Official Draft Public Notice Version **March 25, 2026**
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET
RIM MINE
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0023922
MINOR INDUSTRIAL

FACILITY CONTACTS

Operator Name:	CUR Sage Plain Uranium, LLC
Contact:	Marty Tunney
Position:	Chief Operating Officer
Phone Number:	(416) 301-3985
Person Name:	Joshua Holland
Position:	Director of Regulatory Affairs
Phone Number:	(361) 331-5585
Permittee Name:	CUR Sage Plain Uranium, LLC
Facility Name:	Rim Mine
Mailing Address:	217 Queen Street West, Suite 303 Toronto, ON, Canada M6V 0P5
Actual Address:	SW ¼ NW ¼ Section 29, T31S, R25E, San Juan County, UT, North of Monticello

DESCRIPTION OF FACILITY

IsoEnergy, Ltd. and its wholly owned subsidiary CUR Sage Plain Uranium, LLC (Permittee) owns and operates the Rim Mine (Facility), which is an underground uranium and vanadium ore mine.

On October 27, 2021, Energy Fuels Resources (USA) Inc. transferred ownership of the Facility to Consolidated Uranium, Inc. (CUR), which thereafter transferred the asset to its newly formed subsidiary CUR Sage Plain Uranium, LLC. As of a merger on December 5, 2023, CUR and its subsidiaries are now wholly owned by IsoEnergy Ltd. As of July 9, 2024, IsoEnergy, Ltd. and its wholly owned subsidiary CUR Sage Plain Uranium, LLC are now the owner and operator of the Facility.

As noted in the permit renewal application, the Facility remains in a non-operational status, and no changes have occurred at the Facility. The Facility is presently on standby, and no surface water discharge has occurred since November 2012. On August 16, 2021, the Division of Water Quality (DWQ) approved the deactivation of Outfall 001. Discharge Monitoring Reports (DMRs) are not required while the outfall is inactive. The Permittee must notify the Director 60 days prior to the commencement of any future discharge to reactivate Outfall 001.

If operations resume, the monthly design discharge for the Facility is 0.03 million gallons per day (MGD). The discharge treatment system for the Facility consists of chemical precipitation with barium chloride. Intercepted mine water is pumped to a clay-lined holding pond, then to the treatment building where a barium chloride solution is prepared and added to the mine water. The treated water flows to a second clay-

lined settling pond where barium chloride assists in radium reduction and solid settling occurs. When the second pond is filled, water flows through a discharge pipe and is released at the permitted discharge location of Outfall 001.

The Facility is located north of Monticello at SW ¼ NW ¼ Section 29 T31S R25E in San Juan County, Utah, at latitude 38°03'51" and longitude 109°12'16". The Facility has a Standard Industrial Classification (SIC) code 1094, for Uranium mining. The STORET number is 495906.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The Facility has not had a discharge since the issuance of the previous UPDES Permit. There are no changes to the effluent limitations or monitoring requirements from the previous permit issued on October 1, 2024.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Facility has not had a discharge since November 2012. On August 16, 2021, DWQ approved the deactivation of Outfall 001. Consequently, DMRs are not required while the outfall is inactive. The Permittee must notify the Director 60 days prior to the commencement of any future discharge to reactivate Outfall 001.

Outfall	Description of Discharge Point
001	Located at latitude 38°03'51" and longitude 109°12'16". The discharge is to an unnamed dry wash. The discharge would evaporate or seep into the ground before flowing approximately 2 miles to East Canyon Wash, 10 miles to Hatch Wash, and then to Kane Springs Creek.

Permit compliance monitoring shall occur at the Outfall location.

RECEIVING WATERS AND STREAM CLASSIFICATION

The Rim Mine is located on a dry plateau (rim). All drainages in the area are ephemeral. The receiving waterbody for Outfall 001 is an unnamed ephemeral drainage which flows approximately 2 miles northeast to East Canyon Wash; then approximately 10 miles to Hatch Wash, then to Kane Canyon Wash, and finally to Kane Canyon Creek.

Per Utah Administrative Code (UAC) R317-2-13.1, the designated beneficial uses of Kane Canyon Creek and tributaries, from the confluence with the Colorado River to headwaters, are 2B, 3C, and 4.

> *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
>
> *Class 3C - Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.*
>
> *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to Utah's Final 2024 Integrated Report on Water Quality, the receiving water for Outfall 001 discharge, Kane Spring Wash (Assessment Unit Name: Kane Spring Wash from confluence with Colorado River to headwaters, Assessment Unit ID: UT14030005-001_00), is listed as impaired for Temperature and Total Dissolved Solids (TDS). Currently, there is no approved Total Maximum Daily Load (TMDL) for these parameters for Kane Springs Creek. However, because the Facility discharges within the Colorado River Basin, it is subject to the policies of the Colorado River Basin Salinity Control Forum (CRBSCF). To ensure compliance with these policies and prevent the discharge from causing or contributing to the TDS impairment, the Permit limits the discharge of TDS to a maximum of 1.0 ton per day (or 366 tons per year). The Permit also requires monthly temperature monitoring to assess compliance with water quality standards.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in 40 Code of Federal Regulations Part 122.44 and UAC R317-8-4.2, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. Best Professional Judgment, or BPJ, refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards, or other relevant information.

Permit limits can also be derived from the Wasteload Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards, including any applicable TMDL impairments as appropriate, Antidegradation Reviews (ADR), and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate and determined that this discharge will not cause a violation of water quality standards. An ADR Level I review was performed and concluded that an ADR Level II review was not required at this time since the renewal is a "simple renewal" and water quality will not be further lowered by the proposed activity, as per UAC R317-2-3.5.b.1.(b) The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA with ADR information is attached to this Fact Sheet.

Effluent limits for total suspended solids (TSS), total uranium, total radium 226, dissolved radium 226, chemical oxygen demand (COD), and total zinc are technology-based standards for uranium ore mines found in 40 CFR 440.32 and 440.33. The pH limit is based on current Utah Secondary Treatment standards. The TDS concentration limit is based on the Utah Water Quality Standard's anti-backsliding provision and the policies of the CRBSCF. The oil and grease limit is based on BPJ.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit was not conducted due to a lack of Facility effluent data, as the Facility has not discharged since 2012.

Because quantitative analysis was incomplete and infeasible due to insufficient operational data, the Permittee is required to sample and submit the analysis of the pollutants listed in 40 CFR Part 122 Appendix D Table III (Other Toxic Pollutants (Metals and Cyanide) and Total Phenols) occurring from the first discharge of the Facility. This UPDES permit may be reopened, and the permit limits may be modified based on the analysis of these pollutants.

Permit effluent limitations for Outfall 001 are shown in the table below.

Parameter	Effluent Limitations[a][b][c][d]			
	Maximum Monthly Avg	Daily Minimum	Daily Maximum	Units
Total Flow[e]	0.03	--	--	MGD
TSS	20	--	30	mg/L
Total Uranium	2	--	4	mg/L
Total Radium 226	--	3	--	pCi/L
Dissolved Radium 226	3	--	10	pCi/L
Gross Alpha	--	--	15	pCi/L
COD	100	--	200	mg/L
Total Zinc	0.5	--	1.0	mg/L
TDS	--	--	1000	mg/L
TDS[f]	--	--	1.0	tons/day
Oil & Grease	--	--	10.0	mg/L
pH	--	6.5	9	SU

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit requires reports to be submitted monthly and annually, as applicable, on DMR forms due 28 days after the end of the monitoring period. Effective January 1, 2017, 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.

Parameter	Self-Monitoring and Reporting Requirements[a]			
	Frequency	Sample Type	Units	Reporting Frequency
Total Flow[e]	Continuous	Recorder	MGD	Monthly
TSS	Monthly	Grab	mg/L	Monthly
Total Uranium	Monthly	Grab	mg/L	Monthly
Total Radium 226	Monthly	Grab	pCi/L	Monthly
Dissolved Radium 226	Monthly	Grab	pCi/L	Monthly
Gross Alpha	Monthly	Grab	pCi/L	Monthly
COD	Quarterly	Grab	mg/L	Quarterly
Total Zinc	Quarterly	Grab	mg/L	Quarterly
TDS	Quarterly	Grab	mg/L	Quarterly
TDS[f]	Quarterly	Grab	tons/day	Quarterly
Oil & Grease[g]	Quarterly/When Sheen Observed	Grab	mg/L	Quarterly
pH	Monthly	Grab	SU	Monthly
Temperature	Monthly	Grab	Fahrenheit	Monthly

Table Footnotes

a. See Definitions, Part VIII, for definition of terms.
b. There shall be no visible sheen or floating solids or visible foam in other than trace amounts. There shall be no discharge of sanitary wastes.
c. The Permittee is required to sample and submit the analysis of the pollutants listed in 40 CFR Part 122 Appendix D Table III (Other Toxic Pollutants (Metals and Cyanide) and Total Phenols) occurring from the first discharge of the Facility once mining operation begins.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the outfall pipe of the final treatment prior to mixing with any receiving water.
e. Flow measurements of influent/effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained.
f. TDS will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year, with daily maximum tonnage reported monthly. It is the Permittee's responsibility to monitor and report the actual discharge of TDS for each monitoring period.
g. Oil & Grease shall be sampled when sheen is present or visible. If no sheen is present or visible, report NA.

BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, this Facility does not receive, generate, treat or dispose of biosolids. Therefore 40 CFR 503 does not apply at this time. In the future, if sludge needs to be removed and disposed of in some way, the DWQ must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met.

STORM WATER

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. If the Facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

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

This Facility does not discharge process wastewater to a sanitary sewer system. Any process wastewater that the Facility may discharge to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the Permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the state's pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

In addition, in accordance with 40 CFR 403.12(p)(1), the Permittee must notify the POTW, the Environmental Protection Agency (EPA) Regional Waste Management Director, the DWQ Director and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under 40 CFR 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, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The Permittee is classified as a minor industrial facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving water is listed as an unnamed ephemeral drainage. Based on these considerations, and the absence of receiving stream 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. Also, consistent with previous permits, the Facility is required to sample and submit analysis of pollutants listed in 40 CFR Part 122 Appendix D Table III occurring from the first discharge.

PERMIT DURATION

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

Drafted and Reviewed by:
Jordan Bentley, Permit Writer
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Carl Adams, Storm Water
Amy Dickey, TMDL/Watershed Protection
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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 UAC 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 UAC 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 UAC R317-8-5.6(3)

Responsiveness Summary

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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ATTACHMENT 1

Wasteload Analysis and ADR

DWQ-2026-000089 and DWQ-2026-000090

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA] = not included in the WLA
Addendum: Statement of Basis

1/7/2026
10:00:00 AM

Facilities: **IsoEnergy, Ltd,Rim Mine** **UPDES No: UT-UT0023922**
Discharging to: **Unnamed ephemeral drainage => East Canyon Wash => Hatch Wash => Kane Springs Creek**

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc.).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Unnamed ephemeral drainage => East Canyon Wash => Hatch Wash => Kane Springs Creek :	2B, 3C, 4
Antidegradation Review:	Level I review completed. Level II review is not required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.0 mg/l (30 Day Average) N/A mg/l (7Day Average) 3.0 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration		Load*		1 Hour Average (Acute) Standard Concentration		Load*	
Aluminum	87.00	ug/l**	0.022	lbs/day	750.00	ug/l	0.188	lbs/day
Arsenic	150.00	ug/l	0.038	lbs/day	340.00	ug/l	0.085	lbs/day
Cadmium	2.39	ug/l	0.001	lbs/day	7.38	ug/l	0.002	lbs/day
Chromium III	268.22	ug/l	0.067	lbs/day	5611.70	ug/l	1.404	lbs/day
ChromiumVI	11.00	ug/l	0.003	lbs/day	16.00	ug/l	0.004	lbs/day
Copper	30.50	ug/l	0.008	lbs/day	51.68	ug/l	0.013	lbs/day
Iron					1000.00	ug/l	0.250	lbs/day
Lead	18.58	ug/l	0.005	lbs/day	476.82	ug/l	0.119	lbs/day
Mercury	0.0120	ug/l	0.000	lbs/day	2.40	ug/l	0.001	lbs/day
Nickel	168.54	ug/l	0.042	lbs/day	1515.92	ug/l	0.379	lbs/day
Selenium	4.60	ug/l	0.001	lbs/day	18.40	ug/l	0.005	lbs/day
Silver	N/A	ug/l	N/A	lbs/day	41.07	ug/l	0.010	lbs/day
Zinc	387.83	ug/l	0.097	lbs/day	387.83	ug/l	0.097	lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 400 mg/l as CaCO3

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard			1 Hour Average (Acute) Standard		
	Concentration		Load*	Concentration		Load*
Arsenic				100.0	ug/l	lbs/day
Boron				750.0	ug/l	lbs/day
Cadmium				10.0	ug/l	0.00 lbs/day
Chromium				100.0	ug/l	lbs/day
Copper				200.0	ug/l	lbs/day
Lead				100.0	ug/l	lbs/day
Selenium				50.0	ug/l	lbs/day
TDS, Summer				1200.0	mg/l	0.15 tons/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

	Maximum Conc., ug/l - Acute Standards				
	Class 1C		Class 3A, 3B		
Metals					
Antimony	ug/l	lbs/day			
Arsenic	ug/l	lbs/day	640.00	ug/l	0.16 lbs/day
Asbestos	ug/l	lbs/day			
Beryllium					
Cadmium					
Chromium (III)					
Chromium (VI)					
Copper					
Cyanide	ug/l	lbs/day	4.0E+02	ug/l	0.10 lbs/day
Lead	ug/l	lbs/day			
Mercury			0.15	ug/l	0.00 lbs/day
Nickel			4600.00	ug/l	1.18 lbs/day
Selenium	ug/l	lbs/day			
Silver	ug/l	lbs/day			
Thallium			0.50	ug/l	0.00 lbs/day
Zinc					

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

	Stream Critical Low Flow cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer	0.0	20.0	8.2	0.01	1.00	10.07	0.00	1200.0
Fall	0.0	12.0	8.2	0.01	1.00	---	0.00	1200.0
Winter	0.0	5.0	8.2	0.01	1.00	---	0.00	1200.0
Spring	0.0	12.0	8.2	0.05	1.00	---	0.00	1200.0

Dissolved Metals	Al ug/l	As ug/l	Cd ug/l	CrIII ug/l	CrVI ug/l	Copper ug/l	Fe ug/l	Pb ug/l
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*

Dissolved Metals	Hg ug/l	Ni ug/l	Se ug/l	Ag ug/l	Zn ug/l	Boron ug/l	
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0	* 1/2 MDL

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.03000	25.3	464.75	0.058
Fall	0.03000	9.5	499.00	0.062
Winter	0.03000	7.4	388.82	0.049
Spring	0.03000	12.7	413.60	0.052

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	0.030 MGD	0.046 cfs
Fall	0.030 MGD	0.046 cfs
Winter	0.030 MGD	0.046 cfs
Spring	0.030 MGD	0.046 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.03 MGD. If the discharger is allowed to have a flow greater than 0.03 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segments if the values below are met.

WET Requirements LC50 > EOP Effluent [Acute]
IC25 > 97.9% Effluent [Chronic]

Season	Receiving Water Flow (cfs)	Effluent Flow (MGD)	Effluent Flow (cfs)	Combined Flow (cfs)	Totally Mixed	Chronic IC25 % Effluent	Acute LC50 % Effluent
Summer	0.00	0.0	0.0	0.0	YES	97.9%	EOP
Fall	0.00	0.0	0.0	0.0	YES	97.9%	EOP
Winter	0.00	0.0	0.0	0.0	YES	97.9%	EOP
Spring	0.00	0.0	0.0	0.0	YES	97.9%	EOP

Effluent Limitation for Biological Oxygen Demand (30 day average BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	6.3 lbs/day
Fall	25.0 mg/l as BOD5	6.3 lbs/day
Winter	25.0 mg/l as BOD5	6.3 lbs/day
Spring	25.0 mg/l as BOD5	6.3 lbs/day

Effluent Limitation for Dissolved Oxygen (30 day average DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.50
Fall	5.50
Winter	5.50
Spring	5.50

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	1.6	mg/l as N	0.4	lbs/day
	1 Hour Avg. - Acute	3.7	mg/l as N	0.9	lbs/day
Fall	4 Day Avg. - Chronic	2.1	mg/l as N	0.5	lbs/day
	1 Hour Avg. - Acute	5.1	mg/l as N	1.3	lbs/day
Winter	4 Day Avg. - Chronic	4.5	mg/l as N	1.1	lbs/day
	1 Hour Avg. - Acute	12.0	mg/l as N	3.0	lbs/day
Spring	4 Day Avg. - Chronic	2.1	mg/l as N	0.5	lbs/day
	1 Hour Avg. - Acute	5.1	mg/l as N	1.3	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	0.011	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.00	lbs/day
Fall	4 Day Avg. - Chronic	0.011	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.00	lbs/day
Winter	4 Day Avg. - Chronic	0.011	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.00	lbs/day
Spring	4 Day Avg. - Chronic	0.011	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.00	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	1200.0	mg/l	0.15	tons/day
Fall	Maximum, Acute	1200.0	mg/l	0.15	tons/day
Winter	Maximum, Acute	1200.0	mg/l	0.15	tons/day
Spring	4 Day Avg. - Chronic	1200.0	mg/l	0.15	tons/day

Colorado Salinity Forum Limits Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 400 mg/l):

	4 Day Average Concentration		Load		1 Hour Average Concentration		Load	
Aluminum	N/A		N/A		766.1	ug/l	0.2	lbs/day
Arsenic	153.21	ug/l	0.0	lbs/day	347.3	ug/l	0.1	lbs/day
Cadmium	2.44	ug/l	0.0	lbs/day	7.5	ug/l	0.0	lbs/day
Chromium III	273.98	ug/l	0.0	lbs/day	5,732.6	ug/l	1.4	lbs/day
Chromium VI	11.15	ug/l	0.0	lbs/day	16.3	ug/l	0.0	lbs/day
Copper	31.14	ug/l	0.0	lbs/day	52.8	ug/l	0.0	lbs/day
Iron	N/A		N/A		1,021.5	ug/l	0.3	lbs/day
Lead	18.96	ug/l	0.0	lbs/day	487.1	ug/l	0.1	lbs/day
Mercury	0.01	ug/l	0.0	lbs/day	2.5	ug/l	0.0	lbs/day
Nickel	172.16	ug/l	0.0	lbs/day	1,548.6	ug/l	0.4	lbs/day
Selenium	4.66	ug/l	0.0	lbs/day	18.8	ug/l	0.0	lbs/day
Silver	N/A	ug/l	N/A	lbs/day	42.0	ug/l	0.0	lbs/day
Zinc	396.19	ug/l	0.1	lbs/day	396.2	ug/l	0.1	lbs/day
Cyanide (free)	5.31	ug/l	0.0	lbs/day	22.5	ug/l	0.0	lbs/day

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	24.1 Deg. C.	75.3 Deg. F
Fall	16.1 Deg. C.	60.9 Deg. F
Winter	9.1 Deg. C.	48.3 Deg. F
Spring	16.1 Deg. C.	60.9 Deg. F

Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average Concentration		Load		1 Hour Average Concentration		Load	
Aldrin					1.5E+00	ug/l	5.81E-04	lbs/day
Chlordane	4.30E-03	ug/l	1.08E-03	lbs/day	1.2E+00	ug/l	4.64E-04	lbs/day
DDT, DDE	1.00E-03	ug/l	2.50E-04	lbs/day	5.5E-01	ug/l	2.13E-04	lbs/day
Dieldrin	5.60E-02	ug/l	1.40E-02	lbs/day	2.4E-01	ug/l	9.29E-05	lbs/day
Endosulfan	5.60E-02	ug/l	1.40E-02	lbs/day	1.1E-01	ug/l	4.26E-05	lbs/day
Endrin	3.60E-02	ug/l	9.01E-03	lbs/day	8.6E-02	ug/l	3.33E-05	lbs/day
Guthion	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	3.87E-06	lbs/day
Heptachlor	3.80E-03	ug/l	9.51E-04	lbs/day	2.6E-01	ug/l	1.01E-04	lbs/day
Lindane	8.00E-02	ug/l	2.00E-02	lbs/day	1.0E+00	ug/l	3.87E-04	lbs/day
Methoxychlor	0.00E+00	ug/l	0.00E+00	lbs/day	3.0E-02	ug/l	1.16E-05	lbs/day
Mirex	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	3.87E-06	lbs/day
Parathion	1.30E-02	ug/l	3.25E-03	lbs/day	6.6E-02	ug/l	2.55E-05	lbs/day
PCB's	1.40E-02	ug/l	3.50E-03	lbs/day	2.0E+00	ug/l	7.74E-04	lbs/day
Pentachlorophenol	1.50E+01	ug/l	3.75E+00	lbs/day	1.9E+01	ug/l	7.35E-03	lbs/day
Toxephene	2.00E-04	ug/l	5.00E-05	lbs/day	7.3E-01	ug/l	2.83E-04	lbs/day

Effluent Targets for Pollution Indicators Based upon Water Quality Standards

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average Concentration		Loading	
Gross Beta (pCi/l)	50.0	pCi/L		
BOD (mg/l)	5.0	mg/l	1.3	lbs/day
Nitrates as N	4.0	mg/l	1.0	lbs/day
Total Phosphorus as P	0.05	mg/l	0.0	lbs/day
Total Suspended Solids	90.0	mg/l	22.5	lbs/day

Note: Pollution indicator targets are for information purposes only.

Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	**Load**
Metals		
Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

Utah Division of Water Quality
Salt Lake City, Utah

Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		766.1				766.1	N/A
Antimony				653.8		653.8	
Arsenic	102.2	347.3			0.0	102.2	153.2
Asbestos						0.00E+00	
Barium						0.0	
Beryllium						0.0	
Cadmium	10.2	7.5			0.0	7.5	2.4
Chromium (III)		5732.6			0.0	5732.6	274.0
Chromium (VI)	102.1	16.3			0.0	16.26	11.15
Copper	204.3	52.8				52.8	31.1
Cyanide		22.5	408.6			22.5	5.3
Iron		1021.5				1021.5	
Lead	102.1	487.1			0.0	102.1	19.0
Mercury		2.45		0.15	0.0	0.15	0.012
Nickel		1548.6		4699.1		1548.6	172.2
Selenium	51.0	18.8			0.0	18.8	4.7
Silver		42.0			0.0	42.0	
Thallium				0.5		0.5	
Zinc		396.2				396.2	396.2
Boron	766.2					766.2	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]
[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	766.1	N/A	
Antimony	653.79		
Arsenic	102.2	153.2	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	7.5	2.4	
Chromium (III)	5732.6	274	
Chromium (VI)	16.3	11.2	
Copper	52.8	31.1	
Cyanide	22.5	5.3	
Iron	1021.5		
Lead	102.1	19.0	
Mercury	0.153	0.012	
Nickel	1548.6	172	
Selenium	18.8	4.7	
Silver	42.0	N/A	
Thallium	0.5		
Zinc	396.2	396.2	
Boron	766.16		

Other Effluent Limitations are based upon R317-1.
E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required .
This is a simple renewal with no increase in contaminants or increased effluent flow.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedance of this value.
This doesn’t apply to facilities that do not discharge to the Colorado River Basin.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

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

Date:	**January 9, 2026**
Prepared by:	**Suzan Tahir** **Standards and Technical Services**
Facility:	**IsoEnergy, Ltd (formerly known as Energy Fuels Resources (USA), Inc.), Rim Mine, UPDES No. UT-0023922**
Receiving water:	**Unnamed ephemeral drainage => East Canyon Wash =>** **Hatch Wash => Kane Springs Creek (2B, 3C, 4)**

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

Outfall 001: Latitude/Longitude: 38° 03’ 51” N & 109° 12’ 16” W.

The mean monthly design discharge for the facility is 0.03 MGD.

This facility is an underground uranium mine. Uranium and Vanadium ores are temporarily stockpiled on the surface prior to being loaded into haul trucks for delivery to an off-site mill. The water that is being discharged is groundwater from the underground mine workings. During operations, groundwater inflow to the mine is pumped 710 feet to the surface where it is treated with barium chloride as a flocculent to settle metals and solids . Additional storage of the treated water is provided by a second settling pond prior to discharge according to state-approved requirements. The mine is presently on standby, and no surface water discharge has occurred since November 2012

Receiving Water

The Rim Mine is located on a dry plateau (rim). All drainages in the area are ephemeral. The receiving waterbody for Outfall 001 is an unnamed ephemeral drainage which flows

approximately 2 miles northeast to East Canyon Wash; then approximately 10 miles to Hatch Wash, then to Kane Canyon Wash, and finally to Kane Canyon Creek.

Per UAC R317-2-13.1, the designated beneficial uses of Kane Canyon Creek and tributaries, from confluence with the Colorado River to headwaters is 2B, 3C, and 4.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*

- *Class 3C - Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.*

- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Critical Flow

The critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Because the discharge is to an ephemeral wash, the 7Q10 flow for the receiving water was estimated to be 0.0001 cfs (year round) for the model to run. Effluent limits revert to the water quality standards. Water Quality Standards are presented in the WLA Addendum.

Table 1. Seasonal 7Q10 Flow Values

Summer	0.0001
Fall	0.0001
Winter	0.0001
Spring	0.0001

Assessment Category and Total Maximum Daily Load (TMDL)

The receiving water, Kane Spring Wash (Kane Spring Wash from confluence with Colorado River to headwaters, UT14030005-001_00) has been assessed as of Utah's 2024 303(d) Water Quality Assessment Report and is listed impaired for temperature and total dissolved solids. No TMDL has been completed at this time.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total dissolved solids, total uranium, radium and zinc as determined in consultation with the UPDES Permit Writer. Additional parameters of concern may become apparent as a result of reasonable potential analysis, technology-based standards, or other factors as determined by the UPDES Permit Writer.

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. For this discharge, 3C numeric aquatic life use criteria apply to the immediate receiving water.

Mixing Zone

Per R317-2-5, "Streams with a flow equal to or less than twice the flow of a point source discharge may be considered to be totally mixed." The mixing zone analysis in the model shows the discharge to be totally mixed. Water quality standards must be met at the discharge outfall.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

Table 2.WET Limits for IC25

Outfall	Percent Effluent
Outfall 001	97.9%

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendum.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum. Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

Antidegradation Level II Review

A Level II Antidegradation Review (ADR) is not required for this facility because there is no increase in permitted concentrations or flow over the previous permit.

Documents:

WLA Document *:*

RimMine_WLADoc_2026.docx

Wasteload Analysis and Addendum:

RimMine_WLA_2026.xlsm
RimMine_WLA_SOB_2026.pdf

References:

Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0. https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf

Utah Division of Water Quality. 2024. *Final 2024 Integrated Report on Water Quality.* https://lfpublic.deq.utah.gov/WebLink/DocView.aspx?id=87957&repo=Public&searchid=fcd9ea4c-51e1-4227-aa29-fb1921c2cc19&cr=1

Lewis, B., J. Saunders, and M. Murphy. 2002. *Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits*. University of Colorado, Center for Limnology.

Notes:

On October 27, 2021, Energy Fuels Resources (USA) Inc. ("Energy Fuels") transferred ownership of the Rim Mine to Consolidated Uranium, Inc. (“CUR" f/k/a International Consolidated Uranium Inc.), which thereafter transferred the asset to its newly formed subsidiary CUR Sage Plain Uranium, LLC. As of a merger on December 5, 2023, CUR and its subsidiaries are now wholly owned by IsoEnergy Ltd. As of July 9, 2024, IsoEnergy, Ltd and its wholly owned subsidiary CUR Sage Plain Uranium, LLC are now the owner and operator of the Rim Mine.

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