

Processing Facilities

Paramount Resources Valhalla 10-25 Sour Gas Plant

The project objective was to build a grass roots 50 MMSCFD sour gas plant in the Valhalla Area of North West Alberta. The project was designed to be executed in three phases.

For the first phase, a Sour Compressor Station was designed with the capabilities to compress and dehydrate 283 E3m3/d (10 MMscfd) of < 5 mol% H2S / < 2 mol % CO2 natural gas production with produced liquid volumes of approximately 70 BBLS/MMscf.

The major equipment installation for first phase included:

- One (1) 48" OD x 16' S/S 300# ANSI 3-Phase Horizontal Sour Inlet Separator
- Two (2) 810 HP 2-Stage Reciprocating Sour Compressor Packages (Client surplus)
- One (1) 30" OD 600# ANSI Sour Gas Dehydrator
- Three (3) 750 BBL Produced Liquids Storage Tanks (Client surplus)
- One (1) Steel Dyke c/w Liner for ERCB Required 110%

Secondary Containment

- One (1) 10 HP Instrument Air Compressor with 100% Standby
- Two (2) New 1000 Gallon Instrument Air / Start Air Receivers
- One (1) Above Ground 100 BBL Steel HP Flare KO Drum (Client surplus)
- One (1) Above Ground 25 BBL Steel LP Flare KO Drum
- One (1) 8" OD x 3" OD 50ft High Combination HP/LP Flare Stack
- One (1) 12ft W x 48ft L Modular Field Office c/w Washroom
- One (1) 12ft W x 30ft L MCC Building
- One (1) 20' ISO Shipping Container to be used as site warehouse (Client surplus)
- One (1) Barrel Dock

Phase one of this project was managed with a lean project team and a fast, controlled pace throughout the work





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scope, which allowed the plant start-up to occur in less than 10 months from our in-house project kick-off.

The second phase was designed with the capabilities to compress and dehydrate an additional 1,132 E3m3/d (40 MMscfd) of < 5 mol% H2S / < 2 mol % CO2 natural gas production with produced liquid volumes of approximate-ly 70 BBLS/MMscf.

The major equipment installation for second phase included:

- One (1) 78" OD x 22' S/S 300# ANSI 3-Phase Horizontal Sour Inlet Separator
- Two (2) 810 HP 2-Stage Reciprocating Sour Compressor Packages (Client surplus)
- Four (4) 1000 BBL Produced Liquids Storage Tanks, gravel pad mounted
- One (1) Steel Dyke c/w Liner for ERCB Required 110% Secondary Containment

- One (1) 25 HP Instrument Air Compressor with 100% Standby
- Three (3) New 1000 Gallon Instrument Air / Start Air Receivers (low temperature vessels)
- One (1) Above Ground 100 BBL Steel HP Flare KO Drum
- One (1) Above Ground 100 BBL Steel LP Flare KO Drum
- One (1) 14" OD x 150' Height HP Flare Stack with Integral 6" LP Flare Stack
- One (1) 12ft W x 30ft L MCC Building
- One (1) Warehouse
- One (1) Barrel Dock with barrel lift
- One (1) Flare Knock Out Transfer Pumps
- One (1) 250 HP Water Injection Pump (Client surplus)
- One (1) Fuel Gas Sweetening Package
- One (1) 125 HP VRU compressor

Phase two of this project was managed with a lean project team and a fast, controlled pace throughout the work





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scope, which allowed the plant start-up to occur in less than 14 months from our in-house project kick-off.

The third phase expansion is currently in the planning stage.

Our scope of work included:

- Conceptual Design (pre-FEED)
- FEED
- DBM preparation
- Capital cost estimate (Appropriation Grade)
- Detailed schedule estimate
- Process and equipment investigation scenarios
- Equipment sizing
- Detailed engineering (Mechanical / Civil / Electrical)
- Regulatory action plan
- Procurement and expediting
- Utility requirement estimates
- Constructability reviews

- Field construction support
- WHAT-IF Review
- 3D Model reviews
- Shutdown Key reviews

Engineering deliverables and construction drawings/documents in the different engineering/design disciplines, including Process, Mechanical, Piping, Instrumentation, Civil, Electrical, and Structural, design and 3D model, sourcing of equipment and bulk items, procurement, cost control and expediting were completed our team.

