	0.0018	0.0025	0.015	0.015	1.25	1.25	0.03
Total Dissolved Solids, TDS	427	433	439	224	424		537	407	409	422	414.50	750	750	453.4	N/A	1,000
Field pH (standard units)	7.9	7.8	7.8	7.7	7.5		7.0	8.1	7.64	7.84	7.84	6 - 9	6 - 9	7.555 - 8.217	N/A	6 - 9
Subsection A Organic Parameter	03/10/11	03/12/12	03/12/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19	06/17/20	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		0.0058	<0.0025	<0.0025	<0.0025	0.003	0.00375	0.00375	0.0015	N/A	0.005
Subsection C Parameters	03/10/11	03/12/12	03/12/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.5	<0.5	<0.50	<0.50		<2.5	<0.50	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	46	46	50	45	42		56	44	45	45	44	—	—	—	—	—
Magnesium, Mg	5.7	5.4	5.8	5.0	4.8		5.5	4.9	5.0	5.2	5.3	—	—	—	—	—
Potassium, K	5.0	4.9	5.4	4.5	5.1		4.6	4.8	4.7	4.8	4.7	—	—	—	—	—
Sodium, Na	98	93	92	90	88		90	80	82	86	91	—	—	—	—	—
Total Organic Carbon, TOC	<1.0	<1.0	14	18	6.9		100	<1.0	<1.0	<1.0	11.2	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<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	<1.0		<1.0	1.1	1.2	1.2	1.0	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	110	110	110	110	118.0		150.4	102.4	102.2	104.0	109	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<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	<1.0	1.0	—	—	—	—	—
Field Temperature (°C)	18.3	21.5	23.9	19.1	19.4		16.3	21.1	19.6	19.8	21.1	—	—	—	—	—
Field SC (mS/cm)	605	804	734	700	776		771	668	745	735	728	—	—	—	—	—

Attachment 5 - Summary of Inorganic Parameter 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⁾	03/10/11	03/12/12	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19	06/17/20						
Fluoride, F	0.88	0.83	0.84	0.85	0.78	0.80	1.2	0.86	0.96	0.84	0.86	0.8	0.9	0.9776	0.9776	1.6
Chloride, Cl ⁻	46	42	41	42	42	40	49	48	49	49	43.43	187.5	187.5	48	N/A	250
Nitrate as N, NO ₃ -N	1.9	1.9	2.0	2.1	0.78	<1.0	<0.10	6.2	6.6	6.2	2.56	5.0	5.0	3.2	N/A	10
Sulfate, SO ₄ ²⁻	53	55	55	55	44	51	61	43	44	42	62.07	450	450	84.24	N/A	600
Aluminum, Al	<0.15	<0.15	0.20	0.19	1.0	0.36	0.58	0.085	0.39	0.11	0.19	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.08	0.074	0.062	0.061	0.060	0.061	0.065	0.051	0.059	0.53	0.060	1.0	0.5	0.08	N/A	2.0
Chromium, Cr	<0.01	<0.01	<0.01	0.011	0.016	0.0085 (<0.0060)	0.030	<0.0060	<0.030	<0.0060	0.017	0.025	0.025	0.028	0.028	0.05
Cobalt, Co	<0.025	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.030	<0.0060	0.03	0.0375	0.0375	0.015	N/A	0.05
Iron, Fe	0.13	0.17	0.21	0.20	0.91	0.47 (0.037)	0.99 (0.48)	0.090	0.38	0.14	0.19	0.75	0.75	0.31	N/A	1.0
Manganese, Mn	0.086	0.05	<0.03	0.022	0.050	0.020 (0.015)	0.022	0.013	0.019	0.013	0.074	0.15	0.15	0.19	0.190	0.2
Zinc, Zn	<0.05	<0.05	<0.05	<0.010	0.023	0.015	0.023	<0.010	<0.050	<0.010	0.050	7.5	7.5	0.025	N/A	10
Arsenic, As	0.0064	<0.005	0.0070	0.0059	0.0065	0.0055 (0.0052)	0.0068	0.0048	0.0064	0.0063	0.006	0.005	0.006	0.007	0.007	0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.0010	0.0023	0.0015 (<0.00050)	0.0016	<0.00050	<0.00050	<0.00050	0.01	0.0150	0.025	0.005	N/A	0.0075
Uranium, U	<0.015	<0.015	<0.015	0.0028	0.0023	0.0022	0.0027	0.0020	0.0021	0.0018	0.0031	0.015	0.015	1.25	1.25	0.03
Total Dissolved Solids, TDS	326	329	333	172	313	297	324	332	314	316	322.64	750	750	358	N/A	1,000
Field pH (standard units)	8.1	7.9	7.9	7.9	7.5	7.79	7.7	8.0	7.67	7.91	7.86	6 - 9	6 - 9	7.639 - 8.211	N/A	6 - 9
Subsection A Organic Parameter	03/10/11	03/12/12	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	<0.0025	0.0032	<0.0025	<0.0025	<0.0025	0.0029	<2.5	<0.0025	<0.0025	0.003	0.00375	0.00375	0.0015	N/A	0.005
Subsection C Parameters	03/10/11	03/12/12	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	40	40	39	39	36	41	44	35	36	36	37	—	—	—	—	—
Magnesium, Mg	5.4	5.1	4.8	4.7	4.7	5.2	5.1	4.2	4.6	4.4	4.9	—	—	—	—	—
Potassium, K	4.5	4.3	4.2	4.6	4.5	4.2	4.4	4.1	4.1	4.2	4.3	—	—	—	—	—
Sodium, Na	61	58	55	55	54	58	56	68	61	70	61	—	—	—	—	—
Total Organic Carbon, TOC	3.4	<1.0	<1.0	3.3	76	4.6	54	<1.0	2.2	2.2	3.8	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	1.9	1.9	2.0	2.1	1.9	<1.0	<1.0	6.2	6.6	6.2	2.6	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	130	120	120	120	137.2	135.7	127.9	107.8	107.1	107.8	119	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Field Temperature (°C)	21.5	20.8	21.4	19.3	17.4	19.9	17.5	19.8	19.4	19.3	21.1	—	—	—	—	—
Field SC (mS/cm)	416	537	519	493	535	488	511	511	570	570	512	—	—	—	—	—

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 5.2

Comparison of Analytical Results: MW-2 to MW-2R and MW-3 to MW-3R

Attachment 5 - Summary of Inorganic Parameter Analytical Results

MW-2R	MW-2								MW-2R	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS
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	06/17/20						
Fluoride, F	0.75	0.75	0.78	0.72	0.76	0.77	0.66	<0.50	0.79	0.81	0.8	1.045	0.81	1.045	1.6
Chloride, Cl ⁻	73	74	73	76	74	82	69	79	100	83.18	187.5	89.36	187.5	N/A	250
Nitrate as N, NO ₃ -N	<1.0	1.0	1.0	1.0	1.1	1.0	1.0	<0.50	<0.50	0.94	5.0	1.4	5.0	N/A	10
Sulfate, SO ₄ ²⁻	50	50	51	52	52	51	47	38	96	58.56	450	69.76	450	N/A	600
Aluminum, Al	0.74	0.23	0.23	0.11	0.023	0.550	0.160	0.044	0.59	0.43	3.75	1.5	3.75	N/A	5.0
Barium, Ba	0.062	0.052	0.053	0.053	0.052	0.060	0.050	0.079	0.058	0.052	1.0	0.06729	0.5	N/A	2.0
Chromium, Cr	0.05	0.021	0.011	0.058	0.0070 (<0.0060)	0.0390	0.0160	0.026	0.0067	0.026	0.025	0.052	0.026	0.052	0.05
Cobalt, Co	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.030	0.0375	0.015	0.0375	N/A	0.05
Iron, Fe	5.2	1.8	1.4	1.6	0.47 (<0.020)	3.5	1.3	2.3	0.55	1.43	0.75	6.654	1.43	6.654	1.0
Manganese, Mn	0.061	<0.03	0.012	0.0075	0.0053 (0.0039)	0.0027	0.0099	0.44	0.33	0.13	0.15	0.304	0.15	0.304	0.2
Zinc, Zn	<0.05	<0.05	<0.010	0.013	<0.010	<0.010	<0.010	0.015	0.032	0.071	7.5	0.0729	7.5	N/A	10
Arsenic, As	0.005	<0.005	0.0040	0.0041	0.0033 (0.0031)	0.0051	0.0041	0.012	0.0070	0.0057	0.005	0.0079	0.0057	0.0079	0.01
Lead, Pb	<0.01	<0.01	<0.0010	0.0015	0.00057 (<0.00050)	0.0012	0.001	0.0013	0.0024	0.01	0.015	0.005	0.025	N/A	0.0075
Uranium, U	<0.015	<0.015	0.0019	0.0024	0.0021	0.0020	0.0018	0.0013	0.0048	0.0036	0.015	1.25	0.015	1.25	0.03
Total Dissolved Solids, TDS	366	366	396	350	344	368	372	353	545	365.36	750	486	750	N/A	1,000
Field pH (standard units)	7.8	7.9	7.8	7.3	7.72	7.8	8.0	7.47	7.80	7.70	6 - 9	7.068 - 8.305	6 - 9	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	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.025	0.005	0.00375	0.0025	0.00375	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	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.5	<0.50	<0.50	<0.50	<2.5	<0.50	<2.5	<2.5	1.0	—	—	—	—	—
Calcium, Ca	39	36	38	35	38	41	37	42	41	41	—	—	—	—	—
Magnesium, Mg	4.6	4.2	4.2	4.0	4.4	4.6	4.3	4.9	5.8	4.8	—	—	—	—	—
Potassium, K	4.2	4.2	4.2	4.5	4.1	4.3	4.2	4.2	5.6	4.5	—	—	—	—	—
Sodium, Na	70	67	70	68	71	71	75	74	140	72	—	—	—	—	—
Total Organic Carbon, TOC	15	27	2.5	4.8	5.9	8.6	3.9	15	8.1	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	1.0	—	—	—	—	—
Total Nitrogen, TN	<1.0	1.0	1.0	1.0	1.1	1.0	<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	172.2	110	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<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	22.9	19.0	—	—	—	—	—
Field SC (mS/cm)	638	598	556	617	546	574	573	648	944	550	—	—	—	—	—

Attachment 5 - Summary of Inorganic Parameter Analytical Results

MW-3R	MW-3									MW-3R	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS
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	06/17/20							
Fluoride, F	0.71	0.65	0.73	0.68	0.71	0.68	<0.50	0.73	0.71	0.69	0.8	0.8	0.8	0.842	1.6	
Chloride, Cl ⁻	75	76	76	81	76	74	78	82	120	80.93	187.5	87.5	187.5	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	<0.50	1.1	5.0	1.3	5	N/A	10	
Sulfate, SO ₄ ²⁻	55	52	54	55	54	55	52	63	120	60.93	450	69	450	N/A	600	
Aluminum, Al	0.80	0.35	0.038	0.022	0.36	0.22	2.00	0.14	0.41	0.33	3.75	1.50	3.75	N/A	5.0	
Barium, Ba	0.064	0.056	0.047	0.049	0.060	0.052	0.056	0.070	0.066	0.05	1.0	0.1	0.5	N/A	2.0	
Chromium, Cr	0.028	0.018	0.0074	<0.0060	0.16 (<0.0060)	0.018	0.042	0.10	<0.0060	0.027	0.025	0.078	0.0269	0.078	0.05	
Cobalt, Co	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.019	<0.0060	0.03	0.0375	0.0150	0.0375	N/A	0.05	
Iron, Fe	5.10	2.20	0.27	0.32	3.5 (<0.020)	1.4	5.4	2.2	0.89	0.91	0.75	6.14	0.91224	6.135	1.0	
Manganese, Mn	0.047	<0.03	0.0024	0.0039	0.057 (0.0021)	0.018	0.055	0.94	0.76	0.04	0.15	0.05	0.15	N/A	0.2	
Zinc, Zn	<0.05	<0.05	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.034	0.06	7.5	0.1	7.5	N/A	10	
Arsenic, As	0.0083	0.0083	0.0057	0.0058	0.0080 (0.0050)	0.0056	0.0075	0.0085	0.0068	0.0069	0.005	0.010	0.0069	0.01	0.01	
Lead, Pb	<0.01	<0.01	<0.0010	<0.0010	0.0024 (<0.00050)	0.00072	0.0015	0.0016	0.0027	0.010	0.0150	0.005	0.025	N/A	0.0075	
Uranium, U	<0.015	<0.015	0.0020	0.0023	0.0025	0.0020	0.0020	0.0020	0.0046	0.0032	0.015	1.250	0.015	1.25	0.03	
Total Dissolved Solids, TDS	370	368	382	358	344	360	366	361	661	363.20	750	385	750	N/A	1,000	
Field pH (standard units)	7.8	7.8	7.8	7.5	7.73	7.9	7.9	7.57	7.63	7.77	6 - 9	7.378 - 8.314	6 - 9	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	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS	
Phenolics (total)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.04	0.0050	0.00375	0.00250	0.00375	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	06/17/20	2014 Calculated BCV	Regulatory Presumptive AML	2014 Calculated UTLV	2014 Established AML	2014 Established UTLV	GWPS	
Phosphate, PO ₄	<0.5	<0.5	<0.50	<0.50	<0.50	<2.5	<2.5	<2.5	<2.5	1.0	—	—	—	—	—	
Calcium, Ca	41	40	39	38	41	42	40	45	53	42	—	—	—	—	—	
Magnesium, Mg	5.2	4.9	4.5	4.4	4.9	4.7	4.8	5.0	7.6	4.8	—	—	—	—	—	
Potassium, K	4.5	4.5	4.0	4.6	4.4	4.1	4.5	4.3	5.9	4.3	—	—	—	—	—	
Sodium, Na	73	69	67	70	70	68	72	68	140	74	—	—	—	—	—	
Total Organic Carbon, TOC	1.3	30	7.1	13	13	1.7	2.1	6.1	21	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	1.0	—	—	—	—	—	
Total Nitrogen, TN	1.1	1.1	1.1	1.1	1.2	1.1	1.1	<1.0	<1.0	1.1	—	—	—	—	—	
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	110	110	100	106.1	108.8	107.8	107.1	124.6	179.0	103	—	—	—	—	—	
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.00	<2.00	2.0	—	—	—	—	—	
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—	
Field Temperature (°C)	20.9	20.2	18.6	21.1	22.3	22.2	25.1	18.1	22.5	18.9	—	—	—	—	—	
Field SC (mS/cm)	621	599	570	622	552	573	562	667	1,070	566	—	—	—	—	—	

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 6

Laboratory Report and Chain-of-Custody Documentation



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

July 15, 2020

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.: 2006964

Dear Mike Crepeau:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/18/2020 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 horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 4:00:00 PM

Lab ID: 2006964-001

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 4:59:25 PM	53146
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/22/2020 4:59:25 PM	53146
EPA 200.8: METALS							Analyst: bcv
Arsenic	0.0070	0.0010		mg/L	1	6/22/2020 3:56:07 PM	53213
Lead	0.0024	0.00050		mg/L	1	6/22/2020 3:56:07 PM	53213
Uranium	0.0048	0.00050		mg/L	1	6/22/2020 3:56:07 PM	53213
EPA METHOD 9060 TOC							Analyst: AG
Total Organic Carbon	8.1	1.0		mg/L	1	6/19/2020 7:02:50 PM	R69788
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.79	0.50		mg/L	5	6/18/2020 10:17:43 PM	R69745
Chloride	100	10		mg/L	20	6/18/2020 10:30:35 PM	R69745
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/18/2020 10:17:43 PM	R69745
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/18/2020 10:17:43 PM	R69745
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/18/2020 10:17:43 PM	R69745
Sulfate	96	2.5		mg/L	5	6/18/2020 10:17:43 PM	R69745
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	920	10		µmhos/c	1	6/22/2020 4:31:58 PM	R69814
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	172.2	20.00		mg/L Ca	1	6/23/2020 1:40:14 PM	R69860
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/23/2020 1:40:14 PM	R69860
Total Alkalinity (as CaCO3)	172.2	20.00		mg/L Ca	1	6/23/2020 1:40:14 PM	R69860
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	545	20.0	*	mg/L	1	6/25/2020 6:29:00 PM	53242
SM 4500 NH3: AMMONIA							Analyst: CJS
Nitrogen, Ammonia	ND	1.0		mg/L	1	7/8/2020 12:15:00 PM	R70180
TOTAL NITROGEN							Analyst: CJS
Nitrogen, Total	ND	1.0		mg/L	1	7/14/2020 3:55:00 PM	R70328
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.91		H	pH units	1	6/22/2020 4:31:58 PM	R69814
SM 4500 NORG C: TKN							Analyst: CJS
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/9/2020 1:25:00 PM	53569
EPA METHOD 200.7: METALS							Analyst: ags
Aluminum	0.59	0.020	*	mg/L	1	6/22/2020 4:26:50 PM	53213
Barium	0.058	0.0030		mg/L	1	6/22/2020 4:26:50 PM	53213

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 4:00:00 PM

Lab ID: 2006964-001

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: ags
Calcium	41	1.0		mg/L	1	6/22/2020 4:26:50 PM	53213
Chromium	0.0067	0.0060		mg/L	1	6/22/2020 4:26:50 PM	53213
Cobalt	ND	0.0060		mg/L	1	6/22/2020 4:26:50 PM	53213
Iron	0.55	0.050	*	mg/L	1	6/22/2020 4:26:50 PM	53213
Magnesium	5.8	1.0		mg/L	1	6/22/2020 4:26:50 PM	53213
Manganese	0.33	0.0020	*	mg/L	1	6/22/2020 4:26:50 PM	53213
Potassium	5.6	1.0		mg/L	1	6/22/2020 4:26:50 PM	53213
Sodium	140	5.0		mg/L	5	6/23/2020 9:00:40 PM	53213
Zinc	0.032	0.010		mg/L	1	6/22/2020 4:26:50 PM	53213
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Toluene	160	10		µg/L	10	6/21/2020 12:05:08 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Acetone	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Bromodichloromethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Bromoform	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Bromomethane	ND	2.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
2-Butanone	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Carbon disulfide	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Carbon Tetrachloride	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Chlorobenzene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Chloroethane	ND	2.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Chloroform	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Chloromethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
cis-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Dibromochloromethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Dibromomethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,1-Dichloroethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,1-Dichloroethene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,2-Dichloropropane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
2-Hexanone	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
4-Methyl-2-pentanone	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Methylene Chloride	ND	2.5		µg/L	1	6/20/2020 3:50:22 PM	R69774
Styrene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 4:00:00 PM

Lab ID: 2006964-001

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
trans-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Trichlorofluoromethane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Vinyl chloride	ND	1.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Xylenes, Total	ND	2.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Acrylonitrile	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Bromochloromethane	ND	2.0		µg/L	1	6/20/2020 3:50:22 PM	R69774
Iodomethane	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Vinyl acetate	ND	10		µg/L	1	6/20/2020 3:50:22 PM	R69774
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	6/20/2020 3:50:22 PM	R69774
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	6/20/2020 3:50:22 PM	R69774
Surr: Dibromofluoromethane	94.6	70-130		%Rec	1	6/20/2020 3:50:22 PM	R69774
Surr: Toluene-d8	97.9	70-130		%Rec	1	6/20/2020 3:50:22 PM	R69774
TOTAL PHENOLICS BY SW-846 9067							Analyst: CFC
Phenolics	25	2.5		µg/L	1	7/1/2020	53462

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 10:45:00 AM

Lab ID: 2006964-002

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 5:14:52 PM	53146
1,2-Dibromoethane	ND	0.0094		µg/L	1	6/22/2020 5:14:52 PM	53146
EPA 200.8: METALS							Analyst: bcv
Arsenic	0.0068	0.0010		mg/L	1	6/22/2020 3:58:13 PM	53213
Lead	0.0027	0.00050		mg/L	1	6/22/2020 3:58:13 PM	53213
Uranium	0.0046	0.00050		mg/L	1	6/22/2020 3:58:13 PM	53213
EPA METHOD 9060 TOC							Analyst: AG
Total Organic Carbon	21	1.0		mg/L	1	6/19/2020 7:20:18 PM	R69788
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.71	0.50		mg/L	5	6/18/2020 10:43:24 PM	R69745
Chloride	120	10		mg/L	20	6/18/2020 10:56:12 PM	R69745
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/18/2020 10:43:24 PM	R69745
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/18/2020 10:43:24 PM	R69745
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/18/2020 10:43:24 PM	R69745
Sulfate	120	2.5		mg/L	5	6/18/2020 10:43:24 PM	R69745
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	1000	10		µmhos/c	1	6/22/2020 4:41:51 PM	R69814
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	179.0	20.00		mg/L Ca	1	6/23/2020 1:50:21 PM	R69860
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/23/2020 1:50:21 PM	R69860
Total Alkalinity (as CaCO3)	179.0	20.00		mg/L Ca	1	6/23/2020 1:50:21 PM	R69860
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	661	20.0	*	mg/L	1	6/25/2020 6:29:00 PM	53242
SM 4500 NH3: AMMONIA							Analyst: CJS
Nitrogen, Ammonia	ND	1.0		mg/L	1	7/8/2020 12:15:00 PM	R70180
TOTAL NITROGEN							Analyst: CJS
Nitrogen, Total	ND	1.0		mg/L	1	7/14/2020 3:55:00 PM	R70328
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.83		H	pH units	1	6/22/2020 4:41:51 PM	R69814
SM 4500 NORG C: TKN							Analyst: CJS
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/9/2020 1:25:00 PM	53569
EPA METHOD 200.7: METALS							Analyst: ags
Aluminum	0.41	0.020	*	mg/L	1	6/22/2020 4:28:31 PM	53213
Barium	0.066	0.0030		mg/L	1	6/22/2020 4:28:31 PM	53213

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 10:45:00 AM

Lab ID: 2006964-002

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: ags
Calcium	53	1.0		mg/L	1	6/22/2020 4:28:31 PM	53213
Chromium	ND	0.0060		mg/L	1	6/22/2020 4:28:31 PM	53213
Cobalt	ND	0.0060		mg/L	1	6/22/2020 4:28:31 PM	53213
Iron	0.89	0.050	*	mg/L	1	6/22/2020 4:28:31 PM	53213
Magnesium	7.6	1.0		mg/L	1	6/22/2020 4:28:31 PM	53213
Manganese	0.76	0.0020	*	mg/L	1	6/22/2020 4:28:31 PM	53213
Potassium	5.9	1.0		mg/L	1	6/22/2020 4:28:31 PM	53213
Sodium	140	5.0		mg/L	5	6/23/2020 9:02:32 PM	53213
Zinc	0.034	0.010		mg/L	1	6/22/2020 4:28:31 PM	53213
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Toluene	130	10		µg/L	10	6/21/2020 12:34:52 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Acetone	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Bromodichloromethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Bromoform	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Bromomethane	ND	2.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
2-Butanone	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Carbon disulfide	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Carbon Tetrachloride	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Chlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Chloroethane	ND	2.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Chloroform	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Chloromethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
cis-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Dibromochloromethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Dibromomethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,1-Dichloroethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,1-Dichloroethene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,2-Dichloropropane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
2-Hexanone	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
4-Methyl-2-pentanone	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Methylene Chloride	ND	2.5		µg/L	1	6/20/2020 4:20:29 PM	R69774
Styrene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 10:45:00 AM

Lab ID: 2006964-002

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
trans-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Trichlorofluoromethane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Vinyl chloride	ND	1.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Xylenes, Total	ND	2.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Acrylonitrile	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Bromochloromethane	ND	2.0		µg/L	1	6/20/2020 4:20:29 PM	R69774
Iodomethane	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Vinyl acetate	ND	10		µg/L	1	6/20/2020 4:20:29 PM	R69774
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	6/20/2020 4:20:29 PM	R69774
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	6/20/2020 4:20:29 PM	R69774
Surr: Dibromofluoromethane	93.9	70-130		%Rec	1	6/20/2020 4:20:29 PM	R69774
Surr: Toluene-d8	101	70-130		%Rec	1	6/20/2020 4:20:29 PM	R69774
TOTAL PHENOLICS BY SW-846 9067							Analyst: CFC
Phenolics	40	12		µg/L	5	7/1/2020	53462

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:43:00 AM

Lab ID: 2006964-003

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 5:30:19 PM	53146
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/22/2020 5:30:19 PM	53146
EPA 200.8: METALS							Analyst: bcv
Arsenic	0.0079	0.0010		mg/L	1	6/22/2020 1:26:20 PM	A69803
Lead	ND	0.00050		mg/L	1	6/22/2020 1:26:20 PM	A69803
Uranium	0.0018	0.00050		mg/L	1	6/22/2020 1:26:20 PM	A69803
EPA METHOD 9060 TOC							Analyst: AG
Total Organic Carbon	1.8	1.0		mg/L	1	6/19/2020 7:36:36 PM	R69788
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.62	0.10		mg/L	1	6/18/2020 11:08:58 PM	R69745
Chloride	160	10		mg/L	20	6/18/2020 11:21:44 PM	R69745
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/18/2020 11:08:58 PM	R69745
Nitrogen, Nitrate (As N)	0.60	0.10		mg/L	1	6/18/2020 11:08:58 PM	R69745
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/18/2020 11:08:58 PM	R69745
Sulfate	32	0.50		mg/L	1	6/18/2020 11:08:58 PM	R69745
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	840	10		µmhos/c	1	6/22/2020 4:52:10 PM	R69814
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	102.0	20.00		mg/L Ca	1	6/23/2020 2:00:34 PM	R69860
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/23/2020 2:00:34 PM	R69860
Total Alkalinity (as CaCO3)	102.0	20.00		mg/L Ca	1	6/23/2020 2:00:34 PM	R69860
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	466	20.0		mg/L	1	6/25/2020 6:29:00 PM	53242
SM 4500 NH3: AMMONIA							Analyst: CJS
Nitrogen, Ammonia	ND	1.0		mg/L	1	7/8/2020 12:15:00 PM	R70180
TOTAL NITROGEN							Analyst: CJS
Nitrogen, Total	ND	1.0		mg/L	1	7/14/2020 3:55:00 PM	R70328
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.98		H	pH units	1	6/22/2020 4:52:10 PM	R69814
SM 4500 NORG C: TKN							Analyst: CJS
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/9/2020 1:25:00 PM	53569
EPA METHOD 200.7: METALS							Analyst: ags
Aluminum	ND	0.020		mg/L	1	6/22/2020 1:52:58 PM	A69810
Barium	0.083	0.0030		mg/L	1	6/22/2020 1:52:58 PM	A69810

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:43:00 AM

Lab ID: 2006964-003

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: ags
Calcium	46	1.0		mg/L	1	6/22/2020 1:52:58 PM	A69810
Chromium	ND	0.0060		mg/L	1	6/22/2020 1:52:58 PM	A69810
Cobalt	ND	0.0060		mg/L	1	6/22/2020 1:52:58 PM	A69810
Iron	ND	0.050		mg/L	1	6/22/2020 1:52:58 PM	A69810
Magnesium	5.1	1.0		mg/L	1	6/22/2020 1:52:58 PM	A69810
Manganese	ND	0.0020		mg/L	1	6/22/2020 1:52:58 PM	A69810
Potassium	5.1	1.0		mg/L	1	6/22/2020 1:52:58 PM	A69810
Sodium	120	5.0		mg/L	5	6/24/2020 5:46:02 PM	A69879
Zinc	ND	0.010		mg/L	1	6/26/2020 1:57:04 PM	A69930
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Toluene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Ethylbenzene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Acetone	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Bromodichloromethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Bromoform	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Bromomethane	ND	2.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
2-Butanone	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Carbon disulfide	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Carbon Tetrachloride	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Chlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Chloroethane	ND	2.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Chloroform	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Chloromethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
cis-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Dibromochloromethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Dibromomethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,1-Dichloroethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,1-Dichloroethene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,2-Dichloropropane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
2-Hexanone	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
4-Methyl-2-pentanone	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Methylene Chloride	ND	2.5		µg/L	1	6/20/2020 4:50:45 PM	R69774
Styrene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:43:00 AM

Lab ID: 2006964-003

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
trans-1,2-DCE	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Trichlorofluoromethane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Vinyl chloride	ND	1.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Xylenes, Total	ND	2.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Acrylonitrile	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Bromochloromethane	ND	2.0		µg/L	1	6/20/2020 4:50:45 PM	R69774
Iodomethane	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Vinyl acetate	ND	10		µg/L	1	6/20/2020 4:50:45 PM	R69774
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	1	6/20/2020 4:50:45 PM	R69774
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	6/20/2020 4:50:45 PM	R69774
Surr: Dibromofluoromethane	88.3	70-130		%Rec	1	6/20/2020 4:50:45 PM	R69774
Surr: Toluene-d8	97.2	70-130		%Rec	1	6/20/2020 4:50:45 PM	R69774
TOTAL PHENOLICS BY SW-846 9067							Analyst: CFC
Phenolics	ND	2.5		µg/L	1	7/1/2020	53462

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 2:18:00 PM

Lab ID: 2006964-004

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 5:45:51 PM	53146
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/22/2020 5:45:51 PM	53146
EPA 200.8: METALS							Analyst: bcv
Arsenic	0.0082	0.0010		mg/L	1	6/22/2020 1:28:56 PM	A69803
Lead	ND	0.00050		mg/L	1	6/22/2020 1:28:56 PM	A69803
Uranium	0.0018	0.00050		mg/L	1	6/22/2020 1:28:56 PM	A69803
EPA METHOD 9060 TOC							Analyst: AG
Total Organic Carbon	ND	1.0		mg/L	1	6/19/2020 7:52:39 PM	R69788
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.55	0.10		mg/L	1	6/19/2020 12:25:55 AM	A69745
Chloride	110	10		mg/L	20	6/19/2020 1:04:22 AM	A69745
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/19/2020 12:25:55 AM	A69745
Nitrogen, Nitrate (As N)	1.2	0.10		mg/L	1	6/19/2020 12:25:55 AM	A69745
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/19/2020 12:25:55 AM	A69745
Sulfate	44	10		mg/L	20	6/19/2020 1:04:22 AM	A69745
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	710	10		µmhos/c	1	6/22/2020 5:00:13 PM	R69814
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	104.0	20.00		mg/L Ca	1	6/23/2020 2:08:42 PM	R69860
Carbonate (As CaCO ₃)	ND	2.000		mg/L Ca	1	6/23/2020 2:08:42 PM	R69860
Total Alkalinity (as CaCO ₃)	104.0	20.00		mg/L Ca	1	6/23/2020 2:08:42 PM	R69860
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	422	20.0		mg/L	1	6/25/2020 6:29:00 PM	53242
SM 4500 NH3: AMMONIA							Analyst: CJS
Nitrogen, Ammonia	ND	1.0		mg/L	1	7/8/2020 12:15:00 PM	R70180
TOTAL NITROGEN							Analyst: CJS
Nitrogen, Total	1.2	1.0		mg/L	1	7/14/2020 3:55:00 PM	R70328
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.01		H	pH units	1	6/22/2020 5:00:13 PM	R69814
SM 4500 NORG C: TKN							Analyst: CJS
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/9/2020 1:25:00 PM	53569
EPA METHOD 200.7: METALS							Analyst: ags
Aluminum	ND	0.020		mg/L	1	6/22/2020 2:00:51 PM	A69810
Barium	0.050	0.0030		mg/L	1	6/22/2020 2:00:51 PM	A69810

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 2:18:00 PM

Lab ID: 2006964-004

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: ags
Calcium	45	1.0		mg/L	1	6/22/2020 2:00:51 PM	A69810
Chromium	ND	0.0060		mg/L	1	6/22/2020 2:00:51 PM	A69810
Cobalt	ND	0.0060		mg/L	1	6/22/2020 2:00:51 PM	A69810
Iron	ND	0.050		mg/L	1	6/22/2020 2:00:51 PM	A69810
Magnesium	5.2	1.0		mg/L	1	6/22/2020 2:00:51 PM	A69810
Manganese	ND	0.0020		mg/L	1	6/22/2020 2:00:51 PM	A69810
Potassium	4.8	1.0		mg/L	1	6/22/2020 2:00:51 PM	A69810
Sodium	86	1.0		mg/L	1	6/22/2020 2:00:51 PM	A69810
Zinc	ND	0.010		mg/L	1	6/22/2020 2:00:51 PM	A69810
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Toluene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Acetone	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Bromodichloromethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Bromoform	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Bromomethane	ND	2.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
2-Butanone	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Carbon disulfide	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Carbon Tetrachloride	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Chlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Chloroethane	ND	2.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Chloroform	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Chloromethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
cis-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Dibromochloromethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Dibromomethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,1-Dichloroethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,1-Dichloroethene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,2-Dichloropropane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
2-Hexanone	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
4-Methyl-2-pentanone	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Methylene Chloride	ND	2.5		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Styrene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 2:18:00 PM

Lab ID: 2006964-004

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF	
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
trans-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Trichlorofluoromethane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Vinyl chloride	ND	1.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Xylenes, Total	ND	2.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Acrylonitrile	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Bromochloromethane	ND	2.0		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Iodomethane	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Vinyl acetate	ND	10		µg/L	1	6/21/2020 1:04:42 PM	LF69787
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	6/21/2020 1:04:42 PM	LF69787
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	6/21/2020 1:04:42 PM	LF69787
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	6/21/2020 1:04:42 PM	LF69787
Surr: Toluene-d8	96.7	70-130		%Rec	1	6/21/2020 1:04:42 PM	LF69787
TOTAL PHENOLICS BY SW-846 9067						Analyst: CFC	
Phenolics	ND	2.5		µg/L	1	7/1/2020	53462

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 12:44:00 PM

Lab ID: 2006964-005

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 6:01:27 PM	53146
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/22/2020 6:01:27 PM	53146
EPA 200.8: METALS							Analyst: bcv
Arsenic	0.0063	0.0010		mg/L	1	6/22/2020 1:31:32 PM	A69803
Lead	ND	0.00050		mg/L	1	6/22/2020 1:31:32 PM	A69803
Uranium	0.0018	0.00050		mg/L	1	6/22/2020 1:31:32 PM	A69803
EPA METHOD 9060 TOC							Analyst: AG
Total Organic Carbon	2.2	1.0		mg/L	1	6/19/2020 8:45:08 PM	R69788
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.84	0.10		mg/L	1	6/19/2020 1:17:41 AM	A69745
Chloride	49	10		mg/L	20	6/19/2020 1:30:28 AM	A69745
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/19/2020 1:17:41 AM	A69745
Nitrogen, Nitrate (As N)	6.2	0.10		mg/L	1	6/19/2020 1:17:41 AM	A69745
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/19/2020 1:17:41 AM	A69745
Sulfate	42	10		mg/L	20	6/19/2020 1:30:28 AM	A69745
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	550	10		µmhos/c	1	6/22/2020 5:08:20 PM	R69814
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	107.8	20.00		mg/L Ca	1	6/23/2020 2:16:50 PM	R69860
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/23/2020 2:16:50 PM	R69860
Total Alkalinity (as CaCO3)	107.8	20.00		mg/L Ca	1	6/23/2020 2:16:50 PM	R69860
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	316	20.0		mg/L	1	6/25/2020 6:29:00 PM	53242
SM 4500 NH3: AMMONIA							Analyst: CJS
Nitrogen, Ammonia	ND	1.0		mg/L	1	7/8/2020 12:15:00 PM	R70180
TOTAL NITROGEN							Analyst: CJS
Nitrogen, Total	6.2	1.0		mg/L	1	7/14/2020 3:55:00 PM	R70328
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	8.06		H	pH units	1	6/22/2020 5:08:20 PM	R69814
SM 4500 NORG C: TKN							Analyst: CJS
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/9/2020 1:25:00 PM	53569
EPA METHOD 200.7: METALS							Analyst: ags
Aluminum	0.11	0.020		mg/L	1	6/24/2020 5:47:50 PM	A69879
Barium	0.053	0.0030		mg/L	1	6/24/2020 5:47:50 PM	A69879

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 12:44:00 PM

Lab ID: 2006964-005

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: ags
Calcium	36	1.0		mg/L	1	6/24/2020 5:47:50 PM	A69879
Chromium	ND	0.0060		mg/L	1	6/24/2020 5:47:50 PM	A69879
Cobalt	ND	0.0060		mg/L	1	6/24/2020 5:47:50 PM	A69879
Iron	0.14	0.050		mg/L	1	6/24/2020 5:47:50 PM	A69879
Magnesium	4.4	1.0		mg/L	1	6/24/2020 5:47:50 PM	A69879
Manganese	0.013	0.0020		mg/L	1	6/24/2020 5:47:50 PM	A69879
Potassium	4.2	1.0		mg/L	1	6/24/2020 5:47:50 PM	A69879
Sodium	70	1.0		mg/L	1	6/24/2020 5:47:50 PM	A69879
Zinc	ND	0.010		mg/L	1	6/24/2020 5:47:50 PM	A69879
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Toluene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Acetone	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Bromodichloromethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Bromoform	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Bromomethane	ND	2.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
2-Butanone	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Carbon disulfide	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Carbon Tetrachloride	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Chlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Chloroethane	ND	2.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Chloroform	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Chloromethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
cis-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Dibromochloromethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Dibromomethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,1-Dichloroethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,1-Dichloroethene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,2-Dichloropropane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
2-Hexanone	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
4-Methyl-2-pentanone	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Methylene Chloride	ND	2.5		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Styrene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 6/17/2020 12:44:00 PM

Lab ID: 2006964-005

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF	
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
trans-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Trichlorofluoromethane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Vinyl chloride	ND	1.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Xylenes, Total	ND	2.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Acrylonitrile	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Bromochloromethane	ND	2.0		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Iodomethane	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Vinyl acetate	ND	10		µg/L	1	6/21/2020 1:34:40 PM	LF69787
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	6/21/2020 1:34:40 PM	LF69787
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/21/2020 1:34:40 PM	LF69787
Surr: Dibromofluoromethane	95.1	70-130		%Rec	1	6/21/2020 1:34:40 PM	LF69787
Surr: Toluene-d8	98.7	70-130		%Rec	1	6/21/2020 1:34:40 PM	LF69787
TOTAL PHENOLICS BY SW-846 9067						Analyst: CFC	
Phenolics	ND	2.5		µg/L	1	7/1/2020	53462

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: DUPE

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:49:00 AM

Lab ID: 2006964-006

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 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	6/21/2020 2:04:40 PM	LF69787
Toluene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Acetone	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Bromodichloromethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Bromoform	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Bromomethane	ND	2.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
2-Butanone	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Carbon disulfide	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Carbon Tetrachloride	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Chlorobenzene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Chloroethane	ND	2.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Chloroform	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Chloromethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
cis-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Dibromochloromethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Dibromomethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1-Dichloroethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1-Dichloroethene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,2-Dichloropropane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
2-Hexanone	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
4-Methyl-2-pentanone	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Methylene Chloride	ND	2.5		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Styrene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
trans-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Trichlorofluoromethane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: DUPE

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:49:00 AM

Lab ID: 2006964-006

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF	
Vinyl chloride	ND	1.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Xylenes, Total	ND	2.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Acrylonitrile	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Bromochloromethane	ND	2.0		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Iodomethane	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Vinyl acetate	ND	10		µg/L	1	6/21/2020 2:04:40 PM	LF69787
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	6/21/2020 2:04:40 PM	LF69787
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	6/21/2020 2:04:40 PM	LF69787
Surr: Dibromofluoromethane	91.0	70-130		%Rec	1	6/21/2020 2:04:40 PM	LF69787
Surr: Toluene-d8	96.9	70-130		%Rec	1	6/21/2020 2:04:40 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:40:00 AM

Lab ID: 2006964-007

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 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	6/21/2020 3:35:22 PM	LF69787
Toluene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Acetone	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Bromodichloromethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Bromoform	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Bromomethane	ND	2.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
2-Butanone	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Carbon disulfide	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Carbon Tetrachloride	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Chlorobenzene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Chloroethane	ND	2.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Chloroform	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Chloromethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
cis-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Dibromochloromethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Dibromomethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1-Dichloroethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1-Dichloroethene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,2-Dichloropropane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
2-Hexanone	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
4-Methyl-2-pentanone	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Methylene Chloride	ND	2.5		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Styrene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
trans-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Trichlorofluoromethane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB

Project: Sandoval County Landfill

Collection Date: 6/17/2020 8:40:00 AM

Lab ID: 2006964-007

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Vinyl chloride	ND	1.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Xylenes, Total	ND	2.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Acrylonitrile	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Bromochloromethane	ND	2.0		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Iodomethane	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Vinyl acetate	ND	10		µg/L	1	6/21/2020 3:35:22 PM	LF69787
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	6/21/2020 3:35:22 PM	LF69787
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/21/2020 3:35:22 PM	LF69787
Surr: Dibromofluoromethane	94.4	70-130		%Rec	1	6/21/2020 3:35:22 PM	LF69787
Surr: Toluene-d8	99.7	70-130		%Rec	1	6/21/2020 3:35:22 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: Trip Blank

Project: Sandoval County Landfill

Collection Date:

Lab ID: 2006964-008

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	6/22/2020 6:17:02 PM	53146
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/22/2020 6:17:02 PM	53146
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Toluene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Ethylbenzene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Acetone	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Bromodichloromethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Bromoform	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Bromomethane	ND	2.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
2-Butanone	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Carbon disulfide	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Carbon Tetrachloride	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Chlorobenzene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Chloroethane	ND	2.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Chloroform	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Chloromethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
cis-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Dibromochloromethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Dibromomethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1-Dichloroethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1-Dichloroethene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,2-Dichloropropane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
2-Hexanone	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
4-Methyl-2-pentanone	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Methylene Chloride	ND	2.5		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Styrene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
trans-1,2-DCE	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787

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 2006964

Date Reported: 7/15/2020

CLIENT: Gordon Environmental/PSC

Client Sample ID: Trip Blank

Project: Sandoval County Landfill

Collection Date:

Lab ID: 2006964-008

Matrix: AQUEOUS

Received Date: 6/18/2020 10:20:00 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	6/21/2020 4:05:41 PM	LF69787
Trichlorofluoromethane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
1,2,3-Trichloropropane	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Vinyl chloride	ND	1.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Xylenes, Total	ND	2.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Acrylonitrile	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Bromochloromethane	ND	2.0		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Iodomethane	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Vinyl acetate	ND	10		µg/L	1	6/21/2020 4:05:41 PM	LF69787
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	6/21/2020 4:05:41 PM	LF69787
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	6/21/2020 4:05:41 PM	LF69787
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	6/21/2020 4:05:41 PM	LF69787
Surr: Toluene-d8	99.1	70-130		%Rec	1	6/21/2020 4:05:41 PM	LF69787

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: A69810		RunNo: 69810						
Prep Date:		Analysis Date: 6/22/2020		SeqNo: 2423965		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020								
Barium	ND	0.0030								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: A69810		RunNo: 69810						
Prep Date:		Analysis Date: 6/22/2020		SeqNo: 2423966		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020	0.01000	0	114	50	150			
Barium	ND	0.0030	0.002000	0	109	50	150			
Calcium	ND	1.0	0.5000	0	113	50	150			
Chromium	ND	0.0060	0.006000	0	86.5	50	150			
Cobalt	ND	0.0060	0.006000	0	92.0	50	150			
Iron	ND	0.050	0.02000	0	113	50	150			
Magnesium	ND	1.0	0.5000	0	99.0	50	150			
Manganese	ND	0.0020	0.002000	0	97.4	50	150			
Potassium	ND	1.0	0.5000	0	110	50	150			
Sodium	ND	1.0	0.5000	0	73.6	50	150			
Zinc	0.016	0.010	0.01000	0	163	50	150			S

Sample ID: LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: A69810		RunNo: 69810						
Prep Date:		Analysis Date: 6/22/2020		SeqNo: 2423967		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	0.53	0.020	0.5000	0	105	85	115			
Barium	0.48	0.0030	0.5000	0	95.0	85	115			
Calcium	49	1.0	50.00	0	98.1	85	115			
Chromium	0.48	0.0060	0.5000	0	95.6	85	115			
Cobalt	0.49	0.0060	0.5000	0	97.3	85	115			
Iron	0.48	0.050	0.5000	0	96.6	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A69810		RunNo: 69810							
Prep Date:	Analysis Date: 6/22/2020		SeqNo: 2423967		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	50	1.0	50.00	0	99.8	85	115			
Manganese	0.47	0.0020	0.5000	0	95.0	85	115			
Potassium	49	1.0	50.00	0	98.1	85	115			
Sodium	49	1.0	50.00	0	98.1	85	115			
Zinc	0.48	0.010	0.5000	0	95.3	85	115			

Sample ID: MB-53213	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: 53213		RunNo: 69810							
Prep Date: 6/22/2020	Analysis Date: 6/22/2020		SeqNo: 2423974		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0030								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LCSLL-53213	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 53213		RunNo: 69810							
Prep Date: 6/22/2020	Analysis Date: 6/22/2020		SeqNo: 2423978		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	114	50	150			
Barium	ND	0.0030	0.002000	0	99.9	50	150			
Calcium	ND	1.0	0.5000	0	110	50	150			
Chromium	ND	0.0060	0.006000	0	92.8	50	150			
Cobalt	0.0061	0.0060	0.006000	0	102	50	150			
Iron	ND	0.050	0.02000	0	102	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Potassium	ND	1.0	0.5000	0	116	50	150			
Sodium	ND	1.0	0.5000	0	88.4	50	150			
Zinc	0.012	0.010	0.01000	0	123	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS-53213	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 53213		RunNo: 69810							
Prep Date: 6/22/2020	Analysis Date: 6/22/2020		SeqNo: 2423979		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	0.0030	0.5000	0	98.1	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	98.6	85	115			
Cobalt	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.050	0.5000	0	101	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	100	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Sodium	52	1.0	50.00	0	104	85	115			
Zinc	0.49	0.010	0.5000	0	97.5	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: A69879		RunNo: 69879							
Prep Date:	Analysis Date: 6/24/2020		SeqNo: 2426564		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0030								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A69879		RunNo: 69879							
Prep Date:	Analysis Date: 6/24/2020		SeqNo: 2426566		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	109	85	115			
Barium	0.48	0.0030	0.5000	0	95.4	85	115			
Calcium	49	1.0	50.00	0	97.6	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.3	85	115			
Iron	0.48	0.050	0.5000	0	96.7	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A69879		RunNo: 69879							
Prep Date:	Analysis Date: 6/24/2020		SeqNo: 2426566		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	49	1.0	50.00	0	98.1	85	115			
Manganese	0.47	0.0020	0.5000	0	94.4	85	115			
Potassium	49	1.0	50.00	0	97.1	85	115			
Sodium	50	1.0	50.00	0	99.7	85	115			
Zinc	0.48	0.010	0.5000	0	96.7	85	115			

Sample ID: LLCSRR	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A69879		RunNo: 69879							
Prep Date:	Analysis Date: 6/24/2020		SeqNo: 2426580		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	122	50	150			
Barium	ND	0.0030	0.002000	0	94.5	50	150			
Calcium	ND	1.0	0.5000	0	104	50	150			
Chromium	ND	0.0060	0.006000	0	93.2	50	150			
Cobalt	ND	0.0060	0.006000	0	87.2	50	150			
Iron	ND	0.050	0.02000	0	104	50	150			
Magnesium	ND	1.0	0.5000	0	101	50	150			
Manganese	ND	0.0020	0.002000	0	97.7	50	150			
Potassium	ND	1.0	0.5000	0	103	50	150			
Sodium	ND	1.0	0.5000	0	105	50	150			
Zinc	0.010	0.010	0.01000	0	104	50	150			

Sample ID: MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: A69930		RunNo: 69930							
Prep Date:	Analysis Date: 6/26/2020		SeqNo: 2428805		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID: LLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A69930		RunNo: 69930							
Prep Date:	Analysis Date: 6/26/2020		SeqNo: 2428806		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.010	0.010	0.01000	0	101	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS-A	SampType: LCS				TestCode: EPA Method 200.7: Metals					
Client ID: LCSW	Batch ID: A69930				RunNo: 69930					
Prep Date:	Analysis Date: 6/26/2020				SeqNo: 2428807	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.44	0.010	0.5000	0	87.3	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MSLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: A69803	RunNo: 69803
Prep Date:	Analysis Date: 6/22/2020	SeqNo: 2423778 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Arsenic	ND	0.0010	0.001000	0	94.8	50	150			
Lead	ND	0.00050	0.0005000	0	98.1	50	150			
Uranium	ND	0.00050	0.0005000	0	98.2	50	150			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: A69803	RunNo: 69803
Prep Date:	Analysis Date: 6/22/2020	SeqNo: 2423779 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLCS	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: A69803	RunNo: 69803
Prep Date:	Analysis Date: 6/22/2020	SeqNo: 2423780 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Arsenic	0.023	0.0010	0.02500	0	93.8	85	115			
Lead	0.012	0.00050	0.01250	0	93.8	85	115			
Uranium	0.012	0.00050	0.01250	0	94.3	85	115			

Sample ID: MB-53213	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 53213	RunNo: 69813
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2424037 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLCSLL-53213	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 53213	RunNo: 69813
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2424038 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Arsenic	ND	0.0010	0.001000	0	99.6	50	150			
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Uranium	ND	0.00050	0.0005000	0	97.2	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MSLCS-53213	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: 53213		RunNo: 69813							
Prep Date: 6/22/2020	Analysis Date: 6/22/2020		SeqNo: 2424039		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Uranium	0.013	0.00050	0.01250	0	103	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R69745	RunNo: 69745								
Prep Date:	Analysis Date: 6/18/2020	SeqNo: 2421479 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, Nitrite (As N)	ND	0.10								
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: R69745	RunNo: 69745								
Prep Date:	Analysis Date: 6/18/2020	SeqNo: 2421480 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.1	90	110			
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.4	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.3	90	110			
Sulfate	10	0.50	10.00	0	100	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A69745	RunNo: 69745								
Prep Date:	Analysis Date: 6/18/2020	SeqNo: 2421533 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, Nitrite (As N)	ND	0.10								
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: A69745	RunNo: 69745								
Prep Date:	Analysis Date: 6/18/2020	SeqNo: 2421534 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	4.8	0.50	5.000	0	96.7	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.7	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.4	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: A69745		RunNo: 69745							
Prep Date:	Analysis Date: 6/18/2020		SeqNo: 2421534		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.4	90	110			
Sulfate	9.9	0.50	10.00	0	99.1	90	110			

Sample ID: 2006964-004EMS	SampType: ms		TestCode: EPA Method 300.0: Anions							
Client ID: MW-6R	Batch ID: A69745		RunNo: 69745							
Prep Date:	Analysis Date: 6/19/2020		SeqNo: 2421538		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.98	0.10	0.5000	0.5515	86.7	70.2	118			
Nitrogen, Nitrite (As N)	0.62	0.10	1.000	0	61.5	52.5	107			
Nitrogen, Nitrate (As N)	3.6	0.10	2.500	1.203	97.4	87.7	112			
Phosphorus, Orthophosphate (As P	4.3	0.50	5.000	0	86.3	49.4	122			

Sample ID: 2006964-004EMSD	SampType: msd		TestCode: EPA Method 300.0: Anions							
Client ID: MW-6R	Batch ID: A69745		RunNo: 69745							
Prep Date:	Analysis Date: 6/19/2020		SeqNo: 2421539		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.99	0.10	0.5000	0.5515	88.4	70.2	118	0.880	20	
Nitrogen, Nitrite (As N)	0.62	0.10	1.000	0	62.0	52.5	107	0.777	20	
Nitrogen, Nitrate (As N)	3.7	0.10	2.500	1.203	98.4	87.7	112	0.690	20	
Phosphorus, Orthophosphate (As P	4.4	0.50	5.000	0	87.3	49.4	122	1.23	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-53146	SampType: MBLK	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: PBW	Batch ID: 53146	RunNo: 69818								
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2425740 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: MB-53146	SampType: MBLK	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: PBW	Batch ID: 53146	RunNo: 69818								
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2425741 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-53146	SampType: LCS	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: LCSW	Batch ID: 53146	RunNo: 69818								
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2425744 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.10	0.020	0.1000	0	99.7	70	130			
1,2-Dibromoethane	0.095	0.010	0.1000	0	95.1	70	130			

Sample ID: LCSD-53146	SampType: LCSD	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: LCSS02	Batch ID: 53146	RunNo: 69818								
Prep Date: 6/22/2020	Analysis Date: 6/22/2020	SeqNo: 2425745 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.098	0.020	0.1000	0	98.4	70	130	1.23	20	
1,2-Dibromoethane	0.096	0.010	0.1000	0	96.3	70	130	1.19	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb1	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: PBW	Batch ID: R69774		RunNo: 69774							
Prep Date:	Analysis Date: 6/20/2020		SeqNo: 2422446		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								
Methyl tert-butyl ether (MTBE)	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	1.0								
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	1.0								
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								

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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb1	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles, Table I								
Client ID: PBW	Batch ID: R69774	RunNo: 69774								
Prep Date:	Analysis Date: 6/20/2020	SeqNo: 2422446	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
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	9.5		10.00		95.4	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.1	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: R69774	RunNo: 69774								
Prep Date:	Analysis Date: 6/20/2020	SeqNo: 2422447	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	85.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.9	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID: mb1	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles, Table I								
Client ID: PBW	Batch ID: LF69787	RunNo: 69787								
Prep Date:	Analysis Date: 6/21/2020	SeqNo: 2423058	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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
Acetone	ND	10								
Bromodichloromethane	ND	1.0								
Bromoform	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb1	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: PBW	Batch ID: LF69787		RunNo: 69787							
Prep Date:	Analysis Date: 6/21/2020		SeqNo: 2423058		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	1.0								
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	1.0								
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	1.0								
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	9.5		10.00		95.0	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb1	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: PBW	Batch ID: LF69787			RunNo: 69787						
Prep Date:	Analysis Date: 6/21/2020			SeqNo: 2423058			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.4	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: LCSW		Batch ID: LF69787		RunNo: 69787						
Prep Date:		Analysis Date: 6/21/2020		SeqNo: 2423059			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	8.9		10.00		89.2	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: 2006964-006a ms	SampType: MS		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: DUPE	Batch ID: LF69787		RunNo: 69787							
Prep Date:	Analysis Date: 6/21/2020		SeqNo: 2423065		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID: 2006964-006a msd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: DUPE		Batch ID: LF69787		RunNo: 69787						
Prep Date:		Analysis Date: 6/21/2020		SeqNo: 2423066		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.1	70	130	9.90	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 2006964-006a msd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: DUPE		Batch ID: LF69787		RunNo: 69787						
Prep Date:		Analysis Date: 6/21/2020		SeqNo: 2423066		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	20	1.0	20.00	0	101	70	130	2.94	20	
Chlorobenzene	20	1.0	20.00	0	99.1	70	130	5.08	20	
1,1-Dichloroethene	19	1.0	20.00	0	92.8	70	130	9.36	20	
Trichloroethene (TCE)	17	1.0	20.00	0	85.9	70	130	8.11	20	
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130	0	0	
Surr: Dibromofluoromethane	9.3		10.00		92.8	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.7	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB1	SampType: MBLK	TestCode: EPA Method 9060 TOC								
Client ID: PBW	Batch ID: R69788	RunNo: 69788								
Prep Date:	Analysis Date: 6/19/2020	SeqNo: 2423169 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: LCS1 ST9060-19010/	SampType: LCS	TestCode: EPA Method 9060 TOC								
Client ID: LCSW	Batch ID: R69788	RunNo: 69788								
Prep Date:	Analysis Date: 6/19/2020	SeqNo: 2423170 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	4.6	1.0	4.850	0	93.9	90	110			

Sample ID: 2006964-004cms	SampType: ms	TestCode: EPA Method 9060 TOC								
Client ID: MW-6R	Batch ID: R69788	RunNo: 69788								
Prep Date:	Analysis Date: 6/19/2020	SeqNo: 2423186 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	5.0	1.0	4.980	0.3987	91.7	85	115			

Sample ID: 2006964-004cmsd	SampType: msd	TestCode: EPA Method 9060 TOC								
Client ID: MW-6R	Batch ID: R69788	RunNo: 69788								
Prep Date:	Analysis Date: 6/19/2020	SeqNo: 2423187 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	5.0	1.0	4.980	0.3987	92.3	85	115	0.562	15	

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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-53462	SampType: MBLK	TestCode: Total Phenolics by SW-846 9067								
Client ID: PBW	Batch ID: 53462	RunNo: 70066								
Prep Date: 7/1/2020	Analysis Date: 7/1/2020	SeqNo: 2433969 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	ND	2.5								

Sample ID: LCS-53462	SampType: LCS	TestCode: Total Phenolics by SW-846 9067								
Client ID: LCSW	Batch ID: 53462	RunNo: 70066								
Prep Date: 7/1/2020	Analysis Date: 7/1/2020	SeqNo: 2433970 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	18	2.5	20.00	0	87.6	54.7	121			

Sample ID: 2006964-003DMS	SampType: MS	TestCode: Total Phenolics by SW-846 9067								
Client ID: MW-5R	Batch ID: 53462	RunNo: 70066								
Prep Date: 7/1/2020	Analysis Date: 7/1/2020	SeqNo: 2433974 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	22	2.5	20.00	0	109	15	173			

Sample ID: 2006964-003DMSD	SampType: MSD	TestCode: Total Phenolics by SW-846 9067								
Client ID: MW-5R	Batch ID: 53462	RunNo: 70066								
Prep Date: 7/1/2020	Analysis Date: 7/1/2020	SeqNo: 2433975 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	22	2.5	20.00	0	112	15	173	2.68	33.8	

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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: Ics-1 99.5uS eC	SampType: Ics		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R69814		RunNo: 69814							
Prep Date:	Analysis Date: 6/22/2020		SeqNo: 2424833		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	10	99.50	0	98.9	85	115			

Sample ID: Ics-2 99.5uS eC	SampType: Ics		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R69814		RunNo: 69814							
Prep Date:	Analysis Date: 6/22/2020		SeqNo: 2424859		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.50	0	103	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: SM 4500 NH3: Ammonia								
Client ID: PBW	Batch ID: R70180	RunNo: 70180								
Prep Date:	Analysis Date: 7/8/2020	SeqNo: 2438726 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: R70180	RunNo: 70180								
Prep Date:	Analysis Date: 7/8/2020	SeqNo: 2438727 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: 2006964-003EMS	SampType: MS	TestCode: SM 4500 NH3: Ammonia								
Client ID: MW-5R	Batch ID: R70180	RunNo: 70180								
Prep Date:	Analysis Date: 7/8/2020	SeqNo: 2438738 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: 2006964-003EMSD	SampType: MSD	TestCode: SM 4500 NH3: Ammonia								
Client ID: MW-5R	Batch ID: R70180	RunNo: 70180								
Prep Date:	Analysis Date: 7/8/2020	SeqNo: 2438739 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	102	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R69860	RunNo: 69860
Prep Date:	Analysis Date: 6/23/2020	SeqNo: 2426039 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: R69860	RunNo: 69860
Prep Date:	Analysis Date: 6/23/2020	SeqNo: 2426040 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	77.88	20.00 80.00 0 97.4 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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-53242	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 53242	RunNo: 69905								
Prep Date: 6/24/2020	Analysis Date: 6/25/2020	SeqNo: 2427436 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-53242	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 53242	RunNo: 69905								
Prep Date: 6/24/2020	Analysis Date: 6/25/2020	SeqNo: 2427437 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID: 2006964-005EDUP	SampType: DUP	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: MW-7R	Batch ID: 53242	RunNo: 69905								
Prep Date: 6/24/2020	Analysis Date: 6/25/2020	SeqNo: 2427443 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	337	20.0						6.43	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#: 2006964

15-Jul-20

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-53569		SampType: MBLK		TestCode: SM 4500 Norg C: TKN						
Client ID: PBW		Batch ID: 53569		RunNo: 70219						
Prep Date: 7/8/2020		Analysis Date: 7/9/2020		SeqNo: 2440454		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-53569		SampType: LCS		TestCode: SM 4500 Norg C: TKN						
Client ID: LCSW		Batch ID: 53569		RunNo: 70219						
Prep Date: 7/8/2020		Analysis Date: 7/9/2020		SeqNo: 2440455		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: 2006964-004EMS		SampType: MS		TestCode: SM 4500 Norg C: TKN						
Client ID: MW-6R		Batch ID: 53569		RunNo: 70219						
Prep Date: 7/8/2020		Analysis Date: 7/9/2020		SeqNo: 2440460		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.9	1.0	10.00	0.2800	96.6	75	125			

Sample ID: 2006964-004EMSD		SampType: MSD		TestCode: SM 4500 Norg C: TKN						
Client ID: MW-6R		Batch ID: 53569		RunNo: 70219						
Prep Date: 7/8/2020		Analysis Date: 7/9/2020		SeqNo: 2440461		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	0.2800	98.0	75	125	1.40	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: **Gordon
Environmental/PSC**

Work Order Number: **2006964**

RcptNo: 1

Received By: **Emily Mocho**

6/18/2020 10:20:00 AM

Completed By: **Leah Baca**

6/18/2020 10:58:05 AM

Reviewed By: *LM*
6/18/20
Leah Baca

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 ☐ Not frozen
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. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☒ No ☐ NA ☐
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

(≤ 2 or >12 unless noted)

Adjusted? NO

Checked by: JR 6/18/20

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-0.2	Good				
2	-0.7	Good				

Chain-of-Custody Record									
Client: <u>Golden Environmental / PSC</u>		Turn-Around Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush		Project Name: <u>Sandoval County Landfill</u>					
Mailing Address: <u>333 Rio Rancho Blvd NE</u>		Project #: <u>010041.19/0001</u>		Project Manager: <u>Michael Cropeau, P.E.</u>					
Phone #: <u>505 867 6990</u>		Project Manager: <u>Michael Cropeau, P.E.</u>		Sampler: <u>Andy Thomas/Tutor Zack</u>					
email or Fax#: <u>mcropeau@team-psc.com</u>		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		# of Coolers: <u>2</u>					
QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Accreditation: <input type="checkbox"/> Az Compliance <input checked="" type="checkbox"/> NELAC <input type="checkbox"/> Other		Cooler Temp (including CP): <u>-0.1 ± 0 = -0.2 (°C)</u>					
Date		Time		Matrix		Sample Name		HEAL No.	
6/17	1600	AQ	MW-2R	5	2	1	2	1	-001
6/17	1045	AQ	MW-3R	5	2	1	2	1	-002
6/17	0843	AQ	MW-5R	5	3	1	3	1	-003
6/17	1418	AQ	MW-6R	5	2	1	2	1	-004
6/17	1244	AQ	MW-7R	5	2	1	2	1	-005
6/17	0849	AQ	DUPE	3	-	-	-	-	-006
6/17	0840	AQ	FB	3	-	-	-	-	-007
-	-	AQ	TB	2	-	-	-	-	-008
Date: <u>6/18</u>		Time: <u>1019</u>		Relinquished by: <u>[Signature]</u>		Received by: <u>9KWA CDD</u>		Date: <u>6/18/20</u> Time: <u>10:20</u>	
Date: <u>6/18</u>		Time: <u>1019</u>		Relinquished by: <u>[Signature]</u>		Received by: <u>9KWA CDD</u>		Date: <u>6/18/20</u> Time: <u>10:20</u>	

Turn-Around Time:		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	
Project Name:		Sanbutal County Landfill	
Project #:		010041.19/0001	
Project Manager:		Michael Crepeau, P.E.	
Sampler:		Andy Schas/Tyler Zack	
On Ice:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
# of Coolers:		2	
Cooler Temp (including CF):		-0.1 to -0.2 (°C)	
NaOH/Container		Preservative	
Type and #	Type	HEAL No.	
2 1	2 1	-0.17 to -0.17	
2 1	2 1	-0.02	
3 1	3 1	-0.03	
2 1	2 1	-0.04	
2 1	2 1	-0.05	
—	—	-0.06	
—	—	-0.07	
—	—	-0.08	
Received by:		Via:	Date
GMA CDD		6/18/20	10:20
Received by:		Via:	Date



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

[illegible]

Remarks: Requested analyte list (attached)
Reduced 20.9.9.20 NMAC, Tables A & C
NOT FROZEN SUM 6/18/20

**Sandoval County Landfill
ALTERNATE PARAMETER LIST**

Inorganic Parameters	EPA Method
Ammonia as N, NH ₃ -N	350.2
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	310.1
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	310.1
Nitrate as N, NO ₃ -N	300.0
Phosphate, PO ₄	300.0
Chloride, Cl ⁻	300.0
Fluoride, F	300.0
Sulfate, SO ₄ ²⁻	300.0
Total Dissolved Solids, TDS	160.1
Total Kjeldahl Nitrogen, TKN	351.3
Total Nitrogen, TN	Calculated
Total Organic Carbon, TOC	415.2
pH	
Specific Conductivity	
Aluminum, Al	200.7
Arsenic, As	200.8
Barium, Ba	200.7
Calcium, Ca	200.7
Chromium, Cr	200.7
Cobalt, Co	200.7
Iron, Fe	200.7
Lead, Pb	200.8
Magnesium, Mg	200.7
Manganese, Mn	200.7
Potassium, K	200.7
Sodium, Na	200.7
Uranium, U	200.8
Zinc, Zn	200.7
All Standard Landfill VOCs	8260
1,2-Dibromo-3-chloropropane	504
1,2-Dibromoethane	504
Total Phenolics	420.3

Additional bottle Sets:

Field Blank (3 VOAs)
Dupe (3 VOAs)
Trip Blank

*Run 9067 per Andy Y.
LB 6/18/20*

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 7
NMED Correspondence

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 7.1

Notification of Potential Exceedances
(07/28/20)



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

July 28, 2020

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 [01802320/0002]

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 06/17/20 from wells MW-2R, MW-3R, MW-5R, MW-6R, and MW-7R.

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-2R	Manganese	0.33	0.15	0.15	0.304
	Arsenic	0.0070	0.0057	0.005	0.0079
	Phenolics	0.025	0.00375	0.00375	N/A
MW-3R	Manganese	0.76	0.15	0.15	N/A
	Phenolics	0.04	0.00375	0.00375	N/A
MW-7R	Nitrate	6.2	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 July 15, 2020) summarized in **Table 1** indicate a potential exceedance of well/parameter-specific established assessment monitoring levels (AMLs) for manganese, arsenic, and phenolics in well MW-2; manganese and

phenolics in well MW-3R; 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 09/15/20. 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



Diego Y. Ramirez
Civil Engineer



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

cc: Mr. Mark Hatzenbuehler, Director of Public Works, Sandoval County
Mr. Chris Perea, Landfill Manager, Sandoval County Landfill

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 7.2

NMED Approval of Groundwater Monitoring Wells MW-2 and MW-3 Replacement Workplan
(09/18/19)



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Harold Runnels Building
1190 Saint Francis Drive, PO Box 5469
Santa Fe, NM 87502-5469
Telephone (505) 827-2855
www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

September 18, 2019

Mr. Clay Kilmer, P.G., Hydrologist
Gordon Environmental/PSC
333 Rio Rancho Blvd NE, Ste. 400
Rio Rancho, NM 87124
ckilmer@team-psc.com

Received

SEP 26 2019

Gordon Environmental / PSC

Re: Sandoval County Landfill; Work Plan for Replacement of Ground Water Monitoring Wells MW-2 and MW-3

Dear Mr. Kilmer:

The Solid Waste Bureau (Bureau) has reviewed the Monitoring Well MW-2 and MW-3 Decommissioning and Replacement Work Plan (Plan) for the Sandoval County Landfill (Landfill) submitted by Gordon Environmental/PSC on August 12, 2019. The Plan documents the steady decline of ground water elevations beneath the Landfill. In order to facilitate ground water sampling throughout the post-closure care period, the Plan seeks to extend the screened groundwater interval from the prescriptive 20 feet to 40 feet via replacement wells MW-2R and MW-3R.

The Bureau gives specific approval for the installation of monitoring wells MW-2R and MW-3R with 40-foot screened intervals. Per a phone conversation on September 11, 2019, between myself and Mike Crepeau, the Landfill requested moving the locations of each well approximately 50 feet from the proposed locations in the Plan. The Bureau approves the new locations proposed for monitoring wells MW-2R and MW-3R. Provide an update to the Plan showing the new locations of each replacement well.

The Bureau gives specific approval to discontinue ground water sampling of MW-2 and MW-3 upon construction of MW-2R and MW-3R and to convert MW-2 and MW-3 for use as piezometers. Provide an amendment to the Landfill's Ground Water Monitoring System Plan once the decommissioning of MW-2 and MW-3 and drilling of MW-2R and MW-3R have been completed.

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-SWB

cc: Mr. Mike Crepeau, P.E., Gordon Environmental/PSC, mcrepeau@team-psc.com
George Schuman, Permit Section Manager, SWB
Paul Martinez, Enforcement Area I, SWB
Sandoval County Landfill Facility File
J. Dyer Reading File

1 - 10/1/14

1 - 10/1/14

1 - 10/1/14

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 SAMPLING EVENT**

ATTACHMENT 7.3

NMED Approval of Groundwater Monitoring Wells MW-2R and MW-3R Installation Report
(08/19/20)



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Solid Waste Bureau
1190 Saint Francis Drive, Room N-2150
PO Box 5469
Santa Fe, NM 87502-5469
Telephone (505) 827-0197
www.env.nm.gov/solid-waste/



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

August 19, 2020

Mr. Andy Yuhas, Engineering Technologist
Gordon Environmental/PSC
333 Rio Rancho Blvd NE, Suite 400
Rio Rancho, NM 87124

Received

AUG 28 2020

Gordon Environmental / PSC

Re: Sandoval County Landfill, Ground Water Monitoring Wells MW-2R and MW-3R Installation Report

Dear Mr. Yuhas:

The Solid Waste Bureau (Bureau or SWB) has reviewed the Ground Water Monitoring Wells MW-2R and MW-3R Installation Report (Report) for the Sandoval County Landfill (Landfill), received by email on July 2, 2020. The Report summarizes field activities related to the installation of replacement monitoring wells MW-2R and MW-3R.

In a letter dated September 18, 2019 the Bureau gave specific approval for the installation of monitoring wells MW-2R and MW-3R, including a 40-foot screened interval and location. The installation of monitoring wells MW-2R and MW-3R 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 by e-mail at james.dyer@state.nm.us.

Sincerely,

James Dyer

Digitally signed by James Dyer
Date: 2020.08.19 14:22:34
-06'00'

James R. Dyer
Hydrologist

cc: Mr., Mark Hatzenbuehler, Public Works Director, Sandoval County Landfill, 2708 Iris Road NE, Rio Rancho, NM 87144
Joan Snider, Chief, SWB
George Schuman, Permit Section Manager, SWB
Paul Martinez, Enforcement Area I, SWB
Sandoval County Landfill Facility File
J. Dyer Reading File

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
JUNE 2020 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 June 2020 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. **Manganese in Well MW-2R.** The concentration of manganese in Well MW-2R exceeds the established AML and UTLV.
2. **Arsenic in Well MW-2R.** The concentration of arsenic in Well MW-2R exceeds the established AML, but remains below the established UTLV.
3. **Phenolics in Well MW-2R.** The concentration of phenolics in well MW-2R exceeds the established AML. A UTLV for this parameter has yet to be established.
4. **Manganese in Well MW-3R.** The concentration of manganese in Well MW-3R exceeds the established AML, but is below the UTLV.
5. **Phenolics in Well MW-3R.** The concentration of phenolics in well MW-3R exceeds the established AML. A UTLV for this parameter has yet to be established.
6. **Nitrate in Well MW-7R.** The concentration of nitrate in well MW-7R exceeds the established AML. A UTLV for this parameter has yet to be established.

As noted in the attached Groundwater Monitoring Report, the exceedances noted above are attributable to sources other than the Landfill.



Signature of Qualified Groundwater Scientist

Date: 09/24/20

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