

**Characterization of Conventional and Unconventional Oil and Gas Resources**      **FY2014 Request: \$500,000**  
**Reference No: 53984**

**AP/AL:** Appropriation      **Project Type:** Energy  
**Category:** Natural Resources  
**Location:** Statewide      **House District:** Statewide (HD 1-40)  
**Impact House District:** Statewide (HD 1-40)      **Contact:** Jean Davis  
**Estimated Project Dates:** 07/01/2013 - 06/30/2018      **Contact Phone:** (907)465-2422

**Brief Summary and Statement of Need:**

Alaska's petroleum basins contain significant remaining undiscovered resources that can help address declining throughput in the Trans-Alaska Pipeline System (TAPS); a shortfall in Cook Inlet oil and gas supplies; and high cost of energy in rural Alaska. Geologic assessments will provide exploration data for new petroleum resource development efforts. Exploration programs in these underexplored regions are in various stages of infancy; such as the shale oil play of the North Slope and the Mesozoic oil play in the Cook Inlet, and the oil and gas projects in non-producing basins like Nenana, and there is a dramatic need for additional geologic information to ensure these activities mature to development stage.

<b>Funding:</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>Total</b>
Gen Fund	\$500,000						\$500,000
<b>Total:</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input checked="" type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Prior Funding History / Additional Information:**

No prior funding history

**Project Description/Justification:**

**WHAT IS THE ISSUE OR PROBLEM TO BE SOLVED?**

Alaska's geologic basins contain the largest undiscovered conventional oil and gas potential in the nation according to the U.S. Geological Survey (USGS). Alaska also contains significant unconventional petroleum resource potential in tight reservoir and shale. Initial attempts to quantify the conventional (undiscovered oil and gas fields) and unconventional (heavy oil, shale oil, shale gas, and gas hydrates) potential in Alaska were made possible by analyzing data generated from geologic analysis of State and Federal petroleum systems, and by industry exploration and development. The field data used in the analyses are widely distributed, and vary significantly in quality and quantity; significant information is available for some areas (North Slope near existing fields), but only cursory information is available for others (North Slope foothills and outside current field areas, Cook Inlet Mesozoic rocks, interior basins, and offshore). In order to move these potential resource assessments from hypothetical (USGS assessments) to real, much additional field and analytical

work and publication of pertinent data will be required to attract industry exploration and development funds in a competitive global market.

**WHAT IS THE SCOPE OF WORK TO BE PERFORMED?**

Geologic characterization of emerging petroleum systems in the Cook Inlet, on the North Slope, and within Interior Basins will better categorize the exploration potential of both conventional and unconventional energy resources. There are a number of current industry exploration efforts in all of these areas that are in various stages of infancy; such as the shale oil play of the North Slope and the Mesozoic oil play in the Cook Inlet, and the oil and gas projects in non-producing basins like Nenana. There is a dramatic need for additional geologic information to ensure these activities mature to development stage, including:

- 1) oil source rock chemistry and maturation data,
- 2) reservoir rock distribution and diagenetic alteration,
- 3) sedimentary basin history, and oil migration analysis,
- 4) secondary porosity development, and overpressure prediction.

The scope of this program will be to perform detailed geologic and geophysical studies on these critical elements and provide timely information to land managers and industry to facilitate development.

**WHAT RESULTS WILL BE ACHIEVED AND/OR PRODUCTS PRODUCED?**

The ultimate results this program will achieve are a direct impact on:

- 1) reducing the decline of oil production on and North Slope and in Cook Inlet,
- 2) helping address the potential shortfall of gas supply in the Cook Inlet,
- 3) helping reduce the dependence on fuel oil for heat and electricity in many areas outside of the Cook Inlet,
- 4) helping create jobs in the exploration and development sectors of the oil and gas industries.
- 5) producing timely and reliable new energy-related geologic information in areas of poor geologic understanding and high energy resource potential.
- 6) providing timely delivery of geological and geophysical information to support resource development, attract new industry, and provide pre-disaster hazard mitigation information for continued and safe economic growth

**WHY IS THIS PROJECT NEEDED NOW – WHAT IS THE IMPACT OF REMAINING STATUS QUO?**

This project is needed now to help stem the future decline of oil and gas production in Alaska and provide geologic information to facilitate future leasing decisions. Failure to fund this capital request will directly limit the amount of information available to attract and facilitate exploration of undiscovered, conventional and unconventional oil and gas in the state. The Division of Oil and Gas will not have the information necessary to make leasing decisions that result in the maximum benefit to the state.

**WHAT ALTERNATIVES WERE CONSIDERED TO SOLVE THE ISSUE OR PROBLEM, AND WHY WERE THEY NOT SELECTED?**

There are no viable alternatives to this project. In most cases the data needed to characterize the resources do not exist. In cases where data do exist, it is not sufficient for full characterization, or is maintained within proprietary data bases of an individual company.

**SPECIFIC SPENDING DETAIL:**

LINE ITEM	DOLLAR AMOUNT	DESCRIPTION
Personal Services	\$ 75,000	Partial funding for existing permanent staff
Travel	\$ 15,000	Travel, field work, meetings
Services	\$ 525,000	Helicopter contracts, scientific analyses, contract geologist, camp
Commodities	\$ 85,000	Helicopter fuel, field and office supplies
Capital Outlay	\$ 0	
Grants	\$ 0	
<b>PROJECT TOTAL</b>	<b>\$700,000</b>	

**Project Support:**

This project will maintain wide support from native corporations, Oil and Gas industry, local community governments, and the public.