Rangeland Engineering is a midsize full-service engineering, procurement and construction management (EPCM) company based in Calgary, Alberta.

Look to some of the best energy companies in Alberta and you’ll find a team of Rangelanders embedded in the design and development of their projects!
How the Herd began

When Ron Daye, President and CEO, founded Rangeland Engineering in 2001, he set out to create a firm that empowered top talent to drive innovation and forward thinking. He wanted not only to deliver successful projects but to build lasting relationships.

Now Rangeland is home to more than 250 experts, partners and innovators who design some of Alberta’s most complex energy projects. Our success speaks for itself: more than 80 per cent of our clients are repeat customers and our industry’s top experts call Rangeland home.

Together, we are leaders in the midstream oil and gas market.

Our Capabilities

- Project Management Services
- Process Design, De-Bottleneck Studies
- FEED Studies
- Detailed Engineering – Civil/Structural, Mechanical, Electrical & Control Design Construction Packages
- Project Development Engineering, Conceptual Design and Cost Estimating
- Stress Analysis, Rotating Equipment, Metallurgy
- Control Systems, Design, Programming, Commissioning and Support
- Piping Design
- Drafting Services (Intelligent 3D software is used by all disciplines), Modular Design
- Material Management, Fabricator Distribution Control, Reporting
- Procurement, Expediting, Document Control, Shop Inspection Services
- Project Cost Estimating to AFE Level
- Regulatory Applications and Compliance
- Construction Management and Inspection
- Training and Commissioning

Engineering Disciplines

- Project Management
- Project Cost Estimating
- Process Engineering/HAZOP/SIL
- Pipeline Engineering
- Mechanical Engineering
- Civil/Structural Engineering
- Electrical Engineering
- Electrical Power Systems and Generation
- Instrumentation, DCS, PLC, SCADA, Process Control
- Rotating Equipment
- Metallurgy
- Stress Analysis
Rangelanders are NGL Recovery and Process Specialists

As the world’s cleanest-burning fossil fuel, natural gas use is on the rise. Our expertise in natural gas liquids treating, debottlenecking, advanced controls, process simulations, recovery, transport, commissioning and start-up extends from wellhead through treated products. In fact, we’ve successfully completed two of the largest fractionation facilities in North America.

From new facilities to plant upgrades and expansions, we design processing facilities, pipelines, terminals and critical infrastructure to move natural gas liquids.

Through our client partnerships, industry experience, and use of technology, we’re developing new and innovative ways to solve challenges, meet regulations and increase productivity.

While Rangeland focuses on midstream domestic markets, we have successfully delivered projects around the globe, including the United States, Nigeria, Ghana, Guinea, Colombia, Cuba and Kazakhstan.
Projects- NGL Processing

**Fractionation Facility**
Fractionation facility consisting of a 65 M bpd deethanizer, 45 M bpd depropanizer, 20 M bpd debutanizer, mole sieves, Merox treating, NGL storage caverns and product pipeline.

Rangeland performed the detailed design of the high-rate injection storage cavern piping, system hydraulics and upgrade of cavern NGL and string piping.

Operations group for commissioning of pipelines and fractionation facility.

**OC2 Ethylene Mole Sieve Skids**
Capacity = approx 33,000 Kg/Hr ethane and ethylene

Facilities included two mole sieve vessels, regen system, filters and metering.

Rangeland deliverables included detailed engineering, procurement, commissioning and project management, modular design and material management.

**Ethylene Mole Sieve Skid**
Capacity 50,000 Kg / Hr for removal of H2O moisture to < 10 ppm. Facilities included two mole sieve vessels, regen system, filters and metering.

Rangeland deliverables included detailed engineering, switching logic, procurement, commissioning and project management, modular design and material management.
Projects - NGL Processing

**Brine Separator Facilities**
Capacity = 80 MBPD
The facilities include fractionation for ethylene separation, brine separator and control systems for an ethylene salt cavern storage facility.

Rangeland deliverables included detailed engineering design, equipment specification, procurement, controls and electrical, separator detailed design, modular design and material management.

---

**C2+ NGL Fractionation Facility Expansion - 70 MBPD**
The facility will produce C2, C3, C4 and C5+ spec products and will be integrated into the existing 65 MBPD facility.

Facilities include de-ethanizer, de-propanizer, de-butanizer, mole sieve, Mercaptan Oxidization (UOP Merox), salt cavern storage, high pressure and capacity injection pumps, custody metering and delivery to rail, truck and pipelines.

---

**C3+ NGL Fractionation Facility - 55 MBPD**
The facility will produce C3, C4 and C5+ spec products and will be integrated into the existing 73 MBPD facility.

Facilities include de-propanizer, de-butanizer, mole sieve, Mercaptan Oxidization (UOP Merox), salt cavern storage, high pressure and capacity injection pumps, custody metering and delivery to rail, truck and pipelines.
Projects – Transport

**Edmonton Rail Terminal**
Major facilities include 76 crude railcar loading stations capable of filling 450 cars per day (over 250,000 bpd)

Pipeline receiving facilities, 2 storage tanks, and 2 railcar loading pumps

Utilities to support the above including: vapour recovery and incineration, nitrogen purge, fuel gas, electrical power and controls, lighting, emergency backup power, fire protection, and spill containment.

**FSK Plant Expansion**
Expansion of an existing NGL salt storage and processing facility to store propane and butane in new salt caverns and design of a grassroots truck-loading terminal

Rangeland provided detail engineering design and equipment specification including process, mechanical, civil, electrical, instrumentation, controls.

Detailed construction drawing packages for civil site works, foundations, mechanical equipment and piping, electrical and controls.

**Condensate Rail**
Capacity 40 to 80 MBPD
Included 16 rail unloading stations, 2 API storage tanks and 2 bullets; product mixers c/w controls – RVP control and 2 product pipeline pumps.

Rangeland deliverables included full detailed process, mechanical, electrical and civil design. Specification of all equipment and procurement services including inspection, freight forwarding and expediting, operator training and commissioning assistance.
Salt Cavern Program
Design of a series of salt caverns to facilitate plant inlet feed and finished product storage. Developed a hydraulic modelling program to simulate and design the down-hole size and configuration for single, dual and triple-hole salt caverns.

Included conceptual planning and detailed engineering. Detailed engineering included surface facilities, production conversion, system de-bottlenecking and integration into existing salt cavern storage and processing facilities.

Redwater Ethylene Injection Site
Project focused on cavern storage of ethylene, including product compression, storage and drying. The facility receives up to 55,000 kg of ethylene per hour and injects it into underground salt caverns via two Dresser-Rand reciprocating compressors.

Rangeland scope of services included detailed engineering, procurement, commissioning and project management, modular design and material management.

Strachan Sulphur Tank
Design and engineered a sulphur tank and piping system to replace the client’s aging existing equipment. Rangeland worked closely with the tank builder and pipe system vendors in advance to allow for a modular design.

Scope of services included FEED study, detailed engineering, capital and operating cost estimates procurement, materials management and expediting, vendor selection for alternative technologies and construction support.
To date, Rangelanders have donated more than $2 million to our community. From strapping on our helmets for the Daye’s Ride for Cancer Research to raising funds for the food bank with a chili cook-off, we give back to the community that supports our talent, our families and our clients.

We work hard to raise money and are not afraid to get our hands dirty or do some heavy lifting.

If it means supporting causes that touch our lives, we want to be involved!

Rangeland Engineering Company Ltd.
#1000, 1520 4th Street SW, Calgary, Alberta T2R 1H5
Phone: 403.265.5130  Fax: 403.265.5163
For inquiries: info@rangelandeng.com

www.rangelandeng.com