

# Oil and gas supply chain

## Geophysical survey services

- Portfolio management, asset evaluation and identification of drilling locations
- Seismic data acquisition
- Geophysical interpretation, including seismic data processing and building models for processing seismic data
- Geotechnical services – general e.g. gravity, magnetics, electromagnetic
- Geotechnical software, maintenance and support services
- Core sample analysis, storage and preservation.

## Approvals

- Land access - consultations with 'landowners', native title and lease agreements. Includes environmental and cultural heritage services.
- Petroleum Act approvals – statement of environmental objectives, licensing and environmental maintenance.

## Drilling program

- Onshore drilling rig services
- Drilling equipment – drill bits, drill pipe, blowout preventer (BOP), downhole drilling tools, directional drilling, mud motors and associated equipment
- Manufacture of drilling rigs and associated equipment e.g. for solids control in drilling mud
- Downhole measurement including logging while drilling (LWD) and wireline logging
- Casing, tubing and associated equipment, including centralisers and cross-overs, conductor pipe and other downhole equipment. Includes maintenance e.g. hardbanding of drill pipes
- Casing and tubing running services
- Cementing equipment e.g. pressure pumping
- Maintenance of drilling and workover rigs and drilling equipment including maintenance of downhole gauges, drill bits and other equipment associated with drilling

- Solids control in drilling mud
- Oilfield fishing
- Cementing
- Drillstem testing/production testing
- Pressure testing
- Coring
- Mud logging
- Wellhead installation services
- Wellhead and associated fittings
- Cement, drilling mud, drilling fluids and additives e.g. barite, bentonite.

## Completion

- Workover/well servicing/completion rig services (*note: see also other drilling services such as fishing and logging – these also apply to workover services*)
- Chemical injection services, multi-zonal isolation, multi-lateral completions
- Wireline and slickline services
- Coiled tubing
- Perforation
- Microseismic
- Hydraulic fracturing, including services, equipment and maintenance
- Proppant - sand and ceramic
- Guar and other additives
- Workover equipment
- Speciality chemicals e.g. acid
- Artificial lift e.g. beam pump, ESP (electrical submersible pump)
- Enhanced oil recovery, including waterflood, microbes
- Well control – control of blowouts
- Well maintenance services

## Processing and distribution

- Pipeline and flowline materials, construction and installation
- Process pipe fittings, valves and actuators
- Vessels, including separators, pressure vessels and oil storage tanks
- Gas processing equipment including heaters, distillation columns and heat exchangers
- Flaring equipment
- Large rotating equipment – engines, turbines, pumps, compressors
- Instrumentation and control, including remote control systems, control room. Includes installation
- Maintenance of petroleum processing and distribution equipment
- Gas processing and distribution, for example by Moomba processing plant and third party piping
- Liquids processing (e.g. Port Bonython processing plant)
- Liquefaction of natural gas and facilities for export of LNG.

## Well closure and rehabilitation

- Decommission well – see drilling and completion (workover rig, coiled tubing, cementing etc. not duplicated here)
- Decommission above ground equipment
- Removal of facilities and pipelines (including hydro jet cutting)
- Land rehabilitation.

## Logistics and support

- Air transport, including fixed wing and helicopter as well as airport/landing strips
- Vehicles excluding heavy vehicles, e.g. vehicle hire
- Heavy vehicles and forklifts
- Vehicle maintenance
- Transport – general/bulk goods e.g. diesel, fuel, oil, proppant
- Transport of refrigerated goods (food)
- Transport of drilling rigs and associated equipment
- Waste management. Includes cutting disposal, scrap equipment, transport of waste
- Staging yard and warehousing services – Cooper Basin area
- Port, warehousing and other storage facilities in Adelaide area
- Civil works e.g. well pad construction, roads, fencing, road maintenance
- Camps and camp services, including supply of accommodation units, food, facilities management
- Non-camp accommodation (e.g. permanent facilities)
- Telecommunications services, including for remote camps and in vehicle monitoring system/GPS
- Surveying services, e.g. before well site preparation
- Medical services, including Flying Doctor
- Small rotating equipment – pumps, engines
- Fabrication
- Machining
- Electrical, including installation
- Heating, ventilation, air conditioning (HVAC)
- Gas detection, including H<sub>2</sub>S detection
- Mechanical installation services
- Plant maintenance and shutdown services

- Water, irrigation, purification, wastewater and sewerage treatment, including RO plant and treatment of flowback/production water
- Water borehole drilling and water haulage
- Inspection, testing and certification, including inspection for well integrity, drill pipe, rig, pipelines and pressure vessels
- Environmental maintenance and land management
- Cranes and lifting services
- Chemicals and chemical products, industrial and laboratory gases
- Fuel
- Waxes, oil, lubricants
- Hardware, tools, power tools
- Tubing, hoses and fittings, seals and gaskets
- Energy e.g. electricity, gas, diesel generators, solar
- PPE and safety equipment
- Training, including safety training
- Labour hire
- Water storage
- Fire suppression and alarm systems
- Laboratory services

## Professional services

- Financial services, strategic advisory services, legal, audit, safety, insurance, risk, regulation etc.
- Prequalification, certification, e.g. Achilles prequalification, API certification
- Engineering, procurement and construction management (EPCM) e.g. for production, processing, distribution systems
- Smaller projects – engineering, EPC/EPCM. Includes EPCM sub-contractors and smaller stand-alone projects
- Services – project management. Includes drilling and completions sourcing and procurement (i.e. non-EPCM).