



rokdok
A Division of 933285 Alberta Ltd.

**Mining and
Geotechnical Engineering**

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Resumé of

Peter Cain, Ph.D., P.Eng.

Dr. Cain has more than 25 years of experience in the coal and soft rock mining industries, including significant experience in all aspects of geotechnical engineering, mine planning and design and feasibility study work. Work experience includes overseas assignments in Baja, Mexico, and in Tabas, Iran, where he is currently retained to provide mine design services. Other significant experience includes four years as Underground Manager for Grande Cache Coal Corporation, and five years as Group Leader, Strata Control with the NRCAN-CANMET Coal Mine Safety Laboratory in Sydney, Nova Scotia.

EXPERIENCE:

2000 - Present

President and Chief Mining Engineer – rokdok

Upon the closure of Smoky River Coal Limited (SRCL), Dr. Cain established an engineering consulting company that has completed contracts for the Alberta Research Council, Quinsam Coal Company and Grande Cache Coal Corporation, among others.

For the Alberta Research Council, rokdok completed (June 2000) a review of hydraulic mining for potential application in the steep seams of the Alberta Foothills.

For Quinsam Coal Company rokdok completed an assessment of a ground control materials inventory which they obtained from a bankrupt coal company.

The bulk of rokdok's work has been for Grande Cache Coal Corporation, who retained services for a period of nearly four years from project initiation through a successful IPO on the Toronto stock exchange as they brought a new mining operation to development in Alberta, Canada.

Retained with primary responsibility for all underground mining engineering matters, duties included:

- management of all aspects of the planning, design and construction of a new underground coal mine in Alberta,
- overall mine design, production scheduling and cost analysis,
- geotechnical analysis and design, including roof and rib support and pillar design,
- equipment specification, tendering and selection,
- design of mine environmental monitoring systems,
- medium and long range project planning,
- helping to guide the mine application through the regulatory process.

The work also included meetings with Provincial development officials and safety regulators to establish safety standards for the proposed mine, as well as laying the ground work for several innovative equipment applications.

1998 – 2000**Senior Geotechnical Engineer / A/Chief Mining Engineer – Smoky River Coal Limited*****(company went into bankruptcy in March, 2000)***

Dr. Cain joined Smoky River Coal Limited as Senior Geotechnical Engineer in March 1998. In addition to general engineering assignments, he was responsible for:

- the assessment of support requirements,
- design of roof and rib support systems,
- design of pillars and pillar extraction sequencing,
- inspection of workings and support integrity
- design of any remedial support required.
- installation QA/QC,
- monitoring, analysis and interpretation, and
- training of roof bolting personnel

Dr. Cain also assisted in the selection of mining methods and equipment for new underground projects.

In 1999 the Chief Mining Engineer was promoted to Statutory Underground Mine Manager, and Dr. Cain assumed, in an acting capacity, the role of Chief Mining Engineer, performing many of his tasks in addition to those already being performed. These tasks included:

- strategic mine planning,
- layout and engineering of new mines,
- mine economics and cost evaluations,
- preparing license and permit applications,
- abandonment planning, and,
- planning replacement production capacity.

During his work at SRCL, Dr. Cain completed three major projects:

- developed a comprehensive ground control training program which was given to every underground employee and which resulted in a safer workplace;
- rationalised the ground support materials inventory by developing a drilling and ground support system that enhanced employee safety and reduced costs;
- spearheaded the adoption of a mining system that greatly improved development advance at a time when the mine was in difficulties arising from earlier design decisions.

1993 – 1998**Group Leader, Strata Control – NRCan/CANMET – CRL**

Managed all technical and financial aspects of the Strata Mechanics section, directing five employees in a \$700,000 government/industry co-funded program.

Technical work included research into sandstone/gas outbursts (as project leader and lead researcher), subsidence and interaction effects, and monitoring and analysis of ground movements and pressures.

Work with industry included:

- two, four-week assignments at the NISCO owned Tabas Experimental Mine in Khorasan Province, Iran;
- two spells in Mexico evaluating ground/support response in a soft clay volcanogenic copper cobalt deposit, and;
- a total of two years involvement with Smoky River Coal Limited trying to reduce injuries and improve productivity at their longwall mine by improving their ground control methods. Although the longwall was unsuccessful, support innovations introduced improved roof bolting times, and lead to a reduction in injuries and machine down-time.

1988 – 1993

Senior Mining Engineer – Jacques Whitford and Associates Limited

As Senior Mining Engineer in a rapidly expanding consulting engineering company, performed a number of mining and non-mining related engineering assignments:

- Project manager and lead engineer on a \$250,000 study of the stability of crown pillars at a lead-zinc mine.
- Project manager on several programs evaluating slope and rock structure stability, including evaluations of public hazard in the Cape Breton Highlands National Park, N.S., Gros Morne National Park, Nfld, and Hopewell Rocks Provincial Park, NB.
- Managed and conducted subsidence analysis projects in Pictou County, NS and Cape Breton, NS, with the latter leading to the development and calibration of a coalfield specific subsidence model from archival data.
- Supported my colleagues with input into rock slope and tunnel designs, including the use of Ground Penetrating Radar as an investigative geotechnical tool in the province.

Prior to leaving Jacques Whitford, Dr. Cain was retained by NRCan to perform the duties of Group Leader, Strata Control, at the Sydney Coal Research Laboratory, commuting 500 km for four days a week on site. Ultimately he took a permanent position.

EDUCATION:

1978 – 1982

Ph.D. in Rock Mechanics, University of Wales, University College Cardiff.

1974 – 1977

B.Sc. (Hons) Mineral Exploitation, Faculty of Applied Science, University College Cardiff.

PROFESSIONAL MEMBERSHIPS AND OTHER AFFILIATIONS:

- The Association of Professional Engineers, Geologists, and Geophysicists of Alberta
 - Member and Past Chair, APEGGA Honours and Awards Committee
 - Member, Canadian Institute of Mining and Metallurgy
 - Chair and Publications Chair, CIM Coal and Oil Sands Division
 - Member, SME
 - Member, Mine ventilation Society of South Africa
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ADDITIONAL INFORMATION:

- Underground Coal Mine Managers Certificate of Competency issued under the Alberta Occupational Health and Safety Act, Number 2004-UGM-01, valid until June 07, 2009.
 - Current St. Johns Ambulance Standard First Aid Certificate.
 - Successfully completed the "Occupational Health and Safety Program Building Course" offered by the Alberta Safety Council (August, 2002)
 - Successfully completed the iRB Level 2 Assessors Course, and Level 2 Referees Instructor Course.
 - Canadian NCCA Level 1 Coaching Certificate in Rugby, and I have completed the theory component of the Level 2 program.
 - National Focus Group rugby referee (retired).
 - UK and Canadian citizenship.
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REFERENCES:

Available upon request.