CURRICULUM VITAE

DENNIS ROMANYK, P. Eng.

ACADEMIC QUALIFICATIONS

2008 National Association of Fire Investigators Certification, CFEI

2004 Management Development for Professional Engineers, Geologists, and Geophysicists Business Certificate, University of Alberta

1979 Bachelor of Science in Mechanical Engineering, University of Alberta

PROFESSIONAL ASSOCIATIONS

Member, Association of Professional Engineers, Geologists, and Geophysicists of Alberta

Licensee, Association of Professional Engineers, Geologists, and Geophysicists of the Northwest Territories

Member, Society of Automotive Engineers

Member, ASTM International

Member, National Association of Fire Investigation (NAFI)

Member, National Fire Protection Association (NFPA)

CAREER SUMMARY

Broad experience in design, operation and maintenance of oilfield tools and equipment.

Experience in aerospace and oilfield manufacturing environments.

Experience in oil refineries, gas plants, compressor stations, pulp and paper mills, power plants and chemical plants.

Experience in quality systems.

AREAS OF EXPERTISE

Equipment and Tool Design

- Design and fabrication of sport wheelchairs and customized racing wheelchairs.
- Design and installation of pneumatic bulk material handling systems.
- Design of specialized oilwell cement mixing systems (batch mixers, re-circulating mixers).
- Design and installation of a chromic acid anodizing system capable of meeting the process specifications of Boeing Commercial Aircraft Company.
- Design of pressure vessels in accordance with ASME Pressure Vessel Code, Section VIII.
- Design of pressure piping in accordance with ASME Piping Code B31.3.

- Design of elastomer components for oilwell downhole service tools.
- Design of specialized downhole oilwell tools and equipment (wireline tools, packers).
- Design of plunger lift equipment and control logic.
- Design of multiple entry well heads and tubing hangers.

Investigations and Assessments

- Investigated and analyzed the failure of a roof support structure during a tank erection procedure.
- Investigated approximately 30 fires and explosions in the past three years ranging from major industrial losses to minor residential losses.
- Investigated a collapsed wall on a structure to determine the root cause for the failure.
- Investigated a roof collapse of a 50 foot by 150 foot agricultural building due to snow load.
- Assessed damages to a residential home caused by ice damming.
- Assessed damages to oilfield equipment that occurred when it was dropped during loading.
- Assessed the load carrying capacity of a mezzanine structure.
- Analyzed the wind loading effects on an automatic pipe handling system.
- Analyzed the potential energy of a tractor tire explosion.
- Investigated a diesel fired boiler explosion.
- Assessed damages to a residential home caused by vehicle impact.
- Investigated the poor performance of a pneumatic bulk system on an offshore jack-up drilling rig. Developed and implemented the corrective actions necessary to bring the performance up to an acceptable standard.
- Investigated the borderline output of an alodine system used to enhance the corrosion resistance of aluminum sheet metal products manufactured for the Boeing Commercial Airplane Company. Developed and implemented the corrective actions necessary to bring the performance up to an acceptable standard.
- Investigated the sudden apparently random failures of an over-running clutch used to engage the braking mechanism of progressing cavity pump surface drives. Part of this investigation was conducted on site at the supplier's manufacturing plant. It was determined that a small change in design made by the manufacturer was the root cause for the failures.

Computer Aided Drafting and Simulation

- Twelve years experience utilizing three-dimensional solid modeling software in design and presentation.
- Experienced utilizing Finite Element Analysis software to optimize design and identify component stress levels (ie. Pipe handling equipment, shear couplings, structural members).
- Developed software models to simulate process and performance expectations.
- Developed a software program to simulate the braking response of a progressing cavity pump surface drive during shutdown.

Testing and Analysis

- Conducted ultra sonic surveys of pressure equipment to determine wall thickness and remaining service life.
- Utilized tools such as Statistical Process Control to provide continuous quality improvement in a manufacturing environment.
- Developed procedures for equipment testing and validation.
- Developed a data base system that integrated data acquisition outputs with spreadsheet presentation and data outputs of pump tests performed. This system provided a means to reproduce certification documents from all of the data collected during the validation tests conducted at all remote locations. It was a vast improvement to the previous system which did not have the reproduction capability.
- Designed hydraulic driven testing equipment used to validate progressing cavity pump surface drives. The equipment was capable of capturing data used to determine the braking torque characteristics of a drive head during a simulated shutdown under maximum rated load.
- Designed electrically driven testing equipment used to validate progressing cavity pump surface drives. The equipment was capable of capturing data used to determine the braking torque characteristics of a drive head during a simulated shutdown under maximum rated load.
- Conducted extensive testing on progressing cavity pump surface drives mounted to the wellhead of a 1,000 meter test well. The test well configuration allowed data acquisition in both the normal operating condition and the high torque shutdown condition.

Management and Supervision

- Managed offshore service operations for Halliburton Services in the Arctic and East Coast.
- Managed retrofits of offshore vessel oilwell service pumping systems to meet DNV (Det Norske Veritas) specifications for 15,000 psi working pressure.
- Supervised hydrostatic testing of sixteen 48 inch Interprovincial Pipeline loops at selected compressor stations located between Edmonton, AB and Winnipeg, MB. This included filling the pipeline sections with water and applying pressure in a manner to develop the applicable 0.2% offset graphs required for documentation.
- Supervised the erection of a 20,000 cubic foot storage silo equipped with air slides designed to store and distribute barite material used in drilling mud fluid. This tank was located at Canmar's base camp in Tuktoyaktuk, NT.
- Managed transport logistics for drilling mud and cement materials required to support the drilling activities of Canmar's Beaufort Sea exploration season. Materials would typically arrive by rail car in Hay River, NT where they were stored and eventually loaded into pneumatic silos on barges. The barges would travel down the Mackenzie River to Canmar's base camp in Tuktoyaktuk, NT where materials were offloaded into pneumatic storage silos.
- Supervised plant shutdown maintenance programs in oil refineries, gas plants, compressor stations, pulp and paper mills, power plants and chemical plants throughout Western Canada.

Safety and Procedures

- Developed procedures for blending cement in accordance with design requirements.
- Developed an emergency response plan to effectively handle a worst case scenario of a blowout occurring while drilling an oilwell in the Canadian High Arctic region (Blowout Contingency for Canmar).
- Developed procedures for running a variety of down-hole tools used in offshore drilling applications.
- Developed and implemented company quality procedures to satisfy the requirements of ISO 9000 and the Boeing Commercial Aircraft Company Document D1-9000, Advanced Quality Systems for Boeing Suppliers. This certification was necessary for a company to manufacture components for the 777 aircraft.
- Developed and implemented document control procedures necessary for ISO certification.
- An original participant in the steering committee organized to define the recommended safe operating practices of progressing cavity pump systems. Safe operating practices were defined to minimize the identified hazards and risks associated with this type of pumping system.
- Active participant and co-author in the development of ISO 15136.2 Progressing Cavity Pump Systems for Artificial Lift, Part 2 – Surface Drive Equipment.

Equipment Experience

- Operated and maintained high pressure positive displacement pumping equipment used for oilwell cementing, acid stimulation, hydraulic fracturing, oilwell blowout control and pressure testing.
- Operated and maintained high volume single stage and multi stage centrifugal pumping equipment used for industrial circulating services, pipeline pressure testing and oilwell blowout control.
- Operated and maintained pneumatic bulk handling equipment utilizing positive and negative pressure compressors. The materials handled were typically cement, fly ash, gypsum, bentonite and barite.
- Operated and maintained mobile diesel fired boilers.
- Carried out casing cutting operations utilizing high pressure water and sand intensified with the injection of nitrogen gas.
- Operated brake and shear equipment.

OTHER COURSES

1992 Advanced Quality Systems, Green River College, WA

PROFESSIONAL CAREER

2006 – Present	**Anderson Associates Consulting Engineers Inc**., Partner
2004 – 2006	**Frey & Associates Engineering Ltd**., Mechanical Engineer / Partner
2002 – 2004	**R&M Energy Systems Canada**, Design & Applications Engineer
2001 - 2002	**Advanced NPD Inc**., Contract Engineer
2000 - 2001	**Custom Welding Services**, Engineering Manager
1999 - 2000	**Alco Industrial Inc**., Contract Engineer
1998 - 1999	**Secure Oil Tools**, Design Engineer
1994 - 1998	**Corod Inc**., Assistant Engineering Manager
1992 - 1994	**Self Employed**, Engineering Consultant
1988 - 1992	**GSR Technologies Ltd**., Advanced Quality Manager
1987 - 1988	**Self Employed**, Engineering Consultant
1986 – 1987	**Parathletic Ltd**., General Manager
1984 – 1986	**Slurry Cementers Ltd**., District Engineer
1984 – 1984	**Ceda Manufacturing and Sales**, Regional Manager
1968 - 1984	**Halliburton Services**, District Engineer (1979 – 1984)

Dennis Romanyk, P. Eng. Date

21 March 2011