

Industry Segment Profile

Oil & Gas Production

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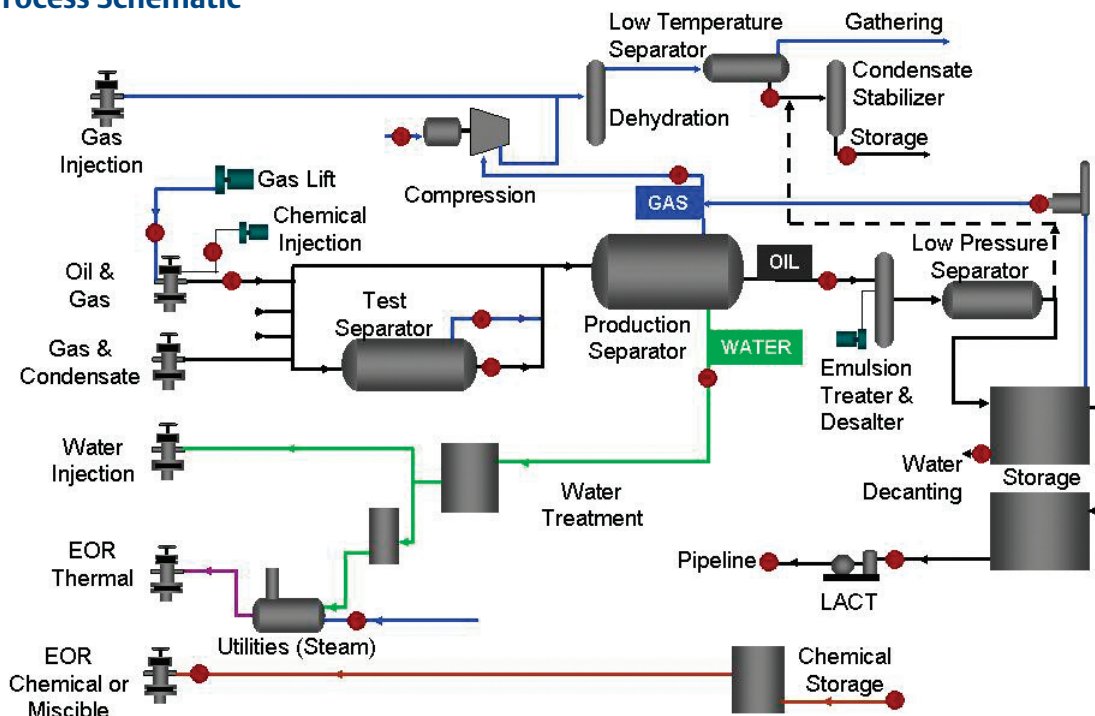
Process Overview

The typical oil and gas production facility produces oil, natural gas and formation water. Production wells are drilled into a hydrocarbon bearing formation and reservoir pressure or artificial lift technology is used to bring the fluids to the surface. The produced fluids are separated into their individual components with production separators. Natural gas will be processed to remove higher value NGL's then be may be sold for to natural gas processing facilities or used internally for gas lift operations, utility fuel or secondary recovery programs. The crude oil and/or condensate undergoes treatment to remove volatile hydrocarbons, residual natural gas and contaminants (sediment, water, salt) in order to meet specifications for custody transfer. Formation water is treated for disposal and/or secondary recovery. Oil predominant production facilities may include secondary recovery and Enhanced Oil Recovery programs. Secondary recovery involves the injection of natural gas or water into the formation to maintain reservoir pressure and improve hydrocarbon recovery. EOR involves the injection of hot water / steam, chemicals or miscible fluids into the oil bearing formation to increase the amount of oil (yield) recovered from the reservoir.

Key Processing Steps

- Production management
 - Production / injection wells
 - Test /production separators
- Oil Treatment and Storage
- Natural Gas Treatment / Compression
- Water Treatment
- Enhanced Oil Recovery
 - Facilities
 - Injection
- Chemical Injection
- Custody Transfer / Gathering

Process Schematic



Typical Coriolis Applications ●

- Chemical injection for dew point control, corrosion and the treatment of produced fluids
- Measurement of oil, water and natural gas from test and/or production separators
- Net oil on two phase test separators / individual wells
- Natural gas for gas lift operations
- Custody transfer of crude oil and chemical receiving
- Storage tank decanting
- Injection of miscible Enhanced Oil Recovery fluids
- Miscible flood recovery plants
- Vapor recovery systems
- Compressor and utility (boiler) fuel feed
- Natural gas and Natural Gas Liquids

Key Contact

Departments: Production Operations Reservoir

POSITION	Production Manager / Engineer	Facilities Engineer	Automation Engineer	Reservoir Manager / Engineer
ROLE	<ul style="list-style-type: none"> Set & meet production quotas Allocation factors Profitability Asset management Capital plans/projects Infill/development drilling Shutdown planning Safety 	<ul style="list-style-type: none"> Facility refurbishment/ replacement Facility reliability Project costing Technical/economic evaluation of field development 	<ul style="list-style-type: none"> Data automation Process automation Automation project supervision Design, test, troubleshoot systems Evaluate new technology Establish specifications 	<ul style="list-style-type: none"> Characterization of reservoir production Field development plan Oil recovery Risk/reward of drilling project Define future field development Recommendations for improved production/development
POSITION	Operations Manager / Engineer	HSE Engineer	Maintenance Manager	Instrument Technologist
ROLE	<ul style="list-style-type: none"> Well maintenance & workovers Overall facility maintenance Cost of maintenance & operations Production plan implementation Shutdown planning Safety Personnel 	<ul style="list-style-type: none"> Safety Occupational health Environment 	<ul style="list-style-type: none"> Facility maintenance Instrumentation maintenance Maintenance costs Shutdown planning Personnel 	<ul style="list-style-type: none"> Field device maintenance & repair Installation Calibration

Key Industry Terms

Artificial Lift

Mechanical pumping methods to aid the flow of produced fluids from the bottom of the well to the surface.

Gas Lift

A type of artificial lift that employs injecting natural gas into the well bore to reduce the density of the oil/water to improve the production rate.

Lease Automatic Custody Transfer (LACT)

A custody transfer metering skid that automatically transfers oil and

Enhanced Oil Recovery

The injection of fluids into the reservoir to improve the quantity of oil recovered.

Natural Gas Liquids

Condensate or liquid hydrocarbons recovered from natural gas.

Secondary Oil Recovery

The injection of water or natural gas into the producing formation to maintain reservoir pressure and improve oil to flow toward the production well.

