



PROCESS SYSTEMS

COMPANY PROFILE



A large, high-contrast silhouette of an oil pumpjack is centered against a dramatic sunset sky. The sky is filled with wispy clouds colored in shades of orange, yellow, and blue. The sun is low on the horizon, creating a bright glow on the left side of the image. In the background, there are faint outlines of other industrial structures and possibly a bridge or road.

*Proven, leading-edge technology
for the oil & gas, energy
and petrochemical industry*



**INNOVATION - Our Strength
as world leaders in Oil & Gas
Processing Technology**





Global Testimony to BS&B's continuing success...

Black, Sivalls & Bryson (Canada) Limited ("BS&B") designs and builds process equipment systems and plant for the oil and gas, chemical and refining industries. BS&B technology can be seen in tens of thousands of oil and gas and other processing systems and plants in all of the major energy producing areas of the world. BS&B technology provided much of the oil and gas processing technology in common use today.

Presently, the Company's wide range of expertise covers separation, gas and liquid treating systems, Sulphur recovery, gas and liquid dehydration and gas liquids recovery topping and stabilization systems, direct and in direct firetube heating units, and other processes, developed initially for the oil and gas industry. BS&B's desulfurization and Sulphur recovery technology has applications in the refining, petrochemical, steel and pollution control industries.

Our mission is to supply the highest quality process systems and equipment to meet the client's specifications, at competitive prices, from the client's preferred country of origin. Where the installation is to be made in one of the less developed countries, BS&B can provide for local fabrication and supply to the maximum extent possible, consistent with the client's specifications and BS&B's quality standards.



Oil and Gas Primary Separation

BS&B custom-engineered separators have exclusive design and operational efficiency throughout a long service life. The strength and pre-eminence of BS&B's experience with high volume crude oil streams is proven and includes separation of foamy and / or waxy crude oils using single vessel capacities to 600,000 barrels per day.



We enjoy unparalleled expertise in the design of process equipment.

Glycol Dehydration

BS&B is particularly proud of its leadership in glycol dehydration. In 1964, BS&B's technology was utilized to build the first experimental unit for service in the natural gas industry. Today, there are thousands of BS&B glycol dehydration units in operation, providing the most economical way to remove water vapor from natural gas streams.

BS&B's standard glycol units are guaranteed to produce 65°F dewpoint depressions. They feature an efficient tray-type absorber design to assure maximum gas-to-glycol contact and minimum glycol loss, available in a wide range of capacities.

BS&B's HI-CON™ units offer all the features of the standard unit, plus a guaranteed dewpoint depression as great as 140°F. These units are equipped with a "super concentrator" that uses a small quantity of stripping gas to achieve glycol purities as high as 99.95%. No other system achieves the process efficiency of the HI-CON™ unit.



Engineering Services

BS&B draws upon a wealth of experience in specifying the optimum configuration of the many components available for processing oil and gas. The combination of modern computer design and simulation programs with detailed knowledge of the individual pieces of equipment involved enables realistic forecasting of plant performance. BS&B also offers engineering studies to diagnose and solve operating problems, evaluate existing equipment for new process operating conditions and debottlenecking for increased capacity.





From the wellhead to refined products, you'll find BS&B process equipment and systems are efficient and reliable

SERVICES

- Engineering design
- Procurement
- Project/construction management
- Turnkey projects
- Start-up services
- Process safety management
- Process design verification

SEPARATION

- Standard two-phase and three-phase separators, production separators
- High-surface defoaming separators
- Free-water knockouts
- Liquid knockouts
- Microscrubbers, Liquids and solids
- Blowcases
- Oil coalescers
- Water coalescers
- Slug interceptors
- Gas scrubbers

HEATING

Indirect Heaters

- Salt bath
- Water bath
- Glycol/water bath
- LPG vaporizers
- Steam generators

Direct Fired Heaters

Convective Heaters

- FGR (Flue Gas Recirculation) type

H₂S AND CO₂ REMOVAL

- MEA, DEA, MDEA, DGA
- Sulfinol
- Benfield
- Selexol

SULFUR RECOVERY/TAIL GAS TREATING

- Claus
- SCOT

HYDROCARBON RECOVERY

- Low temperature
- Expansion units (Joule-Thompson type) with optional glycol injection system
- Solid desiccant absorption units
- Stabilizers / fractionators

DEHYDRATION

- Glycol dehydrators for natural gas, CO₂ or ethylene
- Super HI-CON™ glycol units for -145°F dewpoints
- LPG driers
- Dry desiccant units

OIL TREATING

- Standard heater treaters
- Electric treaters
- Desalters
- Oil sweetening units
- Flow spitters

Heaters

In the areas of process heaters, BS&B supplies direct and indirect firetube heaters, low pressure steam generators, and the patented "FGR" Flue Gas Reticulating Process Heater which provided thermal efficiencies as high as 90% for a broad range of applications. The FGR Heater is suitable for both high and low pressure process streams in thermal capacities of from 5 to 100 mmbtu/hr.

Service Division

Our Service Division with its team of qualified personnel assists companies in developing an effective Process Safety Management Program in order to comply with OSHA (USA), Pressurized Equipment Directive (Europe) or other international requirements.

Spares / Replacement Parts

BS&B process Systems provides full service in the sourcing and provision of spares or replacement parts for all our product lines. As a result of technical expertise built up over many years, we have extended this service to all companies requiring spares or replacement parts for their equipment. This service includes the supply of rupture disks.



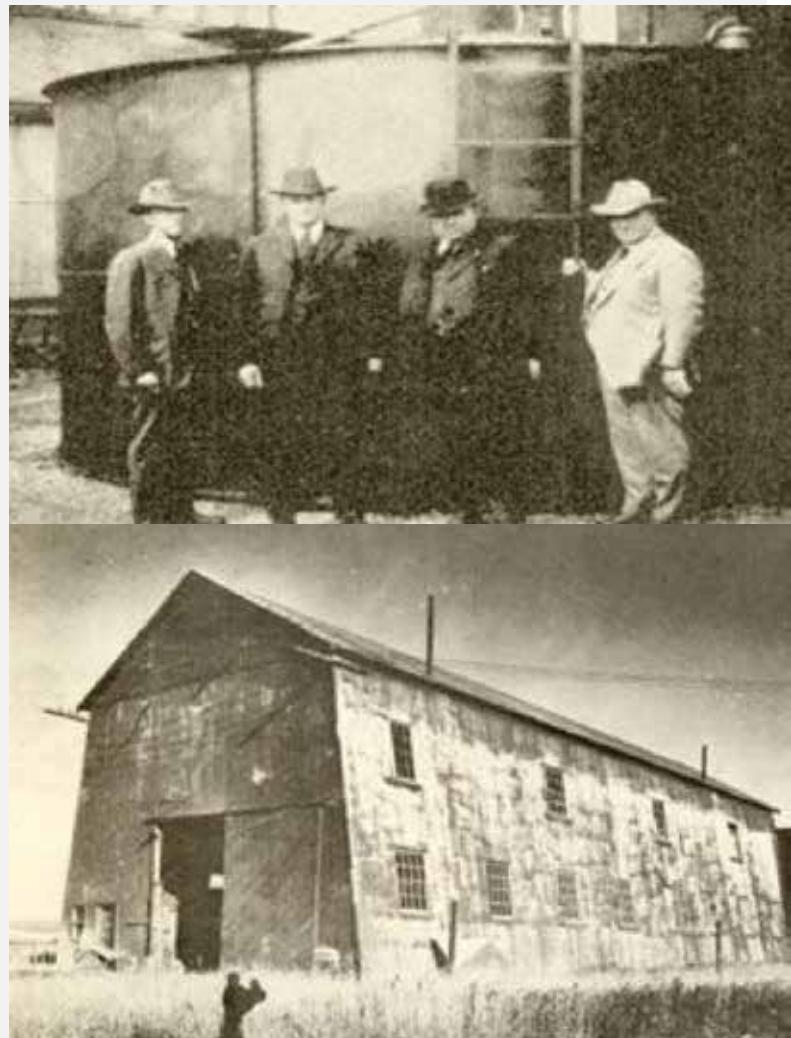
A history of outstanding achievement

BS&B's technology comprises a history of innovative and trusted prominence in the oil and gas industry. The technological history ranges from the industry's migration from Pennsylvania to Oklahoma, Texas, Mexico and then into all of the oil and gas producing areas of the world. BS&B's pioneering technology included pollution abatement equipment, glycol gas dehydration systems, Sulfiban™ systems (a highly efficient Coke Oven Gas Clean Up System used in the steel industry), coal gasification, and even Well Fire Control and Gas/Oil Separation systems used in the burning oil fields of Kuwait.

In the current era, the Company has designed large projects, including supplying entire production equipment trains for Petrobras offshore FPSO's. The equipment consisted of separators, test separators, free water knock out drums and TEG Glycol Dehydration units. Compressor scrubbers and suction scrubbers were also supplied for three FPSO's.

The Company has also designed and constructed turn-key projects for BANOCO in Bahrain. These TEG Glycol Dehydration units were designed to take the water out of natural gas for usage in the power generating plants on the island which has been growing in demand exponentially. Four (4) units were supplied from design to commissioning and start-up.

These are but two examples of our efforts.





An established worldwide service network of offices and capabilities

The Company markets its products and services worldwide through locally staffed offices in the U.S., Canada, Brazil and Abu Dhabi. Its capabilities and activities are complemented by Black, Sivalls & Bryson (Canada) Limited's representative network throughout North America, South America, Central America, Europe, the Middle East and Asia Pacific. BS&B customers include the major international oil companies, multinational petrochemical companies, government-owned oil companies, independent oil and gas producers, major U.S steel producers, and other international engineering and construction contractors.

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