

Attachment 1: List of Relevant Projects

Project: Lusk Gas Plant	Time Frame: 1986 - 1987
Owner: Ecological Engineering	Engineering Company(s): Propak Systems Ltd
Details: Shop construction and assembly of a modular gas gas processing packages for installation at the plant site in Lusk, Wyoming.	
<ul style="list-style-type: none"> • 250 GPM amine sweetening packages • 65 ton/day 3-bed Claus sulfur recovery system. 	
Role: Project Engineer. Duties included: <ul style="list-style-type: none"> • Control valve sizing and selection • Specification and selection of process instrumentation • Management and coordination of the engineering team 	<ul style="list-style-type: none"> • Construction support • Troubleshooting • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • none 	
Project: East Painter Gas Plant	Time Frame: 1986 - 1987
Owner: Chevron Usa	Engineering Company(s): Propak Systems Ltd
Details: EPC Project for the shop construction and installation of a 3-train, modular gas plant with the following systems:	
<ul style="list-style-type: none"> • Three (3) 20 mmscfd refrigeration plants • Six (6) 700 HP propane screw compressor packages • Three (3) 25 gpm hydrocarbon liquid recovery packages c/w de-ethanizers 	
Project duration was 26 weeks from signing of the contract to plant start-up	
Role: Project Engineer. Duties included: <ul style="list-style-type: none"> • Process engineering and design • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation 	<ul style="list-style-type: none"> • Management and coordination of the engineering team • Construction support • Troubleshooting • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • very tight project schedule (with substantial delivery bonus / penalty) • high altitude location (+ 7000 ft ASL) and its impact of equipment design 	

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<p>Project: Evert 12 Gas Plant</p> <p>Owner: Star Inc</p>	<p>Time Frame: 1989 - 1990</p> <p>Engineering Company(s): Propak Systems Ltd</p>
<p>Details: EPC project for the installation of a sour gas and sulfur plant in Evert, Michigan. Systems included:</p> <ul style="list-style-type: none"> • Amine sweetening plant • Hydrocarbon dewpoint control plant • 2 ton/day 2-bed Claus sulfur plant <p>The sulfur plant was a relocated, packaged unit originally built by Natco and redesigned and refurbished by Propak Systems Ltd.</p> <p>Role: Project Engineer. Duties included:</p> <ul style="list-style-type: none"> • Process engineering and design • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Management and coordination of the engineering team • Construction support • Troubleshooting • Commissioning and start-up support <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • replacement of pneumatic controls with (then) new electronic controls and instrumentation • redesign of existing sulfur plant for radically different operating environment and operating conditions 	
<p>Project: Woodbourne Gas Plant</p> <p>Owner: Barbados National Oil Company</p>	<p>Time Frame: 1989</p> <p>Engineering Company(s): Propak Systems Ltd</p>
<p>Details: Shop construction and assembly of a modular gas plant package for installation at the plant site in Barbados. The equipment included:</p> <ul style="list-style-type: none"> • Gas compression • Refrigerated JT Plant • Liquid fractionation train that includes a depropanizer and debutanizer <p>Role: Project Engineer. Duties included:</p> <ul style="list-style-type: none"> • Process engineering and design • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Management and coordination of the engineering team • Construction support • Troubleshooting • Commissioning and start-up support <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • designing for a high-salt marine environment • making allowance for a work environment with limited local resources 	

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<p>Project: Carbondale Gas Plant</p> <p>Owner: Norcen Energy Resources Ltd.</p>	<p>Time Frame: 1989 - 1990</p> <p>Engineering Company(s): Propak Systems Ltd</p>
<p>Details: EPC project for the design and construction of the Carbondale Gas Plant: a 55 MMSCFD facility with the following equipment:</p> <ul style="list-style-type: none"> • Gas-turbine-driven gas compression, • 275 gpm DEA sweetening plant, • 1.5 gpm TEG dehydrator, • 1 tonne/day LO-CAT sulphur recovery unit. <p>Role: Project Engineer. Duties included:</p> <ul style="list-style-type: none"> • Process engineering and design • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Management and coordination of the engineering team • Construction support • Troubleshooting • Commissioning and start-up support <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • practical implementation of new, innovative, proprietary technology 	
<p>Project: Bantry Gas Plant Modifications</p> <p>Owner: Ausquacan Energy Ltd</p>	<p>Time Frame: 1991 - 1992</p> <p>Engineering Company(s): CIDL Projects Ltd</p>
<p>Details: Modifications of the Bantry Gas Plant, a 12 MMSCFD facility with the following components:</p> <ul style="list-style-type: none"> • 3600 hp of gas compression, • 150 gpm amine sweetening plant, • 150 hp propane refrigeration plant, • Liquid fractionation train tcomplete with depropanizer and debutanizer <p>Role: Project Engineer / Manager. Duties included:</p> <ul style="list-style-type: none"> • Troubleshooting • Commissioning and start-up support • Preparation of FEED and feasibility studies • Process engineering and design • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Development of budgets and schedules • Management and coordination of the engineering team • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Troubleshooting • Commissioning and start-up support <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • incorporating modern safety practices into older facility • distilling operators "wish list" into a coherent project plan 	

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Project: Crossfield Gas Storage Facility (Part I) Owner: Amoco Canada Petroleum Company Ltd	Time Frame: 1993 - 1995 Engineering Company(s): Quest, An Alliance Corporation
Details: This project began as a pilot project for the conversion of parts of the Amoco East Crossfield Gas Plant to a gas storage facility. Initially modest in scope, the project eventually expanded to include the following equipment: <ul style="list-style-type: none"> • 20,000 hp gas compression, • 2600 hp refrigeration compression, • 500 MMSCFD/ 80 GPM glycol dehydration system, • 250 MMSCFD hydrocarbon dewpoint control facility Other elements of the project included the hook-up of 15 injection/production wells and the installation of 14 km of 12" diameter pipelines rated at 2500 psig. This part of the project was completed in 1995.	
Role: Project Engineer / Manager. Duties included: <ul style="list-style-type: none"> • Preparation of FEED and feasibility studies • Process engineering and design • Equipment sizing and selection • Major equipment procurement • Development of budgets and schedules 	<ul style="list-style-type: none"> • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • allowance for future expansion plans • pioneering work on gas storage system design 	<ul style="list-style-type: none"> • integration of emerging requirements into facility design • development of the flexible, multi-role systems required for gas storage service
Project: Komi Republic Central Processing Facility (Part I) Owner: JSC Komi Arctic Oil	Time Frame: 1996 Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)
Details: Grass-roots construction of the oilfield's Central Processing Facility, located in the Komi Republic, Russia. The Central Processing Facility is designed to process 6000 m3/day of oil and 1000 E3m3/day of gas. Specific capabilities of the facility are: <ul style="list-style-type: none"> • Oil treatment includes dewatering and degassing, then pumping to pipeline pressure of 5500 kPag. • Gas processing includes compression to 5500 kPag and removal of H2S. • Rotating equipment includes three 700 hp oil pumps and two 2600 gas compressors. 	
Role: Project Engineer. Duties included: <ul style="list-style-type: none"> • Preparation of FEED and feasibility studies • Development of budgets and schedules • Management and coordination of the engineering team • Management and coordination of the engineering consultants 	<ul style="list-style-type: none"> • Management and coordination of the construction contractors. • Cost reporting and control • Construction support
Technical and other challenges: <ul style="list-style-type: none"> • working in an Arctic environment • working within Russian regulations and systems 	<ul style="list-style-type: none"> • integrating efforts with Russian and Western co-workers

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<p>Project: Komi Republic Central Processing Facility (Part II)</p> <p>Owner: JSC Komi Arctic Oil</p> <p>Details: See previous project for details</p>	<p>Time Frame: 1997 - 1998</p> <p>Engineering Company(s): Flint Eurasia Ltd</p>
<p>Role: Construction Controls Coordinator. Duties included:</p> <ul style="list-style-type: none"> • Development of budgets and schedules • Management and coordination of the construction contractors. <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • providing effective cost control in a remote, arctic environment with limited local resources 	<ul style="list-style-type: none"> • Cost reporting and control • Construction support • Commissioning and start-up support
<p>Project: Drywood Power Plant</p> <p>Owner: Canadian Gas & Electric Ltd</p> <p>Details: EPC project for the construction of a 6 MW independent power station near Pincher Creek, Alberta.</p> <ul style="list-style-type: none"> • Two (2) 4000 hp Cooper-Bessemer 16 cylinder engines, originally built in 1955 • Two (2) 3 MW generators, built in 1984 and originally used as synchronous motors. <p>Facility was constructed with mainly used (refurbished) equipment supplied by the owner.</p> <p>Role: Project Engineer / Manager. Duties included:</p> <ul style="list-style-type: none"> • Preparation of FEED and feasibility studies • Process engineering and design • Development of budgets and schedules • Management and coordination of the engineering team • Management and coordination of the engineering consultants <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • integration of used equipment from four different sites into a single cohesive unit 	<p>Time Frame: 1999 - 2000</p> <p>Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)</p> <ul style="list-style-type: none"> • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Troubleshooting • Commissioning and start-up support

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Project: Rigel Compressor Station	Time Frame: 1999 - 2000
Owner: Dominion Energy Canada Ltd.	Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)
Details: EPC project for the installation of a 2200 hp gas-engine compressor at an existing compressor station located near Ft. St. John, BC.	
The compressor package was an existing unit that was decommissioned from its original site, refurbished and re-installed at the new location.	
Role: Project Engineer / Manager. Duties included: <ul style="list-style-type: none"> • Development of budgets and schedules • Management and coordination of the engineering team • Management and coordination of the construction contractors. 	<ul style="list-style-type: none"> • Cost reporting and control • Construction support • Troubleshooting • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • providing effective noise control (residences within 400 m) 	
<ul style="list-style-type: none"> • safe integration of a modern compressor package into a 25 year old sour facility 	
Project: Callum Gas Plant	Time Frame: 2001
Owner: BP Canada	Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)
Details: EPC project for the installation of a gas processing plant near Longview, AB. The project included:	
<ul style="list-style-type: none"> • 1500 hp gas-engine compressor, • 1000 kW power generation, • 30 mmscfd of hydrocarbon dew-point control capacity, • 500 hp of refrigeration compression. 	
Role: Project Engineer / Manager. Duties included: <ul style="list-style-type: none"> • Development of budgets and schedules • Management and coordination of the engineering team • Management and coordination of the engineering consultants 	<ul style="list-style-type: none"> • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • very tight project schedule • designing a facility to satisfy environmentally sensitive neighbors 	
<ul style="list-style-type: none"> • minimizing the plant environmental impact in an area where no previous development had occurred 	

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Project: Wembley Gas Plant Owner: ConocoPhillips Canada Ltd	Time Frame: 2002 - 2003 Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)
Details: Two-year expansion of the Wembley Gas Plant and associated gathering systems. The Wembley Gas Plant is a 100 mmscfd facility with 3 amine sweetening plants, 2 hydrocarbon dewpoint control systems, gas compression, an acid-gas injection systems and a turbo-expander plant. The expansion included: <ul style="list-style-type: none"> • new inlet separation, • a new 25 mmscfd, 325 gpm amine sweetening plant, • renovation of a 5200 hp acid gas injection system, • renovation of one 2750 HP gas compressor, • installation of 32 km of 8" sour gas pipeline, and • installation of numerous sour well-sites. 	
Role: Facility Engineer. Duties included: <ul style="list-style-type: none"> • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Development of budgets and schedules • Management and coordination of the engineering consultants 	<ul style="list-style-type: none"> • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Troubleshooting • Commissioning and start-up support
Technical and other challenges: <ul style="list-style-type: none"> • safe integration of new equipment and systems into an operating, 15-year-old gas plant 	<ul style="list-style-type: none"> • designing safe sour gas facilities near populated with environmentally sensitive neighbors
Project: Crossfield Gas Storage Facility (Part II) Owner: CrossAlta Gas Storage & Services Ltd	Time Frame: 2005 - 2009 Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)
Details: Commencing in 2005, CrossAlta began a 5-year program to expand the gas storage facility capacity to its practical limits, to consolidate facility operations and separate those operations from the rest of the East Crossfield Gas Plant. This program included: <ul style="list-style-type: none"> • the installation of a 300 mmscfd capacity JT Hydrocarbon Dew-point Control Plant, • the retrofitting of 9 compressors with a combined capacity of 18,500 hp to increase the maximum discharge pressure from • the conversion of the gas dehydration system from a TEG-absorption system to a 30 GPM EG-injection system • the installation of 8000 hp of new compression, • the replacement of all process equipment (including the heat medium system, the EG regeneration system and the liquid • the construction of a new tank farm and LPG facility. 	
Role: Project Engineer / Manager. Duties included: <ul style="list-style-type: none"> • Preparation of FEED and feasibility studies • Process engineering and design • Equipment sizing and selection • Major equipment procurement 	<ul style="list-style-type: none"> • Development of budgets and schedules • Management and coordination of the construction contractors. • Construction support
Technical and other challenges: <ul style="list-style-type: none"> • seamless integration of facility modifications into the existing systems without unduly disrupting plant operations 	

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<p>Project: Vankor Oilfield Development</p> <p>Owner: OAO Rosneft Oil Company</p>	<p>Time Frame: 2006 - 2007</p> <p>Engineering Company(s): CH2M Hill Canada Ltd (formerly Veco Canada Ltd)</p>
<p>Details: The Vankor Oilfield Development was designed for a capacity of 350,000 BPD of oil production and transportation. The scope of this project included the grass roots construction of the following facilities:</p> <ul style="list-style-type: none"> • Various well pads and gathering systems • About 600km of 36" oil pipeline (not in Veco's scope of work) • 2 Water separation facilities c/w approximately 30,000 hp in water pump capacity each • A Central Processing Facility (not in Veco's scope of work) • 3 oil pump stations, each with an oil pump capacity of about 35,000 hp, • An oil terminal with 3500 hp oil pump capacity and a 660,000 bbl oil storage capacity. <p>Role: Mechanical Engineering Coordinator. Duties included:</p> <ul style="list-style-type: none"> • Equipment sizing and selection • Major equipment specification • Design of HVAC systems • Development of budgets and schedules • Management and coordination of the mechanical engineering team <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • fast track project with very tight schedule • designing for extreme cold temperatures (-60 degC) • integration of Western engineering practices with Russian regulations and design codes, 	
<p>Project: Kerrobert Thai Project 09-14 Steam Injection Site</p> <p>Owner: Petrobank</p>	<p>Time Frame: 2009-2010</p> <p>Engineering Company(s): Coalition Projects</p>
<p>Details: Field installation of a steam generator c/w associated infrastructure. Installation included tying the steam generator in to the steam injection wells.</p> <ul style="list-style-type: none"> • 25 mmbtuh steam generator • 15 gpm water treatment package • 57 gpm boiler feed water pump • 3 atmospheric storage tanks with a total capacity of 2250 barrels • 35' x 65' transportable building <p>Role: Senior Mechanical Consultant. Duties included:</p> <ul style="list-style-type: none"> • Management and coordination of the mechanical engineering team • Management and coordination of the cost reporting and control team • Management and coordination of the engineering consultants • Management and coordination of the construction contractors. • Cost reporting and control • Construction support • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Design of HVAC systems • Development of budgets and schedules • Management and coordination of the engineering team <p>Technical and other challenges:</p> <ul style="list-style-type: none"> • Designing for site portability • Elimination by design of water hammer 	

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Project: Kerrobert Thai Project 11-14 Steam Injection Site Owner: Petrobank	Time Frame: 2009-2010 Engineering Company(s): Coalition Projects
Details: Field installation of a steam generator c/w associated infrastructure. Installation included tying the steam generator in to the steam injection wells. <ul style="list-style-type: none"> • 25 mmbtuh steam generator • 15 gpm water treatment package • 57 gpm boiler feed water pump • 3 atmospheric storage tanks with a total capacity of 2250 barrels • 35' x 65' transportable building Role: Senior Mechanical Consultant. Duties included: <ul style="list-style-type: none"> • Management and coordination of the mechanical engineering team • Management and coordination of the cost reporting and control team • Management and coordination of the engineering consultants • Management and coordination of the construction contractors. • Cost reporting and control • Construction support Technical and other challenges: <ul style="list-style-type: none"> • Designing for site portability 	
<ul style="list-style-type: none"> • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Design of HVAC systems • Development of budgets and schedules • Management and coordination of the engineering team 	
<ul style="list-style-type: none"> • Elimination by design of water hammer 	
Project: Dawson Thai Project 04-20 Steam Injection Site Owner: Petrobank	Time Frame: 2009-2010 Engineering Company(s): Coalition Projects
Details: Field installation of a steam generator c/w associated infrastructure. Installation included tying the steam generator in to the steam injection wells. <ul style="list-style-type: none"> • 25 mmbtuh steam generator • 15 gpm water treatment package • 57 gpm boiler feed water pump • 3 atmospheric storage tanks with a total capacity of 2250 barrels • 35' x 65' transportable building Role: Senior Mechanical Consultant. Duties included: <ul style="list-style-type: none"> • Management and coordination of the mechanical engineering team • Management and coordination of the cost reporting and control team • Management and coordination of the engineering consultants • Management and coordination of the construction contractors. • Cost reporting and control • Construction support Technical and other challenges: <ul style="list-style-type: none"> • Designing for site portability 	
<ul style="list-style-type: none"> • Equipment sizing and selection • Major equipment specification • Major equipment procurement • Control valve sizing and selection • Specification and selection of process instrumentation • Design of HVAC systems • Development of budgets and schedules • Management and coordination of the engineering team 	
<ul style="list-style-type: none"> • Elimination by design of water hammer 	

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Project: Bruderheim Field Demonstration Plant Owner: MEG Energy	Time Frame: 2011 - 2014 Engineering Company(s): Toyo Engineering
Details: The overall project was to develop a new heavy-oil treating process. This specific phase of the project was intended to design a pilot project designed to treat 1500 to 3000 bpd of heavy, diluted oil and to prove out the commercial potential of the process. <ul style="list-style-type: none"> • 37 pumps with over 1700 connected HP • 850 HP Gas Compression • 14 electric process heaters with more than 7 MW total capacity • 13 atmospheric storage tanks with more than 78,000 barrels of storage capacity • 20 Shell & Tube heat exchangers with over 58 mmbtuh capacity Role: Senior Mechanical Consultant. Duties included: <ul style="list-style-type: none"> • Preparation of FEED and feasibility studies • Major equipment specification • Major equipment procurement • Development of budgets and schedules • Management and coordination of the engineering consultants Technical and other challenges: <ul style="list-style-type: none"> • very high temperature process • accelerated corrosion in piping and equipment due to high process temperatures 	
Project: Kaybob Gas Plant Owner: XTO Energy	Time Frame: 2014 - 2014 Engineering Company(s): Ascent Consulting
Details: Conversion of an existing compressor station to a 150 mmscfd sour gas plant, including installation of an amine sweetening unit, a refrigeration unit c/w de-ethanization and debutanization, tank storage, hot oil and glycol heat medium systems and miscellaneous other infrastructure. <ul style="list-style-type: none"> • 12,000 HP Gas Compression\ • 150 mmscfd; 155 gpm Amine Sweetening Plant • 150 mmscfd Refrigeration Plant c/w 3200 HP propane refrigeration compressors • 60 mmbtuh Hot Oil Heating System • 4 atmospheric storage tanks with a total of 8000 barrels of storage capacity Role: Senior Mechanical Consultant. Duties included: <ul style="list-style-type: none"> • Process engineering and design • Equipment sizing and selection • Control valve sizing and selection • Specification and selection of process instrumentation • Development of budgets and schedules • Construction support • Troubleshooting • Commissioning and start-up support Technical and other challenges: <ul style="list-style-type: none"> • integration of various process packages into a coherent overall design 	