

**FACT SHEET AND STATEMENT OF BASIS
WATERLEAF PHASE 1, LLC
NEW PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0026352
MINOR INDUSTRIAL**

FACILITY CONTACTS

Person Name:	Steve Morrey
Position:	Senior Project Director
Person Name:	Mark Mulligan
Position:	VP Engineering
Permittee:	Waterleaf Phase 1, LLC
Facility Name:	Great Salt Lake Phase 1 Lithium Extraction Project
Mailing and Facility Address:	9350 South 150 East, Suite 710 Sandy, Utah 84070
Telephone:	(248) 497-2883
Actual Address:	Western Slope Promontory Mountains Unincorporated Box Elder Co.

DESCRIPTION OF FACILITY

Waterleaf Phase 1, LLC (Waterleaf) intends to extract lithium from Gunnison Bay, Great Salt Lake (GSL), at its Great Salt Lake Phase 1 Lithium Extraction Project (Facility). This permit replaces the UPDES permit for the Demonstration Plant (UT0026280). The Facility was designed and constructed based on the information gathered from the Demonstration Plant and has a maximum daily flow rate of 20 MGD (millions of gallons per day). This Facility will utilize non-evaporative ion-exchange (IX) direct lithium extraction (DLE) technology to produce battery-grade lithium products. The Facility will be located along the western slope of the Promontory Mountains, Box Elder County, Utah, and will include an intake and discharge located in Gunnison Bay. The product (Lithium Carbonate Equivalent) will be shipped off-site for further processing/ sale.

A small percentage of freshwater will be added to the process. This water will come from an on-site groundwater well. The quality of this water is considered de minimis and is not anticipated to negatively impact the discharge.

The Facility utilizes the proprietary Lilac IX DLE technology. The process has three main stages: Intake and Prefiltration, the IX DLE Process, and Eluate Post-Processing. The details of these steps are listed below.

Intake and Prefiltration:

The operation starts with pumping raw brine from Gunnison Bay of the Great Salt Lake North Arm (North Arm). The raw brine is filtered to remove the high level of total suspended solids (TSS) found naturally in the North Arm. This filtration step uses a Multi-Media Filter (MMF) to remove the solids. The solids are removed from the MMF filters during the backwash process, combined with the depleted brine in a holding

pond for settling, and then returned to the GSL. Influent samples for compliance sampling will be taken after filtration of the raw brine and will be considered representative of the constituents present in the GSL for compliance purposes.

IX DLE Process:

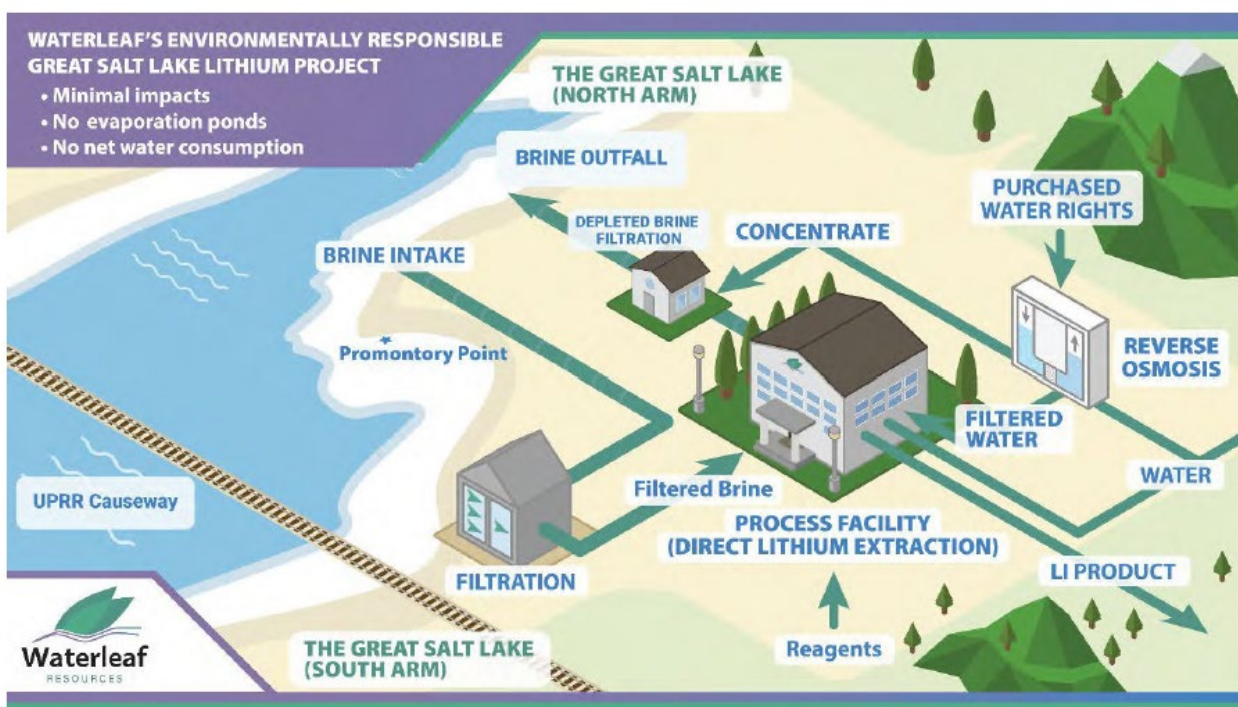
The filtered brine is fed to the proprietary IX DLE media for selective lithium extraction. Sulfuric acid (H_2SO_4) is used as a reagent for the resin discharge stage, producing a lithium sulfate eluate. Caustic soda (NaOH) is used to neutralize the acid added in the IX media regeneration step.

Eluate Post-Processing:

The acidic lithium sulfate eluate is neutralized with base, and precipitated solids are removed in a primary filter press. Soda ash is then used to further soften the eluate by reducing residual calcium and magnesium, with these solids removed in a secondary filter press. Lastly, the purified eluate is concentrated using a seawater Reverse Osmosis (RO) unit.

A simplified drawing of the Facility plan from the Waterleaf's application is included below. A more detailed flow process diagram from the application is also included in Attachment 2 of this Fact Sheet.

Figure 1. Commercial Plant Facility Plan



Waterleaf plans to start construction of the Facility in Quarter 4 of 2026, with operations beginning approximately one year after construction begins.

SUMMARY OF CHANGES FROM DEMONSTRATION PLANT PERMIT

This is a new permit for the Facility discharge and is different from the previous permit issued for the Demonstration Plant in several key respects. The authorized discharge flow has been increased to 20 MGD to reflect full-scale commercial operations. Additionally, the Outfall location has been modified slightly.

This permit includes new requirements for Total Residual Chlorine (TRC) to address process modifications and effluent treatment associated with full-scale operations. The Division of Water Quality (DWQ) has established an effluent limit of 0.011 mg/L for the maximum monthly average for TRC. See the Basis for Effluent Limitations Section of this Fact Sheet for more information.

The Demonstration Plant Permit included weekly and annual load effluent limitations, along with an associated 10% margin of safety. Load effluent limitations have not been included in this permit. However, monitoring requirements remain, so DWQ may evaluate the Facility's long-term influence on GSL.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Facility will have a single discharge location. The projected flow from this outfall is approximately 20 MGD. The outfall will be located at the following location:

Outfall Number
001

Location of Discharge Outfall
Discharge from a pipe to Gunnison Bay, GSL.
Located at latitude 41° 26' 44.47" and longitude
112° 42' 25.25".

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge is to a 5-foot depth within Gunnison Bay, GSL, below an elevation of 4,208'.

According to the Utah Admin. Code R317-2-13, the beneficial use is:

Class 5B: Gunnison Bay of the GSL. Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds, and other water-oriented wildlife, including their necessary food chain.

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

There are no TMDL requirements for this discharge location.

BASIS FOR EFFLUENT LIMITATIONS

Effluent limits are typically based on numeric water quality criteria established through a Wasteload Analysis (WLA) for the receiving waterbody. Currently, however, the GSL only has a numeric water quality criterion for selenium in Gilbert Bay (Class 5A waters). Because the Facility discharges to Gunnison Bay rather than Gilbert Bay, the selenium criterion does not apply to this discharge. Additionally, no federal effluent limitation guidelines (ELGs) have been promulgated for lithium extraction operations. Therefore, permit limitations for this Facility were developed consistent with Section 402(a)(1) of the Clean Water Act, 40 CFR 125.3(c), 40 CFR 125.3(d), and Utah Admin. Code R317-8.

Federal ELGs

Federal ELGs for lithium mining are identified under 40 CFR 436 Subpart U (Lithium Subcategory). However, no substantive federal regulations or technology-based standards have been promulgated for this

subcategory. As a result, DWQ evaluated analogous ELGs that may reasonably apply to lithium extraction from GSL brine. Regulations contained in 40 CFR 436 Subpart L (Mineral Mining and Processing Point Source Category – Saline from Brine Lake Subcategory) apply to facilities engaged in salt evaporation, mineral recovery, and related activities associated with saline lake systems. The primary salts extracted from the GSL include sodium chloride, potassium chloride, and sulfate of potash. Because lithium is an alkali metal with chemical properties similar to those of other salts extracted from the GSL, DWQ determined that Subpart L is the most appropriate analogous ELG currently available. Consistent with the intent of Subpart L, the Facility must minimize the net addition of pollutants to the receiving water where intake and discharge waters originate from the same waterbody.

Additionally, 40 CFR 415 Subpart P (Sodium Chloride Production Subcategory) is also instructional. pH limits included in this permit were derived in accordance with 40 CFR 415 (Subpart P Sodium Chloride Production Subcategory), specifically 40 CFR 415.162. Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) are listed as a daily maximum of 9.0 Standard Units (SU) and a daily minimum of 6.5 SU. Since the Facility makes pH adjustments as part of its process, it must meet these requirements.

Manganese and Total Residual Chlorine

During operation of the Demonstration Plant, manganese effluent concentrations were elevated above influent concentrations, due to DLE process operations. Accordingly, manganese was identified as a constituent requiring evaluation during permit development. To control manganese concentrations in the commercial scale plant, the Facility will incorporate a dedicated treatment system utilizing sodium hypochlorite oxidation followed by dechlorination. The inclusion of a dedicated dechlorination system represents the appropriate technology for controlling residual oxidants associated with the manganese treatment process. As a result of this treatment sequence, Total Residual Chlorine (TRC) was also identified as a process-related constituent requiring evaluation during permit development.

Since January 1, 2016, DWQ has conducted reasonable potential (RP) analysis on all new and renewal applications received after that date. Here, a formal RP analysis is difficult to establish for this discharge given there are currently no numeric water quality standards for manganese or other process-specific constituents within the Class 5b waters of the GSL. Because of this lack of state-promulgated numeric criteria, traditional quantitative RP analysis endpoints do not exist to screen monitoring data against. Finally, because the Facility is new, and the available data are insufficient to support a robust statistical evaluation of long-term discharge performance, DWQ was unable to conduct a full quantitative RP analysis for this permit. The data gathered during this permit cycle will be used to conduct an RP analysis during the next permit term.

During this permit cycle, DWQ ensured the permit was nonetheless protective, despite not being able to conduct a full RP analysis for manganese and TRC. The permit includes the reopener provision authorized by Utah Admin. Code R317-8-5(5.6)(1)(b) that allows the Director to reopen the permit if the monitoring conducted through the permit cycle produces information that would have justified application of numeric limits.

Manganese

According to Waterleaf's application, manganese treatment is anticipated to result in an average effluent concentration of 0.04 mg/L, which is approximately equal to ambient concentrations, and treatment should therefore be protective of the designated uses of Gunnison Bay. Additionally, the U.S. Environmental Protection Agency (EPA) has published non-enforceable guidance values for manganese, specifically a chronic Health-Based Advisory of 0.3 mg/L, developed to evaluate potential long-term drinking water ingestion exposure pathways. Effluent concentration values from the Demonstration Plant were consistently

below the EPA chronic Health-Based Advisory of 0.3 mg/L, so the effluent is presumptively protective of infrequent primary and secondary contact recreation. Specifically, raw influent manganese concentrations ranged from 0.0264 to 0.0794 mg/L (averaging 0.0411 mg/L), and resulting effluent concentrations, without dedicated manganese treatment, ranged from 0.0554 to 0.91 mg/L, averaging approximately 0.24 mg/L over its operational history. During the Demonstration Plant's optimized performance run, the average effluent manganese concentration was 0.163 mg/L, ranging from 0.141 to 0.182 mg/L, demonstrating the baseline capability of the core DLE process.

As data from the Facility becomes available, DWQ will continue to evaluate the impact of manganese on the GSL. While a manganese effluent limit is not included in this permit, it may be included in future renewals if DWQ determines, based on data gathered during this permit cycle, that the concentrations of manganese in may cause an excursion above a narrative criterion.

TRC

While the Class 5B designation for the GSL does not include a numeric water quality criterion, DWQ applied the Interim Methods for Evaluating Use Support for Great Salt Lake, Utah Pollution Discharge Elimination System Permits ("GSL Interim Methods"), which utilizes the state freshwater water quality standard for Class 3D waters of 0.011 mg/L as a maximum weekly average. Additionally, Waterleaf's application estimates that all chlorine will be consumed during oxidation reactions or neutralized through the addition of sulfite. The 3D values and the estimated effluent concentrations ensure complete dechlorination prior to discharge, which is protective of the designated uses of Gunnison Bay. Because this limit is below standard analytical quantification capabilities, DWQ recognizes a Minimum Level of 0.06 mg/L and a Method Detection Limit of 0.02 mg/L using the DPD Colorimetric Method (Standard Method 4500-Cl G), and compliance evaluation and reporting requirements are adjusted accordingly; see footnote *f of Effluent Limitations Table.

Other Considerations

Oil and grease limits are based on best professional judgment and are consistent with limits contained in similar UPDES permits.

The total flow limitation was derived from the Permittee's application materials.

A WLA and Level II Antidegradation Review (ADR) were completed for the proposed discharge to Gunnison Bay, and it was determined that the discharge will not interfere with or become injurious to existing instream water uses.

Because of the elevated total dissolved solids (TDS) content of the intake water, the Facility will periodically conduct descaling activities to remove mineral deposits that accumulate on internal piping and equipment surfaces. Descaling will involve treatment of the intake and discharge piping with low-strength hydrochloric acid (HCl). This process may temporarily re-dissolve minerals previously precipitated from GSL water onto Facility infrastructure. This activity is not expected to adversely affect receiving waters because hydrochloric acid fully dissociates into hydrogen and chloride ions in solution, and the highly buffered saline chemistry of the GSL rapidly neutralizes and dilutes these constituents, resulting primarily in the formation of naturally occurring salts already abundant within the lake.

Separation of Utah Admin. Code R317-16 and Technical Data Framework

Utah Code § 65A-6-4 (7)(b), implemented by DWQ through Utah Admin. Code R317-16, requires that the Facility certify its operations do not negatively impact the biota or chemistry of the GSL. This certification requires an additional level of screening to ensure the Facility's operations are protective of the GSL's beneficial uses.

Monitoring requirements contained in the permit satisfy the technical data collection components of Utah Admin. Code R317-16 by including monitoring for total alkalinity, TDS, TSS, sulfate, nitrate, nitrite, carbonate, bicarbonate, chloride, hydroxide, chemical oxygen demand, biological oxygen demand, silica, zinc, magnesium, sodium, calcium, potassium, boron, bromine, aluminum, iron, silicon, and temperature. These parameters are subject to monitoring requirements only and do not have concentration-based or load-based limits under this permit.

During operation of the Facility, all parameters shall be monitored weekly at both the intake and discharge locations to evaluate the Facility's influence on each parameter. Pursuant to the regulatory discretion provided under Utah Admin. Code R317-16, the DWQ Director has determined that all long-term reporting, trend analyses, and operational oversight required to protect the biota and chemistry of the GSL will be executed independently of the UPDES permit track. Therefore, the narrative protection clause under Part I.C.2.b and any accompanying monitoring reports have been omitted from this permit. All such submittals shall be governed under the Facility's Great Salt Lake Operator Certification Approval. DWQ public noticed the Great Salt Lake Operator Certification beginning June 1, 2026. *See DWQ-2026-003160.*

It is important to note that a request for a major modification of this permit, as defined by Utah Admin. Code R317-8-5(5.6), authorizes the Director to require reevaluation of Operator Certification Approval, per Utah Admin. Code R317-16-9.

EFFLUENT LIMITATIONS

The Facility has the following discharge limitations.

- a. The limitations specified in this section shall be applied on a net basis, unless otherwise noted, if the source of the Permittee's water supply is the same body of water into which the discharge is made. With the exception of manganese and TRC, there shall be no discharge of process wastewater pollutants into navigable waters.
- b. Effective immediately, and lasting the duration of this permit, the Permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Effluent Limitations *a		
	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Total Flow, MGD *b	20	--	20
pH, Standard Units	--	6.5	9
Oil & Grease, mg/L *i	--	--	10.0
TRC, mg/L *e, *f	0.011	--	--

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit requires reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Monitoring results shall be submitted using NetDMR unless the Permittee has successfully petitioned for an exception. Lab sheets for biomonitoring, metals, and toxic organics shall be attached to the DMRs.

Influent compliance samples will be taken at the intake surge pond, prior to entering the Facility.

Effluent permit compliance monitoring may occur at a sampling location located after the discharge surge pond, prior to discharge. DWQ has determined the location after the surge pond to be representative of discharge at the Outfall location, as defined in Part I.A. of the permit. If TRC exceeds effluent permit limits at the surge pond compliance monitoring location, the Permittee may take a second compliance sample at the Outfall location. If the second TRC sample is below the permit limit at the Outfall location, then there is no violation of the permit.

Self-Monitoring and Reporting Requirements *a				
Parameter	Frequency	Sample Type	Units	Reporting Type
Total Flow *b, *c, *d	Continuous	Recorder	MGD	Maximum Weekly Avg
				Daily Maximum
pH	Weekly	Instantaneous	SU	Daily Minimum
				Daily Maximum
Oil & Grease *i	Weekly	Grab	mg/L	Daily Maximum
TRC *e, *f	Weekly	Grab	mg/L	Maximum Weekly Avg
Temperature *d	Weekly	Instantaneous	°C	Maximum Weekly Avg
				Daily Maximum
Dissolved Oxygen	Weekly	Instantaneous	mg/L	Daily Minimum
Total Alkalinity *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Total Dissolved Solids *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Total Suspended Solids *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Sulfate *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Nitrate *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Nitrite *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Carbonate *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Hydroxide *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Chemical Oxygen Demand *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Biological Oxygen Demand *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Silica *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Sodium *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Calcium *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Potassium *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Boron *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Bromine *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Silicon *d	Weekly	Composite	mg/L	Maximum Weekly Avg
Total Manganese *d, *h	Weekly	Composite	mg/L	Daily Maximum
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
Total Lithium *d	Weekly	Composite	mg/L	Maximum Weekly Avg
				Daily Maximum
Total Arsenic *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load

Self-Monitoring and Reporting Requirements *a				
Parameter	Frequency	Sample Type	Units	Reporting Type
			kg/year	Annual Load
Total Cadmium *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
Total Chromium *d, *h	Weekly	Composite	kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
Total Copper *d, *h	Weekly	Composite	kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
Total Lead *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
Total Molybdenum *d, *h	Weekly	Composite	kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
Total Nickel *d, *h	Weekly	Composite	kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
Total Selenium *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
Total Silver *d, *h	Weekly	Composite	kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
Total Zinc *d, *h	Weekly	Composite	kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
Total Cyanide *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
Total Mercury *d, *h	Weekly	Composite	kg/day	Monthly Load
			kg/year	Annual Load
			mg/L	Maximum Weekly Avg
			kg/day	Monthly Load

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that Permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Analytical results less than 0.06 mg/L shall not be considered out of compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:

- 1) analytical values less than 0.02 mg/L shall be considered zero; and
- 2) analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.

- *f The Permittee may monitor TRC at either the compliance sampling location after the surge pond or the Outfall location, as defined in Part I.A. of the permit. An exceedance at the compliance sampling location does not constitute a permit violation provided that a concurrent compliance sample taken at the Outfall location is below the permit limit prior to entering the GSL.
- *g The minimum detection limit (MDL) of the test method used for analysis must be below this limit in mg/L. If a test method is not available, Permittee must submit documentation to the Director regarding the method that will be used. Total Arsenic 0.180 mg/L, Total Cadmium 0.0052 mg/L, Total Chromium 0.0166 mg/L, Total Copper 0.067 mg/L, Total Lead 0.0465 mg/L, Total Molybdenum NA, Total Nickel 0.376 mg/L, Total Selenium 0.0079 mg/L, Total Silver 0.0899 mg/L, Total Zinc 0.675 mg/L, Total Cyanide 0.0093 mg/L, Total Mercury 0.000022 mg/L.
- *h The 30-day (monthly) average net load for this parameter, calculated as the difference between the discharge load and intake load, shall be reported on the monthly DMR. The average annual net load for this parameter, calculated as the difference between the discharge load and intake load, shall be reported on the January DMR for the previous year.
- *i Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

BIOSOLIDS

The Facility is a minor industrial facility that uses an ion exchange process for mineral mining of lithium salt. It does not produce biosolids. For this reason, there are no requirements or conditions related to biosolids in the permit.

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. Because the facility is not yet constructed, the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation must be submitted to the Division of Water Quality before stormwater discharge occurs.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>.

PRETREATMENT REQUIREMENTS

Waterleaf does not discharge to a Publicly Owned Treatment Works (POTW). Nor does Waterleaf expect to haul wastewater to a POTW. Although Waterleaf does not anticipate discharging to a POTW, any wastewater discharged to a POTW, whether as a direct discharge or as hauled waste, is subject to Federal, State, and local pretreatment regulations. Pursuant to Section 307 of the CWA, the Permittee shall comply with all applicable Federal Pretreatment Regulations promulgated at 40 CFR Part 403, the State Pretreatment Requirements at Utah Admin. Code R317-8-8, and any specific local discharge limitations developed by the POTW accepting the wastewater.

In addition, in accordance with 40 CFR Part 403.12(p)(1), the Permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if the

Permittee discharges any substance into a POTW that, if otherwise disposed of, would be considered a hazardous waste under 40 CFR Part 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, Utah Admin. Code R317-8-4.2, Permit Provisions, Utah Admin. Code R317-8-5.3 and Water Quality Standards, Utah Admin. Code R317-2-5 and R317 -2-7.2.

The Facility is a minor industrial facility that will be discharging a limited amount of effluent, for which toxicity is neither an existing concern nor likely to be present. Additionally, the intake water and discharge are expected to be so saline that no freshwater or marine species approved for Whole Effluent Toxicity (WET) testing would be expected to survive. This outcome would not give valid WET test results. Also, the Facility will only be allowed to discharge wastewater pollutants that are present in the intake water. Therefore, based on these considerations, and the absence of receiving water quality monitoring data, there is no reasonable potential for toxicity in the Permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted and reviewed by
Lonnie Shull, Discharge Permit Writer, Biomonitoring
Reasonable Potential Analysis
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Carl Adams, Storm Water
Jim Harris, TMDL/Watershed Protection
Benjamin Holcomb, Standards and Technical Services
Suzan Tahir, Wasteload Analysis/ADR
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (to be updated after)

Began: Month Day, Year

Ended: Month Day, Year

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Notice of the draft permit was published on State of Utah and/or DWQ's website for at least 30 days as required.

During the public notice and comment period provided under Utah Admin. Code R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in Utah Admin. Code R317-8-6.12.

ADDENDUM TO FACT SHEET

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes, they are considered minor changes and the permit is not required to be re Public Noticed as provided in Utah Admin. Code R317-8-5.6(3).

Responsiveness Summary

To be determined.

DWQ-2026-003025

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ATTACHMENT 1

Wasteload Analysis

**Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review**

Date: May 30, 2026
Prepared by: Suzan Tahir
Standards and Technical Services
Facility: Waterleaf Phase 1, LLC
UPDES No. UT0026352
Receiving water: Gunnison Bay of Great Salt Lake (GSL)

Discharge:

Outfall 001 Gunnison Bay of Great Salt Lake (GSL)
Latitude/Longitude: 41° 26' 41.47" N & 112° 42' 25.25" W.
Design Flow: The mean monthly design discharge for the facility is 20 MGD.

Receiving Water

The receiving water for Outfall 001 is the Gunnison Bay of Great Salt Lake, beneficial use class 5B.

- *Class 5B: Gunnison Bay Geographical Boundary: All open waters at or below approximately 4,208-foot elevation north of the Union Pacific Causeway and west of the Promontory Mountains, excluding salt evaporation ponds are protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.*

Parameters of Concern

The parameters of concern (POC) are manganese and total residual chlorine (TRC). Manganese is part of the lithium extraction process, and chlorine, via the addition of hypochlorite, is used to oxidize and remove manganese. No other process wastewater pollutants are expected in the effluent.

GSL Interim Methods

Background

Discharges to GSL are subject to the [Interim Methods for Evaluating Use Support for Great Salt Lake, Utah Pollution Discharge Elimination System Permits](#) (GSL Interim Methods). The GSL Interim Methods are a screening process to demonstrate that discharge permits are protective of the designated and existing uses of GSL and identify pollutants for which effluent limits should be derived. Expected effluent concentrations are screened against use class 3D criteria with adjustments for site-specific chemistry and mixing as appropriate, or against ambient concentrations in the receiving water. Effluent concentrations that would result in meeting 3D

criteria or are less than or equal to ambient concentrations are generally presumed protective of the beneficial uses.

Application of GSL Interim Methods Screening Steps

Manganese

Ambient total manganese concentrations, as characterized by influent sampling during demonstration phase, ranged 0.026 - 0.079 mg/L with an average concentration of 0.040 mg/L. According to the operator application, manganese treatment is anticipated to result in an average manganese effluent concentration of 0.04 mg/L. Expected effluent concentrations are approximately equal to ambient concentrations and are therefore protective of the beneficial uses of the receiving water.

Chlorine

Expected effluent concentrations of TRC were compared to the 3D chronic criterion for TRC under step 2 of the GSL Interim Methods. The application states that all chlorine is either consumed during oxidation reactions or neutralized through sulfite addition to an undetectable level. The 3D chronic criterion for TRC is 0.011 mg/L. The expected effluent concentrations of TRC are less than the 3D chronic criterion and are therefore protective of the beneficial uses of the receiving water.

Other parameters

No process wastewater pollutants other than the identified POCs are expected in the effluent, so all other parameters are expected to be discharged at concentrations equal to ambient concentrations in the receiving water. Effluent concentrations equal to ambient concentrations in the receiving water are protective of the beneficial uses.

Monitoring Recommendations

The wasteload recommends a permit requirement to continue monitoring of Waterleaf's effluent for all parameters that were monitored during the demonstration phase, including manganese, and TRC. This will help address future uncertainties and build a robust dataset for future analyses.

Protection of Existing Uses

Per R317-2-3(3.5)(c)(7), "if a situation is found where there is an existing use which is a higher use (i.e., more stringent protection requirements) than that current designated use, the Director will apply the water quality standards and anti-degradation policy to protect the existing use." No existing uses were identified that require more stringent protection than the designated uses.

Protection of Downstream Uses

Per UAC R317-2-8, "all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses." Waters from Gunnison Bay can flow to Gilbert Bay of GSL through openings in the causeway between them. Effluent concentrations discharged to Gunnison Bay which are less than 3D criteria or less than or equal to ambient conditions in Gunnison Bay are also expected to be protective of the beneficial uses of Gilbert Bay.

Assessment Category and Total Maximum Daily Load (TMDL)

The receiving water, Gunnison Bay (Gunnison Bay open water north of the Union Pacific Causeway and below 4208 feet, excluding transitional wetlands below 4208 feet and State Waterfowl Management Areas, UT-L-16020310-002_00)) has not been specifically assessed as of Utah's 2024 303(d) Water Quality Assessment Report. There are no known water quality impairments in the receiving water. There are no applicable TMDLs for the receiving water.

Antidegradation Level II Review

A Level II Antidegradation Review (ADR) is required for this new discharge. The proposed outfall will operate with increased flows which can potentially increase pollutant loads discharged to the receiving water.

References:

Utah Division of Water Quality. 2024. Final 2024 Integrated Report on Water Quality

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ATTACHMENT 2

Process Flow Diagram

Facility Process Schematic Diagram

