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State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Kathleen Clarke  
Executive Director  
Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

April 9, 2001

Mr. Daren Rasmussen  
Division of Water Rights  
1636 West North Temple  
Salt Lake City, Utah 84116

Re: Comments on Whiskey Creek Stream Alteration Permit Application (No. 00-), RDCC #301, Lodestar Energy Inc., White Oak Mine, C/007/001, Outgoing file

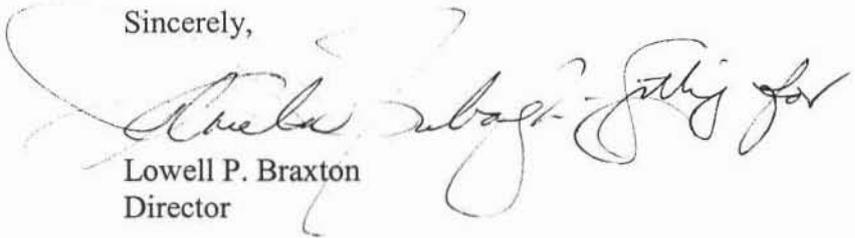
Dear Mr. Rasmussen:

The Division has reviewed the recently submitted Stream Alteration Permit Application made by Lodestar Energy, Inc. We appreciate the opportunity to provide comments on this application, especially since it is related to a mining operation which we currently regulate. Our comments, which follow, are made from a hydrologic perspective and are based on the information submitted to the Division of Water Rights on March 2, 2001.

- The proposed stream location appears much straighter and steeper than the original channel (drawing map). It is assumed the reason the reconstructed channel drops more abruptly than the original channel is due to not having additional material available. Ideally, the reconstructed channel would drop in elevation over a longer distance. Particularly the sections from G-J; the 39.1% slope encountered from G-H could be spread over a longer distance. In a worse case scenario where the site was experiencing excessive sediment runoff and filling the drop structures, the majority of the sediment load will drop out in the I-J section as opposed to being evenly distributed.
- The bank construction descriptions could be more detailed. The bank design and the proper use of the bank stabilizing fabric are critical in the success of the re-vegetation (i.e. if the material is not compacted, formed, and re-seeded correctly underneath/behind the fabric).
- Is the minimum 24-inch clay/silt layer only present at the head of the drop structures? Since the entire area is going to be re-constructed with unconsolidated material, the entire channel would need the same low-permeability layer to retain water in the channel. At a minimum, a more detailed description of the type of material (i.e. sorting, size fractions, etc.) and compaction needs to be included to ensure pore space/permeability is appropriate throughout the area.

- Is the channel sizing/design for peak flow based on flow data or actual channel sizing? Although there is roughly 25 years of data, measurements were only recorded on a quarterly basis, which likely does not represent peak flows. Flow calculations for the channel design need to be included. Field measurements of the existing channel dimensions would also be beneficial.
- On the illustration labeled 'ladder drop' it is assumed the < 4" Gravel is a typo-error and should be > 4" Gravel. A more complete description of the sizing of rocks within the channel should be included. In general, without calculations, poorly sorted gravel/rocks ranging up to and >6-inches may be more appropriate for the high gradient sections of the reconstructed channel. If surrounding bedrock is used, it is assumed there will be no shortage of large, angular rock.
- Located in the I – J segment of the redesigned channel are 5.5-ft and 6.6-ft revetment structures, respectively. Is this indicative of a +5-ft. cut-bank? Due to the length and gradient of the channel in this section, revetment structures may not be necessary if meanders and re-vegetated streambanks are installed.
- This concludes our comments at this time for the Stream Alteration Application. If you have any questions or need further information, please contact Daron Haddock at 538-5325 or Gregg Galecki at 538-5260.

Sincerely,

  
Lowell P. Braxton  
Director

vs

cc: Gregg Galecki  
Daron Haddock  
Bruce Ratzlaff DNR  
Carolyn Wright GOPB

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