

Radim A. Kolarsky, Senior Geoscientist

Overview

Mr. Kolarsky is a broad-based geoscientist (predominantly a geophysicist) and project manager with 25 years of wide-ranging global experience in the international oil and gas industry (10 years U.S. and 15 years international), with a specific focus on Africa, Asia, and the Middle East. His experience ranges from regional exploration on basin scale, to exploration and appraisal on block-scale, to full-scale field development work, including detailed work on reservoir scale.

Beside his strong technical skills, Mr. Kolarsky has considerable experience in leading technical teams, cross-disciplinary teams, and project management in Europe, Asia and Africa. He has also been utilized effectively by his clients as a technical trainer, who is multilingual and culturally adaptable.

His **exploration expertise** includes: petroleum systems and regional play analysis, prospect generation and development to drillable status, screening of external opportunities and asset evaluations, volumetrics, and risking. His **exploitation expertise** includes: field appraisal and development, re-development of mature fields, integrated field studies, field development planning and 4D applications. His exploitation experience includes both conventional and unconventional resources.

He is a highly skilled 2D/3D seismic interpreter. His work has a solid foundation in robust G&G integration, sound subsurface mapping and well log correlation, sedimentology, sequence stratigraphy, structural geology and basin tectonics. His experience includes both carbonates and clastics. He has extensive experience working with salt structures. Other areas of technical aptitude include QI reservoir and porefill prediction, seismic inversion, forward seismic modeling, quantitative seismic attribute analysis, AVO, building 3D reservoir porosity models based on seismic and wells, depth conversion and velocity modeling (comfortable with depth conversion in complex geological settings including salt, carbonates, deepwater).

He has experience with GIS, a good working knowledge of 2D and 3D seismic design, acquisition operations, processing tenders, processing QC, petrophysics, and reservoir engineering.

Regions worked:

- Africa – Cote d'Ivoire, Ghana, Nigeria, Cameroon, Equatorial Guinea, Angola; Ethiopia, Kenya, Tanzania, Mozambique, Madagascar; Tunisia, Egypt
- SE Asia/Australia – Australian NW Shelf, Indonesia, Papua-New Guinea, Thailand. Myanmar
- Middle East – Iran, UAE, Oman
- Europe/FSSR – Alpine/Carpathian Fold Belt, Black Sea, Kazakhstan, Georgia, Azerbaijan, Ukraine
- North America – deepwater, onshore, shelf Gulf of Mexico

Software used:

- Interpretation: Kingdom, Petrel, Geographix, Landmark, Geoprobe, Voxel-Geo, Stratimagic, Geoquest, Charisma, Tigress
- Geologic interpretation: Geolog, Petrosys, StratWorks, Earthvision
- Quantitative interpretation: GMAplus, Rokdok, Syntool, SynPak, Jason, Hampson-Russell
- Subsurface mapping: Petrosys, CPS3, Z-Map
- Volumetrics and risking: @Risk, Geo-X, Crystal Ball
- GIS: ArcGIS, QGIS, Franson, Blue Marble
- Software specific to Shell: 123DI, Savior, Depsim, Logic, Sipmap, Geocap, Space, Admer
- Other: Windows, Unix, MacOS, Linux, misc. graphics and business software, 17 years of HTML programming and website development

Contacts:

Worldwide mobile telephone numbers: +420 739262937

Skype: rkolarsky

Email: radim@kolarsky.com

Web: www.radimkolarsky.eu and www.kolarsky.com

LinkedIn: <http://www.linkedin.com/pub/radim-kolarsky/a/39b/4b5>

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Address: Kafkova 2
Prague 6, 16000
Czech Republic

Professional Experience – Overview

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|--|--------------|
| Kolarsky Development Consulting, <i>Field Development and Exploration Consultant</i> | 1999-Present |
| Petrokazakhstan, Inc., <i>Chief Geophysicist, Exploitation Manager</i> | 2004-2006 |
| Shell Deepwater Development, <i>Sr. Geoscientist</i> | 1997-1999 |
| Texaco Exploration and Production, <i>Geoscientist</i> | 1992-1997 |

Professional Experience - Details

1999 – Present **KOLARSKY DEVELOPMENT CONSULTING, LLC**

Locations in North America, Europe, Africa and Asia

Position: Consulting Geoscientist

Cogent Petroleum Ltd. **2018**

- Evaluation, risk assessment, and ranking of a gas prospect portfolio in the Silesian Basin, Czech Republic

Tate Petroleum Ltd. **2015-Present**

- Screening acquisition opportunities in Nigeria
- Evaluated 10+ acquisition targets offshore Niger Delta consisting of both exploration and field-development projects. Prepared reserve estimates and field-development plans, built economic models, prepared investor presentations, presented to management and investor representatives
- Active participation in raising capital

Nabirn Oil and Gas **2015**

- Evaluation and exploration prospect generation on Block 2113A offshore Namibia

Berlanga B.V., London/Almaty **2012-2015**

- Instrumental in building from the ground up a new ventures business focused on Middle East, East Africa and SE Asia
- Evaluations of numerous exploration and field-development projects in SE Asia, Central Asia, East Africa, and Middle East (Iran and UAE). These included exploration acreage as well as producing fields, conventional and unconventional resources, including challenging projects i.e. deep HP/HT tight oil in the Pricaspian Basin.
- Captured 2 exploration blocks onshore and offshore Myanmar in the 2013 licensing rounds
- Instrumental in technical DD work on acquiring WI on 3 producing fields from Carnarvon Petroleum onshore Thailand
- Integrated field study of the Sarybulak Field in Kazakhstan. Hands-on G&G interpretation, appraisal and development prospect generation, instrumental in steering the JV to proper field development planning.

Rialto Energy, London **2012**

- Regional analysis of the West African Cretaceous submarine fan play, from Liberia through Cote d'Ivoire and Ghana to Cameroon
- Special emphasis on Rialto's acreage in Cote d'Ivoire
- Assisted in preparing a data room in preparation for a major farmout

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Bowleven Oil and Gas, Edinburgh, Douala

2011 – 2012

- Mapped Bomono PSC (onshore Cameroon), created P&L portfolio, generated several development and exploration prospects, assisted in farming out portion of WI
- Successful Zingana-1 exploration/appraisal well, followed by a successful development program of Bomono Field.
- Leadership:
 - Lead and professionally developed a national G&G team, fostered teamwork, creative thinking, planning and proper project execution.
 - Taught an onsite technical training program consisting of QI, seismic interpretation, subsurface mapping, sedimentology and sequence stratigraphy classes

Murphy Oil and PTTEP – Jakarta and Bangkok

2007 – 2011

- New ventures and regional exploration in Indonesia, Thailand, Papua New Guinea, and Australia.
- As a Senior New Ventures Geoscientist, created investment opportunities through new acreage acquisition and farm-in screening.
 - Mapped and played key role in the acquisition of following blocks: WA-423 (Australian NW Shelf), Malunda and South Mandar (Makassar Straits, Indonesia).
 - Farmed out part of WI in WA-423
 - Took farm-in from Woodside in WA-378-P, WA-396-P and WA-397-P (Australian NW Shelf), containing multiple gas prospects on a structure adjacent to Brecknock Field, Omar-1 drilled in 2011, 100+ meters of strong gas shows encountered during drilling, but operator did not test, well P&Ad. Other prospects remain.
 - WA-423 exploration well to be drilled in 2012-2013
- Regional exploration work
 - Developed leads on held acreage to drillable prospects.
 - On South Barito PSC (SE Borneo), completely remapped block and reworked existing P&L portfolio, generated a drillable prospect, which was scheduled to be drilled in 2011-2012.
- Hands-on technical work:
 - Integrated interpretations based on seismic, well, outcrop and remote sensing data
 - Subsurface mapping, prospect generation, volumetrics and risking
 - Wrote farm-in evaluation reports, wrote bid documents in licensing rounds

MND Exploration and Production, Prague, London

2007

- Prospect development in the Alpine-Carpathian Fold and Thrust Belt (Romania and Germany)
 - Leadership work
 - Took over the role of Exploration and Reservoir Manager based in Prague (led 7-member multi-disciplinary team consisting of drilling, RE, G&G, support).
 - Technical work
 - Exploration prospect development work on Brates and Südbayern licenses in Romania and Bavaria, hands-on geophysics work, planning and bidding of seismic acquisition and processing, supervision of external contractors.
 - On short notice, successfully organized a \$6MM seismic program in Romania. Pre-acquisition modeling and planning greatly improved seismic imaging of complex fold-and-thrust-belt geology.
 - Barchiz-1 well drilled from our P&L portfolio was a 2010 oil discovery (proving an extension of the Geamana Field trend into the Brates Block)
- Farm-in screening in Romania and Ukraine
 - Worked on the Doina farm-in from Sterling Resources
 - Drove technical due diligence work on the acquisition of Regal Petroleum Ukraine, a transaction worth over \$300MM.

Devon Energy, Lagos

2005 – 2007

- Exploration prospect development in ultra-deepwater Nigeria.
- Leadership work:

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- Lead and professionally developed a Nigerian/expat G&G team, fostered teamwork, creative thinking, planning and proper project execution.
- Developed and taught an onsite technical training program consisting of QI, seismic interpretation, subsurface mapping, sedimentology and sequence stratigraphy classes
- Technical work:
 - Hands-on 2D/3D mapping and prospect development of OPL256 and OPL242.
 - Prepared and executed a 2-well exploration drilling program, developed prospects to drillable status, worked with engineers, JV partners and the Nigerian government, arranged permits, provided G&G support to drilling.
 - Liaised with Nigerian government on issues of technology transfer and local content utilization.
 - Ofuruma-1 (OPL242) became an oil discovery, but appraisal of adjacent structures was halted by Devon's exit from Africa.
- Screening of a farm-in from KNOC; Devon's exit from West Africa prevented acquisition from going through.

2004 – 2006

PETROKAZAKHSTAN INC.

Location: Almaty and Kyzylorda, Kazakhstan

Exploitation Manager

- Responsible for exploitation work on all company assets (9 fields in the Turgay Basin).
- Significantly improved field development through the introduction of an integrated cross-discipline workflow. Led successful appraisal and development drilling programs at Aryskum and Maybulak Fields.
- Staff development, designed and implemented a standard new-hire training program.
- Hands-on technical work at Aksay, Akshabulak, Aryskum, Nuraly and Maybulak Fields.

Chief Geophysicist

- Oversaw geophysical aspects for all company projects: 3D acquisition and processing planning, staff development.
- Provided G&G support to JV group, steered partners, resulting in more successful wells drilled.
- Led the planning and execution of the Aryskum integrated field study (\$700,000 project).
- Hands-on technical work at Aksay, Akshabulak, Aryskum, Nuraly and Maybulak Fields. Generated and drilled 7 successful appraisal/exploration wells.

Joint Ventures Field Development Consultant

- Mapped and identified upside potential in 3 fields operated by the KazGerMunai Joint Venture (RWE - Gaz de France - Petrokazakhstan).
- Identified approximately 120 MMBO of new Possible and Probable resources in Akshabulak Field.
- In first 6 weeks: assembled all data from JV partners and mapped the entire Akshabulak Field, generated 10 leads, matured the best one into a drillable prospect, convinced operator to change existing appraisal drilling program to drill this prospect instead. The well was a discovery, putting Petrokazakhstan over the 100% reserve-replacement threshold. The well also resulted in the drilling of several other amplitude-supported oil discoveries (25 MMBO reserve addition) with 100% success rate.

1999 – 2004

KOLARSKY DEVELOPMENT CONSULTING

Locations in North America, Europe, Africa and Asia

Position: Consulting Geoscientist

Shell Petroleum Development Company of Nigeria – Port Harcourt, Nigeria

2002 – 2004

- Integrated field studies and exploration of the Niger Delta.
- In the capacity of Senior Quantitative Seismic Interpreter, was instrumental in executing integrated field development studies, and provided reservoir and fluid prediction for exploration prospects.

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- Hands-on seismic interpretation, inversion, AVO, building 3D reservoir models, preparing field development plans, forward seismic modeling, velocity modeling, planning 3D and VSP acquisition, processing QC, supervising and training junior staff.
- Geophysical software testing and implementation.
- Provided key input in the Etelebou integrated field study, part of the T4/T5 LNG train (a 17 tcf development project), and helped ensure timely completion.
- Co-developed and taught on-site QI training classes. Shell estimated a savings of \$72,000 per class, compared to hiring an external contractor.

Watson Energy, Energy Partners, Beacon Exploration – New Orleans, LA

1999 – 2002

- Conducted integrated field studies and near-field exploration projects in the Gulf of Mexico.
- As Senior Geophysicist, led geophysical work on integrated field studies, generated appraisal and exploration prospects, screened external opportunities, managed outsourced projects.
- Hands-on technical work:
 - 3D interpretation, integration of well-log and 3D interpretations, generated robust structure maps, planned seismic acquisition and processing, handled processing QC and exploitation work at Paradis, South Pecan Island, East Bay Fields.
 - JV work with Texaco, Nexen, Pelican Oil and Gas.
 - Co-generated a large sub-salt prospect below East Bay Field.
 - Drove G&G due diligence work on a farm-in to Exxon's offshore acreage at Matagorda Island.
 - Successful exploitation drilling program at Paradis Field.
 - Gas discovery at East Cameron 9.

1997-1999

SHELL DEEPWATER DEVELOPMENT COMPANY, Inc.

Location: New Orleans, Louisiana, U.S.A.

Position: Senior Geophysicist

- Exploration and new ventures work in ultra-deepwater GOM: Garden Banks, Green Canyon, Walker Ridge (supra- and sub-salt prospecting).
- 1997: generated Shell's first abyssal-plain prospect in the Gulf of Mexico (Excalibur).
- 1998-1999: developed deepwater prospects "Cayenne" and "Curacao" in the Garden Banks area, Cayenne a 1999 discovery.
- 1999: Eastern Garden Banks Regional Study - development of a regional structural and sequence-stratigraphic framework for prospect risking and ranking.

1992-1997

TEXACO EXPLORATION AND PRODUCTION COMPANY, Inc.

Location: New Orleans, Louisiana, U.S.A.

Position: Geophysicist

- Exploitation work and near-field exploration onshore/offshore Gulf of Mexico.
- Worked on Cote Blanche Island, West Cote Blanche Bay, Vermillion Bay, Second Bayou Fields.
- Most significant project was Cote Blanche Island integrated field study:
 - 1995-1997: drilled 13 successful wells that added 20% proven reserves (approx. 20 MMBO) and increased field production 15x.
 - 1996-1997: co-developed Cote Blanche East exploration prospect (Prospect 'Stealth', 1997 discovery).

Education:

M.S. – Geology / Geophysics, The University of Texas at Austin

B.S. - Geology, George Washington University, Washington, D.C.

Selected professional training courses:

1991 – Peter Ziegler's Tethyan Basin Tectonics and Stratigraphy workshop (Houston)
1992 – Unix, Alistair Brown's seismic interpretation course, Landmark (New Orleans)
1993 – Practical Seismic Interpretation in Landmark (INEXS Consultants), Robert Mitchum's sequence stratigraphy course (New Orleans)
1994 – Applied Subsurface Structural Mapping (SCA), Effective Presentation Skills (New Orleans)
1995 – Negotiation skills, Landmark, Earthvision training courses (New Orleans, Houston)
1997 – Quantitative Seismic Attribute Evaluation, AVO school, Trap Analysis course, Risk analysis school (Rose & Assoc.) (New Orleans, Houston)
1998 – Deepwater Depositional Systems, 3D volume interpretation, (New Orleans, Houston)
1999 – Computer networks and network administration, HTML programming (New Orleans)
2003 – 3D visualization and volume interpretation (Port Harcourt)
2004 – Risk analysis school (Almaty)
2009 – Psychology of effective communication workshop (Bangkok)
2010 – Risk analysis school focused on the Geo-X software (Kuala Lumpur)

Professional Memberships:

American Association of Petroleum Geologists (AAPG)
New Orleans Geophysical Society (NOGS)
Southeastern Geophysical Society (SGS) (Board of Directors 1995 –1999)
Společnost Národního muzea v Praze (National Museum Society, Prague)

Languages:

English (fluent), Czech (fluent), German (good), Russian (good), Spanish (basic)

Citizenship:

Czech Republic, U.S.A.

Personal Interests:

Classical music (amateur cellist), history, architecture, photography, skiing, gourmet cooking, automobile racing (hands-on touring-class).