Official Draft Public Notice Version **October 16, 2023**
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
ENERGY QUEEN MINE
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0025712MINOR INDUSTRIAL

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FACILITY CONTACTS

Person Name:	Scott Bakken, P.G. Director
Position:	Permitting & Environmental Affairs
Phone Number:	(303) 389-4156
Facility Name:	Energy Fuels Resources (USA), Inc., Energy Queen Mine
Mailing Address:	225 Union Boulevard, Suite 600 Lakewood, CO 80228
Actual Address:	560 E Highway 46 La Sal, UT 84535

DESCRIPTION OF FACILITY

Energy Fuel Resources Corporation leases and operates the Energy Queen Mine (Mine), which is an underground uranium and vanadium mine. The discharge treatment system for this facility consists of a chemical precipitation process with barium chloride. The intercepted mine water is pumped and mixed with barium chloride and then up to an initial treatment pond where the barium chloride assists in Radium reduction. While the Mine is permitted to discharge to West Coyote Wash, Outfalls 001, 002, and 003 have been inactive since August 2021. The mine is located at 560 E. Highway 46, La Sal, UT 84535 in San Juan County, Utah at latitude 38°18'45" and longitude 109°18'30". The facility has a Standard Industrial Classification (SIC) code 1094, for Uranium mining.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

All limitations will remain the same as those in the previous permit. Based on the capacity of the existing treatment facility upon any future discharges, Energy Queen Mine is expected to be able to comply with the limitations.

The receiving water is now classified as a Class 1C, 2B, 3C, and 4 Waters of the State.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Energy Queen Mine is an existing, but inactive mine, which has not had a discharge of mine water for over 25 years. The Mine has been consistently reporting self-monitoring results on Discharge Monitoring Reports, via NetDMR on a monthly basis as required. There have been no discharges and no significant permit violations during the past five-year term.

Outfall	Description of Discharge Point
001	Located at latitude 38°18'45" and longitude 109°18'30". Discharge would be from the mine water treatment system into West Coyote Wash.
002	Located at latitude 38°18'45" and longitude 109°18'45". Discharge would be from the mine water treatment system into West Coyote Wash.
003	Located at latitude 38°18'45" and longitude 109°19'00". Discharge would be from the mine water treatment system into West Coyote Wash.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge is to an unnamed dry wash, which is tributary of the ephemeral West Coyote Creek, a tributary of ephemeral Hatch Wash, a tributary of Kane Springs Creek, a tributary of the Colorado River. Per UAC R317-2-13, the designated beneficial use of the affected assessment unit in the immediate area is (13.1): "*Kane Canyon Creek and tributaries, from confluence with Colorado River to headwaters*" is classified 2B, 3C, 4. Since Kane Creek drains to the Colorado River, which is classified with 1C, the 1C criteria is included in the limits in order to ensure protection of downstream sources.

Class 1C – Protected for domestic purposes with prior treatment processes as required by the Utah Division of Drinking Water
Class 2B – Protected for secondary contact recreation such as boating, wading, or similar uses.
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 MAXIUM DAILY LOAD (TMDL) REQUIREMENTS

According to the Utah's Final 2022 Integrated Report on Water Quality dated December 9, 2022, the receiving water for the discharge, "Kane Canyon Creek and tributaries, from confluence with Colorado River to headwaters (Kane Springs Wash: UT14030005-001_00)" was listed as "Not Supporting" for Temperature and Total Dissolved Solids (TDS). DWQ has not completed a TMDL for Temperature nor Total Dissolved Solids in Kane Canyon Creek and has set the development priority as "Low".

Effluents limits for TDS and temperature equal to the water quality criteria will ensure that in-stream criteria will not be exceeded at the point of discharge as well as not causing or contributing to the existing impairment downstream in Kane Springs Wash.

BASIS FOR EFFLUENT LIMITATIONS

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Effluent limitations 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 440.31 and 440.33. The pH limit is based on current Utah Secondary Treatment standards. The oil & grease limit is based on best professional judgement (BPJ) and is consisted with other industrial permitted facilities in Utah.

Total dissolved solids (TDS) limitations are based upon Utah Water Quality Standards for concentration values and the Colorado River Basin Salinity Control Forum (CRBSCF) for mass loading values when applicable as authorized in *UAC R317-2-4.* Discharges from the Mine could potentially reach the Colorado River, which places it under the requirements of the CRBSCF. In accordance with the CRBSCF policies, the effluent will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year. The TDS concentration limit is the same as similar uranium mining facilities in the immediate area and is based on BPJ, which is more stringent than the Utah Water Quality Standard of 1,200 mg/L for TDS.

Effluent limitations may also be derived using a Wasteload Analysis (WLA). The WLA incorporated Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate 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 the UPDES renewal development, a WLA and ADR were performed. An ADR Level I review was performed and concluded that an ADR Level II review was not required. It has been determined that this discharge will not cause a violation of water quality standards. An Anti-degradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations. The WLA indicates that the effluent limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential (RP) analysis on all new and renewal applications received after that date following DWQ' s September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). A formal RP analysis for this permit renewal was not conducted because there has been a lack of discharge data from the Mine, which currently remains inactive. Once the Mine begins operating and discharging regularly, a qualitative RP analysis can then be performed on subsequent permit renewals as appropriate.

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The permit limitations are as follows:

Parameter	Effluent Limitations *a, *b, *c		
	Maximum Monthly Avg	Daily Minimum	Daily Maximum
Total Flow	0.5	--	--
TSS, mg/L	20	--	30
Dissolved Uranium, mg/L	2.0	--	4.0
Total Radium 226, pCi/L	10	--	30
Dissolved Radium 226, pCi/L	3	--	10
COD, mg/L	100	--	200
Total Zinc, mg/L	0.5	--	1.0
Oil & Grease, mg/L *e	--	--	10.0
pH, Standard Units	--	6.5	9
TDS, mg/L	--	--	1000
TDS, tons/day *d	Report	--	1.0

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require 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. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	GPM
TSS	Monthly	Grab	mg/L
Dissolved Uranium	Monthly	Grab	mg/L
Total Radium 226	Monthly	Grab	pCi/L
Dissolved Radium 226	Monthly	Grab	pCi/L
COD	Quarterly	Grab	mg/L
Total Zinc	Quarterly	Grab	mg/L
Oil & Grease	Quarterly	Grab	mg/L
pH	Monthly	Grab	Standard Units
TDS	Quarterly	Grab	mg/L
TDS	Quarterly	Grab	tons/day

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

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*b There shall be no discharge of floating solids or visible foam other than trace amounts.

*c There shall be no discharge of sanitary wastes.
*d An oil and grease sample shall be taken when a sheen is visible.

*e daily maximum tonnages reported monthly. It is the permittee's responsibility to monitor and report the actual discharge of TDS for each monitoring period.

STORM WATER

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

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

Currently, process wastewater is discharged by the permittee directly into a water of the State. If changes occur where any wastewater from the facility is discharged to a POTW, as an Indirect Discharge, which includes hauled waste, the permittee will be subject to federal, state and local pretreatment regulations. Based on section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal Pretreatment Standards and Pretreatment Requirements promulgated in 40 CFR Section 403, the State Pretreatment Standards and Pretreatment Requirements found in UAC R317-8-8, and any Pretreatment Standards and Pretreatment Requirements developed by the POTW accepting the waste.

In addition, per *40 CFR 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 a discharge of 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 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 waterway is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. 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

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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.

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PERMIT DURATION

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

Drafted and Reviewed by
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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

The Public Noticed of the draft permit was published on the DWQ webpage.

During the public comment period provided under 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 R317-8-6.12.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

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ATTACHMENT 1

Wasteload Analysis

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