

WESTERN MINING ACTION PROJECT

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Allen Sorenson
Div. of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Powertech (USA) Inc. Baseline Characterization File No. P-2009-012;
Centennial Uranium Project, Weld County, Colorado**

Dear Mr. Sorenson:

This letter is submitted on behalf of **Coloradoans Against Resource Destruction (CARD), Environment Colorado, Clean Water Action, and Information Network for Responsible Mining (INFORM)** regarding the Division's consideration of Powertech (USA) Inc.'s proposed Centennial Project Baseline Characterization, File No. P-2009-012. These comments are intended to aid in the Division's ongoing technical and legal review of the baseline characterization plan.

It is our understanding that the Division is currently in the process of identifying potential third party experts to review and oversee the proposed baseline characterization plan and associated activities in accordance with the Mined Land Reclamation Act (MLRA). Should additional technical information become available, including any additional information submitted by Powertech or the third party expert, commenters reserve the right to update these comments as warranted.

Overall, Powertech's proposed baseline plan fails to provide a "thorough" baseline site characterization and monitoring plan as required by the MLRA. In particular, the proposed plan neglects to address the geologic and hydrologic characteristics of the proposed mining area, and lacks a plan for gathering such information. The proposed monitoring plan also does not contain adequate information on long-term groundwater monitoring necessary to ensure the effectiveness of reclamation plans. This is despite the fact that the MLRA requires such information to be included in the baseline review.

Further, the methodology and techniques for conducting baseline sampling for those aspects of the baseline site characterization that are included do not meet the MLRA's requirement that the characterization plan be "scientifically defensible." Many of the deficiencies in the proposed methodology are described in detail in the attached letter from Dr. Richard Abitz. As demonstrated by his attached professional resume, Dr. Abitz possesses considerable expertise with respect to proper methodology for determining the baseline characteristics of site proposed for in-situ leach uranium mining.

The Mined Land Reclamation Act (MLRA) was recently amended to address the serious concerns raised by in situ leach (ISL) mining. The Powertech project presents the first application of the amended MLRA to a specific ISL mining proposal. Because implementing regulations are currently being considered, analyzing the direct impacts of the Powertech proposal should be done with great care due the potential precedent that may be set by acting upon the Powertech application in advance of the final promulgation of regulations.

Nonetheless, the MLRA does provide sufficient authority to guide the DRMS review of the baseline plan. The MLRA requires that:

Prior to submitting an application, a prospective applicant for in situ leach mining shall design and conduct a scientifically defensible ground water, surface water, and environmental baseline characterization and monitoring plan for the proposed mining operation. This plan shall be designed in such a manner as to:

- (I) Thoroughly characterize premining site conditions;
- (II) Detect any subsurface excursions of ground water containing chemicals used in or mobilized by in situ leach mining during the mining operations; and
- (III) Evaluate the effectiveness of postmining reclamation and ground water reclamation plans.

C.R.S. § 32-34-112.5(5)(b). Unfortunately, the materials submitted by Powertech do not satisfy the statutory requirements.

The proposed baseline site characterization plan submitted by Powertech fails to provide for a thorough characterization of premining site conditions, as required by the MLRA. The gaps in the plan relate particularly to the lack of a methodology designed to characterize the hydrological and geological conditions of the site. A sound methodology for characterizing these conditions is necessary to detect and prevent excursions as well as evaluate the effectiveness of ground water reclamation plans. At minimum, the information that must be gathered via a site characterization plan includes geological and hydrological data evidencing the extent and nature of local subsurface water flows, including identification of any fractures, fissures, or other pathways for communication among and between aquifers. In the case of the Centennial site, this characterization must also thoroughly account for prior activity in the area, including historic and more recent past exploration drilling and aquifer pump test activity that could affect groundwater conditions, including quality or quantity. Any plan lacking such information is legally deficient.

It appears from the Division's files that some of this information may already have been gathered via Powertech's Notice of Intent to Conduct Prospecting File No. P-2007-015. For instance, in a recently submitted document associated with Powertech's Notice of Intent to Conduct Prospecting File No. P-2008-043, Powertech concedes that submittals in File No. P-2007-015 relating to previous aquifer pumping tests contain "evidence of subsurface geology and hydrogeology at the proposed [site]." "Response to Division of Reclamation, Mining, and Safety, September 25, 2009, Letter" NOI File No. 2007-043 (October 28, 2009) at 2. To date, it does not appear that any such data has been considered in regard to the site characterization plan, despite the fact that Powertech admits its existence and relevance. While the methodology and accuracy involved in the collection of this data must be reviewed, the Division should require that all such data be placed in the site characterization file for review by the DRMS, its experts and the public. To the extent such data is deemed scientifically defensible and reliably gathered, it should be incorporated into the design of the site characterization plan. Any failure to consider and use existing information to ensure the effectiveness and integrity of the site characterization plan in the future not procedurally or scientifically defensible.

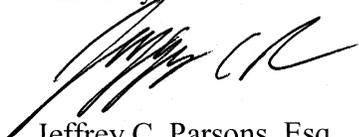
Also absent from the proposed plan submitted by Powertech is discussion of a monitoring plan designed to "evaluate the effectiveness of postmining reclamation and ground water reclamation plans" as required by the MLRB. Such a plan is necessary for protection of groundwater and for compliance with the MLRA. The need for long-term groundwater monitoring of in-situ leach uranium mining sites to ensure full reclamation in accord with the explicit standards in the MLRA cannot be overstated. Indeed, as recently described by the U.S. Geological Survey, **"to date, no remediation of an ISR operation in the US has successfully returned the aquifer to baseline conditions. Often at the end of monitoring, contaminants continue to increase by reoxidation and resolubilation of species reduced during remediation."** J.K. Otton, S. Hall, "In-situ recovery uranium mining in the United States: Overview of production and remediation issues," U.S. Geological Survey, 2009 (IAEA-CN-175/87)(emphasis added). Similar post-mining increases in contamination levels in impacted aquifers are described in more detail in other USGS publications. See Hall, S. "Groundwater Restoration at Uranium In-Situ Recovery Mines, South Texas Coastal Plain," USGS Open File Report 2009-1143 (2009).

The baseline characterization plan that was submitted by Powertech does not provide a "scientifically defensible" method for a thorough characterization of baseline site conditions. As detailed by Dr. Abitz in the attached report, the currently proposed methodology is neither legally nor scientifically sufficient. In short, a much more comprehensive and rigorous analysis of the baseline for the site area is necessary for an accurate baseline study. This includes water quality information throughout the vertical extent of the affected aquifers and a spatially representative sampling protocol to provide the necessary information on ground water characteristics outside of the proposed mining zone, to accurately characterize site conditions. Lastly, as noted by Dr. Abitz, the proposed methodology seeks to average site conditions, which results in a baseline plan which is inappropriately skewed toward demonstrating a lower overall water quality. Such an approach could exaggerate the true extent of any naturally diminished water quality resulting from the presence of uranium and other heavy metals in the aquifer region.

Overall, based on the above and the attached report, Powertech has not provided the information and has not set forth methodologies necessary to meet the legal standards set forth in the Mined Land Reclamation Act. We look forward to continuing a review of the DRMS efforts to consider the first application of the new provisions of the MLRA, and submitting additional comments thereon, as it is updated and supplemented by the applicant.

We look forward to your prompt attention on this matter. Please do not hesitate to contact me directly with any questions.

Sincerely,



Jeffrey C. Parsons, Esq.

On behalf of

CARD, Environment Colorado, Clean Water Action, and INFORM

Enclosure