

18 MMSCFD Cryogenic NGL (Natural Gas Liquids) Recovery Plant

Capacity

18 MMSCFD (21,238 m³/hr)

Feedstock

Natural gas

Products

Methane gas

Natural gas liquids (ethane, propane, butane, isobutane, pentane)

Plant History

Built 2008

Major Equipment

Gas compressor
Expander compressor
Expander feed separator
Demethanizer
Dehydrators
Regeneration gas heater
TEG contactor
TEG regenerator
TEG dehydration combustor
1st and 2nd stage suction scrubbers
Regeneration gas KO drum
Regeneration gas cooler
Flash separator
Separator
Gas chiller
Propane suction scrubber
Propane condenser
Super heater
Reboiler
Lube oil system
Gas / liquid exchanger
Warm gas exchanger
Cold gas exchanger



BRIEF PLANT DESCRIPTION

The unit was designed to recover ethane and other heavy components from natural gas through cryogenic process. The plant includes 5 sections: 1. Inlet TEG dehydration; 2. Molecular sieve dehydration; 3. Turbo-expander; 4. Residue gas compression; 5. NGL product pipeline; 6. Support utilities.

The inlet gas is fed to the plant at 550 psig. The water content of the inlet gas is reduced to less than 1 ppm by the TEG and molecular sieve dehydration. Dry gas flows to the cryogenic unit where it is cooled to sub-zero temperature. The mixed cold stream flows into the expander inlet separator to separate the liquids from the gas. The liquids flow to the demethanizer to remove methane. The cold gas stream goes to the turbo-expander to condense more liquids, which flow to the de-ethanizer. The plant has a compressor package consisting of a Caterpillar 3516 engine driving an Ariel JGT4 2-stage gas compressor, which re-compresses the residue gas (higher methane content) from the plant for delivery to pipeline.

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