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FACT SHEET STATEMENT OF BASIS
VELVET MINE
UPDES PERMIT NUMBER: UT0025810
RENEWAL PERMIT
MINOR INDUSTRIAL

FACILITY CONTACTS

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DESCRIPTION OF FACILITY

Uranium One Exploration, Inc. owns and operates the Velvet 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 tank where the barium chloride assists in Radium reduction. The mine is located at T31S, R25E Section 3 in Lisbon Valley, which is in San Juan County, UT at latitude 38°07'10" and longitude 109°09'23". The facility has a Standard Industrial Classification (SIC) code 1094, for Uranium mining.

As noted in the permit renewal application, the Velvet Mine continues to be in a non-operational status and no changes have occurred to the facility. Also, no construction has been initiated since the permit was issued. When the Velvet Mine begins construction of the treatment process, the facility will need to contact DWQ to procure the correct storm water and groundwater permits.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The Velvet Mine has not had a discharge since the issuance of UPDES permit # UT0025810. Since there is no data to verify the compliance of the UPDES permit, all permit limitations will remain the same as those in the previous permit. The Velvet Mine 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 re-opened and the permit limits modified based on the analysis of these pollutants. Based on existing facilities with similar production processes and wastewater treatments, the Velvet Mine is expected to be able to comply with the limitations.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Velvet Mine utilizes the discharge of an existing uranium mine which has not had a discharge for over 20 years.

Outfall	Description of Discharge Point
001	Located at latitude 38°07'10" and longitude 109°09'23". The discharge is to an unnamed dry wash then to Big Indian Wash to Hatch Wash to Kane Creek and into the Colorado River.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge is to a dry wash, which is classified as 2B and 3C, 4 according to *Utah Administrative Code (UAC) R317-2-13.*

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.

BASIS FOR EFFLUENT LIMITATIONS

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 total dissolved solids (TDS) concentration limit is the same as similar uranium mining facilities in the immediate area; is based on Best Professional Judgment (BPJ) and is more stringent than the Utah Water Quality Standards for TDS. The oil & grease limit is based on best professional judgment. The Velvet Mine 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 re-opened and the permit limits modified based on the analysis of these pollutants. Discharges from the Velvet Mine facility could potentially reach the Colorado River, which places it under the requirements of the Colorado River Basin Salinity Control Forum (CRBSCF). In accordance with the CRBSCF the effluent will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year. The permit limitations are:

Effluent Limitations for Outfall 001 b/, c/			
Parameter	Monthly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.5	NA	NA
TSS, mg/L	20	NA	30
Total Uranium, mg/L	2.0	NA	4.0
Total Radium 226, pCi/L	10	NA	30
Dissolved Radium 226, pCi/L	3	NA	10
COD, mg/L	100	NA	200
Total Zinc, mg/L	0.5	NA	1.0
Total Dissolved Solids, mg/L	NA	NA	1000
Total Dissolved Solids, tons/day a/	NA	NA	1.0
Oil & Grease, mg/L d/	NA	NA	10
pH, standard units	NA	6.5	9.0

NA – Not Applicable

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The reporting requirements will be submitted on Discharge Monitoring Report Form (EPA No. 3320-1) or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period.

Self-Monitoring and Reporting Requirements				
Parameter	Frequency	Sample Type	Units	Reporting Frequency
Total Flow	Continuous	Recorder	GPM	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
COD	Quarterly	Grab	mg/L	Quarterly
Total Zinc	Quarterly	Grab	mg/L	Quarterly
TDS	Quarterly	Grab	mg/L	Quarterly
TDS	Quarterly	Grab	ton/day	Quarterly
Oil & Grease	Quarterly	Grab	mg/L	Quarterly
pH	Monthly	Grab	SU	Monthly

a/ TDS will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year, with daily maximum tonnages reported monthly. It is the permittee's responsibility to monitor and report the actual discharge of TDS for each monitoring period.

b/ There shall be no discharge of floating solids or visible foam in 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.

The permitee 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 re-opened and the permit limits modified based on the analysis of these pollutants.

WASTE LOAD ANALYSIS AND ANTIDEGRADATION REVIEW

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. 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.

STORM WATER REQUIREMENTS

According to Utah Administrative Code (UAC) R317-8-3.9 this facility will be required to maintain coverage under the UPDES multi-sector general permit for discharges associated with industrial activity, permit number UTR000000, sector G (Mineral Industry, SIC Major Group 10). As noted in the permit renewal application, the Velvet Mine continues to be in a non-operational status and no changes have occurred to the facility. Also, no construction has been initiated since the permit was issued. When the Velvet Mine begins construction of the treatment process, the facility will need to contact DWQ to procure the correct storm water permits.

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.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring (2/1991)). Authority to require effluent biomonitoring is provided in UAC R317-8, Utah Pollutant Discharge Elimination System and UAC R317-2, Water Quality Standards. The result of the wasteload analysis was a finding of no significant impact. Based on these considerations, and that the facility is not classified as a major or a significant minor facility, there is no reasonable potential for toxicity in the Velvet Mine'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 by
Matthew Garn
Environmental Engineer
Utah Division of Water Quality
Drafted on March 17, 2014

PUBLIC NOTICE

Began:
Ended:
Public Noticed in the San Juan Record

DWQ-2014-004228