



“ **BCCK Engineering’s Nitech™ NRU process works day-in and day-out, anywhere on earth. Plus BCCK goes beyond engineering to provide technical expertise, design, installation guidance and help in integrating our Nitech™ NRU technology with other processing requirements like we did for this grass roots treating facility.** ”



## PROJECT SPECIFICATIONS

Plant Location:	Bowman, North Dakota
Facility Size:	43 MMSCFD
Gas Source:	Associated gas from fire flood
Plant Type:	Carbon Dioxide, Nitrogen, Water, and NGL Extraction/Fractionation
Inlet Gas Content:	N <sub>2</sub> 60% to 80%
Project Type:	EPC
Start Up:	August 2007

## PROJECT DESCRIPTION

In Southwestern North Dakota, producers are injecting air into oil producing reservoirs in order to increase the temperature in the reservoir and to decrease the viscosity of the crude oil. In addition, the reservoir pressure is increased facilitating increased production. The inlet gas stream contained a significant amount of carbon dioxide and nitrogen generated by the air flood process. Our process is designed for a wide range of nitrogen since the air injection process is on-going and the nitrogen content is increasing. This facility utilizes the newest generation of Nitech™ internal condenser that provides a cleaner nitrogen vent relative to methane losses. Another feature of this facility was to design with small footprints since the facility is installed in process buildings as required to protect the facility from the harsh and cold winter environment with normal temperature reaching from minus 20 to minus 40 degrees F. Carbon dioxide removal is brought about by the use of conventional amine and reduces the carbon dioxide content feeding the NRU from approximately 25 mole % to approximately 10 PPM. Nitrogen is removed from near 80% down to the specified level of approximately 10% to be used for both sales and field fuel gas. The Nitech™ NRU also includes integrated NGL extraction. The facility also fractionations the liquids to produce an HD-5 grade propane for the local market.