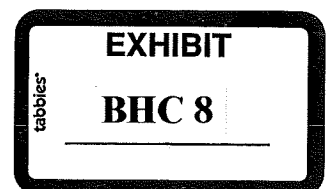


**ATTACHMENT 1
CURRICULUM VITAE**

PAUL J. GERLACH

March 28, 2017



Name: P. Joe Gerlach
Position: Geologist/Hydrogeologist, Firm Principal
Education: B.A., Geology, 1974, Miami University of Ohio
M.S., Geology, 1976, South Dakota School of Mines and Technology
Credentials: Licensed Professional Geologist, Wyoming P.G. No. 83
MSHA-Certified (Surface/Coal Mining)
Member Wyoming Geological Association

Experience:

1991-Present Principal, Aqua Terra Consultants, Inc.
1982-1991 Hydrogeologist/Project Manager, Western Water Consultants, Inc., Sheridan, WY
1980-1982 Hydrogeologist/Office Manager, Hydrometrics, Inc., Sheridan, WY
1976-1980 Hydrogeologist/Director of Hydrologic Studies, PKS Co., Sheridan, WY
1974-1976 Research Assistant, South Dakota School of Mines, Rapid City, SD

Skills and Responsibilities:

- Corporate direction and overall management of the firm.
- Senior consultant and technical advisement for geologic and hydrologic issues, including geologic characterization, mineralogy, surface water characterization and groundwater hydrology.
- Manager and principal investigator for mine planning and permitting of more than 20 coal-strip mines in Wyoming, Montana, Colorado, New Mexico and Alaska.
- Alluvial Valley Floor investigations and the hydrologic components of wetlands inventories and mitigation plans for coal mine permit applications.
- Design and construction supervision of mine-pit groundwater dewatering and pressure grouting systems.
- Complete data collection and analytical expertise for overburden quality investigations in mining.
- Aquifer reclamation designs for groundwater recharge and conveyance in postmining reclamation.
- Expertise in EIS and EA preparation for mining, methane production and oil and gas production.
- Design and construction supervision of water-supply, industrial, domestic, stock and dewatering wells.
- Groundwater modeling of hydrologic systems applied to mining impacts and dewatering systems.
- Expertise in groundwater quality monitoring, data analysis and contaminant transport modeling.
- Location, study and drilling supervision of CBM wells, and evaluation and design of water management plans for landowners and CBM producers.
- Expert witness experience in cases involving groundwater rights, groundwater movement and water well construction.
- Wetland design and preparation of Corps of Engineer permits.