

Official Draft Public Notice Version December 2, 2014

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**FACT SHEET STATEMENT OF BASIS (FSSOB)  
ENERGY WEST DEER CREEK MINE  
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)  
PERMIT NUMBER: UT0023604  
MINOR INDUSTRIAL RENEWAL**

**FACILITY CONTACTS**

Facility Contact:	Dennis Oakley	Responsible Official:	Ken Fleck
Position:	Senior Mine Eng.	Position:	Manager of Geo. and Env. Affairs
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**DESCRIPTION OF FACILITY**

Facility Name: Energy West Deer Creek Mine  
Mailing Address: 15 North Main  
Huntington, Utah 84528  
Physical Location: Huntington Canyon off Highway 31 approximately eight miles northwest of  
Huntington, Utah in Emery County.  
Coordinates: Latitude: 39°21'36", Longitude: 111°06'35".  
Classification (SIC): 1222 - *Bituminous Coal Underground Mining (NAICS 212112)*

Energy West (a subsidiary of PacifiCorp) Deer Creek Mine (DCM) is an underground coal mining operation which produces over three million tons of coal a year. This coal is used primarily at the Huntington Power Plant. The coal is transported by tram (conveyor belt) to the Huntington Plant.

**DESCRIPTION OF DISCHARGE**

<u>Outfall</u>	<u>Description</u>
001	Comprised of surface water runoff collected in a settling pond, which discharges directly to Deer Creek. The pond outfall is located at latitude 39°21'36" and longitude 111°06'35".
002	Comprised of ground water continuously pumped from the mine and discharged to Deer Creek. This discharge is located at latitude 39°21'29" and longitude 111°06'57".

## **RECEIVING WATERS AND STREAM CLASSIFICATION**

DCM discharges into Deer Creek which is a tributary of Huntington Creek. Based on *Utah Administrative Code (UAC) R317-2-12.2* Deer Creek is designated as a High Quality Water- Category 2 and the following classes 1C, 2B, 3A and 4.

- Class 1C -Protected for domestic purposes with prior treatment by 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 3A -Protected for cold water species of game fish and other cold water 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**

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *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*). A waste load analysis was completed and is attached. In cases where multiple limits have been or could be developed, those that are more stringent apply. In some cases (such as for TSS) multiple limits have been used. In cases where no limits are applicable, Best Professional Judgment (BPJ) was used. "Best Professional Judgment" refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

1. DCM discharge meets the EPA definition of "alkaline mine drainage." As such, it is subject to the technology based effluent limitations in *40 CFR Part 434.45*. Technology based limits used in the permit are listed below.
  - a. Total suspended solids (TSS) daily maximum limit (70 mg/L) for sedimentation ponds only.
  - b. For discharges composed of surface water or mine water commingled with surface water, *40 CFR Part 434.63* allows alternate effluent limits to be applied when discharges result from specific runoff events, detailed below and in the permit. DCM has the burden of proof that the described runoff events occurred.
    - i. For runoff events (rainfall or snowmelt) less than or equal to a 10-year 24-hour precipitation event, settleable solids may be substituted for TSS and shall be limited to 0.5 milliliters per liter (ml/L). All other effluent limitations must be achieved concurrently, as described in the permit.

- ii. Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitation instead of the otherwise applicable limitations:

Pollutant or pollutant property	Effluent limitations
pH	6.5-9.0 at all times.

- 2) For sedimentation ponds the TSS 30-day and 7-day averages are based on Utah Secondary Treatment Standards.
- 3) For mine water discharges the TSS is based upon information contained within the Antidegradation II analysis which is attached. From Table 3-1 on page 3-4 background data as taken from “Huntington Creek above Huntington Power Plant Diversion (average 2002 – 2008)” is listed as 12.8 mg/L. This value will be rounded to 15 mg/L and used as the thirty day average effluent limit for TSS in the mine discharge. The seven day average effluent limit for TSS will be 25 mg/L.
- 4) Daily minimum and daily maximum limitations on pH are derived from Utah Secondary Treatment Standards and Water Quality Standards.
- 5) Total dissolved solids (TDS) are limited according to Water Quality Standards (which are subject to TMDL requirements) and policies established by the Colorado River Basin Salinity Control Forum. TDS is limited by both mass loading and concentration requirements as described below:
  - a. Since discharges from DCM eventually reach the Colorado River, TDS mass loading is limited according to policies established by the Colorado River Basin Salinity Control Forum (Forum), as authorized in *UAC R317-2-4* to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the Forum produced the “*Policy for Implementation of Colorado River Salinity Standards through the NPDES Permit Program*” (Policy), with the most current subsequent triennial revision dated October 2011. Based on Forum Policy, provisions can be made to remove TDS by treatment, salinity off-set projects, or whatever mechanism(s) the Company can develop to account for any TDS loading in excess of the permit requirement. The TDS loading required by the salinity forum and the proposed permit, is one ton per day as a sum from all discharge points, unless the average concentration of TDS is 500 mg/L or less. If the concentration of TDS is less than 500 mg/L as a thirty day average, no loading limit applies for that Outfall or designated compliance point. The one ton per day loading limit

applies only to those Outfalls or designated compliance point(s) exceeding 500 mg/L as a thirty day average. Those Outfalls or designated compliance points exceeding 500 mg/L as a thirty day average, collectively, need to meet the one ton per day limit. If one ton per day cannot be achieved the permittee will be required to remove salinity/TDS in excess of one ton per day by developing a treatment process, participating in a salinity off-set program, or developing some type of mechanism to remove the salinity/TDS. The selection of a salinity control program must be approved by the Director of the Division of Water Quality and implemented within one year of the effective date of the permit.

- i. Based on the irrigation and stock watering requirements for Class 4 waters of the State and the wasteload allocation, a maximum of 1200 mg/L of TDS is allowed in Deer Creek as a result of discharges from DCM. Since there is usually no flow upstream of DCM, the mix of both Outfalls discharges or any Outfall discharging alone would need to be 1200 mg/L TDS or less. Therefore, a downstream point of compliance within Deer Creek was determined at which point TDS must be 1200 mg/L or less or DCM will be in non-compliance with its TDS permit limitations. Since this downstream location will be a mix of both Outfalls 001 and 002, it will be considered as a point of compliance for both discharge points. The discharge from Outfall 001 (sedimentation pond) will probably in certain seasons exceed the 1200 mg/L TDS limit due to runoff from highly salted roads in the winter. The flow from Outfall 002 (mine discharge) rarely exceeds the 1200 mg/L TDS limit. The two discharges mix and because Outfall 002 discharges substantially more water, will serve to reduce the TDS in the combined waters. As long as the TDS limit of 1200 mg/L as a daily maximum is met in Deer Creek after mixing at Outfall 002 the water quality criteria for TDS will be met.
  - ii. TDS concentration will be sampled for both Outfalls 001 and 002 at a point just downstream of Outfall 001 in Deer Creek identified below:
    1. At a point just downstream of Outfall 001 in Deer Creek at latitude N. 39°21'42.2" and longitude W. 111°06'30.9". The sample shall be taken monthly by grab sample.
- 6) Oil and Grease are limited to 10 mg/L by BPJ, as this is consistent with other industrial facilities statewide.
  - 7) The iron limitation is based upon the State Water Quality Standard of 1.0 mg/L for dissolved iron (*UAC R317-2 Table 2.14.2*) and will be included in the permit as 1.0 mg/L as total iron, and shall apply to each of the discharge points.
  - 8) Based on the fact that DCM has increased its discharge rate and has an increase in the design flow from 1.0 MGD in the existing permit to 5.0 MGD (total from Outfall 001 and 002) in this renewal permit a level II ADR is required. The Level II review was completed and received by the Division of Water Quality on November 18, 2013. The Level II submission received DWQ certification and approval on November 19, 2013 and is attached to this FSSOB.

**EFFLUENT IMITATIONS, SELF-MONITORING, AND REPORTING REQUIREMENTS**

The effluent limitations and monitoring requirements for both Outfalls 001 and 002 shall be completed as outlined below. Effluent self-monitoring requirements are based on BPJ. Reports shall be made via NetDMR or on Discharge Monitoring Report (DMR) forms and are due 28 days after the end of the monthly monitoring period.

DCM has collected and reported self-monitoring data as required in their previous permit. This data is attached.

Effluent Characteristics	Effluent Limitations				Monitoring Requirements	
	30 Day Average	7 Day Average	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, <sup>1</sup> MGD a/	5.0/0.19	<sup>2</sup> NA	NA	NA	Monthly	Continuous Recorder (002), Measured (001)
TSS, mg/L b/	25	35	NA	70	Monthly	Grab
TSS, mg/L c/	15	25	NA	NA	Monthly	Grab
Total Iron, mg/L	NA	NA	NA	1.00	Monthly	Grab
Oil & Grease, mg/L d/	NA	NA	NA	10	Monthly	Grab
TDS, mg/L e/	NA	NA	NA	1200	Monthly	Grab
TDS, lbs/day f/	NA	NA	NA	2000	Monthly	Grab
pH, standard units	NA	NA	6.5	9.0	Monthly	Grab
Sanitary Waste g/	NA	NA	NA	None	Monthly	Visual
Oil and Grease, floating solids, visible foam, d/	NA	NA	NA	None	Monthly	Visual

<sup>1</sup> MGD: million gallons per day      <sup>2</sup> NA: not applicable

- a/ Outfall 002 shall not exceed a thirty day average discharge rate of 5.0 MGD, and Outfall 001 shall not exceed a thirty day average discharge rate of 0.19 MGD.
- b/ These TSS limits apply only to Outfall 001.
- c/ These TSS limits apply only to Outfall 002.
- d/ In addition to monthly sampling for oil and grease, a visual inspection for oil and grease, floating solids, and visible foam shall be performed monthly at 001 and 002. There shall be no sheen, floating solids, or visible foam in other than trace amounts at any time. If sheen is observed, a sample of the effluent shall be collected immediately thereafter and oil and grease shall not exceed 10 mg/L in concentration.

- e/ The TDS concentration shall be sampled in Deer Creek just downstream of Outfall 001 at latitude N. 39°21'42.2" and longitude W. 111°06'30.9". The TDS shall not exceed a daily maximum of 1200 mg/L. As per the limits table above, a sample shall be taken monthly by grab sample as close to the middle of the stream as possible.
- f/ No tons per day loading limit will be applied if the concentration of TDS in Deer Creek (the compliance point mentioned above in footnote e) is equal to or less than 500 mg/L as a thirty-day average. However, if the 30-day average concentration exceeds 500 mg/L at this compliance point, then the permittee cannot discharge more than 1 ton per day at that compliance point. If the permittee cannot achieve one ton per day, the permittee will be required to remove salinity/TDS in excess of one ton per day by developing a treatment process, participating in a salinity off-set program, or developing some type of mechanism to remove the salinity/TDS. The selection of a salinity control program must be approved by the Director of the Division of Water Quality and implemented within one year of the effective date of the permit.
- g/ There shall be no discharge of sanitary waste and visual observations performed at least monthly shall be conducted.

### **SIGNIFICANT CHANGES FROM PREVIOUS PERMIT**

There are significant changes from the previous permit. The wasteload associated with the previous permit used 1.0 MGD as a maximum flow with no limit for flow in the permit. This will be increased to 5.0 MGD and the 5.0 MGD will be included in the renewal permit as a maximum thirty day average. There was a TDS loading limit of 1.0 ton per day for Outfall 001 in the previous permit. This loading limit in the renewal permit has been expanded to 1.0 ton per day as a sum from all discharge points (so it now includes Outfall 002 as well as 001). If the thirty day average TDS is below 500 mg/L for Outfalls 001 or 002 the loading requirements of 1.0 ton per day do not apply to that discharge for the month and should not be included in the loading summation. There are new concentration limitations for Outfall 001 and revised concentration limitations for Outfall 002. These concentration limitations for Outfalls 001 and 002 apply when both Outfalls discharge concurrently. If either Outfall discharges separately without the other discharging, a 1200 mg/L daily maximum effluent limitation will apply.

### **STORM WATER REQUIREMENTS**

The storm water requirements are based on the UPDES Multi-Sector General Permit (MSGP) for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000. All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Required elements of this plan are:

- 1) Development of a pollution prevention team,

- 2) Development of drainage maps and material stockpiles,
- 3) An inventory of exposed material,
- 4) Spill reporting and response procedures,
- 5) A preventative maintenance program,
- 6) Employee training,
- 7) Certification that storm water discharges are not mixed with non-storm water discharges,
- 8) Compliance site evaluations and potential pollutant source identification, and
- 9) Visual examinations of storm water discharges.

This plan is required to be maintained on-site to reflect current site conditions and made available for review upon request and/or inspections.

### **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 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*.

DCM is categorized as a minor industrial facility, whose discharges are neither considered to be toxic, nor is likely to be toxic. Therefore, a reasonable potential for toxicity does not exist and biomonitoring of the effluent will not be required. However, a toxicity reopener provision remains included in the permit so that WET testing and WET limitation requirements can be incorporated at any time if determined to be appropriate in the future.

### **PERMIT DURATION**

As stated in *UAC R317-8-5.1(1)*, UPDES permits shall be effective for a fixed term not to exceed five (5) years.

Drafted by Mike Herkimer

Environmental Scientist  
Utah Division of Water Quality  
October 17, 2012  
November 25, 2013

**Attached information**

- I. Waste Load Analysis
- II. ADR II application and review and certification by DWQ personnel
- III. Available DMR Data from 2008 – 2013 for Outfalls 001 and 002

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