

## CASE STUDY: COMPRESSION FACILITY DESIGN

### *Turn-Key Compression and Dehydration Plant*



Project at a Glance	
Design, purchase and install a turn-key compression and dehydration plant	
Location	Marcellus Shale
Type	Compressor Design
Initial Plant Design	30 MMscf/d
Final Plant Design	120 MMscf/d
Savings: Engineering Cost	\$3M
Savings: Per Station	\$8M

#### OPPORTUNITY

The objective was to design and install a turn-key compression and dehydration service to include (5) 1340 HP CAT 3516/TALE Ariel JGT-4 and the surrounding support facilities for the plant. The project included three modular designs for expandable stations. Initial plant design was 30 MMscf/d with the final station design reaching 120 MMscf/d. All permitting, site layout, and construction was completed by GCC, Inc.

#### ACTION

Challenges encountered on this project involved building on abandoned coal mines, stream, road relocations, ensuring facilities' designs were low cost yet operator friendly; providing a modular design expandable to 120 Mmscfd; developing BOM's, RFQ's, and AFE's on all equipment, pipe, and materials while coordinating deliveries for three sites. GCC also provided a management team to over-see equipment design and quality control for equipment suppliers and contractors. GCC was awarded the contract in February 2010, with ground broken on the first station on May 1, 2010. The first station start-up was July 1, 2010, the second September 15, 2010, and the third December 12, 2010. GCC supplied the client with all P&IDs, ISOs, as-builds, job books, daily operator form documents, as well as completed plant operation procedures for facility and equipment. **RESULT**

GCC was on-hand during the start-up of the first facility which allowed for minor design changes to be implemented on the second and third facilities. The changes included the expansion of the building design to include the production scrubber and the construction of an enclosed work area for operators.

#### RESULT

By utilizing GCC on the first project the client saved over \$3M on engineering and over \$8.0M on each station facility cost. GCC provided the client with services for seven (7) Marcellus stations with total volumes of 440 Mmscfd.

The client continues to employ GCC as a consultant on stations in WV, CO, OH and PA.

GCC INC.  
 10200 E GIRARD AVE  
 SUITE B-410  
 DENVER, COLORADO 80231  
 303.400.4300 MAIN OFFICE  
 WWW.GCCINC.US



For more information contact:

**WAYNE SARTORI**  
 303.378.7911 Mobile  
 303.325.2011 Office  
 wsartori@gccinc.us