

Official Draft Public Notice Version **August 21st, 2026**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**FACT SHEET AND STATEMENT OF BASIS ADDENDUM
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 former 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 Lithium Carbonate Equivalent. 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 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: 1) Intake and Prefiltration; 2) the IX DLE Process; and 3) Eluate Post-Processing. The details of these steps are listed below.

PURPOSE OF ADDENDUM

This Fact Sheet is an Addendum to the previous Fact Sheet and Statement of Basis (DWQ-2026-003025), that was open for public comment between July 1, 2026, and July 30, 2026.

In response to public comments received during the initial public notice period regarding potential brominated compounds and disinfection byproducts associated with sodium hypochlorite dosing, the Director of the Division of Water Quality (DWQ) modified the Draft permit to include a daily maximum Total Residual Chlorine (TRC) numeric limit, and parameter monitoring for halogenated organic disinfection byproducts (DBPs).

SUMMARY OF CHANGES FROM THE DRAFT PERMIT

TRC

A daily limit maximum TRC limit of 0.019 mg/L for Outfall 001 was added to complement the TRC maximum weekly average limit of 0.011 mg/L.

DBPs

The permit now includes weekly self-monitoring for DBPs. Monitoring requirements cover four target analyte groups most likely to be found in the discharge utilizing matrix-appropriate EPA methods, including Trihalomethanes (THMs) via EPA Method 8260D, Haloacetic Acids (HAAs) via EPA Method 552.3, Nitrogenous Disinfection Byproducts (N-DBPs) via EPA Method 551.1, and Brominated Phenols/Aromatics via EPA Method 8270E [SIM]. This monitoring screens for potential halogenated organic constituents and provides technical data to support the Facility's Great Salt Lake Operator Certification Approval under Utah Admin. Code R317-16. A complete list of the analytes can be found in Attachment 1 (Disinfection Byproduct Monitoring Protocol and Target Analyte Lists DWQ-2026-005231) of this document.

The addition of strong oxidizers to natural surface waters can lead to the generation of toxic byproducts. While GSL is dominated by its hypersaline concentrations of major cations and anions, GSL also contains high bromide concentrations that can react with oxidized-chlorine compounds and lead to the formation of persistent and toxic compounds.

Facility operations typically include reduction of the oxidized chlorine after the appropriate treatment. However, TRC measurements do not inform DWQ about the magnitude of the generation of potentially persistent organic pollutants. To account for the potential generation of these compounds in response to chlorine addition to the Facility's waste stream, permit conditions have been modified to include sampling for these analytes.

Because of the unconventional nature of GSL waters, particularly those from Gunnison Bay, several modifications to standard methods are needed, consistent with Utah Admin. Code R317-2-10.

Miscellaneous

This draft also corrects minor typographical, formatting, and administrative errors found in the previous draft permit documents.

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.

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.

Total Residual Chlorine

While Class 5B waters lack numeric chlorine criteria, DWQ applied the GSL Interim Methods (based on Class 3D standards) to establish a maximum weekly average TRC limit of 0.011 mg/L and a daily maximum TRC limit of 0.019 mg/L. These numeric TRC limits provide stringent control of residual oxidizing halogens in the final effluent. The approved analytical methods for TRC under 40 CFR Part 136 measure

both chlorine and other oxidizing halogens, including reactive bromine species, on a chlorine-equivalent basis.

Furthermore, the Facility's sodium sulfite dechlorination process should reduce residual oxidizing chlorine and bromine species prior to discharge, as well as other brominated organic compounds. Together, the treatment process and TRC limits controlling residual oxidizing halogens ensure the discharge is fully protective of the designated beneficial uses of Gunnison Bay.

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

Utah Code § 65A-6-4(7)(b), implemented through Utah Admin. Code R317-16, requires the Facility to certify that its operations will not negatively impact the biota or chemistry of the GSL. Permit monitoring requirements satisfy the technical data collection components of Utah Admin. Code R317-16.

In response to public comments regarding potential disinfection byproducts, weekly DBP monitoring targeting volatile brominated trihalomethanes was added to the required parameter list. Like the other parameters in the permit being tested in support of Utah Admin. Code R317-16, DBPs are monitor-only and sampled weekly at both intake and discharge locations. This data screens for halogenated organics and supports the facility's Great Salt Lake Operator Certification (UAC R317-16).

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	--	0.019

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
			kg/year	Annual Load
Total Cadmium *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg
			kg/day	Monthly Load
			kg/year	Annual Load
Total Chromium *d, *h	Weekly	Composite	mg/L	Maximum Weekly Avg

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

*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.
- *j Halogenated organic disinfection byproducts (DBPs) monitoring shall be conducted using approved analytical methods in accordance with Utah Admin. Code R317-2-10 or 40 CFR Part 136. Target analyte groups shall include Trihalomethanes (THMs) via EPA Method 8260D, Haloacetic Acids (HAAs) via EPA Method 552.3, Nitrogenous Disinfection Byproducts (N-DBPs) via EPA Method 551.1, and Brominated Phenols/Aromatics via EPA Method 8270E [SIM].

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
Jim Harris, TMDL/Watershed Protection
Benjamin Holcomb, Standards and Technical Services
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (to be updated when complete)

1st Public Notice

Began: July 1, 2026
Ended: July 30, 2026

2nd Public Notice

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

During the public notice and comment period provided under Utah Admin. Code R317-8-6(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(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(5.6)(3).

Responsiveness Summary

During the public notice period from July 1, 2026, to July 30, 2026, DWQ received three sets of comments from the following parties:

1. State of Utah Department of Natural Resources – Division of Wildlife Resources (DWR) – Submitted via the Public Lands Policy Coordinating Office (PLPCO) on July 16, 2026. (DWQ-2026-004804)
2. Waterleaf Phase 1, LLC (Permittee) – Submitted via email on July 17, 2026 (DWQ-2026-004805)
3. FRIENDS of Great Salt Lake (FRIENDS) – Submitted via email on July 27, 2026 (DWQ-2026-004803)

Based on comments received during the original public notice, DWQ has modified the draft permit and is reissuing the updated documents for a 14-day public notice period. DWQ will compile and formally respond to all comments received across both public notice periods in a final combined Responsiveness Summary following the close of the last public comment period.

DWQ-2026-005096

ATTACHMENT 1

Disinfection Byproduct (DBP) Monitoring Protocol and Target Analyte Lists

Methods Table

Analyte Group	Method	Parameters of Interest	Sample Container	Sample Preservation	Sample Preparation	Hold Time
1. Trihalomethanes (THMs)	EPA 8260D	Bromoform, Dibromochloromethane, Bromodichloromethane	2 x 40 mL amber glass vials, PTFE-lined septa, ZERO headspace	25 mg ascorbic acid (or 3 mg Na ₂ S ₂ O ₃) + 1:1 HCl to pH < 2; cool to < 6C	Method 5021A (static headspace, <u>required</u>)	14 d
2. Haloacetic acids (HAAs)	EPA 552.3	Dibromoacetic acid (DBAA), Tribromoacetic acid (TBAA), Monobromoacetic acid (MBAA), Bromochloroacetic acid (BCAA), Bromodichloroacetic acid (BDCAA), Chlorodibromoacetic acid (CDBAA)	2 x 250 mL (or 40 mL, see LAB) amber glass, PTFE-lined cap	100 mg/L Na ₂ SO ₃ or ascorbic acid. DO NOT USE NH ₄ Cl; cool to < 6C	Omit 18-g salt addition; acidify in ice-bath; centrifuge to break emulsion; USE GC-MS (SIM) (<u>required</u>)	14 d (extract)
3. Nitrogenous Disinfection Byproducts (N-DPBs)	EPA 551.1	Dibromoacetamide (DBAcAm), Bromochloroacetamide (BCAcAm); Bromonitromethane, Dibromonitromethane	2 x 40 mL amber glass vials, PTFE-lined septa	50 mg/L ascorbic acid + citrate/PO ₄ buffer. DO NOT USE Na ₂ SO ₃ or NH ₄ Cl; cool to < 6C	Omit 8-g salt addition; use MTBE solvent; centrifuge 3000 rpm; GC-injector temp < 200C; GC-MS (SIM) <u>required</u>	14 d (extract)
4. Brominated Phenols/Aromatics	EPA 8270E [SIM]	2,4,6-Tribromophenol, 2,4-Dibromophenol, Bromochlorophenols	2 x 1 L amber glass bottles, PTFE-lined cap	80 mg/L Na ₂ SO ₃ (sulfite) or Na ₂ S ₂ O ₃ (thiosulfate); cool to < 6C	Method 3535A, SPE <u>required</u> , run simultaneous full scan/SIM for target quantitation and top 30 TICs	7 d (extract)

Additional Methods / Sampling Notes:

Field collection and preservation:

- Oxidant Quenching: All samples must be quenched immediately at the time of collection to halt the reaction between active oxidants (HOCl / HOBr) and dissolved organic carbon.
 - For HAAs (Group 2) and Phenols (Group 4): Add Sodium Sulfite or Ascorbic Acid. Under no circumstances shall Ammonium Chloride (NH₄Cl) be used, as it forms reactive bromamines in high-bromide waters.
 - For Nitrogenous DBPs (Group 3): Add Ascorbic Acid alongside a Citrate/Phosphate buffer to lock the sample pH at 4.8 to 5.2. Haloacetonitriles and halonitromethanes undergo rapid base hydrolysis at the ambient alkaline pH of Great Salt Lake water.
- Zero-Headspace Requirements: Samples collected for Volatile THMs/VOCs (Group 1) and Nitrogenous DBPs (Group 3) must be filled until a convex meniscus forms, sealed without air bubbles, and inverted to verify zero headspace.
- Cold Chain Maintenance: Samples must be placed immediately in an ice chest and chilled to 6°C (without freezing) from collection through laboratory receipt.

Laboratory matrix and preparation:

- Omission of Salting-Out Steps: Laboratory SOPs for EPA Methods 552.3 and 551.1 must omit the standard addition of sodium sulfate Na₂SO₄ or sodium chloride NaCl. Great Salt Lake receiving water is near ionic saturation; adding salt causes massive crystallization, traps extraction solvent, and prevents phase separation
- Exothermic Reaction Control: During acidification in Method 552.3 (pH < 0.5), concentrated sulfuric acid must be added slowly while maintaining the extraction vessel in an ice bath. If salt precipitation occurs, the laboratory is authorized to perform a controlled 1:2 dilution with organic-free reagent water prior to solvent addition
- Mandatory Centrifugation: Due to high concentrations of extracellular polymeric substances (EPS) and algal organic matter, organic solvent layers (MTBE) must undergo centrifugation (3,000 RPM for 10 minutes) to collapse interfacial emulsions
- Detector Configuration:
 - EPA 552.3 & EPA 551.1: The laboratory shall configure instruments with Gas Chromatography–Mass Spectrometry operating in Selected Ion Monitoring mode (GC-MS SIM) instead of Electron Capture Detection (GC-ECD) to resolve target peaks from dense matrix co-extractables
 - EPA 8270E: The laboratory shall execute a Simultaneous Full Scan/SIM acquisition. SIM mode shall be used for low-level target quantitation of brominated phenols, and Full Scan mode shall be used to perform a spectral library search for the Top 20 Tentatively Identified Compounds (TICs)
- Quality Control Verification: Method Detection Limits (MDLs) and recovery efficiencies must be established by performing Matrix Spikes / Matrix Spike Duplicates (MS/MSD) directly in the Great Salt Lake matrix at a minimum frequency of 1 per 20 samples.

FULL Analyte Table

Analyte Group	Target Analyte / Chemical Name	Target Halide	CAS Number	Analytical Reference Method	Target Detector Mode	Standard Baseline MDL / MRL (ug/L)	Expected GSL Matrix-Adjusted MRL (ug/L)
Group 1: Volatile THMs & VOCs	Bromoform (CHBr ₃)	Br	75-25-2	EPA SW-846 8260D (Method 5021A Static Headspace)	GC/MS	0.2 / 0.5	0.5 - 1.0
	Dibromochloromethane (CHBr ₂ Cl)	Br / Cl	124-48-1	EPA SW-846 8260D	GC/MS	0.1 / 0.5	0.5 - 1.0
	Bromodichloromethane (CHBrCl ₂)	Br / Cl	75-27-4	EPA SW-846 8260D	GC/MS	0.1 / 0.5	0.5 - 1.0
	Chloroform (CHCl ₃)	Cl	67-66-3	EPA SW-846 8260D	GC/MS	0.1 / 0.5	0.5 - 1.0
	Bromomethane (CH ₃ Br)	Br	74-83-9	EPA SW-846 8260D	GC/MS	0.2 / 1.0	1.0 - 2.0
	Chloromethane (CH ₃ Cl)	Cl	74-87-3	EPA SW-846 8260D	GC/MS	0.2 / 1.0	1.0 - 2.0
	Dibromomethane (CH ₂ Br ₂)	Br / Cl	74-95-3	EPA SW-846 8260D	GC/MS	0.2 / 0.5	0.5 - 1.0
	Dichloromethane (CH ₂ Cl ₂)	Cl	75-09-2	EPA SW-846 8260D	GC/MS	0.2 / 1.0	1.0 - 2.0
	Carbon Tetrachloride (CCl ₄)	Cl	56-23-5	EPA SW-846 8260D	GC/MS	0.1 / 0.5	0.5 - 1.0
Group 2: Haloacetic Acids (HAAs)	Monobromoacetic Acid (MBAA)	Br	79-08-3	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.07 / 0.5	1.0 - 2.0
	Monochloroacetic Acid (MCAA)	Cl	79-11-8	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.10 / 1.0	2.0 - 4.0
	Dibromoacetic Acid (DBAA)	Br	631-64-1	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0
	Dichloroacetic Acid (DCAA)	Cl	79-43-6	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0

	Tribromoacetic Acid (TBAA)	Br	75-96-7	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.10 / 0.5	1.0 - 2.0
	Trichloroacetic Acid (TCAA)	Cl	76-03-9	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0
	Bromochloroacetic Acid (BCAA)	Br / Cl	5589-96-3	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0
	Bromodichloroacetic Acid (BDCAA)	Br / Cl	71133-14-7	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0
	Chlorodibromoacetic Acid (CDBAA)	Br / Cl	5278-95-5	EPA Method 552.3 (Modified)	GC-MS (SIM)	0.05 / 0.5	1.0 - 2.0
Group 3: Nitrogenous DBPs	Dibromoacetonitrile (DBAN)	Br	3252-43-5	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.03 / 0.2	0.5 - 1.0
	Dichloroacetonitrile (DCAN)	Cl	3018-12-0	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.02 / 0.2	0.5 - 1.0
	Bromochloroacetonitrile (BCAN)	Br / Cl	83463-62-1	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.02 / 0.2	0.5 - 1.0
	Trichloroacetonitrile (TCAN)	Cl	0545-06-02	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.02 / 0.2	0.5 - 1.0
	Monochloroacetonitrile (MCAN)	Cl	107-14-2	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.03 / 0.2	0.5 - 1.0
	Dibromoacetamide (DBAcAm)	Br	598-70-9	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.10 / 0.5	1.0 - 2.0
	Dichloroacetamide (DCAcAm)	Cl	683-72-7	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.10 / 0.5	1.0 - 2.0
	Dibromonitromethane	Br	598-91-4	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.05 / 0.2	0.5 - 1.0
	Trichloronitromethane (Chloropicrin)	Cl	76-06-2	EPA Method 551.1 (Modified)	GC-MS (SIM)	0.02 / 0.2	0.5 - 1.0
Group 4: Phenols & SVOCs	2,4,6-Tribromophenol	Br	118-79-6	EPA SW-846 8270E (Method 3535A SPE)	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	2,4,6-Trichlorophenol	Cl	88-06-2	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0

	2,4-Dibromophenol	Br	608-33-3	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	2,4-Dichlorophenol	Cl	120-83-2	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	4-Bromophenol	Br	106-41-1	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	4-Chlorophenol	Cl	106-48-9	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	2-Chlorophenol	Cl	95-57-8	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	4-Bromophenyl phenyl ether	Br	101-55-3	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0
	4-Chlorophenyl phenyl ether	Cl	7005-72-3	EPA SW-846 8270E	GC-MS (SIM & TICs)	0.10 / 0.5	0.5 - 1.0