

Cook Inlet Petroleum Potential

FY2023 Request: \$1,200,000
Reference No: AMD 63823

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: Theresa Cross

Estimated Project Dates: 07/01/2022 - 06/30/2027

Contact Phone: (907)269-6389

Brief Summary and Statement of Need:

Lower Cook Inlet basin and the Alaska Peninsula-North Aleutian basin have significant petroleum potential, but they have been lightly explored and critical aspects of their geology remain poorly known. Much of the existing exploration data in these basins are proprietary. This request will help fund an effort to increase the amount of publicly available data on the petroleum potential of these basins.

Funding:	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	Total
1004 Gen Fund	\$1,200,000						\$1,200,000
Total:	\$1,200,000	\$0	\$0	\$0	\$0	\$0	\$1,200,000

<input type="checkbox"/> State Match Required	<input checked="" type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input type="checkbox"/> Ongoing
0% = Minimum State Match % Required		<input checked="" 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	0
Totals:	0	0

Prior Funding History / Additional Information:

Project Description/Justification:

Despite the significant remaining petroleum potential in Cook Inlet basin, the basin is dramatically underexplored and many of its producing oil fields are in decline. The U.S. Geological Survey estimates mean volumes of undiscovered, but technically recoverable, hydrocarbons in the basin to be 599 million barrels of oil, 19 trillion cubic feet of gas and 37 billion barrels of natural gas liquids. The geology of Cook Inlet is complex and finding these resources will require significant investment by industry.

The basin’s location outside of the Arctic region, which is facing significant challenges from the current federal administration, combined with ease of entry and a lower cost operating environment should, objectively, make it highly attractive for new private sector exploration investment, yet the lack of relevant high-quality data serves to increase risk and dampen interest.

This project will spur exploration investment, resulting in more near-term jobs and new discoveries that will help create long-term high-paying jobs and support Alaska’s refining industry. While this request will fund work specifically in lower Cook Inlet and the Alaska Peninsula, the resulting data will

impact the petroleum potential of the entire region, including upper Cook Inlet where all current production and a major oil refinery are located. Data and interpretations resulting from this project will reduce exploration risk and increase interest in the region.

Critical aspects of the petroleum geology of Cook Inlet basin remain poorly known. Current estimates of remaining undiscovered, but technically recoverable hydrocarbons, combined with a lower cost operating environment make the basin highly attractive for new exploration. Three poorly understood aspects of the basin include the lack of information on the scale and geometry of potential reservoir sand bodies, composition and petrophysical properties of potential reservoir sand bodies, and their structural evolution. This work will result in the timely release of geological data to reduce risk and promote new exploration investment.

This funding will be distributed across three sub-projects:

1. Reconstruction of Mesozoic and Tertiary depositional systems in Cook Inlet basin: This sub-project will integrate new outcrop data with available well and seismic data to reconstruct depositional systems in both basins. Data and interpretations resulting from this sub-project will assist in recognizing depositional systems in subsurface datasets, which is critical for constraining potential reservoir heterogeneity and volume calculations.
2. Petrophysical and petrographic studies of petroleum reservoir quality and seal potential of Mesozoic and Tertiary rocks: The resulting dataset will be used to evaluate the reservoir quality and the ability of non-reservoir rocks to form effective reservoir seals. Data and interpretations resulting from this sub-project will be useful in evaluating reservoir and seal risk in the basin.
3. Reconstruction of basin structural development: This sub-project will evaluate the subsidence and structural development of the basin to better understand the timing of petroleum maturation and formation of major structures that could serve as traps for hydrocarbons. Data and interpretations resulting from this sub-project will be useful in evaluating trap risk.

Datasets resulting from the three sub-projects will be prepared for timely release to the public. Existing personnel will be used for various type of work. This funding will leverage funds received from the U.S. Geological Survey.

Cook Inlet basin is dramatically underexplored and there are few publicly available datasets to aid explorers in understanding the complex geology. Despite significant remaining hydrocarbon potential, the lack of data results in high risk and represents a serious impediment to future exploration investment. This funding will help reduce risk, promote exploration investment, support Alaska’s refining industry, create both near-term and long-term high-paying private sector jobs statewide, and provide revenue for state government.

This project meets the division’s statutory responsibility as outlined in AS 41.08.020 to “...conduct geological and geophysical surveys to determine the potential of Alaskan lands for production of metals, minerals, fuels, and geothermal resources.....and shall conduct such other surveys and investigations as will advance the knowledge of the geology of Alaska....”

Personal Services	225,000
Travel	35,000
Contractual	900,000

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Equipment	30,000
Supplies	10,000
Total	1,200,000