



Conversations

Newsletter for the CONVERSE Family of Consulting Companies

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Summer 2007

Converse Assists with Design of 1500 MW Energy Center

Converse's Phoenix office is currently providing groundwater resource development and geotechnical engineering services for Desert Rock Energy Company, LLC in San Juan County, New Mexico.

The Desert Rock Energy Project is proposed on a 600 acre site in central San Juan County, New Mexico. The project, a supercritical, pulverized coal, mine-mouth power plant planned for 1,500 megawatts of power production, is currently in the draft EIS stage. Converse's efforts are supporting both soils and foundation design, groundwater development for facility construction and supply, and technical support of the EIS process.

The \$3.5B development is slated for construction early in 2008, following completion of permitting efforts. The project will provide over \$50M annually in tax revenues to the Navajo Nation. Approximately 400 permanent workers in the San Juan County area will be employed at the combined mine and power facilities following construction.

Converse's water resources efforts include designing and overseeing drilling, construction and testing of two water wells to depths of 6,000 feet in support of preliminary hydrogeologic evaluations. This exciting, technically challenging project is unique in many ways, including the number of regulatory agencies involved, the cross over in drilling



technology from conventional water well to oil well techniques, and the unique geology and hydrogeology of the San Juan Basin and the Colorado Plateau.

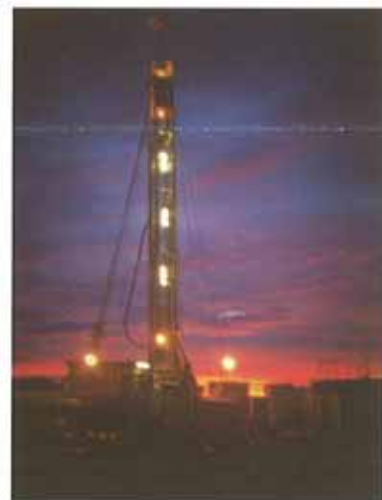


Principal and Phoenix Managing Officer, Dean Alford, has been instrumental in the project, managing and coordinating staff and equipment, reviewing geologic and hydrogeologic data, and managing the well design team. Sr. Geologist Britt Callahan, RG, is managing the technical aspects of the field exploration efforts. "This has been an enjoyable technical and logistically challenging project to be a part of", says Britt. "I really look forward to seeing the project come to fruition."

Groundwater modeling for the well, and potential well field, are being supported by Jason Dixon, PE of the Las Vegas, Nevada of-

ice, and Nick Kiusalaas, PG of the State College, Pennsylvania office. Staff from Reno, Las Vegas, Monrovia, and Phoenix have all participated on this large and complex project. Dean Alford stated that "this is an exciting and unique project, bringing together numerous Converse experts from throughout the company."

Converse is also providing design level geotechnical engineering services for the project, providing deep soil and bedrock foundation exploration efforts. Design of foundation systems were influenced by numerous coal seams, clay units and unique soil characteristics. The technical challenge was met by a team led by Phoenix's Jim Rose, PE, Senior Geotechnical Engineer, who was assisted by Stoney Mather, PE, Project Engineer. Don Christiansen, PE, Principal Geotechnical Engineer provided review and oversight for the geotechnical work.



In its second year of operation, Converse's Phoenix office has grown significantly, supporting a full service materials testing and inspection laboratory, and providing geotechnical and materials engineering, groundwater sciences and environmental services throughout the Four Corners Region of the southwestern US. ☺

For more information, contact Dean Alford at (408) 296-0266.

Converse Part of Major California Transportation Program

The Bakersfield area has experienced a population explosion over the past several years. This, along with the region's expanding role as a central hub for cargo movement and travel, has placed a huge strain on the area's transportation system. The City of Bakersfield, Kern Council of Governments and various local planning and transportation agencies addressed transportation concerns through a comprehensive evaluation of the region's roadway network, resulting in the Bakersfield Systems Study.

In 2002, the City created the Freeway Engineering Division to proactively plan the major projects required to alleviate the traffic congestion in the metropolitan area. The Division's projects primarily involved freeway-type projects and their interchanges with the street system, and also oversees the preferred alternative outlined in the Bakersfield Systems Study. The projects include the several interchanges, bridges and flyovers, the widening and realignment of State Routes, and completely new Beltways and Parkways.

The process was aided at the federal level on August 10, 2005 when the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), was signed into law and \$722 million was earmarked for local projects. With \$630 million allocated for projects in the Greater Bakersfield area, the City began moving forward on these projects.



In addition to the allocation of federal funds, the City received a further boost when Congressman Kevin McCarthy (then a member of the California State Assembly) successfully spearheaded AB 1858 which allow

Caltrans to transfer portions of State Routes 58, 178 and 204 to local control, significantly reducing the red tape and time required to complete improvements on these roads.

The City of Bakersfield created the Thomas Roads Improvement Program (TRIP). Comprised of staff from the city, county, Caltrans and Parsons Corporation (the program management consultant) the TRIP team is working together to keep everything on a fast-track.

In 2006, Parsons embarked on an extensive statewide outreach campaign to inform the consulting community of the forthcoming projects. Detailed descriptions of the projects and their alignments

were distributed and staff from the City and Parsons were on hand for one-on-one discussions.

Converse is a participant on one of the consultant teams selected to work on this program once funding becomes available. Our services will include geotechnical and environmental investigation and design services during the preliminary engineering/environmental document and final design phases of the designated project.

For more information, contact Dr. Hashmi Quazi at (909) 796-0544.

New Jersey's Hightstown Bypass Consists of Varied Bridge Designs

The Hightstown Bypass Route 131, Section 1A in Mercer County, New Jersey, was the state's first modified design-build effort at its inception, is an approximately 3.8 mile, four-lane divided roadway with seven bridges over arterial roadways and drainage waterways.

Converse performed an investigation program that consisted of borings taking "undisturbed samples", piezocone soundings and pressuremeter tests. Post-bid laboratory testing included index properties, consolidation, unconfined compression, and triaxial compression with pore pressure measurements.

The geologic history of the project area and index data on the clay suggested the bridges could be supported on shallow foundations with tolerable settlements. Converse submitted a value engineering proposal based on the predicted settlements of the bridges that proposed shallow foundations as opposed to piled foundations that would have been more expensive. The New Jersey Department of Transportation approved the proposal, the performance criteria for total and differential settlements were met, and construction costs were reduced as a result of the value engineering provided by Converse.

The photo depicts the types of bridges that were constructed as part of the project: 1) "Over Branch of Rocky Brook" is precast concrete double span arches with precast wing walls; 2) "Over One Mile Road" is a single span bearing on T-wall abutments; 3) "Over Rocky Brook" is a continuous span structure bearing on reinforced concrete piers and T-wall abutments; 4) "Over Route 130" consists of two continuous span structures bearing on concrete piers and T-wall abutments; 5) "Over North Main" is a simple span bearing on T-wall abutments; 6) "Over Wyckoff's Mills Road" a single span structure bearing on T-wall abutments; and 7) "Over New Jersey Turnpike" a three continuous span structure bearing on reinforced concrete piers and abutments.



For more information contact Golam Kabir at (973) 605-5200.

Where There's a Well... There's a Way

Converse's Las Vegas Water Resources group conducted a hydrogeologic assessment of the Sloan Quarry site that is located 17 miles southwest of downtown Las Vegas, owned by Frehner Construction Co. and operated by Bardon Materials. Due to the recent desiccation of several supply wells, Converse was hired to site, drill and install a new production well to supplement industrial process water for the quarry operations.



Sloan Hill, bound on three sides by high-angle normal faults

is a horst, up-thrown fault block (rising up to 900 feet above the valley), gently tilted to the north and composed of Devonian to Mississippian age dolomite and limestone. Hydrogeologic studies conducted by Converse focused on characterization of the geologic and hydrogeologic conditions of Sloan Hill and the adjacent areas to identify the most optimal location for the installation of a production well.

Converse conducted field reconnaissance of the area west of the plant site that confirmed the widespread occurrence of brecciated limestone and dolomite typical of carbonate rocks as seen in the extensive cave development in the Goodsprings mining district 20 miles southwest of Sloan. Converse's services included geologic logging, well design, and well development. Due to a lack of water

level data for the existing wells on site, drilling depths for the replacement well were solely dependant upon the intersection of potential water bearing zones (fractures).

Normal faults that occupy the area have wide zones of brecciated rock (up to 65 feet in width according to Deiss, 1951) that could serve as conduits for groundwater. Converse utilized fracture trace analysis techniques to identify major systems of faults

and fractures in the exposed bedrock and systematically plotted areas of intersecting fracture zones believed to offer the best potential for groundwater flow in the otherwise less permeable rocks.



Readings taken by Anna Draa following installation, showed the static water level at 770 ft bgs.



While walking the site, Jim Werle, Chief Geologist, experienced "spinning rods"!

Replacement Well No. 2 was located within a strong northwest-striking fault zone northwest of the Sloan Pit at the base of a drainage channel and completed to a depth of 1,163 feet below ground surface (bgs). Well yield measured during development with air-lifting techniques ranged from 20 to 50 gallons per minute, and the static water level was observed at 770 feet bgs following development. Bardon Materials is currently planning the use of the successfully-developed water supply well for production purposes. ☺

For more information, contact Anna Draa at (702) 269-8336.

California Trail Interpretive Center Underway

The Converse Elko office is providing the material testing and special inspection for the BLM California Trail Interpretive Center located in Hunter, Nevada, just east of Elko. This project includes construction of a large interpretive plaza and site improvements including utilities, earthwork, other features and amenities. When completed, the Interpretive Center will occupy approximately 11 acres and the building footprint will be a 16,000 square foot masonry structure. The facility will sport an entrance with a water feature and will be heated by geothermal heating. Converse has been contracted to oversee the drilling of the geothermal well to be used as a heat source for the building.

Converse re-evaluated the building bearing capacity so the contractor could modify the grouting pattern to simplify the construction process. Converse also supplied geotechnical parameters for the water tank so the BLM could evaluate the contractor's request to change from concrete to a fiberglass water tank. This included settlement calculation as well as earthquake information.

This project is scheduled for completion in early 2008 with an overall budget of \$10 million. ☺

For more information, contact Kathi Brandmueller at (775) 753-6266



Sac Lab Gets DSA Approval

The Converse Sacramento laboratory has been approved by the Division of State Architects (DSA) for the State of California and has met the requirements for the laboratory evaluation and acceptance (LEA) process. The laboratory has been assigned LEA No. 216.

Converse is currently working for the Pierce Joint Unified School District in Arbuckle, California. The scope of our services includes providing material testing and inspection services for the Agricultural and Woodshop Building and the modernization of the Science Building. Sampling and testing services include reinforcing steel verification, concrete mix designs and concrete compression tests, material identification, structural masonry, shop and field welding inspections and epoxy bolt verifications. Converse is also providing lead evaluation and monitoring services during the painting of Covillaud Elementary and Cedar Lane elementary schools for the Marysville Joint Union School District. The projects are scheduled for completion in fall of 2007. ☺

For more information, contact Doug Rich or Sandi Perkins at (916) 331-5444.