

Louisiana State University Baton Rouge, LA *Graduate Student, MSc. 8/97-8/99*

Thesis Topic: Crustal Evolution of the Western Mojave Desert
University of Bristol Bristol, England *Junior Year Abroad 9/95-6/96*
Tulane University New Orleans, LA *Geology, BS. 9/93-12/96*

KHRISTINA L. KIRSCHNER
Petroleum Geologist

Professional Associations and Certifications

- Alaska Geological Society (2020)
- PESA (2017-2019)
- AAPG (1997-2019)
- Indonesian Petroleum Association- Chairperson of Professional Division Website Development Committee (2005-2006)
- AAPG- Chairperson for Oversight Committee of AAPG Indonesian Student Chapters (2006)
- Houston Geological Society member (from 1997)
- Certified by Texas Board of Professional Geologists

Summary

I am a globally experienced petroleum geologist with 15+ years developing opportunities in exploration and development environments for large and medium-sized companies. I have enjoyed a broad career that has provided me with opportunities not only to develop exploration prospects within a regional context, but also to work on field development planning of greenfields and to identify and execute development opportunities in brownfields. My hands-on technical background includes drilling exploration wells in the Makassar Straits, Indonesia and development wells in the Cook Inlet, Alaska and Texas. In addition, my technical skillset has been broadened by commercial experience. This includes the evaluation and modeling of market-based gas storage opportunities, as well as project work involving the identification, generation and extraction of detailed information from fields worldwide for the purposes of benchmarking production performance. I bring experience, professionalism and a drive for results to each role I undertake.

PROFESSIONAL EXPERIENCE

C&C Reservoirs 10/12- 10/16

Berkshire, UK - Consultant Geoscientist

Oil and Gas Fields - Field Evaluation Analyst and Report Writer

- Responsible for writing technical reports on various oil and gas fields worldwide for publication by C&C Reservoirs. Reports, up to ten pages in length, include details on basin evolution, stratigraphy and depositional facies, reservoir architecture, properties and fluids, reservoir performance and improved recovery methods.

Chevron Australia - Asset Development 8/10-5/12

Perth, Australia - Development Geoscientist

Northwest Shelf Asset: Non-Operated/Joint Venture

- New Field Development: Responsible for evaluating the Northwest Shelf Egret Oil Field potential development; integrated core, paleo and logs and provided an interpretation of depositional environment; interpreted structural history and its effects on reservoir distribution; provided probabilistic evaluation of STOIP utilizing Monte-Carlo techniques
 - Resulted in significant influence over operator's view of STOIP primarily by producing alternate stratigraphic correlation
- Volumetric Updates and Reserves Validation: Responsible for incorporating the results of a newly drilled well in the Angel Gas Field to update volumetrics and support material balance modeling
 - Results supported engineering based estimates of GIIP
- Reserves- Core Validation and Significant Changes: Responsible for validating remaining oil and/or gas reserves in core fields (Searipple, Cossack, Lambert-Hermes) based on integrating yearly production with volumetric range; worked with reservoir engineers to use production history, material balance modeling and uncertainty to narrow HCIP range
 - Methodology and results provided basis for acceptance of annual reserves updates by Reserves Audit Committee
- Fault Seal Analysis: Applied Shale-Gouge-Ratio methodology across intra-field faults
 - Results provided context for unexplained production in "disconnected" Lambert-Hermes fields
- Partner relations: Represented Chevron at NOJV meetings; brought CVX technical concerns to the operator; influenced operator by leveraging CVX interpretations
- Documentation: Utilized Microsoft Powerpoint and Word, Excel, and Crystal Ball to provide technical summaries for partners and internal records/ reviews; responsible for co-writing and/or editing Decision Support Package documents and Asset Development Plans

Chevron North America Exploration and Production 1/09-12/09

Anchorage, Alaska - Development Geoscientist

Mid-Continent/Alaska Business Unit- Cook Inlet Gas

- Supply and Demand: Responsible for interfacing with engineers and producing summaries of gas into and out of storage versus actual producible gas; also tracked projects and overall supply

- versus contract requirements for 13 gas fields
- Gas contracts: Utilized Microsoft Excel to integrate production from all fields with a probabilistic function to track range of future supply; generated and modeled various gas demand curves versus supply to allow commercial group to shape gas contracts
- Business Plan: Supported local business unit and corporate business plan cycles by tracking production, future workover and new drill candidates as well as opex and capex related to these projects; worked with decision analyst to produce benefit versus cost analyses of various project combinations; utilized probabilistic function to support short-term and long term business plans
- Results: Developed and presented two alternative development schemes for MCA to fund- Scenario 1 added \$26MM in potential incremental NPV and Scenario 2 added potential for \$50MM-\$83MM additional NPV; recommended pursuing new markets, moving the potential portfolio DPI from 1.6 to 1.8

Chevron North America Exploration and Production 1/07-8/08

Anchorage, Alaska - Development Geoscientist

Mid-Continent/Alaska Business Unit- Swanson River Field

- Prospect generation and evaluation- oil and gas: Responsible for generating new drill and workover opportunities to maintain production from the mature Swanson River Field; progressed projects by coordinating integrated technical team's efforts from concept to drill and/or workover stages; generated business and technical cases to reprocess 3D seismic and conduct various geochemical, biostratigraphic investigations; promoted, coordinated and participated in standardization of full field petrophysics
- Gas Storage: Integrated depositional setting with an assessment of volumetrics and reservoir limits for gas storage candidates
- Technical documentation: Responsible for generation and timely submittal of technical summaries, asset development plans, maps and decision documents as required internally and by government organizations
- Results: Drilled a gas exploration well (Rio-1) and performed six workovers, which doubled gas production from the field

Chevron International Exploration and Production 8/05-12/06

Unocal Indonesia 9/03-8/05

Jakarta, Indonesia Exploration Geoscientist

Indonesia Deepwater Exploration:

- Prospect generation and evaluation: Responsible for team coordination and technical progression of exploration prospects near future development hubs (Makassar Straits) and new basins (Indonesia); identification of key risk elements at play and prospect levels; provided probabilistic estimates of resource ranges; ranked prospects by risk and size
- Well operations: Responsible for shallow hazards identification, pore pressure prediction, well path design, documentation for government agencies, collaboration with drilling engineers on casing point decisions, coordination of LWD/MWD services; collaborated with wellsite geologist, influenced partners and made recommendations to management during well operations

Indonesia Deepwater Development (Gendalo Field):

- 3D geocellular modeling: Responsible for development of 3D geocellular model used to analyze pre-development volumetric and flow scenarios; performed Monte Carlo simulations of HCIP and sensitivity analyses on reservoir properties
- Seismic inversion: Worked with multidisciplinary team to develop and implement a method of using reservoir distribution from pseudo-wells within the earth model to influence seismic inversion and, likewise, to use the seismic to condition the earth model
- Plan of Development: Responsible for documentation of technical work and communication of plan of development to government officials
- Results: Drilled one exploration well (Rajawali-1) and developed a portfolio of exploration prospects; developed a geologically and geophysically constrained earth model for the Gendalo New Field Development

Houston, TX 8/01-9/03

Gulf of Mexico Deepwater Exploration:

- Prospect generation and evaluation (Garden Banks, Mississippi Canyon, West Cameron and High Island): Responsible for development of leads and prospects for lease sales and partnering opportunities, prospect reviews, and providing support for engineering work
- Prospect specific and play level analyses: Included seismic interpretation, seismic facies mapping, detailed well log correlations, integration of biostrat markers with regional stratigraphic framework, cross-section generation, development of depositional environment and sand fairway maps, evaluation of resource ranges
- 2D basin modeling: Responsible for performing temperature corrections; mapping corrected bottom hole temperatures and temperature gradients; providing burial histories and pressure estimates; worked with basin modeler to analyze petroleum system
- PLACeR Access Database: Collaborated with programmer to develop a Microsoft Access based repository for prospects, leads and concepts within the GOM; gained support from users and appropriate subject matter experts on content (drop-down menus) and usability; collaborated with experts to link content to interactive, web-based GIS interface; combined product allowed users to quickly high-grade areas during lease sales
- Results: Completed a drilling program in High Island; recommended drilling three development wells in West Cameron; supported the acquisition of leases in the deepwater GOM; provided an in-depth understanding of prospectivity within the area and recommended areas for further exploration; gained competitive advantage by providing work teams with a fast,

interactive method for tracking plays on GOM acreage and retaining company knowledge of plays/prospects within the GOM

Phillips Petroleum Geoscientist

Houston, TX 9/99-8/01

Onshore and Inland Waters Development:

- Development and exploration: Responsible for recommendations on development drilling and workovers to maintain a mature Louisiana oil and gas field; generation and evaluation of near field exploratory opportunities onshore south Texas; developing and maintaining business relationships with partners; assessing production units, property acquisitions and farm-in opportunities
- Results: Recommended drilling a development well in south Texas; generated and farmed-out nine viable development and exploration prospects in south Louisiana

Software

• Petrel, GeoProbe, ArcGIS, LandMark Suite-Seisworks, Stratworks, Petroworks, Crystal Ball, Microsoft Suite- Word, Excel, Powerpoint, Adobe Acrobat

Publications

- Kirschner and Walden, 2004. A Case Study: Gas in Place Sensitivities from Geocellular Modeling of the Gendalo Field, Ganal PSC. In Noble, Argenton, Caughey (eds.), Proceedings of an International Geoscience Conference on Deepwater and Frontier Exploration in Asia and Australia, p. 401-405.
- Berendson, Cebastian, Glenn, Hariyannugraha, Kirschner, et al., 2005. 3D Geocellular Modeling and Reservoir Properties Uncertainty Quantification: A Deepwater Laminated Sand Reservoir, Gendalo Field, Kutei Basin, Indonesia. Abstract in 67th EAGE Conference and Exhibition.
- Glenn, Hariyannugraha, Skelt, Smith, Berendson, Schneider, Kirschner, et al., 2005. Constraining the Geology with Pseudo-wells: A New Approach to Seismic Inversion Applied to Gendalo Field. 2005 IPA Conference and Exhibition.
- Glenn, Hariyannugraha, Schneider, Kirschner, et al., 2005. Enhancing consistency between geological modeling and seismic pre-stack amplitude inversion with pseudo-wells: An example from the Gendalo field. Proceedings, Indonesia Petroleum Association, 2005, IPA05-G-029, p. 433-445.