

April 16, 2012

Matt Hicks
Senior Hydrologist
Groundwater Quality Program
South Dakota Department of Environment & Natural Resources
523 East Capitol Avenue
Joe Foss Building
Pierre, SD 57501-3182

**Re: Response to Completeness Review
Dewey-Burdock Project Groundwater Discharge Plan Application**

Dear Mr. Hicks:

On behalf of Powertech (USA) Inc., this letter is in response to the April 5, 2012 completeness review for the above referenced application for a Groundwater Discharge Plan. For convenience, the comments are provided below along with the responses. Application replacement pages are enclosed (two hard copies and one electronic copy on CD).

Completeness Comment 1: Item No. 8 on the permit application form requires a description of the proposed Perimeter of Operational Pollution (POP). Although a description of the proposed POP zone is included in Section 7 of the application, discussions of the hydrologic and geologic data used to determine the dimensions, and justification of necessary economic or social development for the POP zone could not be located (see ARSD 74:54:02:06(8)). Please update this section to include a brief discussion on the hydrologic and geologic data used to determine the dimensions, and justification of necessary economic or social development of the POP zone.

Response: Section 7 of the application has been revised as requested. The replacement pages (including Section 7 and an update to the references) are enclosed.

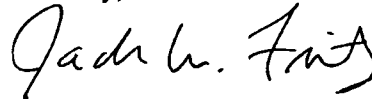
Additional Comment: It was noted the submitted application form in Volume 2 did not include names for the people legally responsible for the discharge and the local contact representative. This information is not considered a completeness item as this information is stated elsewhere in the application; however, the form should be updated to correspond with the contact information stated elsewhere in the application.

Response: Page 1 of the application has been revised to indicate the names of the application signatory (Richard Blubaugh) and the local representative (Mark Hollenbeck). The replacement page is enclosed.

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Thank you for the prompt completeness review. Please direct any questions regarding these comment responses to Richard Blubaugh at (303) 790-7528 or Jack Fritz at (307) 672-0761.

Sincerely,

A handwritten signature in black ink that reads "Jack W. Fritz". The signature is written in a cursive style with a large initial 'J' and 'F'.

Jack Fritz, P.E.
WWC Project Manager

cc: Richard Blubaugh
Mark Hollenbeck
John Mays
Ronald Burrows, NRC

Encl: as noted

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7.0 PROPOSED PERIMETER OF OPERATIONAL POLLUTION (POP)

The POP zones for the Dewey and Burdock land application areas are proposed to provide protection of groundwater resources in the respective areas in accordance with ARSD 74:54:02:17. Each of the proposed POP zones is within one-quarter mile of the respective land application areas and within the property boundaries of the permitted facility (NRC license boundary). The proposed POP zones in the Dewey and Burdock areas are shown on Figures 6.1-1 and 6.1-2, respectively. No residences or drinking water wells are located within either zone.

ARSD 74:54:02:06(8) requires the applicant to provide, "If applicable, the description of the POP, including the dimensions and hydrologic and geologic data to determine the dimensions, the proposed compliance monitoring point, and justification of necessary economic or social development for the POP." Each of these requirements is addressed below.

Dimensions and Hydrologic and Geologic Data to Determine the Dimensions

The areal extents and configuration of the proposed Dewey area POP zone are shown on Figure 6.1-1. The western, northern and northeastern edges of the proposed POP zone are topographically upgradient of the land application areas. These edges also are hydrologically upgradient of the land application areas based on the results of the 2011 alluvial drilling program described in Sections 3.6.2.2 and 8.1.1. The POP zone is proposed just outside of the catchment areas in these areas, since there is no potential for surface water or groundwater flow to the west, north or northeast based on hydrologic and topographic data and therefore no need to extend the POP zone further in these directions. The proposed POP zone was further constrained to the north and west by the NRC license boundary/LSM permit boundary. To the south of the land application areas, the proposed POP zone is up to ¼ mile from the land application areas in the downgradient (topographic and hydrologic) directions, which are southwest, south, and southeast. In the vicinity of compliance well DC-2, the proposed POP zone is less than ¼ mile from the nearest land application area due to an oxbow in Beaver Creek, which would make it impractical to perform compliance monitoring further south. In the vicinity of DC-1, the proposed POP zone is less than ¼ mile from the nearest land application area in order to avoid placing a compliance monitoring well across Beaver Creek from the land application areas and to avoid a residence and domestic wells in the NWSW Sec. 30, T6S, R1E (refer to Figures 6.1-1 and 3.7-9 for the locations of the residence and domestic wells). As shown on Figure 3.6-3, the Dewey land application areas overlay the Graneros Group and Beaver Creek alluvium. As discussed in Section 3.7.2.2, the Graneros Group has a very low permeability; therefore, lateral movement of water is expected to be negligible within the Graneros Group. The proposed POP



zone extends to the south in the alluvium, since the alluvium is the first and only hydrogeologic unit potentially impacted by land application.

In the Burdock area, the topographic and hydrologic downgradient directions from the land application areas are south and west. Since there is no potential for groundwater flow to the north or east, the northern and eastern edges of the proposed POP zone are near the catchment areas. The southern and southwestern edges of the proposed POP zone are up to ¼ mile from the land application areas. In the vicinity of BC-1, the POP zone is less than ¼ mile from the nearest land application area due to an oxbow in Pass Creek, which makes it impractical to perform compliance monitoring further west. To the north of BC-1, the proposed POP zone is less than ¼ mile from the nearest land application area to avoid including a residence and domestic well in the NWNW Sec. 3, T7S, R1E (refer to Figures 6.1-2 and 3.7-10 for the locations of the residence and domestic well). As shown on Figure 3.6-3, the Burdock land application areas overlay the Graneros Group and the Pass Creek alluvium. As with the Dewey area, the proposed POP zone was extended in the downgradient direction in the alluvium, since the alluvium is the first and only hydrogeologic unit potentially impacted by land application.

Proposed Compliance Monitoring Points

Refer to Section 6.1.1.1, which describes the locations of the proposed compliance wells.

Justification of Necessary Economic or Social Development

Support for the Dewey-Burdock Project as benefitting the State of South Dakota is found in SDCL 45-6B-2, which states, “Every effort should be used to promote and encourage the development of mining as an industry, but to prevent the waste and spoilage of the land and the improper disposal of tailings which would deny its future use and productivity.” Powertech (USA)’s commitment to adhering to best professional practices, NRC license conditions and EPA and DENR permit conditions will ensure that facility construction, operation, decommissioning and reclamation will protect DENR-approved postmining land use(s). As required by the NRC license, LSM permit and EPA Class III Underground Injection Control permit, Powertech (USA) will be required to post financial assurance for all aspects of the Dewey-Burdock Project. This will ensure that resources will be available for decommissioning and reclamation such that the site will be released for unrestricted (i.e., DENR-approved postmining) use.



POWERTECH (USA) INC.

Support for ISR uranium recovery to be considered a mining beneficial use is found in SDCL 45-6B-3(11), which includes *in situ* mining in the definition of “mining operation.”

The Dewey-Burdock Project NRC license application (Powertech, 2009) describes how the project benefits include its potential to create approximate 250 new jobs during construction and approximately 150 new jobs during operation, which will contribute direct and indirect benefits to the local economy. In addition, Powertech (USA) estimates that the project will generate some \$35 million in state and local tax revenue and approximately \$187 million in value added benefits over the life of the project.



12.0 REFERENCES

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- Driscoll, D., Carter, J., and Williamson, J.E., 2002, "*Hydrology of the Black Hills Area, South Dakota*", U.S. Geological Survey Water-Resources Investigations, Report 02-4094, 158 pgs.
- Farnsworth, R.K. and Thompson, E.S., 1982. "*Evaporation Atlas for the Contiguous 48 United States. NOAA Technical Report NWS 33*", National Weather Service. Washington, DC.
- Fitzgerald, J.P., C.A. Meaney, and D.M. Armstrong, 1994 "*Mammals of Colorado*" Denver Museum of Natural History, Denver, Colorado.
- Flynn, K.M., Kirby, W.H., and Hummel, P.R., 2006, "*User's Manual for Program PeakFQ Annual Flood-Frequency Analysis Using Bulletin 17B Guidelines*", U.S. Geological Survey, Techniques and Methods Book 4, Chapter B4; 42 pgs.
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- Hanson, B., S.R. Grattan and A. Fulton, 1999, Agricultural Salinity and Drainage, University of California Irrigation Program, UC Davis, Revised 1999.
- High Plains Regional Climate Center, 2008, "*Historical Climate Data Summaries*", retrieved August 2008 from High Plains Regional Climate Center Web Site: <http://www.hprcc.unl.edu/data/historical/>
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- Ries, K.G., III, and Crouse, M.Y., 2002, "*The National Flood Frequency Program, Version 3: A Computer Program for Estimating Magnitude and Frequency of Floods for Ungaged Sites, 2002*", U.S. Geological Survey Water-Resources Investigations Report 02-4168, 42 p.



Ground Water Quality Program
523 East Capital Avenue
Joe Foss Building, Pierre,
South Dakota 57501-3181

Ground Water Discharge Plan Application

(Revised July 1997)

1. Name of discharger or person legally responsible for discharge (owner/ operator), refer to ARSD 74:54:02:06 (1):

Powertech (USA), Inc.: Richard Blubaugh, Signatory

Address: 5575 DTC Parkway, Suite #140
Greenwood Village CO 80111

Telephone: (303) 790-7528

Local representative or contact person if different from above:

Name: Powertech (USA), Inc.: Mark Hollenbeck (Local Representative)

Address: 310 2nd Avenue, P.O. Box 812
Edgemont SD 57735

Telephone: (605) 662-8308

2. Legal Location of Discharge Facility, refer to ARSD 74:54:02:06 (2)
County Cust. & Fall R., 1/4 1/4, Section ,
Township 6S and 7S, Range 1E

3. Refer to ARSD 74:54:02:06 (3)
Name of facility and/or project Dewey-Burdock Project Land Appl. Systems
Estimated Project life 7 to 20 years

Type of operation, facility or development.

A. New facility Modification of existing facility

Concentrated Animal Feeding Operation

Industrial (i.e. chemical manufacture, metal manufacturing wood treatment, photo processing, printing, paper mills, etc.)

Municipal waste

Mining