0091

State of Utah

Department of Environmental Quality

Dianne R. Nielson, Ph.D.
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

INCOMING
C0150018

cc: Pam G
Jim S.
Lucia M.

July 20, 2005

Mr. Dennis Oakley
Senior Environmental Engineer
Energy West Mining Co.
15 North Main Street
P.O. Box 310
Huntington, Utah 84528

Subject: Review of Proposal to Dispose of Wastewater into Abandoned Mine Workings; North Rilda Canyon Expansion of the Deer Creek Mine

Dear Mr. Oakley:

The Division of Water Quality (DWQ) has reviewed the proposal by Energy West Mining Co. (Energy West) to discharge surface runoff/washdown water and sanitary waste water (excluding toilets) from the proposed North Rilda Canyon Portal Facilities into adjacent abandoned mine workings originally developed in the Hiawatha Coal Seam (Hiawatha) at the base of the Blackhawk Formation.

Based on the information provided with the Utah UIC Inventory Information Form, DWQ does not consider the proposal to dispose of wastewater into the abandoned mine workings to be ultimately protective of ground water or surface water bodies; therefore DWQ does not approve this proposal for the reasons detailed below.

From the information and maps submitted with the proposal, it is understood that the lowest portion of the abandoned mine workings is 255 feet from the outcrop of the Hiawatha in Rilda Canyon and approximately one half mile from the confluence of the intermittent stream in Rilda Canyon with the perennial Huntington Creek. The outcrop of the Hiawatha at the lowest portion of the abandoned mine workings is approximately 480 feet above the floor of Rilda Canyon. Stratigraphically, the Hiawatha is at the base of the Blackhawk Formation with generally less than 10 feet of non-sandstone lithology below the Hiawatha in the North Rilda Area. Below the Blackhawk

Formation lies approximately 125 feet of the Spring Canyon Member of the Star Point Sandstone, which in turn overlies the Masuk Shale Member of the Mancos Shale. The Masuk Shale Member outcrops in the lower portion of Rilda Canyon below the lowest portion of the abandoned mine workings.

Although Energy West states that no springs or seeps occurred along the contact between the Hiawatha and the Star Point Sandstone prior to mining, this is likely due to inadequate recharge resulting from overlying stratigraphy and the steep local topography. A minor seep was identified at this formational contact within the North Rilda Area (Page 10 – North Rilda Canyon Portal Facilities – R645-301-700 Hydrology) and with the hydraulic load introduced by the proposed wastewater disposal coupled with the questionable integrity of the burned Hiawatha coal at the outcrop, there is concern that seeps or springs will develop, particularly at the lowest portion of the abandoned mine workings closest to the outcrop.

As indicated in the supporting information (Page 6-4 – North Rilda Canyon Portal Facilities – R645-301-600 Geology), the Star Point Sandstone is generally not a water producing aquifer due to its low permeability and lack of recharge. However, where a recharge source is developed at the intersection of regional faults and major canyons with perennial streams, the Star Point does exhibit aquifer characteristics and springs develop. The potential for seep and spring formation is demonstrated by the occurrence of damp zones at the boundary between the Star Point Sandstone and the underlying Mancos Shale in the side canyons of Rilda Canyon (Page 69 – North Rilda Canyon Portal Facilities – R645-301-700 Hydrology). There is concern, given the continual source of wastewater immediately on top of the Star Point in the abandoned mine workings, that seepage of the wastewater down through the Star Point would ultimately surface as springs at the contact with the underlying Masuk Shale Member of the Mancos Shale.

Water quality analysis of wastewater samples collected from the Deer Creek Sediment Pond in the last 2 years show a Total Dissolved Solids (TDS) content ranging from a minimum of 801 mg/l to a maximum of 8,460 mg/l with a mean of 2,633 mg/l. It is assumed that the wastewater in the sediment pond at the Rilda Canyon Portal Facilities will be of comparable composition. Currently there is a Total Maximum Daily Load (TMDL) for Huntington Creek for TDS of 1,200 mg/l. This means that no operation may cause the concentration of TDS in Huntington Creek to exceed 1,200 mg/l. From the period between July 2002 to June 2003 the state monitored the water quality of Huntington Creek at the Bear Creek Campground above the UP&L diversion. TDS values ranged from a minimum of 176 mg/l to a maximum of 312 mg/l with an average of 244 mg/l. One sample collected above Rilda Canyon at the confluence of the left fork of Huntington Creek with the main body of Huntington Creek had a TDS value of 160 mg/l. Infiltration of the wastewater through the Star Point Sandstone will not serve to improve the water quality in terms of TDS content and resulting seepage and/or springs would be a continual source of contamination to Huntington Creek.

For these reasons, DWQ does not approve the proposal by Energy West to dispose of wastewater into the abandoned mine workings adjacent to the North Rilda Canyon Portal Facilities and encourages Energy West to either consider another wastewater disposal method or to fall back on the alternative option of disposing the wastewater through the established mine dewatering and discharging at the permitted UPDES discharge location in Deer Creek Canyon

If you have any questions or comments, please feel free to contact me by phone at (801) 538-9260 or by email at ccady@utah.gov.

Sincerely,

Candace C. Cady

Candace C. Cady, P.G.
Environmental Scientist
UIC Program Coordinator, Ground Water Protection Section

CC:/mr

cc: Ms. Lucia Malin, DOGM
Mr. Jim Smith, DOGM
Mr. Jeff Studenka, DWQ UPDES
Ms. Amy Dickey, DWQ TMDL
Mr. David Ariotti, DEQ SE Regional Engineer
Mr. Ira W. Hatch, Emery County Commissioner

F:\wp\UIC\CLASS V\PACIFICORP RILDA CANYON\Rilda Canyon.doc
File: UIC Files - Emery County