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Sue Spencer, P.G.  
Senior Hydrogeologist

## Exhibit 19

**EDUCATION:** B.S., Geology, University of Wyoming & M.S., Geology with emphasis in Hydrogeology, University of Wyoming

**REGISTRATION:** Professional Geologist in Wyoming (PG-238)

**TRAINING:** RCRA Orientation by U.S. EPA; Innovative and Creative Problem Solving; Project Management Training

### SUMMARY:

Ms. Spencer's educational and professional experience has focused on hydrogeologic and wellhead protection studies in Wyoming and Utah, as well as hazardous waste-related investigations throughout the United States. Her 30 years of experience includes supervision of municipal well drilling, development and testing of municipal supply and monitoring wells, sample collection and logging, pre- and post-mining hydrologic studies of coal mine locations, geologic field mapping, photointerpretation, groundwater modeling, and report writing. Ms. Spencer also has extensive experience in Program and Project Management. She has managed all aspects of several large government contracts, including scope of work development, development of partnering relationships between all parties, contract negotiations, management of large multi-disciplined project teams, and overall financial management of the contract. She has managed a team of over twenty professionals in projects consisting of field investigations, design and installation of extraction and injection wellfields, groundwater modeling, design and construction of water treatment systems, and preparation and submittal of reports for approval by clients and regulators. She has been involved in developing long-lasting partnering relationships between clients, other consultants, and regulators that have facilitated smooth decision-making processes and mutual satisfaction with the results.

### WESTON ENGINEERING, INC.

As a Senior Hydrogeologist with Weston Engineering, Ms. Spencer has been actively involved in several water supply projects for the Wyoming Water Development Commission (WWDC). She acted as a senior hydrogeologist on the Bighorn Regional Groundwater Level II Study, the Clearmont CBM Impact Level I Study, the Star Valley Ranch Well Siting Study, the Lander Level II Paleozoic Well Siting Study, the Dayton Level II Water Supply Project, the Moorcroft Level II Water Supply Study and the Glenrock Level II Water Supply Study that were recently completed for WWDC. The Bighorn Regional Study included a regional well siting study that encompassed the eastern portion of the Bighorn Basin, siting and drilling two Paleozoic Aquifer test wells, and conducting a long-term surface water/groundwater impact study. The Clearmont CBM Impact Level I Study included an evaluation of the geology and hydrogeology in the Clearmont area in conjunction with an assessment of the potential impact of current and future coalbed methane development on the Clearmont water supply wells. The Lander Level II project included a regional well siting study of the Paleozoic aquifer system that encompassed an area over 400 square miles. Ms. Spencer also served as the Project Manager on the Corner Mountain Level II Water Supply Study near Centennial, Wyoming. The project included siting and overseeing drilling and testing of three exploration wells in the geologically complex area north of the Town of Centennial. She also acted as the project hydrogeologist for the Wamsutter Level II Water Supply Study and she was one of the project hydrogeologists on the Rawlins Water Supply Project (Nugget Sandstone) completed by Weston Engineering for the Wyoming Water Development Commission.

Most recently, Ms. Spencer acted as Project Hydrogeologist for the Simpson Springs Well Development project for the City of Laramie. The project involved conducting a geologic reconnaissance of the Simpson Springs area to assess the potential for developing the springs for use as part of the City of Laramie water supply. The project included drilling and testing three Paleozoic Aquifer test wells and conducting long term monitoring of the surrounding springs and monitoring wells. Ms. Spencer worked with other team members to develop the project scope and she evaluated data gathered during the field investigation to prepare the report and make recommendations.

Ms. Spencer has been involved in numerous Utah municipal water supply projects for Willard City, South Ridge, Timberline, and Summit Park Subdivisions, the Silver Springs Water Company, and the Gorgoza Water Company near Park City, Utah. As part of these projects Ms. Spencer defined the geology and hydrogeologic potential in complexly folded and faulted areas to determine the feasibility of developing local water resources. She has also prepared Drinking Water Source Protection Plans for these projects, as well as for the Wolf Creek Ranch Water Company, Browning Arms Manufacturing Company, the Wilkinson Water Company, and the City of Morgan near Ogden, Utah, as required by the State of Utah Department of Environmental Quality. In addition, she prepared a sole source aquifer petition for the Town of Oakley, Utah that depends solely on the Paleozoic aquifer system to supply their drinking water. The petition was successfully granted to the town by EPA.

### MONTGOMERY WATSON CONSULTING ENGINEERS, INC.

Ms. Spencer was a Supervising Hydrogeologist in the Salt Lake City, Utah office of Montgomery Watson where she acted as Quality Assurance Manager and Program Manager. During her eleven-year tenure with Montgomery Watson, Ms. Spencer served as project hydrogeologist, project manager, and program manager on numerous projects located throughout the U.S. Most of the projects required an intensive review of hydrogeologic data, well design and installation, collection of hydrogeologic and water quality data, interpretation of results and extensive report writing.

As a Project and Program Manager, Ms. Spencer managed several large Federal contracts and projects. As Program Manager for a \$20 million contract for the Hunstville Corps of Engineers, Ms. Spencer oversaw a team of over twenty professionals and completed a variety of projects that included hydrogeologic evaluations,

design, drilling and construction of hundreds of monitoring wells as well as extraction and injection wells and geologic and hydrogeologic interpretation of results. She also managed the design and construction of a number of groundwater treatment units. She has overseen the design and interpretation of numerous pump tests including the development and interpretation of two and three-dimensional groundwater models.

As The Quality Assurance Manager for the Salt Lake Office, Ms. Spencer was responsible for developing and implementing a Quality Assurance Program for an office of 120 individuals. The QA Program addressed quality-related aspects of all parts of the business including data collection and interpretation, report writing, project management and budget tracking. The QA Program utilized the concept of Total Quality Management where quality is built into every step of a project. As the Quality Assurance Manager, Ms. Spencer received training and certification in Creative Problem Solving. She successfully lead a number of workshops that included the project team, clients, and regulators that were designed to reach creative and innovative solutions to hard-to-solve problems.

#### UNIVERSITY OF WYOMING

As a research assistant at the University of Wyoming, Ms. Spencer conducted a hydrogeologic assessment of the Paleozoic aquifers of the southern Bighorn Basin, Wyoming. This study included a regional analysis of the Tensleep and Madison aquifers in a 3,600-square-mile area to determine the impact of the petroleum industry and other groundwater users on the Thermopolis Hot Springs. The study also included development of a numerical groundwater model and presentation of the results to the State of Wyoming.

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