CLISBY ENGINEERING

TOTAL ENGINEERED SOLUTIONS

CAPABILITY STATEMENT

COMPANY OVERVIEW

Clisby Engineering Pty Ltd was established in 1945. We are a broad-based engineering company headquartered in Adelaide South Australia and complimented by branch offices located in Dalby Queensland and Perth Western Australia. This enables us to effectively support our customers throughout Australia.

Clisby is a member of the Euroair Group of Companies that was formed by the expansion of Clisby into Asia in 1990. The group specialises in design, fabrication, sales and service of process and rotating equipment and operates fabrication and engineering and service facilities in Australia, Malaysia and Indonesia. We enjoy long term alliance relationships with international equipment and service providers including Shawcor, Dacon Inspection Technologies and Matrix Solutions, who are leading global suppliers of Spoolable Composite Pipe (SCP) products, In-line Inspection/ Intelligent Pigging (ILI) technology/ services and environmental remediation services respectively.

PRODUCTS & SERVICES

Composite Pipe: Offering FlexPipe SCP in 2", 3" & 4" diameters with ANSI pressure classes of 300#, 600# & 900#. Accredited fitting installation services.

CSG Produced Water Filtration: Wellhead filtration skids to capture debris, silica, and coal fines during the water extraction phase of CSG wells. Mobile, fully contained, self-cleaning unmanned units.

Environmental Remediation Services: Environmental monitoring and remediation services to ensure compliance to regulation, environmental impact studies or by request of clients.

Fabrication Sales and Service: Air and gas compressors, topside infrastructure, desiccant dryers, filtration and nitrogen generators.

Fuel Storage: Above and below ground tanks, double wall self-bunded and single wall tanks, tank farms from 1000 to 200,000 Litres, compliant to UL and applicable Australian Standards.

Intelligent Pigging Services: Cleaning, Gauging, Calliper, Ultrasonic Testing (UT), Magnetic Flux Leakage (MFL), Analysis and reporting. Sizes from 3" to 48" available.

Pipeline Construction and Remediation: Composite, HDPE and steel pipeline, route survey, civil works, installation, hydro/ pneumatic testing, RoW rehabilitation and commissioning services.

Power Generation: Diesel, gas and Biogas, 200 – 1500KVA, open skid, sound attenuation, design, fabrication and commissioning.

Wellhead Gas Compressors: Skid mounted, variable speed & pressure, designed to boost wellhead pressure entering gathering networks and fully "drain" the coal bed reservoir down to 0.5 kPa.

Well Site Equipment: Design and fabrication of pressure vessels, separators, pipe spools, compressors, flares, skids and condensate tanks complete with installation services.

Well Site Services: Surface asset identification/ verification, wellhead integrity testing, remediation and servicing of gate valves, inflow testing of wellhead valves, re-energising wellhead internal seals, hydrotesting of surface infrastructure.

PIPELINE CONSTRUCTION – COMPOSITE PIPELINES

Clisby Engineering have been installing gas flowlines in the Cooper & Surat Basins since 2015 completing the construction, testing & commissioning of over 60 km of buried high-pressure composite pipeline.

Clisby has extensive experience with Fiberspar LinePipe™ and FlexPipe flowline products and boast accredited FlexPipe installers on staff.

Our in-depth knowledge of composite pipeline construction and engineering support from Shawcor mark us as market leaders in the SCP construction space.

We ensure our project construction crews are lean to ensure agility, flexibility and efficiency for our clients. With a strong focus on safety and quality we maintain a record of 4 years LTI free in our project division.

Our local engineering support allows us to develop hydrostatic test packs which are fully compliant to AS 2885 and ensures that analysis, compilation and reporting of hydrostatic testing results is completed in a timely fashion.

Additionally, Clisby personnel have been involved with numerous “Liner Pull” projects where SCP has been pulled through an existing damaged steel pipeline as a liner. This greatly reduces the cost of remediation or replacement of the damaged line. The flexibility that a liner pull provides means that a pipeline does not necessarily need to be replaced in its’ entirety, if there is a particularly damaged section of pipe, we can line that damaged section and tie back into the original line where the condition of that line permits.

PIPELINE CONSTRUCTION – ABOVEGROUND STEEL FLOWLINES

Clisby Engineering have installed and commissioned multiple above ground oil flowlines in the Cooper & Surat Basins utilising both threaded & flanged pipe connections.

Highlighting our commitment to safety and quality, we have developed and manufactured a hydraulic torque unit for the installation of above ground threaded flowlines. Our machine allows us to set the required torque via the hydraulic control system and ensure that each connection meets the manufacturers' optimum torque requirements. The machine was developed to not only ensure uniformity of torque across all connections in a threaded pipeline but also to enhance safety by reducing manual handling risks associated with the torqueing of threaded connections when using traditional manual methods or modified journals on a bobcat. Our torque unit is capable of torqueing threaded connections up to 10,000 ft/lbs in diameters from 2-3/8" through to 7".

Scopes for aboveground flowlines have included wellhead and facilities tie-ins which incorporate production manifold connections and flange management.

ENVIRONMENTAL REMEDIATION – SRA BIOREMEDIATION

Clisby Engineering, together with our environmental consulting partner Matrix Solutions, analysed the soil data and developed a treatment proposal for the specific site conditions of our client located in the Cooper Basin. The proposal involved remediation of approximately 5000 cubic metres of soil which was heavily contaminated with hydrocarbons.

This project was completed in-situ and met stringent environmental regulatory requirements. The project presented challenges as traditional methods of soil remediation were not available due to the site being located on an organically certified beef property. Using comprehensive soil analysis and an innovative approach to soil treatment, a prescriptive treatment plan enabled us to ensure the landowner retained their status as an organically certified primary producer whilst reclaiming the contaminated soil to an acceptable level.

This project was completed with minimal disturbance to the surrounding environment and at a fraction of the cost of traditional soil treatment processes.

ENVIRONMENTAL REMEDIATION – REFUELING FACILITY REMEDIATION

Clisby Engineering were selected as the preferred vendor to reclaim an abandoned refuelling facility in the Cooper Basin.

The work scope included locating, removal and ethical disposal of contaminated pond liners, underground HDPE pipework, underground steel pipework, aboveground production piping, above ground fuel lines, buried electrical cable, electrical conduit and reinforced concrete pads.

Additionally, the site needed to be scraped and contaminated soil stockpiled for treatment.

During the scraping process, additional plastic lining was uncovered which had not previously been identified, this was also removed and disposed of with the pond liner. Contaminated soil was treated on site, negating the requirement for costly transport to a land farm.

All holes/ trenches on site were backfilled and compacted as per client program and the site was re-levelled to allow for natural reclamation by the surrounding environment.

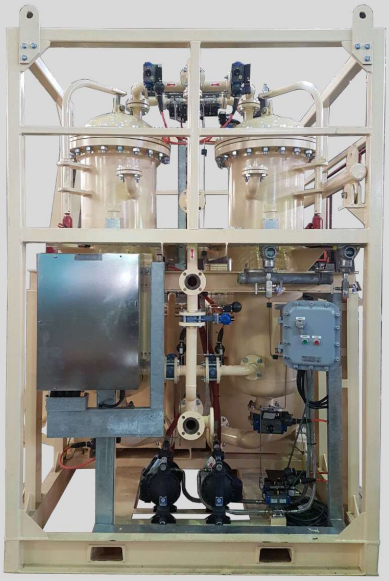
Spoolable Composite Pipe Sales

Clisby Engineering via a strategic partnership between our wholly owned subsidiary Ozcon Engineering and Shawcor, are pleased to be able to offer FlexPipe composite line pipe products to the Australian market. Constructed from a winning combination of high-density polyethylene, helically wound epoxy-free dry fiberglass and a protective outer jacket, FlexPipe products are safer to install thanks to smaller (approx. 50%) crew sizes and reduced requirement for heavy equipment.

Additionally, up to 35% construction cost savings compared to a comparable steel pipeline, via no need for welding, the need for sand padding is eliminated, 20-year UV protection for aboveground applications.

Two temperature options are available of fiberglass reinforced products, rated to 60°C (140°F) and 82°C (180°F). The products are suitable for sour service applications up to 100,000 ppm H2S compared to other composites which are limited to sweet service applications. FlexPipe is built to exceed the industry requirements of CSA, API and ASTM standards. Higher flow rates, robust leak free fitting connections and corrosive resistance sets our products apart from other composite line pipe products on the market. FlexPipe products are epoxy-free which eliminates micro-cracking and the products also have high abrasion resistance and fire-resistant properties.

COAL SEAM GAS PRODUCED WATER FILTRATION



Clisby Engineering have developed the CL19-1200 process filter. The CL19-1200 is a fully automated, unmanned, self-cleaning filtration unit capable of filtering solids to 50 microns whilst maintaining a flow rate of 8 cubic metres/ hour. The “twin tower” design allows for continuous, uninterrupted production for our customers wells by utilising a fully programmable control system which automatically switches between filter vessels when it senses excessive differential pressure across the filter elements, or at a predetermined, timed interval. Once the filter vessels have been changed over, the filter vessel which was previously in use enters a cleaning phase where the contaminants are flushed to a waste bin. Excess fluid is then pumped from the waste bin back into the filter feed line, ensuring no solids can enter the water gathering or recirculation system. The waste bin contains all the flushed particulates which are in the form of a semi-dry cake. The filtrate tank can hold 1 cubic metre of filtered solids and is supplied with forklift pockets for easy removal. Alternatively, the bin can be supplied with a bin cover “hatch” for easy vacuum extraction.

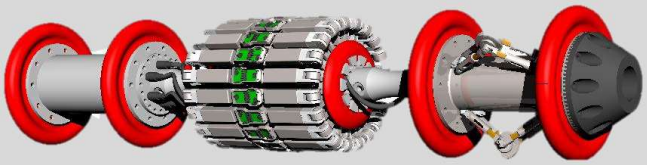
The unit also features a bypass line so it can be completely removed from the production flow if required.

COAL SEAM GAS WELLHEAD IN-FIELD COMPRESSION

The Wellhead In-field Compressor (WIC) is an innovative design developed by Clisby Engineering in collaboration with Gardner Denver. Our compression module will effectively unlock the previously unavailable value in a CSG well, potentially maximizing economic return and delivering: 14-28% more gas recovery than conventional infrastructure; complete reservoir drainage down to 0.5 KPa; intelligent operation to cater to varying reservoir pressures whilst maintaining stable outlet pressures of 3-5 bar. The inlet gas flow contains a liquid knock-out and filtration system to protect the compression hardware using a 5-micron gas filter and cyclonic separator designed and fabricated in 316SS. The post compression stage incorporates a specially designed after-cooler to maintain discharge temperatures within the parameters set by the customer and the flowline manufacturer's and installer's specifications. The units include considerable operational and safety features such as telemetry for off-site monitoring. Additionally, upon request, they can be supplied with SCADA to monitor pressure and temperature at all stages of the process and of course, incorporate an emergency shutdown system with a bypass loop to ensure safe operation in an unmanned application.

IN-LINE INSPECTIONS/ INTELLIGENT PIGGING

Clisby Engineering have a strategic partnership with Dacon Inspection Technologies which provides us access to their full suite of In-Line Inspection (ILI) tools, highly experienced field and analysis engineers. Services we are proud to provide are as follows:



Pipeline Cleaning: Whilst pipeline cleaning is useful during normal operations on a regular basis to remove scale and minor build ups of debris, it is essential prior to running any ILI tools. Cleaning pigs are available in sizes from 2" – 144".

Calliper Pigs: A calliper tool continuously measures the inside diameter of the pipeline through an array of sensing fingers which are spring loaded to hold them in contact with the pipe wall. As the tool moves through a pipeline, all radial sensor movements are detected and recorded. Odometer wheels generate distance data which is continuously collected and stored with the measuring data from the radial sensing fingers. Any variation to the internal surface of the pipe is registered in a user-friendly format that serves to independently verify any ID features.

Magnetic Flux Leakage: Dacon's MFL tool is designed with the highest density of Hall sensors (radial, axial and tangential) in a true gapless, sensor arrangement.

Incorporating internal and external diameter sensors as well as quality sensors for lift-off and magnetisation level, the tool is designed to pass through 1.5D radius bends and up to 25% diameter reductions. The MFL tool distinguishes itself from other tools in the market by its versatility. The tool can be equipped with cups for long distance operation in transmission lines; it can also be equipped with specially designed discs for bi-directional operation, which opens new frontiers in MFL inspection.

Ultrasonic Thickness Pigs: Ultrasonic (UT) Intelligent Pigs measure pipe wall thickness and metal loss by direct measurement of the thickness of the pipe wall. All the Dacon UT Pigs have the capability to detect, locate and assess internal and external wall defects or metal loss. Dacon's pigs record up to 1,600 thickness readings per second, providing a complete profile mapping with accurate thickness reported in millimetres throughout your pipelines. Dacon's UT pigs range in size from 3" through to 64" and are capable of inspecting all material types.

SAFETY & QUALITY

The company is wholly committed to safety and quality and as such maintain a QMS and HSMS aligned with ISO 9001 & ISO 45001.

All business activities meet or exceed the relevant Australian and International Standards and we offer products and services in compliance to a variety of international standards including ANSI, API, ASME, BS, JIS & UL.

CONTACTS

Nick Lamont
+61 402 810 952
nick@clisbyengineering.com.au

Shashi Kumar
+61 476 888 607
shashi@clisbyengineering.com.au

Clisby Engineering Pty Ltd
41-43 Lavinia Street
Athol Park, South Australia 5012
Australia
PH: +61 8 8341 1999
Fax: +61 8 8341 1945