

Roy B. Luck

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Accomplished geoscientist, with commercial mindset and business acumen (MBA)

- Delivers recommendations to technical and/or management audiences; integrates data analysis with mapping, reservoir modeling, and competitive intelligence, to inform investment decisions
- Expertise in uncertainty reduction and field development planning in *conventional, unconventional, deep water and heavy oil production settings*; matured projects totaling 3+ Bboe volume, \$20+B CAPEX
- 20+ years experience in upstream oil & gas industry, including two Fortune Global 500 companies (Shell, ConocoPhillips), and ~6 years as an expatriate in the Netherlands and Nigeria

Key Skills – Combination of production geology, modeling, opportunity screening and communication

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| ✓ Oil/gas field development planning | ✓ Integrated reservoir modeling | ✓ Communication – written, verbal |
| ✓ Data integration and analysis | ✓ Reservoir characterization – seismic interpretation, | ✓ Consulting, Coaching, Mentoring |
| ✓ Opportunity screening, A&D | structural/sedimentary geology, | ✓ Software – SLB PETREL; IHS |
| ✓ Competitive Intelligence (CI) | correlation/mapping | Kingdom/SMT, PETRA, REP, MS Office |
| ✓ Oil/gas reserves assessment | | |

PROFESSIONAL EXPERIENCE

Consulting Geoscientist – Houston TX area

Q4/2015-present

- **Founder/Principal of APEX Subsurface Consulting, LLC.** “Working with energy producers to minimize subsurface risk and maximize project value” ... Consultancy marketed primarily to oil & gas, battery metals and geothermal energy, from opportunity screening to project sanction and beyond.
 - Geomodeler and seismic interpreter for independent operator with multiple assets offshore Niger Delta (brownfield, greenfield, exploration), on long-term contract. Built and maintained PETREL static models for dynamic simulation, and field development planning. Prepared material for marketing (farmout) efforts, including deterministic/probabilistic volume estimates.
 - Competitive intelligence consultant for geothermal, lithium brine industries
- Technical consultant (RPS Group Associate) for investors evaluating upstream business opportunities – assessed hydrocarbon-in-place volumes (Mexico, Romania) and technical risk levels.

ConocoPhillips (Gulf Coast Business Unit) – Houston TX

2014-Q4/2015

Staff Geologist, Eagle Ford Development Spacing Pilot Team. Recommended aerial and vertical well placements and completions design for a 12-rig drilling program, totaling \$1.5B in annual CAPEX; communicated findings at regular management updates. Coordinated geoscience data analysis of well spacing pilots to guide long-term development of a 220,000-acre, 2.5 billion-barrel unconventional asset.

- Identified key drivers for reservoir performance, in collaboration with teams in business unit and R&D; highlighted key uncertainties, and drafted 2015 geoscience work plan for 6 staff
- Correlated stratigraphy in PETREL project, and compiled petrophysical dataset to assess geomechanical impact on Stimulated Rock Volume (SRV) geometries that determine well count and spacing patterns
- Provided specialized training to geoscience/engineering staff on field trips (special recognition, 2014)

Royal Dutch Shell (Upstream Americas, Deep Water) – Houston TX

2011-2014

Senior Production Geologist, Stones Team. Key geoscience contributor on multi-disciplinary asset team. Informed decision makers at Select, Define and Sanction milestones for the Stones Field, Shell’s flagship project in the Lower Tertiary Gulf of Mexico trend (\$5+ billion CAPEX). Stones is the world’s deepest offshore oil production facility (9500’ water depth), producing first oil in 2016.

- Built and maintained geologic model of the Stones Field, using seismic/wireline/core/outcrop data to stochastically populate depositional facies; collaborated with reservoir engineers to compile production forecasts and constrain sensitivities prior to project sanction (special recognition, 2011 and 2012)
- Planned appraisal/development wells, and provided input for reserves estimates
- Assessed competitor acreage in Lower Tertiary trend, synthesized findings in management presentation(s); participated in multiple data rooms as buyer and seller
- Organized Reservoir Modeling workshop to improve efficiency, by standardizing/streamlining deep water modeling workflows; secured influential attendees and executive sponsors (2013)

Royal Dutch Shell (Projects & Technology, Front End Studies Americas) – Houston TX 2007-2011

Production Geologist and internal consultant, supporting asset teams in Shell business units worldwide

- Matured development of \$8+B Peace River/Carmon Creek heavy oil project, in collaboration with Shell Canada staff (special recognition, 2008); commercially challenged project sanctioned in 2013, divested in 2017 as part of \$7.5B oil sands package including steam flood and mining assets.
 - Built ~500 square-mile geologic model, incorporating high-resolution core photos; delineated contiguous area with favorable properties for proposed development of 3+ Bbbl resource. Evaluated steam drive (SD) and cyclic steam stimulation (CSS) development options
 - Screened *in-situ* heavy oil acreage in the Athabasca Oil Sands, identified acquisition candidates
- Saved ~\$500+ million CAPEX by reducing well count for partner-operated, deep water Erha North Field Phase II development in Nigeria (special recognition, 2011; first oil, 2015)
- Determined reserves volumes for Shell Canada, related to \$5.9B Duvernay Oil acquisition (2009); developed a stratigraphic correlation framework, and compiled maps of in-place volumes for multiple gas reservoirs in the Deep Basin, using petrophysical attributes from 1000+ wells
- Presented highlights and management initiatives to staff, tracked group performance relative to central/local targets in business planner role for VP Front End Studies Americas (2009-2010); gathered competitive intelligence for global Deep Water and Enhanced Oil Recovery (EOR) leaders

Royal Dutch Shell (Shell Nigeria Exploration & Production Company) – Lagos, Nigeria 2003-2007

Production Geologist - EA Oil Field. Sole geologist on multi-disciplinary asset team. Matured Phase II near-field and infill opportunities through Assess milestone; proposed \$250M re-development plan. EA is offshore Bayelsa State in the Niger Delta; it produced 125,000 bbl/d oil and 60 MMcf/d gas at the time.

- Built full-field static models for dynamic simulation, incorporating sequence stratigraphy to represent reservoir architecture and property distribution (special recognition, 2007)
- Interpreted seismic dataset covering structurally-complex EA Field
- Presented proposals to JV partners (Total, ENI, NOC Nigerian National Petroleum Company)
- Prepared materials for, and participated in, annual oil reserves audits, to ensure SEC compliance
- Provided wellsite support for deep water exploration wells

Royal Dutch Shell (Projects & Technology Applications/Research) – Rijswijk, Netherlands 2001-2003

Research Scientist/Geologist

- **Algeria exploration** (2003); prepared Shell exploration for new country entry and lease sale, by compiling geologic maps and regional cross-sections of Algeria (on the basis of literature search)
- **Water to Value team** (2001-2003); sole geologist on team dedicated to produced water management, covering activities ranging from waterflood simulation to water treatment and purification
 - Focal point for water re-injection studies at Nimr (Petroleum Development Oman) and Draugen (Norske Shell). Documented microseismic results, modeled induced fracture propagation.
 - Wrote chapter about surveillance techniques for induced fractures, in-house Shell waterflood manual

ADDITIONAL EXPERIENCE

- **Graduate Teaching Assistant, The University of Texas at Austin**; prepared, taught and evaluated laboratory exercises in introductory geology and sedimentary geology
- **Graduate Research Assistant, The University of Texas at Austin**; conducted structural geology fieldwork in the Central Ranges of New Guinea, and the Sierra Madre Oriental of northeast Mexico
- **US Forest Service volunteer** (Salmon NF, Challis NF, ID); engaged mine operators to mitigate impact on salmon habitat, posted abandoned mine boundaries to enable contaminant investigation by EPA

EDUCATION

- **M.B.A., Texas A&M University** Mays School of Business (Executive MBA Program, 2018)
- **M.Sc. (Geological Sciences), The University of Texas at Austin**. Proposed emplacement and mineralization models for Grasberg copper/gold ore body in Indonesia; advisor, Dr. Mark Cloos
- **B.A. (Geology, departmental honors), Carleton College**, Northfield MN; National Merit Scholar

Memberships – American Assoc. of Petroleum Geologists (AAPG), Geothermal Rising, Houston Geological Soc. (HGS), Soc. of Economic Geologists (SEG), Soc. of Petroleum Engineers (SPE)

Interests – Economics/investing, modern history, landscape/nature photography