

CASE STUDY: COMPRESSION FACILITY DESIGN AUDIT and OPTIMIZATION



Project at a Glance

Location	—
Type	Audit & Optimization
Initial Capacity	20 MMSCFD
Final Capacity	30 MMSCFD (+ additional capability of 10 MMSCFD)
Overall Savings:	\$800,000*

**in lease and operating costs*

PROJECT OVERVIEW

One key area often overlooked by producers is field production after new wells have brought flush production into an existing system, an example that happens repeatedly. Our hypothetical client is producing 20 MMSCFD and brings in several new wells that test at an additional 4 MMSCFD. The logical thought process is that now the producer will move 24 MMSCFD, however this rarely happens. In most cases, the increased production will only add 1-2 MMSCFD. Several reasons attribute to this phenomenon, the majority of which are directly tied into the operation and design of the existing gathering and compression systems.

ACTION

An audit of the existing low pressure CBM system, with the incorporation of hydraulic modeling of their pipeline and compression equipment for the planned future production, provided the necessary system modifications to allow for full production of the new capacity. The client was planning to add 6000 Hp of compression to meet the sales agreement requirements of 30 MMSCFD. Current sales were only at 27,500 MMSCFD. The client utilized 6000 Hp of four, 4-stage electric drive compressors and 10,000 Hp of five, 2 and 3-stage gas drive compressors.

“GCC has provided valuable gathering and compressor operation modeling, station engineering, and sourced our production equipment and compressors. GCC’s assistance has substantially enhanced our production while providing direct cost savings to our operations.”

-Aubrey Harper, President, Eastern Washakie Midstream

RESULT

GCC provided a multi-field gathering and compression audit/white paper. The testing of wells and segments of the gathering system supplied proof that additional production capability was available. GCC modeled and redesigned the gathering pipe and reallocated compression and process resources. This allowed our client to maintain their 30 MMSCFD CBM production, have the unrestricted capability for an additional 10 MMSCFD for their planned future drilling program while also reducing lease and operation costs by over \$800,000.00/yr.

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