



Ho, DOUG W.C., P.Eng.

Vice-President, Engineering

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Doug is a Director and an Associate of Sproule and is involved in the management of Sproule Unconventional Limited, focusing on unconventional resources. Doug has been a Sproule professional since 1995 and has both conventional and unconventional oil and gas evaluation and field development studies experience in North America, South America, Asia, Middle East and Africa.

Diplomas and Degrees

- ❖ B.A.Sc. Chemical Engineering (1980), University of Toronto, Toronto, Ontario, Canada

Continuing Education

- ❖ Production Operations, Production Logging, Reservoir Analysis, Open-Hole Logging Analysis, OGCI, Calgary
- ❖ Horizontal Well Development, University of Calgary, Calgary
- ❖ Thermal Recovery, Farouq Ali, Calgary
- ❖ Reservoir Simulation, Exxon USA, Houston

Memberships

- ❖ Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
- ❖ Society of Petroleum Engineers (SPE)

Work Responsibilities

- ❖ Estimate reserves/resources and economic values of conventional/unconventional oil and gas properties in Western Canada, United States, South America, Australia, China, Southeast Asia, Middle East and Africa.
- ❖ Conduct in-depth reservoir studies on heavy oil/oil sands reservoirs in Canada, South America, Middle East and Africa to assess recovery process options and development potentials.
- ❖ Develop detailed deliverability studies for unconventional gas fields.
- ❖ Provide expert witness testimony for arbitration and in courts of law.
- ❖ Provide due diligence and technical advice on corporate divestitures and acquisitions of conventional, heavy oil and oil sands recovery projects.

Previous Employers

- ❖ 1986-1994 **Imperial Oil Resources Ltd.**, Calgary, Alberta

Senior Reservoir Engineer

- ❖ Conducted reservoir engineering for the Cold Lake Cyclic Steam Stimulation project. Responsible for project execution, equipment design, and contract management of production equipment used in the commercial project. Provided reservoir engineering support to district operation. Developed and implemented alternate recovery processes (i.e., horizontal well, steamflood, fireflood and cold flow) to piloting stage.

Senior Development Engineer

- ❖ Responsible for providing reservoir engineering support on reservoir depletion strategies and exploitation opportunities of conventional oil and gas fields in Alberta and Saskatchewan.

- ❖ 1980-1985 **Gulf Canada Resources Limited**, Calgary, Alberta

Production Engineer, Stettler Field Office

- ❖ Responsible for production optimization and well test design and analysis of conventional oil and gas fields in southern Alberta.

Production and Facilities Design Engineer

- ❖ Responsible for facilities and production equipment design for a fireflood project.

Special Expertise – Heavy Oil and Oil Sands Recovery

- ❖ Geological and reserves evaluation for various producing companies with thermal oil production of >200,000 barrels per day using cyclic steam stimulation and steam-assisted gravity drainage processes in the Cold Lake and Athabasca areas.
- ❖ Reserves and economic evaluation of various producing companies with cold production of heavy oil of >100,000 barrels per day in Western Canada.
- ❖ Geologic modeling of >8,000 wells in the In-Situ McMurray Fairway and surface mining area in the Athabasca, Cold Lake and Peace River Regions.
- ❖ Integrated development studies on heavy oil /oil sands reservoirs in Canada, Argentina, Venezuela Orinoco Heavy Oil Belt, Middle East and Niger Delta.

Publications and Presentations

- ❖ Ho, D.W.C. and Morgan, B.T., "Effects of Steam Quality on Cyclic Steam Stimulation at Cold Lake, Alberta." Paper presented to the 65th Annual Technical Conference and Exhibition of the Society of Petroleum Engineers, New Orleans, Louisiana, September 23-26, 1990.
- ❖ Co-authored and presented a technical paper on "Cyclic Steam Stimulation Steaming Strategies" at the 1992 SPE Annual Technical Conference.
- ❖ Provided expert witness testimony for arbitration and in courts of law.
- ❖ Participated in a panel discussion session on heavy oil reserves estimation in the 2000 SPE International Conference & Exhibition on Horizontal Well Technology.
- ❖ Guest speaker on "Disclosing non-conventional (oil sands) reserves" in the October, 2002 Conference Board of Canada Conference.
- ❖ Presented in numerous investment conferences and at SPE workshops on "Challenges in Bitumen Mining and In-Situ Production Reserves/Resources Estimation".
- ❖ Conducted heavy oil / oil sands seminars/workshops in clients' offices.