

Petrel Robertson Consulting Ltd.
KATHLEEN DOREY, P.Geo.
Chief Geoscientist, Managing Partner

Ms Dorey has an outstanding reputation in the industry as a successful oil and gas explorer and has over 30 years' experience in all facets of 2D-4D seismic data acquisition, processing and interpretation. She is an experienced interpreter with expertise in mapping conventional and unconventional oil and gas plays, assessing reserves and resources and recommending land strategies as well as proposing drill locations tied to development plans. She is well versed in advanced reservoir characterization methods such as pre and post-stack inversion, AVO, curvature, coherence analysis which can be used to maximize prospectivity in target reservoirs. For unconventional analysis, Ms. Dorey is well versed in integrating seismic derived reservoir thicknesses, structures and depth's with TOC, fracture, PVT and maturity data to map sweet spots in unconventional fairways.

PROFESSIONAL EXPERIENCE	2010-present	Petrel Robertson Consulting Ltd. Chief Geophysicist / Managing Partner
	2008-2010	BG International Team Lead / Senior Geophysicist
	1998-2007	Sheehan Energy Inc. Geophysical Consultant / President
	1993-1997	Ulster Petroleum Ltd. Chief Geophysicist
	1989-1993	Conoco Canada Ltd. Senior Geophysicist
Summary of qualifications	1979-1983	Western University HBSc. Geophysics
Summary of software training		Kingdom Petrel Seisware Winpics Geoframe
Professional memberships		Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGA); Canadian Society of Exploration Geophysicists (CSEG); Canadian Society of Unconventional Resources (CSUR)

EMPLOYMENT HISTORY

- 2010-Present **Petrel Robertson Consulting Ltd.**
Chief Geophysicist
Responsible for all aspects of PRCL's geophysical business, including client-specific consulting projects, domestic and international exploration and development, and strategic and prospect generation work. Projects have included mapping exploration and development plays in Canada, US, South America, Africa, Asia, Europe, Australia and New Zealand. Advanced reservoir characterization methods such as pre and post-stack inversion, AVO, AVAZ, Curvature, Coherence and fracture detection analysis have been applied to various projects specific to the client's needs. Potential field technology has been used in conjunction with other seismic methods to augment mapping projects for clients.
- 2008-2010 **BG International**
Team Lead / Senior Geophysicist
Multi-team lead for engineering, exploration, land, contracts, drilling and operations for NEBC and Alberta with 9,000 BOE/day asset base. Led team in prospect generation and reserve growth, adding 80 Bcf to prospect inventory in 2 years. Operating strategies tied to \$100 MM+ budget and reserve targets. Full cycle analysis to maximize net income and cash flow. Production optimization on existing well sites working in conjunction with engineering and operations. Horizontal sidetracks, compression analysis, facility upgrades, etc. Successfully developed multidisciplinary team into a functioning asset.
- 1998-2007 **Sheehan Energy Inc.**
Geophysical Consultant / President
Specialized in geophysical modeling, inverse and attribute analysis, interpreting, 2D-3D seismic acquisition, design and processing. Development/Exploration projects in Canada, U.S. and Internationally for both stratigraphic and structural plays in conventional and unconventional gas, oil and oil sands SAGD projects. Property and corporate acquisitions evaluations for Canadian and International oil and gas companies.
- 1993-1997 **Ulster Petroleum Ltd.**
Chief Geophysicist
Drilled discovery in the Retlaw Glauconite Pool, 7MM bbls in place. Followed up with 3D seismic and subsequent development drilling. Drilled 80 wells over 3 years in the Cretaceous, Jurassic, Mississippian, Wabamun and Swan Hills of Alberta. Drilled discovery well for Gold Creek Wabamun well with initial production of 6 mmcf/day.
- 1989-1993 **Conoco Canada Ltd.**
Senior Geophysicist
Drilled Cardium Foothills discovery wells at Lovett and Basing. Initial well produced at 9 MMcf/day. Followed up with development drilling in the pools, pipeline planning and well program and logging design. Exploitation/Development in Glauconite in the Central Alberta Region and Sikanni Mississippian Pool in NEBC.

Professional activities

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| Geoconvention Board of Directors | Appointed by C.S.E.G. for 3 year term to oversee national Convention direction and strategy. |
| Convention Chair | Chair for C.S.E.G. technical session 'Geophysics for Unconventional Resources' |
| Convention Technical Reviewer | Reviewed submitted geophysical abstracts for convention acceptance |

Geophysical Mentor	For the C.S.E.G., mentored doctoral geophysics student on energy industry and career opportunities
Geophysical Convention Organizer	Assisted in organizing C.S.E.G. convention in Calgary
Business Manager	Science and Technology Business Manager for C.S.E.G.

Professional and technical courses

Structural Mapping and Principles
 AVO Principles and Applications
 Structural Analysis of the Foothills
 Advanced Seismic Processing
 Migration Methods
 Palinspastic Restoration for Structural Plays
 Seismic Acquisition Principles and Design
 Inversion for Stratigraphic Plays
 EAGE/CSEG Land Seismic Workshop
 Seismic Processing Fundamentals
 Carbonate Geology
 DST Analysis
 Economics and Risk Analysis
 GeoX Risk Analysis
 Modern Carbonate Course, Bahamas
 Well Logging
 Modern Clastic Systems, Fraser River Delta, Canada
 Electromagnetic Methods and Applications
 Hydrothermal Dolomite Field Course

PUBLICATIONS AND PRESENTATIONS

- Hayes, B.J.R., K. Dorey, and C. Longson, 2017. Assessment of oil and gas potential, Windsor and Cumberland Basins, onshore Nova Scotia. Nova Scotia Department of Energy Open File Report 2017-03.
- Dorey, Kathleen, 2017. Geophysics: Creating Economic Independence in S.E. Asia. In Recorder, Vol 42, No. 5 (pp 20-23).
- Dorey, Kathleen, 2017. Westward Extension of Prolific Eagle Ford/Haynesville (Eqv.) Production into Mexico. Presentation at Presentation at the Canadian Global Exploration Forum, Calgary, Canada.
- Dorey, Kathleen, 2017. How to Obtain a Job in the Oil and Gas Industry. Paper for Canadian Federation of Earth Sciences, Ottawa, Canada.
- Dorey, Kathleen, 2016. Value Added Seismic Interpretation in Southeast Asia. Presentation at 2016 CSEG Symposium, Calgary, Canada.
- Dorey, Kathleen, 2016. Women Leaders in Oil and Gas: Empowerment Beyond Biases & Barriers. Presentation at Petrotech Conference, New Delhi, India.
- Dorey, Kathleen, 2016. Value Added Geoscience: A Case Study from Laos, S.E. Asia. Presentation at CSPG International Division Forum, Calgary, Canada.
- Hayes, B.J., P. Nicholls, K. Dorey, R. Bresnehan, W. McDougall and C. Wickens, 2016. Comparing basin-centred gas prospectivity in the Bowen-Surat Basin (Queensland, Australia) with the Deep Basin of western Canada and the Piceance Basin of Utah. Search and Discovery Article #10866.
- Dorey, Kathleen, 2015. New Horizons: Oil and Gas Potential from the Cretaceous to the Permo-Carboniferous, South Central Laos. Presentation at GeoConvention Calgary 2015, Calgary, Canada.

Dorey, Kathleen, 2014. Geophysical Evaluation of Exploration Prospects, South Central Laos. Presentation at EAGE/CSEG Land Seismic Workshop, Banff Canada 2014.

Dorey, Kathleen, 2014. Offshore Miocene Oil Prospect, Taranaki Basin, New Zealand. Presentation at CSPG International Division Talk, Calgary 2014.

Dorey, Kathleen, 2014. Geophysical Evaluation of an Offshore Oil Prospect, New Zealand. Presentation at CSEG Lunchbox Geophysics, Calgary.

Dorey, Kathleen, 2012. Geophysical Evaluation of the Kakapo Prospect, Taranaki Basin, Offshore New Zealand. Presentation at GeoConvention, Calgary 2012: Seismic Interpretation.

Dorey, Kathleen, 2005 Editor; Canadian Heavy Oil Association (CHOA) Handbook.