February 19, 2020

Mr. James McQuade, Section Chief
Department of Environmental Protection
Division of Solid Waste Management
Central Regional Office
8 New Bond Street
Worcester, Massachusetts 01606

Re: **Post-Closure Environmental Monitoring Results – Round 19**
Parkerville Road Landfill, Southborough, Massachusetts
Pare Project No.: 18128.02

Dear Mr. McQuade:

On behalf of the Town of Southborough, Massachusetts, Pare Corporation (Pare) presents the results of post-closure environmental monitoring conducted of the Parkerville Road Landfill in Southborough, Massachusetts (hereinafter, the "Facility"). Environmental monitoring was conducted in December 2019 and January 2020 in accordance with the post-closure monitoring requirements of the Massachusetts Department of Environmental Protection (MassDEP) Solid Waste Management Facility Regulations (310 CMR 19.000). A Locus Map depicting the Facility and surrounding area on a recent United States Geological Survey (U.S.G.S.) 7.5-minute topographic map is provided as **Figure 1**.

Post-Closure Environmental Monitoring Program Overview

The Facility operated as a municipal solid waste landfill from the late-1930's through the mid-1970's. Concurrent to the start of annual landfill monitoring activities, closure activities consisting of waste consolidation and cap construction and stabilization were implemented between 1999 and 2002. The landfill is presently improved with the John A. Lundblad Memorial Field, a natural turf athletic field, with natural vegetative cover on the remainder of the landfill.

The environmental monitoring program approved by the MassDEP consists of annual sampling and analysis of select groundwater monitoring wells and surface water locations, along with landfill gas surveying at several soil gas sample locations. Sample locations and analytes targeted as part of the monitoring program are summarized in **Table 1**, below, and the locations of surface water, groundwater, and soil gas point sample locations are depicted on the attached **Figure 2**.

Table 1. Summary of Environmental Monitoring Parameters and Targeted Analytes

Environmental Medium	Sampling Locations	Parameters and Targeted Analytes
Surface Water	SW-1, SW-2	Indicator parameters[1] Inorganics[2] Volatile Organic Compounds (VOCs)[3]
Groundwater	MW-2S, MW-2D, MW-3S, MW-3D, MW-4S, MW-4D	Indicator parameters[1] Inorganics[2] VOCs[3]
Landfill Gas	SP-1A, SP-2A, SP-3A, SP-4A, SP-4B, SP-4C, SP-5A, SP-6A, SP-7A, SP-7R, SP-8A, SP-9A, SP-10A, SP-11A, SP-12A, SP-12B, SP-13A, SP-13B, SP-14A, SP-15A Ambient Air	Methane (% total) % Lower Explosive Limit (LEL) as Methane % Carbon Monoxide % Oxygen Hydrogen Sulfide, parts per million by volume (ppmv) Total Volatile Organic Vapors (TVOV), ppmv

Notes:

Surface Water and Groundwater analysis includes all parameters specified under 310 CMR 19.132(2)(h):

[1] Indicator parameters: pH (*in situ*), alkalinity, temperature (*in situ*), specific conductance (*in situ*), nitrate nitrogen, total dissolved solids, chloride, calcium, sodium, iron, manganese, sulfate, chemical oxygen demand (COD), and dissolved oxygen.

[2] Inorganics: Arsenic, barium, cadmium, chromium, copper, cyanide (total and physiologically available [PAC]), lead, mercury, selenium, silver, and zinc.

[3] VOCs: all compounds included in EPA Method 8260, methyl ethyl ketone, methyl isobutyl ketone, acetone, 1,4-dioxane, and tentatively identified compounds in concentrations greater than 5 times background intensity.

Round 19 Post-Closure Monitoring

Sampling points for landfill gas, groundwater, and surface water samples have previously been established in status reports submitted to MassDEP by others: Six (6) groundwater monitoring wells and two (2) surface water sampling locations are sampled on an annual basis; twenty (20) landfill gas monitoring points and one (1) ambient air monitoring location are screened on a quarterly basis. The locations of these sample points are depicted on **Figure 2**, attached.

Groundwater and surface water sampling were performed by Pare Personnel on December 27, 2019 and January 16, 2020 (due to ice cover in December 2019 that obstructed access to MW-4S and MW-4D). Prior to groundwater sample collection, each well was gauged using a Durham Geo Slope Water-Level Indicator capable of measuring 1/100th of a foot (0.01') to determine depth to groundwater and the total well depth from the PVC riser. Each groundwater monitoring well was purged in accordance with the procedures outlined in the U.S. Environmental Protection Agency (EPA) Region 1's *Low Stress (Low Flow) Purging And Sampling Procedure For The Collection Of Groundwater Samples From Monitoring Wells* (Document EQASOP-GW4, rev. September 2017; the EPA's "Low-Flow Method"). A Hanna Instruments Multi-Parameter Water Quality Meter was used to collect indicator field parameters for purge rate stabilization. Upon stabilization of field parameter readings, samples were collected in laboratory-provided pre-preserved glassware and placed on ice pending transport to a state-certified laboratory (ESS Laboratory of Cranston, Rhode Island) for analysis of targeted analytes previously detailed in **Table 1**.

Water quality parameters were also evaluated at the two (2) surface water sample collection points. During the prior monitoring event (Round 18) performed by others, a recommendation was made to relocate the surface water sampling location SW-2 to another location, which was implemented by Pare personnel during this

monitoring round.

Field measurements from the surface water and groundwater monitoring event are included on the Field Sampling Data Sheets provided in **Appendix A**. Detected analytes from surface water and groundwater monitoring are summarized in the attached **Tables 2** (surface water) **and 3** (groundwater). The laboratory analytical reports containing the results for the full suite of targeted analytes are provided in **Appendix B.**

On December 30, 2019, twenty (20) soil gas probe locations and one (1) ambient air location were screened by Pare personnel for the presence of Total Methane (percent by volume) and % Methane LEL, Carbon Monoxide (percent by volume), Oxygen (as O_2, percent by volume), Hydrogen Sulfide concentration (ppmv), and TVOV (ppmv) using a MultiRAE System 5-gas meter capable of reading these parameters. The results of landfill soil gas monitoring are summarized in the attached **Table 4**.

Round 19 Monitoring Results and Discussion

Surface Water Monitoring

Analytes targeted in surface water were compared to the MassDEP Surface Water Quality Standards (314 CMR 5.00) or the U. S. Environmental Protection Agency (EPA) National Recommended Water Quality Criteria for aquatic life. In the absence of promulgated standards and guidelines for any targeted analytes in surface water, the results were compared to the Massachusetts Contingency Plan (MCP; 310 CMR 40.00) Reportable Concentrations for groundwater that could be classified as GW-1 (the RCGW-1).

The pH for both surface water sampling locations was outside of the range of acceptable pH values for a Class A surface water body in accordance with 310 CMR 4.00. Both pH readings were lower (5.04 – 5.67) than the established range of 6.5 – 8.3 S.U. Further monitoring is needed to determine whether this condition is derived from natural processes, resulted from equipment malfunction/miscalibration, or is a result of landfill influence. No VOCs were detected in surface water, and no other targeted analytes were present in excess of the applicable freshwater aquatic life thresholds.

Groundwater Monitoring

During this monitoring event, MW-4S was unable to be accessed for sampling. As such, only five (5) monitoring wells were sampled during Round 19. Analytes targeted in groundwater were compared to the National Primary and Secondary Drinking Water Standards or the MassDEP equivalent outlined at 310 CMR 22.00, the guidelines promulgated by the MassDEP's Office of Research and Standards (ORSG) for compounds without established state or federal MCLs, and the RCGW-1. Concentrations of targeted analytes were generally similar to those observed during the previous sampling round. The analysis identified several constituents that were present in excess of the comparison criteria:

- Dissolved arsenic was present in excess of the MCL and RCGW-1 (0.01 mg/L both criteria) at MW-2D (0.0109 mg/L detected);
- 1,4-Dioxane was present in excess of the RCGW-1 and the ORSG (0.3 ug/L both criteria) at MW-3S (1.04 ug/L detected);
- Manganese (1.02 – 10.8 mg/L) and sodium (27 – 43.2 mg/L) were present in excess of the ORSG (0.3 mg/L manganese; 20 mg/L sodium) at MW-2S, MW-2D, MW-3S, and MW-3D. The concentration of manganese at these wells also exceeded the SMCL (0.05 mg/L);
- Iron was present at MW-2S (2.25 mg/L) and MW-2D (13 mg/L) in excess of the SMCL (0.3 mg/L); and
- The *in-situ* pH values (5.99 – 6.26) obtained from MW-2S, MW-2D, and MW-3S were outside of (below) the SMCL range of 6.5 – 8.5 S.U.

The only detection of dissolved arsenic was at monitoring well MW-2D. Barium was detected at MW-2D (0.0521 mg/L), MW-3S (0.136 mg/L), and MW-3D (0.0703 mg/L), but was compliant with the applicable MCL

and RCGW-1 (2 mg/L both criteria). Calcium was detected in all five (5) monitoring wells sampled, for which no standards or guidance has been promulgated. Calcium concentrations are generally consistent with those detected in Round 18.

Two (2) VOCs, ethyl ether (also known as diethyl ether) and 1,4-dioxane, were detected above the laboratory reporting limit at one (1) monitoring well, MW-3S. The concentration of ethyl ether (2.4 ug/L) was compliant with the applicable RCGW-1 criteria (1,000 ug/L). All other detected analytes were compliant with the applicable criteria.

Landfill Soil Gas Readings

A reading was not able to be obtained from three (3) of the soil gas monitoring locations (SP-3A, SP-7A, and SP-15A) due to saturated ground conditions at these locations resulting in the instrument pulling water. Parameters targeted at remaining landfill gas monitoring points were compared to the applicable criteria outlined at 310 CMR 19.140 *et seq.*

Methane was reported as 0% LEL at all soil gas monitoring locations, with the exception of SP-4A. The MultiRAE probe reported "error" at SP-4A, possibly due to a low oxygen reading at that location. A TVOV reading of 0.3 ppmv was observed at SP-12B. Oxygen varied between soil gas sampling locations, ranging from 1.5 % by volume to 20.7 % by volume, excluding the reading from the ambient air (29 % oxygen by volume). Oxygen was generally observed at 14 – 19 % by volume. No hydrogen sulfide or carbon monoxide were detected above the instrument detection limits of 0.01 ppmv and 0.1 % by volume. No methane detections were noted at any other soil gas screening locations.

Quality Assurance/Quality Control and Data Useability Evaluation

An evaluation of analytical and field components of this assessment with respect to the MassDEP's *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the MCP* (WSC-CAM-VII A, rev. Jan. 2017) was performed to ensure the scientific validity and defensibility of environmental monitoring data and the quality and consistency of the procedures documented herein. Validation of these components included the following:

- Evaluating the quality and consistency of the field data collected by Pare personnel;
- Evaluating the sample collection, preservation, storage, and relinquishment procedures performed by Pare personnel;
- Evaluating the receiving laboratory's analytical methods and laboratory report for compliance with the MassDEP Compendium of Analytical Methods (CAM); and
- Any relevant observations from the performance of this assessment.

Field Data Useability

Appropriate sampling and handling methods were employed in the collection of surface water and groundwater samples. Monitoring wells were purged in accordance with the EPA's Low-Flow Method and samples were collected after indicator parameters had reached stabilization for at least three (3) consecutive readings. Samples were collected in pre-preserved glassware prepared by the receiving laboratory in advance of the sampling event. A field trip blank was also collected for analysis of VOCs to assess field accuracy and the potential for a "false positive" to occur. No analytes were detected in the trip blank above the laboratory detection limit. Due to weather conditions, Pare personnel were unable to collect all samples over a single day (i.e., ice was covering MW-4S and MW-4D, obstructing access during Pare's initial attempt in December 2019). Pare returned to the Facility in January 2020 to collect remaining samples; however, MW-4S was still unable to be sampled due to the presence of ice. The follow-up sampling event in January 2020 also allowed personnel to collect an additional aliquot from each accessible monitoring well for analysis of 1,4-dioxane that would meet the appropriate

analytical sensitivity (EPA Method 8260B-SIM).

Analytical Data Useability

Due to the need to collect samples over several days, samples were provided to the laboratory on two (2) separate chains-of-custody and the analytical results are provided on two (2) separate laboratory reports, both included in **Appendix B**.

The project narratives for both laboratory reports identify non-conformance with MassDEP CAM protocols. The report from December 2019 (Report No. 19L0783) identified an above-range recovery for the surrogate 1,2-dichloroethane-d4 in the sample collected from MW-4D, and a below-range recovery for the compound hexachloroethane in the laboratory control spike and matrix spike. The report from January 2020 (Report No. 20A0479) identified a high bias for the compounds 1,1,1,2-tetrachloroethane, 2,2-dichloropropane, carbon tetrachloride, and hexachloroethane based on continuing calibration verification. These compounds have not been identified as contaminants of concern at the Facility and these issues are not expected to have a significant impact on the accuracy of the data.

No compounds were detected in the method blanks during the analyses. Compounds identified during Round 19 that are commonly detected at the Facility were generally recovered in the laboratory control spike, matrix spike, and spike duplicates within the acceptable recovery limit range and with low relative percent differences; ethyl ether appears to have a slightly low bias with a percent recovery between 84 and 91 %, arsenic appears to have had a slightly high bias in the December 2019 analysis relative to other inorganics (108 % recovery while remaining inorganics were generally 99 – 103 %). Most inorganic compounds in the second sampling round from January 2020 had lower recovery rates, ranging from 95 – 101 % in the laboratory control spike. In the second round of sampling, 1,4-dioxane appeared to have a high bias with a recovery of 105 – 130 % in the laboratory control spike. The relative difference between the spike and the duplicate was 21 %, outside of the acceptable range of 0 – 20 % relative difference. This suggests that concentrations produced by the laboratory for 1,4-dioxane may have a wider variation from actual concentrations; however, given the apparent high bias, this variation is unlikely to result in a "false negative" result.

Based on the review of data from field activities and laboratory analysis, the data presented herein appears to be representative of conditions at the Facility and is acceptable for the purposes herein. Pare is of the opinion that data collected over the course of a single day would more accurately reflect conditions at the Facility; however, the analytical results appear to be consistent with historical observations at the Facility.

Summary of Findings and Recommendations

Pare performed the 19th round of surface water and groundwater sampling at the Parkerville Road Landfill in December 2019 and January 2020, and quarterly landfill soil gas screening on December 30, 2019. The results of this monitoring round are generally consistent with the results of surface water, groundwater, and soil gas monitoring from the previous round (Round 18, September 2018).

Notable findings from this round of monitoring include the detection of dissolved arsenic in groundwater at MW-2D, which exceeded the MCL and RCGW-1. Arsenic was not detected above the laboratory reporting limit in the previous sampling round. The concentration of arsenic (0.0109 mg/L detected) is marginally above the applicable criteria (0.01 mg/L for MCL and RCGW-1) and may have been biased high given a 108 % recovery on the laboratory control spike.

Other compounds detected at the Facility include 1,4-dioxane and ethyl ether in groundwater at MW-3S, where the concentration of 1,4-dioxane (1.04 ug/L) exceeded the ORSG and RCGW-1 (0.3 ug/L for both criteria). Both compounds were detected in the previous monitoring round at similar concentrations in MW-3S, and were also detected in MW-3D during the previous round, but were below the laboratory detection limits at MW-3D in

Round 19. Manganese, sodium, and iron were also present in at least one (1) groundwater monitoring well in excess of applicable criteria during Round 19. These compounds were generally present in similar concentrations in the previous monitoring round. Additionally, several groundwater monitoring wells exhibited pH concentrations outside the acceptable SMCL range, several of which were also outside this range in the prior monitoring round.

In surface water, pH was also outside the acceptable range, the criteria established in 310 CMR 4.00 for Class A Surface Waters (pH 6.5 – 8.3) for both surface water sampling locations. Further monitoring is needed to determine whether this condition is derived from natural processes, resulted from equipment malfunction/miscalibration, or is a result of landfill influence. No VOCs were detected in surface water, and no other targeted analytes were present in excess of the applicable freshwater aquatic life thresholds.

The results of landfill soil gas probe surveying were generally consistent with the results from the previous round. An exception was SP-4A, which reported an "error" for methane. However, the soil gas probes located nearby and across the roadway from SP-4A all had reported values of 0% LEL and normal oxygen levels, indicating that landfill gas migration off-site is not a significant issue. Additional exceedances may warrant soil gas sample collection and analysis to evaluate the potential for explosive conditions in this area.

Overall, the results of water quality sampling during Round 19 continue to indicate impacts, albeit minor impacts, on water quality from organic and inorganic parameters commonly associated with municipal landfills. With respect to inorganic parameters, in the past there have been very limited and only slight exceedances of MCLs for various heavy metals; only one (1) metal, arsenic, was present slightly above the MCL and RCGW-1 at one (1) groundwater sampling location during this monitoring round.

The next round of annual water quality monitoring will be performed in Fall of 2020. In the meantime, if you have any questions regarding this report or the attached data, please feel free to contact the undersigned at (401) 334-4100, thank you.

Very truly yours,

Timothy P. Thies, P.E.
Senior Vice President

TPT/TCJ/abv

Attachments

cc: Karen Galligan, Superintendent, Southborough Department of Public Works
Paul Pisinski, Southborough Board of Health
Mark Purple, Southborough Town Administrator

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Table 2
Summary of Analytical Results for Surface Water - December 2019 - Round 19
Parkerville Road Landfill
Southborough, Massachusetts

Analyte \ Sample ID	Units	SW-1	SW-2	National Recommended Water Quality Criteria or MassDEP Water Quality Criteria, Class A Surface Water		MassDEP Reportable Concentration
		12/27/2019	12/27/2019	Freshwater Acute (CMC)[A]	Freshwater Chronic (CCC)[B]	RCGW-1
INDICATOR PARAMETERS						
Alkalinity, Total	mg $CaCO_3$/L	23	26	*NE*	≥ 20	*NE*
Chloride	mg/L	181	180	860	230	*NE*
Chemical Oxygen Demand	mg/L	*<10*	*<10*	*NE*	*NE*	*NE*
Cyanide, PAC	mg/L	*<0.005*	*<0.005*	0.022	0.0052	0.03
Cyanide, Total	mg/L	*<0.005*	*<0.005*	0.022	0.0052	0.03
Dissolved Oxygen [1]	mg/L	13.13	12.8	≥ 6	≥ 6	*NE*
Nitrogen, Nitrate	mg/L	1.21	1.29	*NE*	*NE*	*NE*
pH [1]	S.U.	**5.67**	**5.04**	*NE*	6.5 - 8.3	*NE*
Sulfate	mg/L	14.9	14	*NE*	*NE*	*NE*
Solids, Total Dissolved	mg/L	354	348	*NE*	*NE*	*NE*
Specific Conductivity [1]	mS/cm	0.64	0.642	*NE*	*NE*	*NE*
Temperature [1]	°C	4.07	3.81	*NE*	*NE*	*NE*
METALS, DISSOLVED						
Arsenic	mg/L	*<0.005*	*<0.005*	0.34	0.15	0.01
Barium	mg/L	*<0.05*	*<0.05*	*NE*	*NE*	2
Cadmium	mg/L	*<0.0002*	*<0.0002*	0.0018	0.00072	0.004
Calcium	mg/L	18.5	18.8	*NE*	*NE*	*NE*
Chromium	mg/L	*<0.01*	*<0.01*	0.016	0.011	0.1
Copper [2]	mg/L	*<0.02*	*<0.02*	0.0257	0.0181	10
Iron	mg/L	0.279	0.252	*NE*	1	*NE*
Lead	mg/L	*<0.001*	*<0.001*	0.065	0.0025	0.01
Manganese	mg/L	0.172	0.207	*NE*	*NE*	*NE*
Mercury	mg/L	*<0.0002*	*<0.0002*	0.0014	0.00077	0.002
Selenium	mg/L	*<0.005*	*<0.005*	0.005	0.002	0.05
Silver	mg/L	*<0.005*	*<0.005*	0.0032	*NE*	0.007
Sodium	mg/L	90	86.8	*NE*	*NE*	*NE*
Zinc	mg/L	*<0.05*	*<0.05*	0.12	0.12	0.9
VOCS (8260)						
No VOCs detected above laboratory reporting limits						
MCP 1,4-Dioxane by 8270D-SIM						
1,4-Dioxane	ug/L	*<0.25*	*<0.25*	*NE*	*NE*	0.3

Notes:

Analytical data was compared to the MassDEP Surface Water Standards (314 CMR 4.00) for Class A inland surface waterbodies, which further reference the EPA's National Recommended Water Quality Criteria for contaminants not otherwise listed. As such, these requirements have been combined into a single dataset using the most stringent applicable criteria.

[A] Criterion Maximum Concentration – an estimate of the highest concentration of a substance in the water column to which an aquatic community can have a single daily exposure to with no observed adverse effects.

[B] Criterion Continuous Concentration – an estimate of the highest concentration of a substance in the water column to which an aquatic community can be exposed to over a 4-day period with no observed adverse effects.

[1] Parameters collected *in-situ* .

[2] Values for dissolved copper were provided as watershed-specific criteria under 314 CMR 4.00 for the SuAsCo Watershed.

NE = No regulatory or guidance limit has been established for the specified analyte

<x = Analyte was not detected above the specified laboratory quantitation limit (x)

= Concentration exceeds one or more Freshwater Aquatic Life Criteria

Table 3

Summary of Analytical Results for Groundwater - December 2019 - Round 19

Parkerville Road Landfill

Southborough, Massachusetts

Location	Units	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4D	Water Quality Standards and Guidelines			
Sampling Date		12/27/2019	12/27/2019	12/27/2019	12/27/2019	12/27/2019	1/16/2020	MCL[A]	ORSG[B]	RCGW-1[C]	SMCL[D]
IN-SITU *FIELD SCREENING*											
SWL (from PVC)	Feet	2.9	1.6	5.6	4.5	*NT*	13.4	*NE*	*NE*	*NE*	*NE*
pH	S.U.	**5.99**	**6.09**	**6.26**	6.54	*NT*	8.21	*NE*	*NE*	*NE*	6.5 - 8.5
Temperature	°C	10.01	10.28	11.91	13.14	*NT*	8.9	*NE*	*NE*	*NE*	*NE*
Conductivity	mS/cm	0.478	0.551	0.772	0.740	*NT*	0.113	*NE*	*NE*	*NE*	*NE*
Dissolved Oxygen	mg/L	5.32	3.61	7.22	0.72	*NT*	*NT*	*NE*	*NE*	*NE*	*NE*
INDICATOR PARAMETERS											
Alkalinity, Total	mg $CaCO_3$/L	92	70	274	312	*NT*	30	*NE*	*NE*	*NE*	*NE*
Chloride	mg/L	90.8	118	84.5	73.4	*NT*	*<3.0*	*NE*	*NE*	*NE*	250
Chemical Oxygen Demand	mg/L	14	*<10*	*<10*	*<10*	*NT*	13	*NE*	*NE*	*NE*	*NE*
Cyanide, Total	mg/L	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*NT*	*<0.005*	0.2	*NE*	0.03	*NE*
Cyanide, PAC	mg/L	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*NT*	*<0.005*	0.2	*NE*	0.03	*NE*
Nitrate as N	mg/L	0.156	*<0.03*	*<0.03*	*<0.03*	*NT*	*<0.03*	10	*NE*	*NE*	*NE*
Sulfate	mg/L	11.4	12.9	*<5*	*<5*	*NT*	15.4	*NE*	*NE*	*NE*	250
Solids, Total Dissolved	mg/L	294	320	434	386	*NT*	102	*NE*	*NE*	*NE*	500
METALS, DISSOLVED											
Arsenic	mg/L	*<0.005*	**0.0109**	*<0.005*	*<0.005*	*NT*	*<0.001*	0.01	*NE*	0.01	*NE*
Barium	mg/L	*<0.05*	0.0521	0.136	0.0703	*NT*	*<0.05*	2	*NE*	2	*NE*
Cadmium	mg/L	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*NT*	*<0.001*	0.005	*NE*	0.004	*NE*
Calcium	mg/L	36.7	33.1	76.1	60.9	*NT*	8.03	*NE*	*NE*	*NE*	*NE*
Chromium	mg/L	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*NT*	*<0.01*	0.1	*NE*	0.1	*NE*
Copper	mg/L	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*NT*	*<0.02*	1.3	*NE*	10	1
Iron	mg/L	**2.25**	**13**	*<0.1*	*<0.1*	*NT*	*<0.1*	*NE*	*NE*	*NE*	0.3
Lead	mg/L	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*NT*	*<0.001*	0.015	*NE*	0.01	*NE*
Manganese	mg/L	**1.02**	**4.78**	**10.8**	**4.42**	*NT*	*<0.02*	*NE*	0.3	*NE*	0.05
Mercury	mg/L	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*NT*	*<0.0002*	0.002	*NE*	0.002	*NE*
Selenium	mg/L	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*NT*	*<0.005*	0.05	*NE*	0.05	*NE*
Silver	mg/L	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*NT*	*<0.005*	*NE*	*NE*	0.007	0.1
Sodium	mg/L	**27**	**41.4**	**43.2**	**33**	*NT*	*<5.0*	*NE*	20	*NE*	*NE*
Zinc	mg/L	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*NT*	*<0.05*	*NE*	*NE*	0.9	5
VOCS (8260)											
Ethyl ether	ug/L	*<1.0*	*<1.0*	2.4	*<1.0*	*NT*	*<1.0*	*NE*	*NE*	1,000	*NE*
MCP 1,4-Dioxane by 8270D-SIM											
1,4-Dioxane	ug/L	*<0.25*	*<0.25*	**1.04**	*<0.25*	*NT*	*<0.25*	*NE*	0.3	0.3	*NE*

Notes:

1. Standard based on the following:

(A) MCL = Maximum Contaminant Level for Drinking Water, either for Massachusetts (310 CMR 22.00) or the National Primary Drinking Water Regulations, whichever is more stringent.

(B) ORSG = Office of Research and Standards Guidelines for Drinking Water Contaminants without a Massachusetts MCL, 2016.

(C) RCGW-1 = MassDEP Reportable Concentration in Groundwater, from 310 CMR 40.1600, July 2016.

(D) SMCL = Secondary Maximum Contaminant Levels from 310 CMR 22.00 or the National Secondary Drinking Water Standards. SMCLs are non-enforceable standards that were developed to protect the aesthetic quality of drinking water (e.g., odor and taste).

<x = Not detected above laboratory reporting limit (x).

NT = Not tested. During the December 2019 sampling round, location MW-4S was unable to be accessed for sampling.

NE = No limit established for the targeted analyte under the specified criteria.

= Concentration exceeds the MCL

= Concentration exceeds the ORSG criteria

= Concentration exceeds the MassDEP RCGW-1

= Concentration exceeds the SMCL

Multiple colors indicate an exceedance of more than one standard, identified by the colors used.

Table 4
Summary of Landfill Soil Gas Survey Readings - December 2019 - Round 19
Parkerville Road Landfill
Southborough, Massachusetts

PROBE ID	INSTALLATION TYPE	SCREENING TIME	PRESS. (Hg)	CH_4 (%)	LEL (%)	CO (%)	O2 (%)	H_2S (ppm)	TVOV (ppm)	NOTES
SP-1A	Flush-Mounted Probe	11:35	-	0.0	0.0	0.0	14.7	0	0.0	
SP-2A	Flush Mounted Probe	11:40	-	0.0	0.0	0.0	20.0	0	0.0	
SP-3A	Flush Mounted Probe	-	-	-	-	-	-	-	-	Saturated/muddy conditions, overflowing probe.
SP-4A	Flush Mounted Probe	11:50	-	ERROR	ERROR	0.0	1.5	0	0.0	Probe error, possibly due to low oxygen or pulling water from previous probe
SP-4B	Staked Probe	11:55	-	0.0	0.0	0.0	19.7	0	0.0	
SP-4C	Staked Probe	12:00	-	0.0	0.0	0.0	20.5	0	0.0	
SP-5A	Flush Mounted Probe	12:05	-	0.0	0.0	0.0	19.7	0	0.0	
SP-6A	Flush Mounted Probe	12:10	-	0.0	0.0	0.0	19.5	0	0.0	
SP-7A	Flush Mounted Probe	-	-	-	-	-	-	-	-	Saturated/muddy conditions, overflowing probe.
SP-7R	Flush Mounted Probe	12:20	-	0.0	0.0	0.0	20.7	0	0.0	
SP-8A	Flush Mounted Probe	12:25	-	0.0	0.0	0.0	18.2	0	0.0	
SP-9A	Staked Probe	12:30	-	0.0	0.0	0.0	14.8	0	0.0	
SP-10A	Staked Probe	12:35	-	0.0	0.0	0.0	20.5	0	0.0	
SP-11A	Staked Probe	12:40	-	0.0	0.0	0.0	19.7	0	0.0	
SP-12A	Flush Mounted Probe	12:45	-	0.0	0.0	0.0	19.2	0	0.0	
SP-12B	Staked Probe	12:50	-	0.0	0.0	0.0	19.8	0	0.3	
SP-13A	Flush Mounted Probe	12:55	-	0.0	0.0	0.0	19.0	0	0.0	
SP-13B	Flush Mounted Probe	13:00	-	0.0	0.0	0.0	20.5	0	0.0	
SP-14A	Staked Probe	13:05	-	0.0	0.0	0.0	19.8	0	0.0	
SP-15A	Flush Mounted Probe	-	-	-	-	-	-	-	-	Saturated/muddy conditions, overflowing probe.
Ambient	Parking Lot	11:30	-	0.0	0.0	0.0	20.9	0	0.0	

Notes:

1. Weather: Cloudy, 32° F.
2. MultiRAE PGM Portable Multi-Gas Detector was used for measurement collection.
3. Bold values indicate methane concentrations.
4. Bold and shaded values indicate a reportable concentration.
5. Pressure (Hg.) was not tested for.

FIGURE 1

Locus Map

FIGURE 1

IMAGERY SOURCE: MassGIS. 1995. U.S.G.S. 7.5-Minute Topographic Maps. MassGIS (Bureau of Geographic Information), Commonwealth of Massachusetts EOTSS and U.S. Geological Survey.

PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

0 250 500 1,000 1,500 2,000 Feet

N

"MARLBOROUGH, MASSACHUSETTS" QUADRANGLE

★ SITE LOCATION

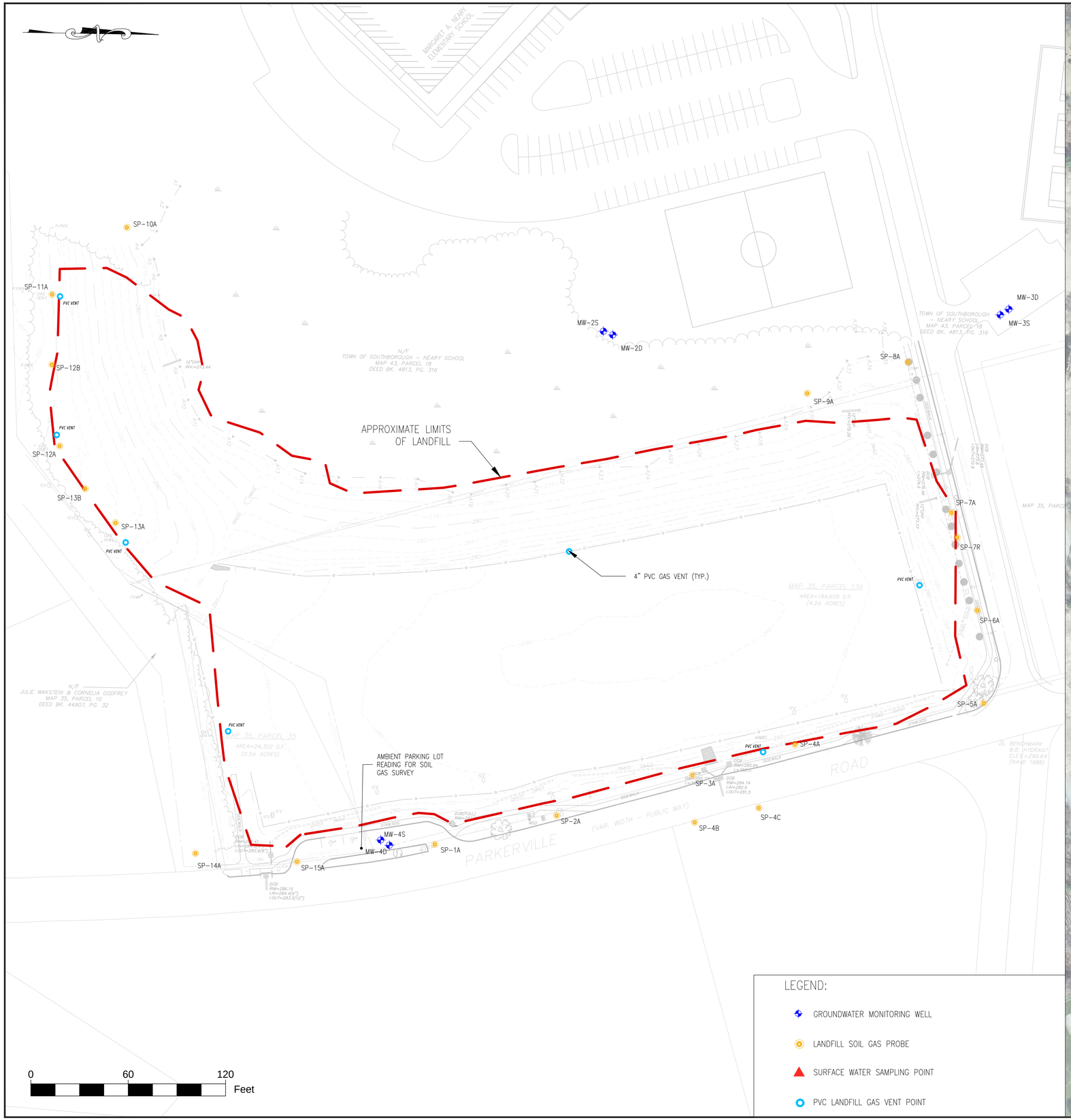
SITE LOCUS MAP

PARKERVILLE ROAD LANDFILL
SOUTHBOROUGH, MA

PARE PROJECT: 18128.02
DATE: JAN 2020

FIGURE 2

Sample Location Plan



LEGEND:

- GROUNDWATER MONITORING WELL
- LANDFILL SOIL GAS PROBE
- SURFACE WATER SAMPLING POINT
- PVC LANDFILL GAS VENT POINT

PARE
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

Parkerville Road Landfill
Sample Locations

Southborough, Massachusetts

REVISIONS:

PROJECT NO.:	18128.02
DATE:	JANUARY 2020
SCALE:	AS NOTED
DESIGNED BY:	
CHECKED BY:	
DRAWN BY:	
APPROVED BY:	

DRAWING TITLE:

PARKERVILLE ROAD LANDFILL SAMPLING PLAN

FIGURE 2

APPENDIX A

Field Sampling Data Sheets

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
PROJECT NO.: 18128.02
DATE: 12/27/2019
WEATHER: 45°F, cloudy

WELL ID: **MW-2S**
WELL DIAMETER (INCHES): 2

PURGE DATA

DEPTH TO WATER (DTW): 2.90 feet
TOTAL WELL DEPTH (DTB): 15.42 feet
VOLUME PURGED: 2.10 gallons
MEASURE POINT: Top of PVC Riser
ELEVATION:
WATER LEVEL MEASUREMENT DEVICE: Durham Geo

PURGER TYPE: Peristaltic Pump
PURGE RATE (GPM): 0.1 ±
ELAPSED TIME (MIN): 40 ±

FIELD TESTING RESULTS

O_2 (%)	20.9	CO (ppmv)	ND (0)
% LEL	ND (0)	H_2S (ppmv)	ND (0)
Total VOCs (ppmv)	ND (0)		

Time:	1221	1225	1230	1234	1240	1245	1250	1255	
pH:	5.94	5.99	5.99	5.99	6.00	5.99	6.00	5.99	
Sp.Con. (mS/cm):	0.478	0.478	0.477	0.477	0.477	0.476	0.477	0.478	
Temp (°C):	9.99	10.00	10.01	10.02	10.03	10.05	10.03	10.01	
D.O. (mg/L):	6.76	6.15	5.66	5.27	4.90	4.63	4.47	5.32	

Notes:

Samples were noted as generally clear and low in turbidity based on visual inspections of samples.

Samples were collected at 1300

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
PROJECT NO.: 18128.02
DATE: 12/27/2019
WEATHER: 45°F, cloudy

WELL ID: **MW-2D**
WELL DIAMETER (INCHES): 2

PURGE DATA

DEPTH TO WATER (DTW): 1.60 feet
TOTAL WELL DEPTH (DTB): 29.23 feet
VOLUME PURGED: 4.60 gallons
MEASURE POINT: Top of PVC Riser
ELEVATION:
WATER LEVEL MEASUREMENT DEVICE: Durham Geo

PURGER TYPE: Peristaltic Pump
PURGE RATE (GPM): 0.1 ±
ELAPSED TIME (MIN): 40 ±

FIELD TESTING RESULTS

O_2 (%)	20.9	CO (ppmv)	ND (0)
% LEL	ND (0)	H_2S (ppmv)	ND (0)
Total VOCs (ppmv)	ND (0)		

Time:	1314	1318	1323	1327	1332	1336	1341	1347	1352
pH:	6.06	6.06	6.07	6.06	6.07	6.09	6.09	6.08	6.09
Sp.Con. (mS/cm):	0.549	0.550	0.550	0.551	0.551	0.551	0.550	0.550	0.551
Temp (°C):	10.17	10.20	10.21	10.22	10.23	10.25	10.27	10.29	10.28
D.O. (mg/L):	4.69	4.44	4.28	4.09	4.00	3.93	3.82	3.73	3.61

Notes:

Samples were noted as generally clear and low in turbidity based on visual inspection.

Samples were collected at 1400

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
PROJECT NO.: 18128.02
DATE: 12/27/2019
WEATHER: 45°F, cloudy

WELL ID: **MW-3S**
WELL DIAMETER (INCHES): 2

PURGE DATA

DEPTH TO WATER (DTW): 5.60 feet
TOTAL WELL DEPTH (DTB): 12.95 feet
VOLUME PURGED: 1.30 gallons
MEASURE POINT: Top of PVC Riser
ELEVATION:
WATER LEVEL MEASUREMENT DEVICE: Durham Geo

PURGER TYPE: Peristaltic Pump
PURGE RATE (GPM): 0.1 ±
ELAPSED TIME (MIN): 40 ±

FIELD TESTING RESULTS

O_2 (%)	20.9	CO (ppmv)	ND (0)
% LEL	ND (0)	H_2S (ppmv)	ND (0)
Total VOCs (ppmv)	ND (0)		

Time:	1421	1425	1431	1436	1440	1446	1451	1456	
pH:	6.19	6.21	6.23	6.26	6.25	6.26	6.27	6.26	
Sp.Con. (mS/cm):	0.783	0.781	0.777	0.774	0.773	0.772	0.771	0.772	
Temp (°C):	11.90	11.85	11.78	11.78	11.84	11.87	11.90	11.91	
D.O. (mg/L):	8.56	8.30	7.33	7.24	7.41	7.31	7.24	7.22	

Notes:

Samples were noted as generally clear and low in turbidity based on visual inspection.

Samples were collected at 1500

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
PROJECT NO.: 18128.02
DATE: 12/27/2019
WEATHER: 45°F, cloudy

WELL ID: **MW-3D**
WELL DIAMETER (INCHES): 2

PURGE DATA

DEPTH TO WATER (DTW): 4.50 feet
TOTAL WELL DEPTH (DTB): 23.49 feet
VOLUME PURGED: 3.20 gallons
MEASURE POINT: Top of PVC Riser
ELEVATION:
WATER LEVEL MEASUREMENT DEVICE: Durham Geo

PURGER TYPE: Peristaltic Pump
PURGE RATE (GPM): 0.1 ±
ELAPSED TIME (MIN): 40 ±

FIELD TESTING RESULTS

O_2 (%)	20.9	CO (ppmv)	ND (0)
% LEL	ND (0)	H_2S (ppmv)	ND (0)
Total VOCs (ppmv)	ND (0)		

Time:	1517	1520	1524	1529	1535	1540	1544	1549	1554
pH:	6.67	6.64	6.63	6.61	6.59	6.57	6.53	6.54	6.54
Sp.Con. (mS/cm):	0.731	0.732	0.732	0.734	0.737	0.738	0.740	0.740	0.740
Temp (°C):	13.01	13.06	13.08	13.10	13.11	13.13	13.14	13.14	13.14
D.O. (mg/L):	3.77	2.91	2.41	1.82	1.38	1.09	0.78	0.75	0.72

Notes:

Samples were noted as generally clear and low in turbidity based on visual inspection.

Samples were collected at 1600

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
PROJECT NO.: 18128.02
DATE: 1/16/2020
WEATHER: 45°F, sunny

WELL ID: **MW-4D**
WELL DIAMETER (INCHES): 2

PURGE DATA

DEPTH TO WATER (DTW): 13.40 feet
TOTAL WELL DEPTH (DTB): 33.60 feet
VOLUME PURGED: 3.30 gallons
MEASURE POINT: Top of PVC Riser
ELEVATION:
WATER LEVEL MEASUREMENT DEVICE: Durham Geo

PURGER TYPE: Peristaltic Pump
PURGE RATE (GPM): 0.1 ±
ELAPSED TIME (MIN): 40 ±

FIELD TESTING RESULTS

O_2 (%)	20.9	CO (ppmv)	ND (0)
% LEL	ND (0)	H_2S (ppmv)	ND (0)
Total VOCs (ppmv)	ND (0)		

Time:	1412	1419	1424	1430	1435	1441	1445	1450	1457
pH:	6.35	6.70	6.96	7.18	7.29	7.66	8.10	8.20	8.21
Sp.Con. (mS/cm):	0.130	0.140	0.139	0.125	0.112	0.114	0.111	0.113	0.113
Temp (°C):	6.40	8.00	8.70	8.90	8.90	8.80	8.90	9.00	8.9
D.O. (mg/L):	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:

Samples were noted as generally clear and low in turbidity based on visual inspection.
Samples were collected at 1500
Dissolved Oxygen not measured because…?

FIELD SAMPLING DATA SHEET

PROJECT NAME: PARKERVILLE ROAD LANDFILL
DATE: 12/27/2019
PROJECT NO.: 18128.02
WEATHER: 45°F, cloudy

FIELD TESTING RESULTS:

SURFACE WATER SAMPLE LOCATION: **SW-1**

pH: 5.67 S.U.
SPEC. COND: 0.640 mS/cm
TEMPERATURE: 4.07 ^{o}C
D.O.: 13.13 mg/L

SURFACE WATER SAMPLE LOCATION: **SW-2**

pH: 5.04 S.U.
SPEC. COND: 0.642 mS/cm
TEMPERATURE: 3.81 ^{o}C
D.O.: 12.80 mg/L

NOTES:

All surface water samples were clear with a brownish tinge.

APPENDIX B

Laboratory Analytical Reports

CERTIFICATE OF ANALYSIS

Tim Thies
Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

RE: Southbridge Landfill (N/A)
ESS Laboratory Work Order Number: 19L0783

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:01 pm, Jan 06, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

SAMPLE RECEIPT

The following samples were received on December 27, 2019 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
19L0783-01	MW-2S	Ground Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC
19L0783-02	MW-2D	Ground Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC
19L0783-03	MW-3S	Ground Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC
19L0783-04	MW-3D	Ground Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC
19L0783-05	SW-1	Surface Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC
19L0783-06	SW-2	Surface Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7010, 7470A, 8260B, 9014, 9038, MA PAC

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

PROJECT NARRATIVE

8260B Volatile Organic Compounds

19L0783-04	**Surrogate recovery(ies) above upper control limit (S+).**
	1,2-Dichloroethane-d4 (131% @ 70-130%)
C9L0449-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Hexachloroethane (32% @ 20%)
CL93025-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Hexachloroethane (57% @ 70-130%)
CL93025-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Hexachloroethane (59% @ 70-130%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **19L0783-01 through 19L0783-06**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	(X) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: January 03, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2S
Date Sampled: 12/27/19 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/31/19 16:32	10	10	CL92713
Barium	ND (50.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Cadmium	ND (1.0)		6020A		1	NAR	12/31/19 17:49	10	10	CL92713
Calcium	**36700** (200)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Iron	**2250** (100)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 17:49	10	10	CL92713
Manganese	**1020** (20.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:02	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 17:49	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Sodium	**27000** (5000)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:36	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2S
Date Sampled: 12/27/19 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 15:13	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2S
Date Sampled: 12/27/19 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Diethyl Ether	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2S
Date Sampled: 12/27/19 13:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 15:13	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 15:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*128 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*108 %*		*70-130*
Surrogate: Toluene-d8	*97 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2S
Date Sampled: 12/27/19 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**92** (10)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	**14** (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**90.8** (3.0)		4500Cl- E		1	EEM	01/02/20 12:00	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	**0.156** (0.0300)		353.2		1	JLK	12/27/19 20:49	mg/L	[CALC]
Sulfate	**11.4** (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**294** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2D
Date Sampled: 12/27/19 14:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**10.9** (5.0)		7010		1	KJK	12/31/19 16:38	10	10	CL92713
Barium	**52.1** (50.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Cadmium	ND (1.0)		6020A		1	NAR	12/31/19 17:54	10	10	CL92713
Calcium	**33100** (200)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Iron	**13000** (100)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 17:54	10	10	CL92713
Manganese	**4780** (20.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:05	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 17:54	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Sodium	**41400** (5000)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:40	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2D
Date Sampled: 12/27/19 14:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 15:38	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2D
Date Sampled: 12/27/19 14:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Diethyl Ether	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2D
Date Sampled: 12/27/19 14:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 15:38	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 15:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*126 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*107 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-2D
Date Sampled: 12/27/19 14:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-02
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**70** (10)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	ND (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**118** (15.0)		4500Cl- E		5	EEM	01/02/20 12:15	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	ND (0.0300)		353.2		1	JLK	12/27/19 20:50	mg/L	[CALC]
Sulfate	**12.9** (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**320** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3S
Date Sampled: 12/27/19 15:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-03
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/31/19 16:55	10	10	CL92713
Barium	**136** (50.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Cadmium	ND (1.0)		6020A		1	NAR	12/31/19 18:00	10	10	CL92713
Calcium	**76100** (200)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Iron	ND (100)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 18:00	10	10	CL92713
Manganese	**10800** (20.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:07	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 18:00	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Sodium	**43200** (5000)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:44	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3S
Date Sampled: 12/27/19 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 16:04	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3S
Date Sampled: 12/27/19 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Diethyl Ether	**2.4** (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3S
Date Sampled: 12/27/19 15:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 16:04	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 16:04		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*125 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*107 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3S
Date Sampled: 12/27/19 15:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-03
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**274** (20)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	ND (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**84.5** (3.0)		4500Cl- E		1	EEM	01/02/20 12:02	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	ND (0.0300)		353.2		1	JLK	12/27/19 20:51	mg/L	[CALC]
Sulfate	ND (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**434** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3D
Date Sampled: 12/27/19 16:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-04
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/31/19 17:07	10	10	CL92713
Barium	**70.3** (50.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Cadmium	ND (1.0)		6020A		1	NAR	12/31/19 18:06	10	10	CL92713
Calcium	**60900** (200)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Iron	ND (100)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 18:06	10	10	CL92713
Manganese	**4420** (20.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:09	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 18:06	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Sodium	**33000** (5000)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:48	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3D
Date Sampled: 12/27/19 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-04
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 16:29	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3D
Date Sampled: 12/27/19 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-04
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Diethyl Ether	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3D
Date Sampled: 12/27/19 16:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-04
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 16:29	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 16:29		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*131 %*	*S+*	*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*111 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: MW-3D
Date Sampled: 12/27/19 16:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-04
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**312** (20)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	ND (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**73.4** (3.0)		4500Cl- E		1	EEM	01/02/20 12:03	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	ND (0.0300)		353.2		1	JLK	12/27/19 20:52	mg/L	[CALC]
Sulfate	ND (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**386** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-1
Date Sampled: 12/27/19 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-05
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/31/19 17:13	10	10	CL92713
Barium	ND (50.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Cadmium	ND (0.2)		6020A		1	NAR	12/31/19 18:11	10	10	CL92713
Calcium	**18500** (200)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Iron	**279** (100)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 18:11	10	10	CL92713
Manganese	**172** (20.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:16	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 18:11	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Sodium	**90000** (5000)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:52	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-1
Date Sampled: 12/27/19 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-05
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 16:54	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-1
Date Sampled: 12/27/19 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-05
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Diethyl Ether	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-1
Date Sampled: 12/27/19 10:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-05
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 16:54	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 16:54		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*128 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*109 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-1
Date Sampled: 12/27/19 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-05
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**23** (2)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	ND (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**181** (15.0)		4500Cl- E		5	EEM	01/02/20 12:16	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	**1.21** (0.110)		353.2		5	JLK	12/27/19 20:56	mg/L	[CALC]
Sulfate	**14.9** (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**354** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-2
Date Sampled: 12/27/19 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-06
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/31/19 17:19	10	10	CL92713
Barium	ND (50.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Cadmium	ND (0.2)		6020A		1	NAR	12/31/19 18:28	10	10	CL92713
Calcium	**18800** (200)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Chromium	ND (10.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Copper	ND (20.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Iron	**252** (100)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Lead	ND (1.0)		6020A		1	NAR	12/31/19 18:28	10	10	CL92713
Manganese	**207** (20.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Mercury	ND (0.20)		7470A		1	MKS	01/02/20 10:18	20	40	CL93034
Selenium	ND (5.0)		6020A		1	NAR	12/31/19 18:28	10	10	CL92713
Silver	ND (5.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Sodium	**86800** (5000)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713
Zinc	ND (50.0)		6010C		1	BJV	12/30/19 13:56	10	10	CL92713

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-2
Date Sampled: 12/27/19 11:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-06
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1-Dichloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1-Dichloroethene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,1-Dichloropropene	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2-Dibromoethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2-Dichloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,3-Dichloropropane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
1,4-Dioxane - Screen	ND (500)		8260B		1	12/30/19 17:20	C9L0449	CL93025
2,2-Dichloropropane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
2-Butanone	ND (10.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
2-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
2-Hexanone	ND (10.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
4-Chlorotoluene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
4-Isopropyltoluene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Acetone	ND (10.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Benzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Bromobenzene	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Bromochloromethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-2
Date Sampled: 12/27/19 11:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-06
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Bromoform	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Bromomethane	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Carbon Disulfide	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Carbon Tetrachloride	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Chlorobenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Chloroethane	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Chloroform	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Chloromethane	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Dibromochloromethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Dibromomethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Diethyl Ether	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Di-isopropyl ether	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Ethylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Hexachlorobutadiene	ND (0.6)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Hexachloroethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Isopropylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Methylene Chloride	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Naphthalene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
n-Butylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
n-Propylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
sec-Butylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Styrene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
tert-Butylbenzene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Tetrachloroethene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Tetrahydrofuran	ND (5.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-2
Date Sampled: 12/27/19 11:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-06
Sample Matrix: Surface Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Trichloroethene	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Trichlorofluoromethane	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Vinyl Chloride	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Xylene O	ND (1.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Xylene P,M	ND (2.0)		8260B		1	12/30/19 17:20	C9L0449	CL93025
Xylenes (Total)	ND (2.00)		8260B		1	12/30/19 17:20		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*126 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*109 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill
Client Sample ID: SW-2
Date Sampled: 12/27/19 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 19L0783
ESS Laboratory Sample ID: 19L0783-06
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**26** (2)		2320B		1	JLK	01/02/20 17:00	mg/L	CA00237
Chemical Oxygen Demand	ND (10)		410.4		1	CCP	01/02/20 14:00	mg/L	CA00229
Chloride	**180** (15.0)		4500Cl- E		5	EEM	01/02/20 12:17	mg/L	CA00217
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/02/20 14:10	ug/L	CA00218
Nitrate as N	**1.29** (0.110)		353.2		5	JLK	12/27/19 20:57	mg/L	[CALC]
Sulfate	**14.0** (5.0)		9038		1	JLK	12/31/19 15:44	mg/L	CL93121
Total Cyanide	ND (5.00)		9014		1	EEM	12/31/19 11:10	ug/L	CL93105
Total Dissolved Solids	**348** (10)		2540C		1	CCP	12/31/19 16:23	mg/L	CL93118

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CL92713 - 200.7/6010BNoDigest										
Blank										
Barium	ND	50.0	ug/L							
Calcium	ND	200	ug/L							
Chromium	ND	10.0	ug/L							
Copper	ND	20.0	ug/L							
Iron	ND	100	ug/L							
Manganese	ND	20.0	ug/L							
Silver	ND	5.0	ug/L							
Sodium	ND	5000	ug/L							
Zinc	ND	50.0	ug/L							
Blank										
Cadmium	ND	1.0	ug/L							
Lead	ND	1.0	ug/L							
Selenium	ND	5.0	ug/L							
Blank										
Arsenic	ND	5.0	ug/L							
Lead	ND	1.0	ug/L							
Blank										
Arsenic	ND	5.0	ug/L							
Barium	ND	50.0	ug/L							
Cadmium	ND	0.2	ug/L							
Calcium	ND	200	ug/L							
Chromium	ND	10.0	ug/L							
Copper	ND	20.0	ug/L							
Iron	ND	100	ug/L							
Lead	ND	1.0	ug/L							
Manganese	ND	20.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	5.0	ug/L							
Sodium	ND	5000	ug/L							
Zinc	ND	50.0	ug/L							
LCS										
Barium	0.5		mg/L	0.5000		103	80-120			
Calcium	5.0		mg/L	5.000		99	80-120			
Chromium	0.5		mg/L	0.5000		100	80-120			
Copper	0.5		mg/L	0.5000		101	80-120			
Iron	2.5		mg/L	2.500		100	80-120			
Manganese	0.5		mg/L	0.5000		102	80-120			
Silver	0.3		mg/L	0.2500		102	80-120			
Sodium	24.9		mg/L	25.00		99	80-120			
Zinc	0.5		mg/L	0.5000		103	80-120			
LCS										
Cadmium	19.8		ug/L	20.10		99	80-120			
Lead	19.9		ug/L	19.98		99	80-120			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CL92713 - 200.7/6010BNoDigest										
Selenium	18.9		ug/L	19.98		94	80-120			
LCS										
Arsenic	26.9		ug/L	25.00		108	80-120			
Batch CL93034 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	4.83	0.20	ug/L	6.042		80	80-120			
LCS Dup										
Mercury	5.78	0.20	ug/L	6.042		96	80-120	18	20	
8260B Volatile Organic Compounds										
Batch CL93025 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CL93025 - 5030B										
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CL93025 - 5030B										
Surrogate: 1,2-Dichloroethane-d4	*31.3*		ug/L	*25.00*		*125*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.5*		ug/L	*25.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*26.7*		ug/L	*25.00*		*107*	*70-130*			
Surrogate: Toluene-d8	*24.9*		ug/L	*25.00*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	7.8		ug/L	10.00		78	70-130			
1,1,1-Trichloroethane	9.5		ug/L	10.00		95	70-130			
1,1,2,2-Tetrachloroethane	9.2		ug/L	10.00		92	70-130			
1,1,2-Trichloroethane	8.8		ug/L	10.00		88	70-130			
1,1-Dichloroethane	9.5		ug/L	10.00		95	70-130			
1,1-Dichloroethene	9.1		ug/L	10.00		91	70-130			
1,1-Dichloropropene	9.5		ug/L	10.00		95	70-130			
1,2,3-Trichlorobenzene	9.0		ug/L	10.00		90	70-130			
1,2,3-Trichloropropane	8.0		ug/L	10.00		80	70-130			
1,2,4-Trichlorobenzene	8.7		ug/L	10.00		87	70-130			
1,2,4-Trimethylbenzene	9.0		ug/L	10.00		90	70-130			
1,2-Dibromo-3-Chloropropane	7.6		ug/L	10.00		76	70-130			
1,2-Dibromoethane	8.7		ug/L	10.00		87	70-130			
1,2-Dichlorobenzene	8.7		ug/L	10.00		87	70-130			
1,2-Dichloroethane	10.8		ug/L	10.00		108	70-130			
1,2-Dichloropropane	9.0		ug/L	10.00		90	70-130			
1,3,5-Trimethylbenzene	9.6		ug/L	10.00		96	70-130			
1,3-Dichlorobenzene	8.9		ug/L	10.00		89	70-130			
1,3-Dichloropropane	9.2		ug/L	10.00		92	70-130			
1,4-Dichlorobenzene	9.1		ug/L	10.00		91	70-130			
1,4-Dioxane - Screen	175		ug/L	200.0		87	0-332			
2,2-Dichloropropane	8.3		ug/L	10.00		83	70-130			
2-Butanone	48.0		ug/L	50.00		96	70-130			
2-Chlorotoluene	8.9		ug/L	10.00		89	70-130			
2-Hexanone	49.2		ug/L	50.00		98	70-130			
4-Chlorotoluene	9.3		ug/L	10.00		93	70-130			
4-Isopropyltoluene	9.0		ug/L	10.00		90	70-130			
4-Methyl-2-Pentanone	45.3		ug/L	50.00		91	70-130			
Acetone	46.5		ug/L	50.00		93	70-130			
Benzene	9.2		ug/L	10.00		92	70-130			
Bromobenzene	8.9		ug/L	10.00		89	70-130			
Bromochloromethane	9.3		ug/L	10.00		93	70-130			
Bromodichloromethane	9.1		ug/L	10.00		91	70-130			
Bromoform	7.8		ug/L	10.00		78	70-130			
Bromomethane	12.0		ug/L	10.00		120	70-130			
Carbon Disulfide	8.7		ug/L	10.00		87	70-130			
Carbon Tetrachloride	8.6		ug/L	10.00		86	70-130			
Chlorobenzene	9.1		ug/L	10.00		91	70-130			
Chloroethane	8.8		ug/L	10.00		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CL93025 - 5030B										
Chloroform	10.0		ug/L	10.00		100	70-130			
Chloromethane	8.4		ug/L	10.00		84	70-130			
cis-1,2-Dichloroethene	8.6		ug/L	10.00		86	70-130			
cis-1,3-Dichloropropene	8.2		ug/L	10.00		82	70-130			
Dibromochloromethane	8.0		ug/L	10.00		80	70-130			
Dibromomethane	9.8		ug/L	10.00		98	70-130			
Dichlorodifluoromethane	9.8		ug/L	10.00		98	70-130			
Diethyl Ether	8.5		ug/L	10.00		85	70-130			
Di-isopropyl ether	9.9		ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	8.9		ug/L	10.00		89	70-130			
Ethylbenzene	9.2		ug/L	10.00		92	70-130			
Hexachlorobutadiene	9.8		ug/L	10.00		98	70-130			
Hexachloroethane	5.7		ug/L	10.00		57	70-130			B-
Isopropylbenzene	8.7		ug/L	10.00		87	70-130			
Methyl tert-Butyl Ether	9.5		ug/L	10.00		95	70-130			
Methylene Chloride	9.4		ug/L	10.00		94	70-130			
Naphthalene	8.0		ug/L	10.00		80	70-130			
n-Butylbenzene	9.2		ug/L	10.00		92	70-130			
n-Propylbenzene	9.0		ug/L	10.00		90	70-130			
sec-Butylbenzene	8.9		ug/L	10.00		89	70-130			
Styrene	8.6		ug/L	10.00		86	70-130			
tert-Butylbenzene	8.6		ug/L	10.00		86	70-130			
Tertiary-amyl methyl ether	8.8		ug/L	10.00		88	70-130			
Tetrachloroethene	7.6		ug/L	10.00		76	70-130			
Tetrahydrofuran	9.0		ug/L	10.00		90	70-130			
Toluene	9.1		ug/L	10.00		91	70-130			
trans-1,2-Dichloroethene	8.6		ug/L	10.00		86	70-130			
trans-1,3-Dichloropropene	7.7		ug/L	10.00		77	70-130			
Trichloroethene	8.8		ug/L	10.00		88	70-130			
Trichlorofluoromethane	12.0		ug/L	10.00		120	70-130			
Vinyl Chloride	8.7		ug/L	10.00		87	70-130			
Xylene O	9.1		ug/L	10.00		91	70-130			
Xylene P,M	18.0		ug/L	20.00		90	70-130			
Surrogate: 1,2-Dichloroethane-d4	*29.0*		ug/L	*25.00*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.5*		ug/L	*25.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*26.2*		ug/L	*25.00*		*105*	*70-130*			
Surrogate: Toluene-d8	*24.4*		ug/L	*25.00*		*97*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	8.2		ug/L	10.00		82	70-130	5	20	
1,1,1-Trichloroethane	9.9		ug/L	10.00		99	70-130	4	20	
1,1,2,2-Tetrachloroethane	9.3		ug/L	10.00		93	70-130	1	20	
1,1,2-Trichloroethane	9.1		ug/L	10.00		91	70-130	3	20	
1,1-Dichloroethane	9.9		ug/L	10.00		99	70-130	4	20	
1,1-Dichloroethene	9.3		ug/L	10.00		93	70-130	3	20	
1,1-Dichloropropene	9.8		ug/L	10.00		98	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CL93025 - 5030B										
1,2,3-Trichlorobenzene	8.6		ug/L	10.00		86	70-130	4	20	
1,2,3-Trichloropropane	8.1		ug/L	10.00		81	70-130	1	20	
1,2,4-Trichlorobenzene	8.3		ug/L	10.00		83	70-130	4	20	
1,2,4-Trimethylbenzene	9.4		ug/L	10.00		94	70-130	3	20	
1,2-Dibromo-3-Chloropropane	7.7		ug/L	10.00		77	70-130	1	20	
1,2-Dibromoethane	8.8		ug/L	10.00		88	70-130	1	20	
1,2-Dichlorobenzene	8.8		ug/L	10.00		88	70-130	0.6	20	
1,2-Dichloroethane	11.0		ug/L	10.00		110	70-130	2	20	
1,2-Dichloropropane	9.2		ug/L	10.00		92	70-130	2	20	
1,3,5-Trimethylbenzene	9.1		ug/L	10.00		91	70-130	5	20	
1,3-Dichlorobenzene	9.1		ug/L	10.00		91	70-130	2	20	
1,3-Dichloropropane	9.7		ug/L	10.00		97	70-130	6	20	
1,4-Dichlorobenzene	9.2		ug/L	10.00		92	70-130	1	20	
1,4-Dioxane - Screen	173		ug/L	200.0		86	0-332	1	200	
2,2-Dichloropropane	8.1		ug/L	10.00		81	70-130	3	20	
2-Butanone	48.9		ug/L	50.00		98	70-130	2	20	
2-Chlorotoluene	9.2		ug/L	10.00		92	70-130	3	20	
2-Hexanone	50.0		ug/L	50.00		100	70-130	2	20	
4-Chlorotoluene	9.3		ug/L	10.00		93	70-130	0.2	20	
4-Isopropyltoluene	9.2		ug/L	10.00		92	70-130	2	20	
4-Methyl-2-Pentanone	47.0		ug/L	50.00		94	70-130	4	20	
Acetone	46.0		ug/L	50.00		92	70-130	1	20	
Benzene	9.4		ug/L	10.00		94	70-130	2	20	
Bromobenzene	9.2		ug/L	10.00		92	70-130	3	20	
Bromochloromethane	9.3		ug/L	10.00		93	70-130	0.1	20	
Bromodichloromethane	9.4		ug/L	10.00		94	70-130	3	20	
Bromoform	8.2		ug/L	10.00		82	70-130	4	20	
Bromomethane	11.9		ug/L	10.00		119	70-130	0.9	20	
Carbon Disulfide	9.1		ug/L	10.00		91	70-130	4	20	
Carbon Tetrachloride	8.8		ug/L	10.00		88	70-130	3	20	
Chlorobenzene	9.4		ug/L	10.00		94	70-130	3	20	
Chloroethane	9.0		ug/L	10.00		90	70-130	2	20	
Chloroform	10.4		ug/L	10.00		104	70-130	4	20	
Chloromethane	8.3		ug/L	10.00		83	70-130	1	20	
cis-1,2-Dichloroethene	8.9		ug/L	10.00		89	70-130	4	20	
cis-1,3-Dichloropropene	8.3		ug/L	10.00		83	70-130	0.8	20	
Dibromochloromethane	8.2		ug/L	10.00		82	70-130	2	20	
Dibromomethane	9.8		ug/L	10.00		98	70-130	0.1	20	
Dichlorodifluoromethane	9.7		ug/L	10.00		97	70-130	0.6	20	
Diethyl Ether	8.4		ug/L	10.00		84	70-130	1	20	
Di-isopropyl ether	9.9		ug/L	10.00		99	70-130	0.6	20	
Ethyl tertiary-butyl ether	8.9		ug/L	10.00		89	70-130	0.9	20	
Ethylbenzene	9.6		ug/L	10.00		96	70-130	4	20	
Hexachlorobutadiene	9.9		ug/L	10.00		99	70-130	1	20	
Hexachloroethane	5.9		ug/L	10.00		59	70-130	3	20	B-

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CL93025 - 5030B										
Isopropylbenzene	8.9		ug/L	10.00		89	70-130	2	20	
Methyl tert-Butyl Ether	9.6		ug/L	10.00		96	70-130	2	20	
Methylene Chloride	9.7		ug/L	10.00		97	70-130	3	20	
Naphthalene	7.9		ug/L	10.00		79	70-130	0.9	20	
n-Butylbenzene	9.3		ug/L	10.00		93	70-130	1	20	
n-Propylbenzene	9.2		ug/L	10.00		92	70-130	2	20	
sec-Butylbenzene	9.1		ug/L	10.00		91	70-130	3	20	
Styrene	8.8		ug/L	10.00		88	70-130	3	20	
tert-Butylbenzene	9.0		ug/L	10.00		90	70-130	4	20	
Tertiary-amyl methyl ether	8.9		ug/L	10.00		89	70-130	2	20	
Tetrachloroethene	8.0		ug/L	10.00		80	70-130	5	20	
Tetrahydrofuran	8.7		ug/L	10.00		87	70-130	4	20	
Toluene	9.3		ug/L	10.00		93	70-130	3	20	
trans-1,2-Dichloroethene	9.0		ug/L	10.00		90	70-130	5	20	
trans-1,3-Dichloropropene	7.6		ug/L	10.00		76	70-130	0.9	20	
Trichloroethene	9.8		ug/L	10.00		98	70-130	10	20	
Trichlorofluoromethane	12.2		ug/L	10.00		122	70-130	1	20	
Vinyl Chloride	8.7		ug/L	10.00		87	70-130	0.5	20	
Xylene O	9.3		ug/L	10.00		93	70-130	3	20	
Xylene P,M	18.7		ug/L	20.00		93	70-130	3	20	
Surrogate: 1,2-Dichloroethane-d4	*29.2*		ug/L	*25.00*		*117*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.6*		ug/L	*25.00*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*26.5*		ug/L	*25.00*		*106*	*70-130*			
Surrogate: Toluene-d8	*24.8*		ug/L	*25.00*		*99*	*70-130*			
Classical Chemistry										
Batch CA00217 - General Preparation										
Blank										
Chloride	ND	3.0	mg/L							
LCS										
Chloride	32.2		mg/L	30.00		107	90-110			
Batch CA00218 - TCN Prep										
Blank										
Cyanide (PAC)	ND	5.00	ug/L							
LCS										
Cyanide (PAC)	19.8	5.00	ug/L	20.06		99	80-120			
LCS										
Cyanide (PAC)	148	5.00	ug/L	150.4		98	80-120			
LCS Dup										
Cyanide (PAC)	147	5.00	ug/L	150.4		98	80-120	0.4	20	
Reference										
Cyanide (PAC)	51.4	5.00	ug/L	1526		3	0-10			
Batch CA00229 - General Preparation										

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CA00229 - General Preparation										
Blank										
Chemical Oxygen Demand	ND	10	mg/L							
LCS										
Chemical Oxygen Demand	50.0	10	mg/L	50.15		100	95-105			
Batch CA00237 - General Preparation										
Blank										
Alkalinity as CaCO3	ND	10	mg/L							
LCS										
Alkalinity as CaCO3	97		mg/L	99.10		98	85-115			
Batch CL92722 - General Preparation										
Blank										
Nitrite as N	ND	0.010	mg/L							
LCS										
Nitrite as N	0.263		mg/L	0.2497		105	90-110			
Batch CL92723 - General Preparation										
Blank										
Nitrate/Nitrite as N	ND	0.020	mg/L							
LCS										
Nitrate/Nitrite as N	0.508		mg/L	0.5000		102	90-110			
Batch CL93105 - TCN Prep										
Blank										
Total Cyanide	ND	5.00	ug/L							
LCS										
Total Cyanide	20.0	5.00	ug/L	20.06		100	90-110			
LCS										
Total Cyanide	148	5.00	ug/L	150.4		98	90-110			
LCS Dup										
Total Cyanide	149	5.00	ug/L	150.4		99	90-110	0.7	20	
Batch CL93118 - General Preparation										
Blank										
Total Dissolved Solids	ND	10	mg/L							
LCS										
Total Dissolved Solids	350		mg/L	328.0		107	80-120			
Batch CL93121 - General Preparation										
Blank										
Sulfate	ND	5.0	mg/L							
LCS										
Sulfate	9.6		mg/L	9.988		96	85-115			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
D	Diluted.
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Southbridge Landfill

ESS Laboratory Work Order: 19L0783

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Pare Corporation - TB/HDM

Shipped/Delivered Via: Client

ESS Project ID: 19L0783
Date Received: 12/27/2019
Project Due Date: 1/6/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? No
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	426367	Yes	No	Yes	VOA Vial - HCl	HCl	
01	426368	Yes	No	Yes	VOA Vial - HCl	HCl	
01	426369	Yes	No	Yes	VOA Vial - HCl	HCl	
01	426375	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
01	426381	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	426387	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
01	426393	Yes	NA	Yes	1L Poly - Unpres	NP	
02	426364	Yes	No	Yes	VOA Vial - HCl	HCl	
02	426365	Yes	No	Yes	VOA Vial - HCl	HCl	
02	426366	Yes	No	Yes	VOA Vial - HCl	HCl	
02	426374	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
02	426380	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	426386	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
02	426392	Yes	NA	Yes	1L Poly - Unpres	NP	
03	426361	Yes	No	Yes	VOA Vial - HCl	HCl	
03	426362	Yes	No	Yes	VOA Vial - HCl	HCl	
03	426363	Yes	No	Yes	VOA Vial - HCl	HCl	
03	426373	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
03	426379	Yes	NA	Yes	250 mL Poly - Unpres	NP	
03	426385	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
03	426391	Yes	NA	Yes	1L Poly - Unpres	NP	
04	426358	Yes	No	Yes	VOA Vial - HCl	HCl	
04	426359	Yes	No	Yes	VOA Vial - HCl	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Pare Corporation - TB/HDM

ESS Project ID: 19L0783

Date Received: 12/27/2019

04	426360	Yes	No	Yes	VOA Vial - HCl	HCl	
04	426372	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
04	426378	Yes	NA	Yes	250 mL Poly - Unpres	NP	
04	426384	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
04	426390	Yes	NA	Yes	1L Poly - Unpres	NP	
05	426355	Yes	No	Yes	VOA Vial - HCl	HCl	
05	426356	Yes	No	Yes	VOA Vial - HCl	HCl	
05	426357	Yes	No	Yes	VOA Vial - HCl	HCl	
05	426371	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
05	426377	Yes	NA	Yes	250 mL Poly - Unpres	NP	
05	426383	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
05	426389	Yes	NA	Yes	1L Poly - Unpres	NP	
06	426352	Yes	No	Yes	VOA Vial - HCl	HCl	
06	426353	Yes	No	Yes	VOA Vial - HCl	HCl	
06	426354	Yes	No	Yes	VOA Vial - HCl	HCl	
06	426370	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	**pH>12 12/27 JA**
06	426376	Yes	NA	Yes	250 mL Poly - Unpres	NP	
06	426382	Yes	NA	Yes	250 mL Poly - H2SO4	H2SO4	
06	426388	Yes	NA	Yes	1L Poly - Unpres	NP	

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers? (Yes) / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 12/27/19 2013

Reviewed By: Date & Time: 12/27/19 2017

Delivered By: 12/27/19 2017

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1960783

Turn Time: 5 Days
Regulatory State
Is this project for any of the following?: ○ CT RCP ⊘ MA MCP ○ RGP
Reporting Limits: MADEP MCP
Electonic Deliverables: ☑ Data Checker ☑ Excel ☐ Other (Please Specify →)

Company Name: PARE CORPORATION
Contact Person: TRAVIS JOHNSEN, Tim Thies
Project #:
Project Name: Southbridge Landfill
Address: 8 BLACKSTONE VALLEY PLACE
City: LINCOLN
State: RI
Zip Code: 02865
PO #:
Telephone Number: (401) 334-4100
FAX Number:
Email Address: tjohnsen@parecorp.com TThies@parecorp.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID
1	12/27	1 PM		Water	MW-2S
2		2 PM			MW-2D
3		3 PM			MW-3S
4		4 PM			MW-3D
5		10 AM			SW-1
6		11 AM			SW-2

Analysis: Dissolved Metals-Filtered (As,Ba,Cd,Ca,Cr,Cu,Fe,Pb,Hg,Mn,Se,Ag,Na,Zn) | Gen. Chem (Alk, TDS) | Cl, NO3, SO4 | COD | TCN, PAC | VOC 8260

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers per Sample: 7 | 7 | 7 | 7 | 7 | 7

Laboratory Use Only
Cooler Present: Y ○ Drop Off
Seals Intact: N/A ○ Pickup
Cooler Temperature: 0.1 °C

Sampled by: TRAVIS JOHNSEN

Comments: Please specify "Other" preservative and containers types in this space
See → Bottle Order 192306

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
7:40 pm	12/27/19 1940		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

Dissolved Metals - As,Ba,Cd,Ca,Cr,Cu,Fe,Pb,Hg,Mn,Se,Ag,Na,Zn
Gen Chemistry - Alk,TDS

hdm 12/30/19

CERTIFICATE OF ANALYSIS

Travis Johnson
Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

RE: Parkerville Landfill (18128.02)
ESS Laboratory Work Order Number: 20A0479

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:19 pm, Jan 24, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

SAMPLE RECEIPT

The following samples were received on January 17, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Samples for dissolved metals were received outside of the holding time.

Lab Number	Sample Name	Matrix	Analysis
20A0479-01	MW-4D	Ground Water	2320B, 2540C, 353.2, 410.4, 4500Cl- E, 6010C, 6020A, 7470A, 8260B, 8270D SIM, 9014, 9038, MA PAC
20A0479-02	MW-2S	Ground Water	8270D SIM
20A0479-03	MW-2D	Ground Water	8270D SIM
20A0479-04	MW-3S	Ground Water	8270D SIM
20A0479-05	MW-3D	Ground Water	8270D SIM
20A0479-06	SW-1	Surface Water	8270D SIM
20A0479-07	SW-2	Surface Water	8270D SIM
20A0479-08	Trip Blank	Aqueous	8260B

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

PROJECT NARRATIVE

8260B Volatile Organic Compounds

D0A0054-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
1,1,1,2-Tetrachloroethane (22% @ 20%), 2,2-Dichloropropane (23% @ 20%), Carbon Tetrachloride (23% @ 20%), Hexachloroethane (25% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20A0479-01 through 20A0479-08**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	(X) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: January 24, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (1.0)		6020A		1	KJK	01/21/20 13:03	10	10	DA02130
Barium	ND (50.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Cadmium	ND (1.0)		6020A		1	KJK	01/21/20 13:03	10	10	DA02130
Calcium	**8030** (200)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Chromium	ND (10.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Copper	ND (20.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Iron	ND (100)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Lead	ND (1.0)		6020A		1	KJK	01/21/20 13:03	10	10	DA02130
Manganese	ND (20.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Mercury	ND (0.20)		7470A		1	MKS	01/21/20 15:54	20	40	DA02042
Selenium	ND (5.0)		6020A		1	KJK	01/21/20 13:03	10	10	DA02130
Silver	ND (5.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Sodium	ND (5000)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130
Zinc	ND (50.0)		6010C		1	KJK	01/21/20 15:02	10	10	DA02130

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1,1-Trichloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1,2-Trichloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1-Dichloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1-Dichloroethene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,1-Dichloropropene	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2,3-Trichloropropane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2-Dibromoethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2-Dichloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,2-Dichloropropane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,3-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,3-Dichloropropane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,4-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
1,4-Dioxane - Screen	ND (500)		8260B		1	01/20/20 17:14	D0A0054	DA02037
2,2-Dichloropropane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
2-Butanone	ND (10.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
2-Chlorotoluene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
2-Hexanone	ND (10.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
4-Chlorotoluene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
4-Isopropyltoluene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Acetone	ND (10.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Benzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Bromobenzene	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Bromochloromethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Bromoform	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Bromomethane	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Carbon Disulfide	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Carbon Tetrachloride	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Chlorobenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Chloroethane	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Chloroform	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Chloromethane	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Dibromochloromethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Dibromomethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Dichlorodifluoromethane	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Diethyl Ether	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Di-isopropyl ether	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Ethylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Hexachlorobutadiene	ND (0.6)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Hexachloroethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Isopropylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Methylene Chloride	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Naphthalene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
n-Butylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
n-Propylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
sec-Butylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Styrene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
tert-Butylbenzene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Tetrachloroethene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Tetrahydrofuran	ND (5.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Trichloroethene	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Trichlorofluoromethane	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Vinyl Chloride	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Xylene O	ND (1.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Xylene P,M	ND (2.0)		8260B		1	01/20/20 17:14	D0A0054	DA02037
Xylenes (Total)	ND (2.00)		8260B		1	01/20/20 17:14		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*117 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/20/20 22:23	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	*45 %*		*15-115*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-4D
Date Sampled: 01/16/20 05:00
Percent Solids: N/A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Alkalinity as CaCO3	**30** (2)		2320B		1	JLK	01/20/20 19:14	mg/L	DA02048
Chemical Oxygen Demand	**13** (10)		410.4		1	JLK	01/20/20 16:39	mg/L	DA02046
Chloride	ND (3.0)		4500Cl- E		1	EEM	01/20/20 14:55	mg/L	DA02024
Cyanide (PAC)	ND (5.00)		MA PAC		1	EEM	01/20/20 11:50	ug/L	DA02023
Nitrate as N	ND (0.0300)		353.2		1	JLK	01/17/20 19:25	mg/L	[CALC]
Sulfate	**15.4** (5.0)		9038		1	EEM	01/21/20 14:00	mg/L	DA02123
Total Cyanide	ND (5.00)		9014		1	EEM	01/20/20 11:50	ug/L	DA02026
Total Dissolved Solids	**102** (10)		2540C		1	CCP	01/21/20 15:55	mg/L	DA02135

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-2S
Date Sampled: 01/16/20 05:30
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/20/20 22:56	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	46 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-2D
Date Sampled: 01/16/20 05:35
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/20/20 23:29	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	45 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-3S
Date Sampled: 01/16/20 05:40
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-04
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	**1.04** (0.250)		8270D SIM		1	01/21/20 0:02	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	*44 %*		*15-115*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: MW-3D
Date Sampled: 01/16/20 05:45
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-05
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/21/20 0:35	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	*42 %*		*15-115*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: SW-1
Date Sampled: 01/16/20 05:50
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-06
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/21/20 1:07	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	46 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: SW-2
Date Sampled: 01/16/20 12:45
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-07
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 1/17/20 15:10

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/21/20 1:40	D0A0066	DA01752

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	51 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: Trip Blank
Date Sampled: 01/16/20 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-08
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1,1-Trichloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1,2-Trichloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1-Dichloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1-Dichloroethene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,1-Dichloropropene	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2,3-Trichloropropane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2-Dibromoethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2-Dichloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,2-Dichloropropane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,3-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,3-Dichloropropane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,4-Dichlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
1,4-Dioxane - Screen	ND (500)		8260B		1	01/20/20 15:32	D0A0054	DA02037
2,2-Dichloropropane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
2-Butanone	ND (10.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
2-Chlorotoluene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
2-Hexanone	ND (10.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
4-Chlorotoluene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
4-Isopropyltoluene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Acetone	ND (10.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Benzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Bromobenzene	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Bromochloromethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: Trip Blank
Date Sampled: 01/16/20 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-08
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Bromoform	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Bromomethane	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Carbon Disulfide	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Carbon Tetrachloride	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Chlorobenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Chloroethane	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Chloroform	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Chloromethane	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Dibromochloromethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Dibromomethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Dichlorodifluoromethane	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Diethyl Ether	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Di-isopropyl ether	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Ethylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Hexachlorobutadiene	ND (0.6)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Hexachloroethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Isopropylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Methylene Chloride	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Naphthalene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
n-Butylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
n-Propylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
sec-Butylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Styrene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
tert-Butylbenzene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Tetrachloroethene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Tetrahydrofuran	ND (5.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill
Client Sample ID: Trip Blank
Date Sampled: 01/16/20 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 20A0479
ESS Laboratory Sample ID: 20A0479-08
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Trichloroethene	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Trichlorofluoromethane	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Vinyl Chloride	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Xylene O	ND (1.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037
Xylene P,M	ND (2.0)		8260B		1	01/20/20 15:32	D0A0054	DA02037

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch DA02042 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	6.05	0.20	ug/L	6.042		100	80-120			
LCS Dup										
Mercury	5.64	0.20	ug/L	6.042		93	80-120	7	20	
Batch DA02130 - 200.7/6010BNoDigest										
Blank										
Arsenic	ND	1.0	ug/L							
Barium	ND	50.0	ug/L							
Cadmium	ND	1.0	ug/L							
Calcium	ND	200	ug/L							
Chromium	ND	10.0	ug/L							
Copper	ND	20.0	ug/L							
Iron	ND	100	ug/L							
Lead	ND	1.0	ug/L							
Manganese	ND	20.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	5.0	ug/L							
Sodium	ND	5000	ug/L							
Zinc	ND	50.0	ug/L							
LCS										
Barium	0.5		mg/L	0.5000		100	80-120			
Calcium	4.8		mg/L	5.000		96	80-120			
Chromium	0.5		mg/L	0.5000		100	80-120			
Copper	0.5		mg/L	0.5000		101	80-120			
Iron	2.4		mg/L	2.500		95	80-120			
Manganese	0.5		mg/L	0.5000		101	80-120			
Silver	0.3		mg/L	0.2500		101	80-120			
Sodium	23.7		mg/L	25.00		95	80-120			
Zinc	0.5		mg/L	0.5000		99	80-120			
LCS										
Arsenic	18.9		ug/L	20.00		95	80-120			
Cadmium	19.9		ug/L	20.10		99	80-120			
Lead	19.8		ug/L	19.98		99	80-120			
Selenium	19.8		ug/L	19.98		99	80-120			
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*28.4*		ug/L	*25.00*		*114*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.9*		ug/L	*25.00*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*26.1*		ug/L	*25.00*		*105*	*70-130*			
Surrogate: Toluene-d8	*25.0*		ug/L	*25.00*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	10.8		ug/L	10.00		108	70-130			
1,1,1-Trichloroethane	10.4		ug/L	10.00		104	70-130			
1,1,2,2-Tetrachloroethane	9.3		ug/L	10.00		93	70-130			
1,1,2-Trichloroethane	8.8		ug/L	10.00		88	70-130			
1,1-Dichloroethane	9.9		ug/L	10.00		99	70-130			
1,1-Dichloroethene	9.8		ug/L	10.00		98	70-130			
1,1-Dichloropropene	9.5		ug/L	10.00		95	70-130			
1,2,3-Trichlorobenzene	10.7		ug/L	10.00		107	70-130			
1,2,3-Trichloropropane	9.8		ug/L	10.00		98	70-130			
1,2,4-Trichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,2,4-Trimethylbenzene	10.1		ug/L	10.00		101	70-130			
1,2-Dibromo-3-Chloropropane	10.0		ug/L	10.00		100	70-130			
1,2-Dibromoethane	9.6		ug/L	10.00		96	70-130			
1,2-Dichlorobenzene	9.4		ug/L	10.00		94	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
1,2-Dichloroethane	10.2		ug/L	10.00		102	70-130			
1,2-Dichloropropane	9.0		ug/L	10.00		90	70-130			
1,3,5-Trimethylbenzene	10.0		ug/L	10.00		100	70-130			
1,3-Dichlorobenzene	9.6		ug/L	10.00		96	70-130			
1,3-Dichloropropane	9.9		ug/L	10.00		99	70-130			
1,4-Dichlorobenzene	9.8		ug/L	10.00		98	70-130			
1,4-Dioxane - Screen	198		ug/L	200.0		99	0-332			
2,2-Dichloropropane	10.9		ug/L	10.00		109	70-130			
2-Butanone	51.9		ug/L	50.00		104	70-130			
2-Chlorotoluene	9.5		ug/L	10.00		95	70-130			
2-Hexanone	48.7		ug/L	50.00		97	70-130			
4-Chlorotoluene	9.8		ug/L	10.00		98	70-130			
4-Isopropyltoluene	9.6		ug/L	10.00		96	70-130			
4-Methyl-2-Pentanone	47.5		ug/L	50.00		95	70-130			
Acetone	47.1		ug/L	50.00		94	70-130			
Benzene	9.2		ug/L	10.00		92	70-130			
Bromobenzene	9.3		ug/L	10.00		93	70-130			
Bromochloromethane	9.5		ug/L	10.00		95	70-130			
Bromodichloromethane	10.4		ug/L	10.00		104	70-130			
Bromoform	10.7		ug/L	10.00		107	70-130			
Bromomethane	8.1		ug/L	10.00		81	70-130			
Carbon Disulfide	9.7		ug/L	10.00		97	70-130			
Carbon Tetrachloride	11.2		ug/L	10.00		112	70-130			
Chlorobenzene	9.4		ug/L	10.00		94	70-130			
Chloroethane	9.9		ug/L	10.00		99	70-130			
Chloroform	10.3		ug/L	10.00		103	70-130			
Chloromethane	10.9		ug/L	10.00		109	70-130			
cis-1,2-Dichloroethene	9.3		ug/L	10.00		93	70-130			
cis-1,3-Dichloropropene	9.5		ug/L	10.00		95	70-130			
Dibromochloromethane	10.6		ug/L	10.00		106	70-130			
Dibromomethane	9.9		ug/L	10.00		99	70-130			
Dichlorodifluoromethane	9.0		ug/L	10.00		90	70-130			
Diethyl Ether	9.1		ug/L	10.00		91	70-130			
Di-isopropyl ether	10.1		ug/L	10.00		101	70-130			
Ethyl tertiary-butyl ether	9.8		ug/L	10.00		98	70-130			
Ethylbenzene	9.4		ug/L	10.00		94	70-130			
Hexachlorobutadiene	9.9		ug/L	10.00		99	70-130			
Hexachloroethane	11.5		ug/L	10.00		115	70-130			
Isopropylbenzene	9.3		ug/L	10.00		93	70-130			
Methyl tert-Butyl Ether	10.2		ug/L	10.00		102	70-130			
Methylene Chloride	10.3		ug/L	10.00		103	70-130			
Naphthalene	9.5		ug/L	10.00		95	70-130			
n-Butylbenzene	10.1		ug/L	10.00		101	70-130			
n-Propylbenzene	9.2		ug/L	10.00		92	70-130			
sec-Butylbenzene	9.5		ug/L	10.00		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
Styrene	8.8		ug/L	10.00		88	70-130			
tert-Butylbenzene	9.4		ug/L	10.00		94	70-130			
Tertiary-amyl methyl ether	10.1		ug/L	10.00		101	70-130			
Tetrachloroethene	7.9		ug/L	10.00		79	70-130			
Tetrahydrofuran	8.0		ug/L	10.00		80	70-130			
Toluene	9.1		ug/L	10.00		91	70-130			
trans-1,2-Dichloroethene	9.4		ug/L	10.00		94	70-130			
trans-1,3-Dichloropropene	9.6		ug/L	10.00		96	70-130			
Trichloroethene	9.4		ug/L	10.00		94	70-130			
Trichlorofluoromethane	11.0		ug/L	10.00		110	70-130			
Vinyl Chloride	8.8		ug/L	10.00		88	70-130			
Xylene O	9.8		ug/L	10.00		98	70-130			
Xylene P,M	19.5		ug/L	20.00		98	70-130			
Surrogate: 1,2-Dichloroethane-d4	*26.4*		ug/L	*25.00*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.7*		ug/L	*25.00*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*25.1*		ug/L	*25.00*		*100*	*70-130*			
Surrogate: Toluene-d8	*24.0*		ug/L	*25.00*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	10.6		ug/L	10.00		106	70-130	3	20	
1,1,1-Trichloroethane	10.0		ug/L	10.00		100	70-130	4	20	
1,1,2,2-Tetrachloroethane	8.7		ug/L	10.00		87	70-130	7	20	
1,1,2-Trichloroethane	8.7		ug/L	10.00		87	70-130	1	20	
1,1-Dichloroethane	9.5		ug/L	10.00		95	70-130	4	20	
1,1-Dichloroethene	9.4		ug/L	10.00		94	70-130	4	20	
1,1-Dichloropropene	9.2		ug/L	10.00		92	70-130	2	20	
1,2,3-Trichlorobenzene	10.2		ug/L	10.00		102	70-130	5	20	
1,2,3-Trichloropropane	9.5		ug/L	10.00		95	70-130	3	20	
1,2,4-Trichlorobenzene	9.4		ug/L	10.00		94	70-130	7	20	
1,2,4-Trimethylbenzene	9.9		ug/L	10.00		99	70-130	2	20	
1,2-Dibromo-3-Chloropropane	9.2		ug/L	10.00		92	70-130	8	20	
1,2-Dibromoethane	9.7		ug/L	10.00		97	70-130	1	20	
1,2-Dichlorobenzene	9.4		ug/L	10.00		94	70-130	0.4	20	
1,2-Dichloroethane	10.0		ug/L	10.00		100	70-130	1	20	
1,2-Dichloropropane	9.1		ug/L	10.00		91	70-130	2	20	
1,3,5-Trimethylbenzene	9.8		ug/L	10.00		98	70-130	1	20	
1,3-Dichlorobenzene	9.5		ug/L	10.00		95	70-130	1	20	
1,3-Dichloropropane	9.9		ug/L	10.00		99	70-130	0.8	20	
1,4-Dichlorobenzene	9.5		ug/L	10.00		95	70-130	2	20	
1,4-Dioxane - Screen	204		ug/L	200.0		102	0-332	3	200	
2,2-Dichloropropane	10.5		ug/L	10.00		105	70-130	4	20	
2-Butanone	50.5		ug/L	50.00		101	70-130	3	20	
2-Chlorotoluene	9.2		ug/L	10.00		92	70-130	3	20	
2-Hexanone	46.6		ug/L	50.00		93	70-130	4	20	
4-Chlorotoluene	9.7		ug/L	10.00		97	70-130	0.6	20	
4-Isopropyltoluene	9.6		ug/L	10.00		96	70-130	0.2	20	

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
4-Methyl-2-Pentanone	45.1		ug/L	50.00		90	70-130	5	20	
Acetone	46.4		ug/L	50.00		93	70-130	2	20	
Benzene	9.2		ug/L	10.00		92	70-130	0.4	20	
Bromobenzene	9.2		ug/L	10.00		92	70-130	0.8	20	
Bromochloromethane	9.1		ug/L	10.00		91	70-130	4	20	
Bromodichloromethane	9.7		ug/L	10.00		97	70-130	7	20	
Bromoform	9.9		ug/L	10.00		99	70-130	7	20	
Bromomethane	7.5		ug/L	10.00		75	70-130	7	20	
Carbon Disulfide	9.4		ug/L	10.00		94	70-130	3	20	
Carbon Tetrachloride	10.8		ug/L	10.00		108	70-130	4	20	
Chlorobenzene	9.4		ug/L	10.00		94	70-130	0.1	20	
Chloroethane	9.5		ug/L	10.00		95	70-130	5	20	
Chloroform	10.1		ug/L	10.00		101	70-130	2	20	
Chloromethane	10.4		ug/L	10.00		104	70-130	5	20	
cis-1,2-Dichloroethene	9.0		ug/L	10.00		90	70-130	2	20	
cis-1,3-Dichloropropene	9.2		ug/L	10.00		92	70-130	3	20	
Dibromochloromethane	10.2		ug/L	10.00		102	70-130	4	20	
Dibromomethane	9.6		ug/L	10.00		96	70-130	4	20	
Dichlorodifluoromethane	8.3		ug/L	10.00		83	70-130	8	20	
Diethyl Ether	8.7		ug/L	10.00		87	70-130	4	20	
Di-isopropyl ether	9.9		ug/L	10.00		99	70-130	3	20	
Ethyl tertiary-butyl ether	9.5		ug/L	10.00		95	70-130	3	20	
Ethylbenzene	9.4		ug/L	10.00		94	70-130	0.7	20	
Hexachlorobutadiene	9.1		ug/L	10.00		91	70-130	8	20	
Hexachloroethane	11.2		ug/L	10.00		112	70-130	2	20	
Isopropylbenzene	9.2		ug/L	10.00		92	70-130	2	20	
Methyl tert-Butyl Ether	10.1		ug/L	10.00		101	70-130	1	20	
Methylene Chloride	9.6		ug/L	10.00		96	70-130	7	20	
Naphthalene	9.2		ug/L	10.00		92	70-130	3	20	
n-Butylbenzene	9.4		ug/L	10.00		94	70-130	7	20	
n-Propylbenzene	9.2		ug/L	10.00		92	70-130	0.2	20	
sec-Butylbenzene	9.3		ug/L	10.00		93	70-130	3	20	
Styrene	8.6		ug/L	10.00		86	70-130	2	20	
tert-Butylbenzene	9.3		ug/L	10.00		93	70-130	1	20	
Tertiary-amyl methyl ether	10.2		ug/L	10.00		102	70-130	0.5	20	
Tetrachloroethene	7.8		ug/L	10.00		78	70-130	2	20	
Tetrahydrofuran	8.1		ug/L	10.00		81	70-130	1	20	
Toluene	8.8		ug/L	10.00		88	70-130	3	20	
trans-1,2-Dichloroethene	9.4		ug/L	10.00		94	70-130	0.4	20	
trans-1,3-Dichloropropene	9.3		ug/L	10.00		93	70-130	3	20	
Trichloroethene	8.8		ug/L	10.00		88	70-130	6	20	
Trichlorofluoromethane	10.3		ug/L	10.00		103	70-130	7	20	
Vinyl Chloride	8.4		ug/L	10.00		84	70-130	5	20	
Xylene O	9.6		ug/L	10.00		96	70-130	2	20	
Xylene P,M	19.2		ug/L	20.00		96	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DA02037 - 5030B										
Surrogate: 1,2-Dichloroethane-d4	*26.1*		ug/L	*25.00*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.3*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*25.0*		ug/L	*25.00*		*100*	*70-130*			
Surrogate: Toluene-d8	*24.3*		ug/L	*25.00*		*97*	*70-130*			
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch DA01752 - 3535A										
Blank										
1,4-Dioxane	ND	0.250	ug/L							
Surrogate: 1,4-Dioxane-d8	*2.71*		ug/L	*5.000*		*54*	*15-115*			
LCS										
1,4-Dioxane	13.0	0.250	ug/L	10.00		130	40-140			
Surrogate: 1,4-Dioxane-d8	*1.84*		ug/L	*5.000*		*37*	*15-115*			
LCS Dup										
1,4-Dioxane	10.5	0.250	ug/L	10.00		105	40-140	21	20	
Surrogate: 1,4-Dioxane-d8	*2.65*		ug/L	*5.000*		*53*	*15-115*			
Classical Chemistry										
Batch DA01746 - General Preparation										
Blank										
Nitrite as N	ND	0.010	mg/L							
LCS										
Nitrite as N	0.235		mg/L	0.2497		94	90-110			
Batch DA01747 - General Preparation										
Blank										
Nitrate/Nitrite as N	ND	0.020	mg/L							
LCS										
Nitrate/Nitrite as N	0.517		mg/L	0.5000		103	90-110			
Batch DA02023 - TCN Prep										
Blank										
Cyanide (PAC)	ND	5.00	ug/L							
LCS										
Cyanide (PAC)	19.9	5.00	ug/L	20.06		99	80-120			
LCS										
Cyanide (PAC)	148	5.00	ug/L	150.4		98	80-120			
LCS Dup										
Cyanide (PAC)	149	5.00	ug/L	150.4		99	80-120	0.7	20	
Reference										
Cyanide (PAC)	56.2	5.00	ug/L	1526		4	0-10			
Batch DA02024 - General Preparation										

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DA02024 - General Preparation										
Blank										
Chloride	ND	3.0	mg/L							
LCS										
Chloride	29.0		mg/L	30.00		97	90-110			
Batch DA02026 - TCN Prep										
Blank										
Total Cyanide	ND	5.00	ug/L							
LCS										
Total Cyanide	20.7	5.00	ug/L	20.06		103	90-110			
LCS										
Total Cyanide	148	5.00	ug/L	150.4		98	90-110			
LCS Dup										
Total Cyanide	147	5.00	ug/L	150.4		98	90-110	0.6	20	
Batch DA02046 - General Preparation										
Blank										
Chemical Oxygen Demand	ND	10	mg/L							
LCS										
Chemical Oxygen Demand	49.6	10	mg/L	50.15		99	95-105			
Batch DA02048 - General Preparation										
Blank										
Alkalinity as CaCO3	ND	10	mg/L							
LCS										
Alkalinity as CaCO3	99		mg/L	99.10		100	85-115			
Batch DA02123 - General Preparation										
Blank										
Sulfate	ND	5.0	mg/L							
LCS										
Sulfate	9.6		mg/L	9.988		96	85-115			
Batch DA02135 - General Preparation										
Blank										
Total Dissolved Solids	ND	10	mg/L							
LCS										
Total Dissolved Solids	360		mg/L	328.0		110	80-120			

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill ESS Laboratory Work Order: 20A0479

Notes and Definitions

U	Analyte included in the analysis, but not detected
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Pare Corporation
Client Project ID: Parkerville Landfill

ESS Laboratory Work Order: 20A0479

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Pare Corporation - TB

Shipped/Delivered Via: Client

ESS Project ID: 20A0479
Date Received: 1/17/2020
Project Due Date: 1/23/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) No / NA
10. Were any analyses received outside of hold time? (Yes) / No
    diss. metals

11. Any Subcontracting needed? Yes (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Added trip blank not on COC

Diss metals out of hold

14. Was there a need to contact Project Manager? (Yes) / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	6201	Yes	N/A	Yes	1L Amber	NP	
1	6215	Yes	N/A	Yes	1L Poly	NP	
1	6216	Yes	N/A	Yes	250 mL Poly	NP	
1	6217	Yes	N/A	Yes	250 mL Poly	H2SO4	
1	6218	Yes	N/A	Yes	250 mL Poly	NaOH	**pH > 12**
1	6219	Yes	No	Yes	VOA Vial	HCl	
1	6220	Yes	No	Yes	VOA Vial	HCl	
1	6221	Yes	No	Yes	VOA Vial	HCl	
2	6204	Yes	N/A	Yes	1L Amber	NP	
3	6206	Yes	N/A	Yes	1L Amber	NP	
4	6208	Yes	N/A	Yes	1L Amber	NP	
5	6210	Yes	N/A	Yes	1L Amber	NP	
6	6212	Yes	N/A	Yes	1L Amber	NP	
7	6214	Yes	N/A	Yes	1L Amber	NP	
8	6240	Yes	No	Yes	VOA Vial	HCl	

2nd Review

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Pare Corporation - TB

ESS Project ID: 20A0479
Date Received: 1/17/2020

Were all containers scanned into storage/lab?	Initials	Yes / No
Are barcode labels on correct containers?		Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By:	Date & Time:	1/17/20 1354
Reviewed By:	Date & Time:	1/17/20 1437
Delivered By:		1/17/20 1437

CHAIN OF CUSTODY

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

ESS Lab # 20A0479
Reporting Limits
Electonic Deliverables: ☑ Data Checker ☑ Excel ☐ Other (Please Specify →)

Turn Time: 5 Days
Regulatory State
Is this project for any of the following?: ○ CT RCP ◉ MA MCP ○ RGP

Company Name: PARE CORP.
Contact Person: TRAVIS JOHNSON
Project #: 18128.02
Project Name: Parkerville Landfill
Address: 8 Blackstone Valley Place
City: Lincoln
State: RI
Zip Code: 02865
PO #:
Telephone Number: (401) 334-4100
FAX Number:
Email Address: tjohnson@parecorp.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID
1	1/16/20	5:00	Grab	Water	MW-4D
2		5:30			MW-2S
3		5:35			MW-2D
4		5:40			MW-3S
5		5:45			MW-3D
6		5:50			SW-1
7		12:45			SW-2
8			GRAB	WATER	TRIP BLANK (hdm 1/22/20)

Analysis

1,4 dioxane	1,2 & 1,3 dioxane (8270 SIM)	Dissolved Metals (Lab Filtered)	AlK, TDS, NO3, SO4	Cl-	COD	PCB, TCN	VOC								
X		X	X	X	X	X	X								
							X								
Number of Containers per Sample:	1		1		1		1	1	1	1	3				

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Laboratory Use Only
Cooler Present: Y ○ Drop Off
Seals Intact: NA ○ Pickup
Cooler Temperature: 0.2 + 0.6

Sampled by :
Comments: Please specify "Other" preservative and containers types In this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
1/17/20 1230	1/17/20 1244		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

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CHAIN OF CUSTODY

ESS Lab # 20A0479

Turn Time	5	Days
Regulatory State		

Is this project for any of the following?: ○ CT RCP ⊘ MA MCP ○ RGP

Reporting Limits

Electonic Deliverables: ☑ Data Checker ☐ Other (Please Specify →) ☑ Excel

Field	Value
Company Name	PARE CORP.
Contact Person	TRAVIS JOHNSON
City	Lincoln
State	RI
Telephone Number	(401) 334-4100
FAX Number	
Project #	18128.02
Project Name	Parkerville Landfill
Address	8 Blackstone Valley Place
Zip Code	02865
PO #	
Email Address	tjohnson@parecorp.com

Analysis: 1,4 dioxane (≤0.3 ppb, 8270 SIM); Dissolved Metals (lab filtered); Alk, TDS, NO3, SO4; Cl; COD; PCN TCN; VOC

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	1,4 dioxane	Dissolved Metals	Alk, TDS, NO3, SO4	Cl	COD	PCN TCN	VOC
1	1/16/20	5:00	Grab	Water	MW-4D	X	X	X	X	X	X	X
2		5:30			MW-2S							
3		5:35			MW-2D							
4		5:40			MW-3S							
5		5:45			MW-3D							
6		5:50			SW-1							
7		12:45			SW-2							

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers per Sample: 1 (1,4 dioxane), 1 (Dissolved Metals), 1 (Alk, TDS, NO3, SO4), 1 (Cl), 1 (COD), 1 (PCN TCN), 3 (VOC)

Laboratory Use Only

Cooler Present: Y
Seals Intact: NA
Cooler Temperature: 0.2 + 0.6
○ Drop Off ○ Pickup

Sampled by :

Comments:

Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
[signature] 12:30	[signature] 1/17/20 1244		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)