

## **SUMMARY OF QUALIFICATIONS**

*1982 - Present*

Technically strong and creative petroleum engineer with 25 years of oil industry experience. Extensive development planning, reservoir evaluation and asset management experience with reservoirs developed under primary, secondary and enhanced recovery mechanisms. Creative problem solver and author of four US patents. Skills and experience include:

- Working on multi-disciplined teams in both leadership and individual contributor roles.
- Extensive experience designing and coordinating development drilling programs utilizing horizontal well technology.
- Planning new developments under primary, secondary and enhanced recovery mechanisms.
- Optimizing recovery from new and existing assets using numerical simulation tools.
- Enhancing well performance through application of completion and stimulation technology.
- Resource and mentor for less experienced engineers.
- Ability to work effectively in foreign assignments.

## **ACCOMPLISHMENTS**

### **Petrotechnical Resources of Alaska, 2007 - present**

Petroleum Engineering Consultant

- Identified the optimal waterflood development strategy for two North Slope oil reservoirs.
- Supervised and directed Schlumberger's reservoir simulation efforts for a small independent oil company.

### **Ugnu & Western West Sak (Alaska), 2006 – 2007**

Team Leader

- Lead Reservoir Engineer and Team Leader for Ugnu development planning.
- Generated development strategies for both thermal and non-thermal development of the Ugnu heavy oil resource

### **Hamaca Exploitation (Venezuela), 2001 – 2006**

Staff Reservoir Engineer & Team Leader (Expatriate Secondee)

- Lead Reservoir Engineer and Team Leader of the multi-discipline Hamaca Well Construction Team. Team consists of national and expatriate engineers, geologists, geophysicists and drilling support personnel.
- Generated technical evaluations of more than 100 wells and coordinated the drilling of more than one million feet of horizontal section in the Hamaca extra heavy crude oil project in the Orinoco Heavy Oil Belt of Venezuela.
- Effective mentor for Venezuelan engineers and geologists.

### **Kuparuk Satellites & Development Planning , 1994 – 2001**

Staff Reservoir Engineer

- Lead a team of engineers, geologists and operations personnel in the selection, drilling and completion of the first horizontal test well in the Ugnu extra heavy oil formation. Awarded a US Patent for the completion design utilized in the test well.
- Architect of the reservoir development strategy used to develop the 16 billion-barrel, West Sak heavy oil resource on the North Slope of Alaska. Depletion strategy utilized multi-lateral drilling technology, optimized well spacing and yielded more than \$80MM in development capital savings over the established conventional well development strategy.
- Developed a fullfield reservoir model for the Tarn light oil reservoir and justified the expenditure of more than \$150MM in development capital and booking of 65MMBO of reserves. Simulation results identified gas injection as a preferable recovery mechanism to waterflooding and ultimately lead to a field-wide miscible gas injection project.

### **Kuparuk Waterflood & Advanced Recovery Group, 1991 – 1994**

Senior Reservoir Engineer

- Managed the Kuparuk Enhanced Oil Recovery Pilot Project. Responsible for surveillance, production optimization and reservoir performance analysis of the miscible gas injection project.
- Credited with doubling production rates from mature wells using innovative stimulation and reservoir management practices.
- Received ARCO's Exceptional Contribution Award for identifying the optimum conversion timing strategy and yielding millions in capital savings.

**Kuparuk Operations Engineering, 1985 – 1991**

Petroleum Engineer

- Managed more than 40MBOPD of Kuparuk production.
- Performed economic evaluations and acquired funding for development drilling projects within the Kuparuk River field.
- Designed completions, stimulations and scale remediation treatments for more than 50 wells.

**New Developments Group, 1982 – 1985**

Petroleum Engineer

- Evaluated exploration prospects and prepared project funding documents.
- Supervised onsite testing and data acquisition of multiple exploration wells.
- Teamed with engineers, geologists and mining representatives to evaluate steamflood performance and project economics for a heavy oil reservoir developed from underground tunnels.

**P A T E N T S & P U B L I C A T I O N S**

- Method for Increasing the Production of Petroleum from a Subterranean Formation Penetrated by a Wellbore – U. S. Patent Number 5,620,049
- Method and Apparatus for Washing a Horizontal Wellbore with Coiled Tubing – U. S. Patent Number 5,865,249
- Method and System for Separating and Disposing of Solids from Produced Fluids – U. S. Patent Number 6,119,779
- Method of Treating Subterranean Gas Hydrate Formations – U. S. Patent Number 6,148,911
- SPE Paper No. 78990, “Hamaca Heavy Oil Project - Lessons Learned and an Evolving Development Strategy”
- SPWLA Paper, 2007 SPWLA Annual Symposium, “Resistivity Logging in Horizontal Wells in the Orinoco Heavy Oil Belt: Laterolog or Dielectric Propagation LWD tools?”

Member - Society of Petroleum Engineers

Languages: English &amp; Spanish