

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY ✓

Department of Natural Resources

1313 Sherman St., Room 215  
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### NON CONFIDENTIAL

March 31, 2009 ✓

Mr. Richard Blubaugh  
Powertech (USA) Inc. ✓  
5575 DTC Parkway, Suite 140  
Greenwood Village, CO 80111

ACS ✓

Bill Ritter, Jr.  
Governor

Harris D. Sherman  
Executive Director

Ronald W. Cattany  
Division Director  
Natural Resource Trustee

**RE: Centennial Project, Receipt of Notice of Intent Modification MD-02, File No. P-2008-043**

Dear Mr. Blubaugh:

The Colorado Division of Reclamation, Mining, and Safety (DRMS) has received your proposed modification MD-02 to Notice of Intent to Conduct Prospecting dated March 4, 2009. Our initial review indicates that it is incomplete. Please address the following items at your earliest convenience bearing in mind that if you have not addressed these items within sixty days of the date of this letter the DRMS may terminate consideration of the proposed modification (Rule 5.1.3 of the Mineral Rules and Regulations of the Mined Land Reclamation Board).

1. In section IV, item 5 of the modification form, it is stated that disturbed areas will be seeded at the conclusion of grading operations. To maximize the potential for vegetation success, the DRMS will require seeding be done in November or in April, with November being the preferred option. Please commit to these seeding windows.
2. The dilution calculation table included in Attachment E to MD-02 incorrectly lists the water quality data report dates for wells IS-003T and IS-003Ta as the sample correction dates. Please provide a corrected table.
3. In order to allow the aquifer testing and allow the pit disposal of water pumped to the surface during aquifer testing as proposed in MD-02, DRMS must make a determination that impacts to the hydrologic balance will be minimized and that ground water standards will be met. In order to evaluate the potential for impacts to the uppermost aquifer below the proposed water disposal pit, the following information is needed:
  - a. Drilling, completion, and development reports for wells IS-003T and IS-003Ta.
  - b. Ground flow direction and gradient for the uppermost aquifer with a full discussion of the sources of information used to determine the flow direction and gradient. Include well reports for the wells used to determine flow direction and gradient along with the field notes for the pertinent water table and piezometric surface elevation measurements that were made.
  - c. Provide the location information for all wells within two miles of the proposed pit. For wells in this zone drilled or rehabilitated by Powertech, provide drilling, completion, and development reports. For any other wells in this zone, provide drilling, completion, and development reports available from the public records of the Office of the State Engineer. Provide all available water quality information for wells in

the two mile zone. For water quality data generated from samples collected by Powertech, provide the field notes from each sample collection event. State affirmatively for all wells installed or rehabilitated by Powertech in the two mile zone that the Standard Operating Procedure (SOP) for monitoring well installation approved by DRMS was followed, or if there have been variations from the SOP describe the variations, the reasons for the variations, and their potential affects on the usefulness of the wells. For the water quality data from the two mile zone generated from samples collected by Powertech, state affirmatively that the following SOPs were followed, or if there have been variations from the SOPs describe the variations, the reasons for the variations, and their potential affects on the data collected:

- i. Decontamination of Sampling Equipment
- ii. Purging and Sampling Monitoring Wells
- iii. Field Parameter Measurements (Including Instrument Calibration)
- iv. Note Taking and Log Book Entries
- v. Analytical Data Validation

The water quality data from wells IS-003T and IS-003Ta is the most representative of water quality at the proposed pump test wells and disposal pit available at this time. Further characterization of water quality at the proposed pump test location is discussed in item no. four below. Other than the data from the IS-003T and IS-003Ta samples collected June 23, 2008, is there any other data from these wells? If so, provide the data in accordance with the discussion above.

- d. Powertech stated in MD-02 that it has done preliminary hydrogeologic modeling and water production calculations for the strata to be investigated by the proposed pump test. Please provide these for DRMS review. Provide data and analysis of all aquifer and aquitard properties from the Centennial Project area developed from pump tests previously conducted by Powertech, and from documents in Powertech possession from testing done by Rocky Mountain Energy. This information will be useful in completing a more rigorous ground water chemical mixing analysis as discussed in item no. four below.

4. The ground water chemical mixing analysis provided in MD-02 must be redone and tailored using the information available on stratigraphy, aquifer and aquitard properties, ground water hydrology, and ground water quality required for submittal under item three above. The mixing analysis provided in MD-02 assumes column permeation from the base of the proposed disposal pit to the water table, and uniform columnar mixing from the water table to the base of the Laramie Formation. Since the stratigraphy of the Laramie Formation in the project area is characterized by vertical permeability much lower than horizontal permeability, it is more likely that water infiltration through the base of the proposed disposal pit will pool on low permeability strata and flow laterally away from the pit location. Using the information required for submittal under item no. three above, Powertech must construct and submit an analysis of the flow path of the water from the pit, and if that analysis indicates that pit water will reach the water table, provide a mixing analysis and map boundaries where all metals and radionuclides that exceed ground water standards in the A2 sand ground water will be diluted to levels below standards. The DRMS will also require that radon be included in the mixing analysis. Depending on the degree of certainty that can be assigned to the analytical results, the location of the predicted boundaries where standards will be met, and the current and potential future use of Laramie Formation ground water in the project area, the DRMS will determine if the impacts to the prevailing hydrologic balance will be sufficiently minimized to allow the disposal pit to be constructed and used.

5. If DRMS approves Powertech's proposed modification, DRMS will require submittal of well completion and development reports for the new pump test wells and water quality data from a minimum of one sample from each well prior to making a final decision on the proposed water disposal pit. Powertech must notify DRMS at least five working days prior to sampling of these wells so that the sampling can be observed and split samples collected. Powertech will be required to pay for the analysis of the DRMS split samples. If the stratigraphy and/or water quality in the new wells so indicates, the mixing analysis must be adjusted to incorporate the information and the revised analysis provided for DRMS review. If and when the disposal of pump test water is approved, DRMS must be provided five working days prior notice of commencement so that inspections can be scheduled.

6. The proposal contained in MD-02 is for piping of the pumped water to the off-channel disposal pit. Pump operation will be twenty four hours per day for six days. Provide the personnel schedule for operation and observation during the proposed test. Provide a design and specification for the pipeline from the pumping well to the disposal pit. DRMS will require that the pit, and possibly the pipeline corridor be fenced to prevent access by wildlife, livestock, and people. Provide a design and specification for fencing.

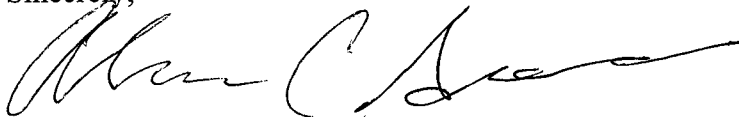
7. Many of the activities being conducted or proposed to be conducted under prospecting notice P-2008-043 are baseline characterization under the Colorado Mined Land Reclamation Act at 34-32-112.5(5)(a). Pursuant to section 34-32-112.5(5)(a), DRMS will retain an independent third party reviewer to oversee baseline site characterization, monitor field operations, and review the information collected, developed, or submitted. In the near future, DRMS will forward to you the required contract.

8. Enclosed please find copies of comment letters on MD-02 from the Western Mining Action Project and Weld County. Please review and provide Powertech's position on each issue raised in each letter.

DRMS is deferring the cost estimating to determine the amount of required bond for the proposed modification until the issues in this review letter have been resolved. You may not commence operations proposed in MD-02 until these issues have been resolved and bond has been submitted and you have been notified in writing that the bond has been accepted by the DRMS.

If you have any questions, please contact me at 303-866-3567.

Sincerely,



Allen C. Sorenson  
Reclamation Specialist

enclosure(s)

cc: Michael Beshore, Powertech, via email and w/o enclosures