

Anderson Exploration Ltd. - Valhalla

- 3,000 BOPD (42° API, high paraffin content) oil battery c/w treating, water source, treatment and re-injection, gas boot, gas blanket flare system, field test satellites (2) and pigging system, custody transfer metering, provision for future VRU. The solution gas plant (c/w dehydration) was designed for 6 MMSCFD. Provided permitting, engineering and project management of oil and gas production facilities including mechanical design, equipment specification, purchasing, expediting, critical path scheduling, reporting, cost control, instrumentation, controls system design. The scope of the installation also included an inlet skid, a separator package, storage tanks, a recycle building, a process heater and a PLC control system.

Barrington Petroleum Ltd. - Wapella

- Project management of the detailed design, preparation of equipment specifications and procurement for a 2,000 B/D oil battery revamp with the installation of a VRU, flare stack, instrument air and burner control system. The produced water injection facility was upgraded and miscellaneous piping modifications accomplished.

Baytex Energy Ltd.

Glenevis Oil Battery

- Equipment specification, and control and electrical systems design for a water injection addition and a power and control system upgrade. The control system was upgraded from a Omron PLC to an Allan Bradley SLC500 and Panelview. The power system was upgraded to an 800 AMP service and added two 200 HP water injection pumps and two 60 HP water booster pumps.

Superb Oil Battery

- Equipment specification, purchasing and expediting, control and electrical systems design for a new oil battery. The control system consisted of SLC 500 and annunciator salvaged from another project. The power system consisted of a 1200 AMP service with 100 HP water disposal pumps. This project was fully designed and then suspended.

Westerose

- Design and project management of a 1200 B/D Sour Oil Battery with 10 MMSCFD solution gas including 2750 HP re-injection compressor.

BHP Petroleum (Canada) Inc. - Cecil Lake

- 60 B/D / 0.5 MMSCFD sales gas / 1.5 MMSCFD gas cycling scheme comprised of field satellites test separator & header building, pig catcher and launcher, pop tank, battery and compressor station (group and test separator package c/w pig catcher, compressor, flare stack & K.O. drum, LPG bullet, refrigeration skid, U/G water drain tank, 5 oil storage tanks).

Bonavista Petroleum - Eureka

- Project management of the installation of separator, treater and tank farm.

Canada Northwest Energy Limited (now Sherritt International Corporation)

Indonesia

- Conceptual design of a 15,000 B/D oil battery plus 6600 B/D water handling comprised of two FWKO, a test separator and test tank, two emulsion separators, oil accumulation and 5 storage tanks, oil transfer pumps, flare stack, water accumulation and skim tanks, water injection pumps.

Perfericos, Cuba

- Completion, workovers, production and operations management for a 18 well oil field (16° API) including liaison with Cuban regional officials. Responsibilities included co-ordination of office, field and contract services.

Wolf Lake

- Design and project management of a \$12M, 21 well cyclic steam stimulation production expansion pad.

Capilano Holdings Inc. (AZGERNEFT) - Azerbaijan

- Preliminary process design and cost estimate for a \$2 million system of flowlining, field satellites, FWKO, desanding, treating, produced water reinjection, and fuel gas scrubbing.

City of Medicine Hat - Medicine Hat

- 2,000 B/D oil battery/treating facility. Provided permitting, engineering and project management for the oil production facilities including mechanical design, equipment specification, purchasing, expediting, critical path scheduling, reporting, cost control, instrumentation, and controls system design.

Conoco Phillips Canada Resources Ltd

Jenner

- Process design, mechanical design, equipment specification for an upgrade of an existing battery to meet a BS&W specification of 0.3% in sales oil.

Long Coulee

- Design and project management of an oil battery.

Swan Hills

- Satellite upgrade including replacement of the inlet header, addition of a test separator and addition of a water transfer pump.

Crestar Energy Inc. (now ConocoPhillips Canada)

Amisk/Hayter

- Overall permitting, design, project management, customer liaison, commissioning and start-up for a relocated, refurbished 3600 B/D (36,000 B/D fluid) oil (15° API) battery. Tanks, FWKO and treater are all refurbished. Water injection and flowlining was part on the scope.

Bantry

- Provided project management, equipment specification, and control and electrical systems design for a grass roots oil battery consisting of an inlet test separator, free water knockout, water injection, solution gas compressor (800 HP), and a tank farm. The control system consisted of a PLC 5/30 and Winview MMI. The power system consisted of a 1000 AMP service with a 200 HP gas compressor and a 125 HP water injection pump.
- Overall permitting, design, project management, customer liaison, commissioning and start-up for 2000 B/D oil (20° API) batteries comprised of separators, FWKO and water disposal systems.

Czar

- Overall permitting, design, project management, customer liaison, commissioning and start-up for a 750 B/D (7500 B/D fluid) oil (20° API) battery. A modular and fast track construction strategy was used. Water injection and flowlining was part of the scope.

Jenner

- Responsible for the specification, the procurement of mechanical equipment, and the co-ordination of the detailed design for two oil batteries, and the installation of an 800 HP reciprocating compressor and inlet separator/blower package.
- A major expansion of an oil battery to increase the oil production from 300 to 600 m³/d and water injection rate from 3,000 to 9,000 m³/d. The expansion included the installation of a 12ft dia. x 80ft S/S FWKO, 1600 HP produced water injection pump, 200 HP solution gas compressor, automated desand system and extensive piping modifications.

Jumpbush

- Upgraded an existing oil battery by installing a used treater package, new water injection package, inlet header system, PLC control, and new tankage, and install a new related satellite facility.

Little Bow

- Design and project management of a 6,600 B/D oil battery for treatment of 17 API oil including 33,000 B/D water injection facilities.

Saddle Hills

- Design and project management of a 2,000 B/D oil battery for treatment of 25 API oil including 4,000 B/D water injection facilities.
- Responsible for permit applications and specification and procurement of mechanical equipment, including a crude oil treater, tankage and VRU, for a 300 m³/d crude oil battery.
- Project engineering for expansion to a oil battery to include 800 HP electric driven compression, power generation (1MW), MCC building, flare stack, line heater and an inlet separator/pumping skid.

Westrose

- Project management and engineering for a 15 well gathering system and 3,000 B/D central sour oil battery.

CUPET - Cuba

- Fire fighting system design, specifications and procurement for a new oil battery located at Puerto Escondido. The system includes two fire water pumps – cap.: 227 m³/h at 1000 kPa each (1 electric and 1 diesel), foam proportioning system, 6" OD water distribution system (fiberglass), 4" OD foam distribution system (fiberglass), hydrants, sprinklers system and foam injection chambers.

Devon Canada Corp (formerly Anderson)

Birley Creek, BC

- A sour central oil battery with solution gas recovery and gathering/discharge pipeline system. Provided permitting, engineering including mechanical design, equipment specification, procurement, expediting, instrumentation and controls design.

East Eagle

- A sour 6 MMSCFD, 1,050 HP compression facility comprised of group separator, compressor, dehydrator, flare system, pipelines and modifications to existing oil battery to recover solution gas. Provided permitting, engineering and project management including mechanical design, equipment specification, procurement, expediting, instrumentation and controls system design.
- Repair and abandonment permits for pipelines.

Edam, Saskatchewan

- Project management, detailed engineering and equipment specifications for a produced water/sand disposal facility: 200 cum/day produced sand disposal by a slurry fracture injection system. Responsible for developing the project definition and AFE preparation.

Halkirk

- General facility upgrade and \$4M battery debottleneck.

Manatokan

- The scope of this heavy oil (12⁰ API) battery expansion project covered AFE generation D.B.M, project and schedule control, design, material specs, construction and equipment bid documents, EUB permit, material and equipment procurement and construction contracts award, as well as change management through to completion, for phase 3 (design: 10,000 B/D). 10-15,000 B/D produced water disposal was also within the scope. Strong project control skills meant execution on exact schedule and under budget. Effective Devon / GLE teamwork created on-the-run debottlenecking yielding actual production capacity of 16,000 B/D.

Zarembo, BC

- Permitting, process design and project management for the installation of an oil battery with solution gas compression and gathering system.

Draig Resources Ltd - Chigwell

- Flash calculations on PROSIM to determine the associated gas produced from multiple oil/gas/water mix streams being taken through a two stage pressure drop.

Encal Oil and Gas Ltd - North Oak, BC

- 1,500 B/D (32° API) oil battery including gathering system and treatment, water handling, 2 MMSCFD sweet solution gas plant (compression, dehydration, provision for future VRU). Provided permitting, engineering and project management for oil and gas production facilities including mechanical design, equipment specification, purchasing, expediting, critical path scheduling, reporting, cost control, instrumentation, and controls system design.
- Design and project management of a 400 HP compressor installation.

Enermark Inc - Silver Heights

- Design and project management of plant battery modifications.

Enerplus Resources Corp

Progress

- Design and project management of oil emulsion test separator.

Medicine Hat

- Expansion of MHGC waterflood facilities including debottlenecking of two central processing facilities and pipelines to 13 new injectors.

Gulf Canada Resources Limited (now ConocoPhillips Canada) - Swan Hills

- 13,000 m³ /d water flood simulation study of existing equipment and pipeline systems.
- Conversion of two Batteries into Satellites and installation of a new inlet header system, pumps and associated equipment upgrades for Swan Hills Unit #1.

Husky Oil Operations Ltd. – Edam, Saskatchewan

- Unique design of a steel sand storage facility (ecology pit) incorporating features addressing sensitive environmental concerns and operational flexibility.

Industrie Meccaniche Scardellato s.p.a.

Egypt

- Design of a 10,000 B/D crude oil desalter train involving separation, treating, desalter and skim tank.

F.P.S.O. “AGIP FIRENZZE”

- Executed the heat and material balances and generated the process flow diagram for the 18,900 B/D crude oil stabilizer unit and the 1 MMSCFD fuel gas sweetening unit.
- Reviewed the pressure vessel fabrication drawings.

Villa Fortuna, Italy

- Process evaluation and equipment design for 10,000 cum/day oil stabilization system.

Koch Exploration Ltd. - Eyehill

- 2,000 BOPD heavy oil battery/treating facility with water handling. Provided permitting, engineering and project management for oil flowlining and production facilities including mechanical design, equipment specification, purchasing, expediting, critical path scheduling, reporting, cost control, instrumentation, and controls system design.
- All procurement of material; inspection of used equipment.

Lomalta Petroleum - Chauvin

- Design, regulatory approval, procurement and project management of an oil battery with oil emulsion and water injection pipeline systems.

Numac Energy Inc.(now Devon Canada Corporation)

Joffre

- Project manager for the preliminary engineering of a crude oil/butane blending facility. Responsible for developing the project definition and AFE preparation.
- Designed and managed installation of CO₂ and water injection pipelines for pattern 10 and 11 into five injection wells.
- Designed and managed installation of emulsion pipelines for patterns 10 and 11 through 3 production wells.

Muskat

- DBM, budget, detailed engineering, material specs, bid documentation, material procurement and construction contract award, as well as project management through to completion for the upgrade of an existing oil battery and gas processing facility.

Penn West Petroleum Ltd. - Hoosier, Saskatchewan

- Conceptual engineering, costing, detailed design, procurement, construction management, commissioning and start-up services for a grassroots 1,000 B/D heavy oil battery complete with a 6,000 B/D water disposal system.
- 15 well tie-in.
- 35 km of gathering system.

Piecobiogaz - Dzieduszyce, Poland

- Process simulation, design and data sheets for a 540 bbl/d sour oil stabilization unit.

Poco Petroleums Ltd. - Halkirk

- Permitting for an oil battery with solution gas compression.

Rozsa Petroleum Ltd. - Carmangay

- Engineering and procurement for five (5) test separators and one (1) group separator.
- Engineering and procurement for oil battery, gathering system and compression.

Saxon Petroleum Inc. - Bigoray

- Permitting for an oil battery and compressor station.

Scimitar Petroleum (Egypt) Ltd - Egypt

- Conceptual design of a commercial heavy oil facility producing 10,000 bbl/d oil and 30,000 bbl/d water.

Sherritt International / CUPET - Yumuri, Cuba

- Design, procurement and construction of an oil battery. The facility is designed for the an inlet flow of 3200 m³/d of oil/water emulsion and 100,000 cum/d of entrained gas, with provision for doubling the inlet flow rate by twinning the major equipment.
- Modified a tank weighing system. This involved the innovative design of a mounting unit to overcome thermal expansion and corrosion problems which had caused failure of the loading facility.

Suncor Inc. - Lagarde, BC

- Oil battery expansion to accommodate additional 485 BOPD, 398 BPD water and 2.45 MMSCFD of associated gas. The new facilities comprised of a treater skid c/w inlet group separator, four oil storage tanks, two water storage tanks, a pop tank, gas compression and dehydration, a flare stack and KO drum, office/warehouse/ MCC trailer, pipeline and meter skid.

Transwest Gas Systems Ltd. - Provost

- Design, permitting, procurement, and project management (including mechanical design, instrumentation and controls, equipment specifications, purchasing, expediting, scheduling, cost control, reporting) for a 3000 BPD (23 API), 27,000 BWPD oil battery. The facilities included a gathering system, oil treating, water treating and disposal, as well as solution gas compression. The equipment included an inlet heat exchanger, a free water knock-out, a treater, 6 storage tanks, a water injection package with biocides, descaling, corrosion inhibitors and demulsification, a recycle package and a solution gas compressor for 2 MMSCFD, MCC/air compressor/office skid.