

**Bristol Bay Energy Development Investigations****FY2007 Request:****\$750,000****Reference No:****41927****AP/AL:** Appropriation**Project Type:** Planning**Category:** Natural Resources**Location:** Bristol Bay Borough**Contact:** Nico Bus**House District:** Bristol Bay/Aleutians (HD 37)**Contact Phone:** (907)465-2406**Estimated Project Dates:** 07/01/2006 - 06/30/2011**Brief Summary and Statement of Need:**

Little is directly known regarding the thickness, type, and hydrocarbon potential of sedimentary strata beneath much of the Bristol Bay lowlands, which are blanketed by glacial and fluvial sediments. Local geologic exposures are very limited to non-existent. Although regional geologic data suggest the lowlands east of Dillingham have limited potential for oil or gas, early references to possible oil seeps in the region are a source of optimism for many in the region. This request would fund a phased evaluation of this and potentially other lowland areas surrounding Bristol Bay via geologic exploration, seismic acquisition, and stratigraphic test drilling.

<b>Funding:</b>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>Total</u>
Gen Fund	\$750,000						\$750,000
<b>Total:</b>	<b>\$750,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$750,000</b>

<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"/> 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	0
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Additional Information / Prior Funding History:**

This is a new project request.

**Project Description/Justification:**

Recent events related to exploration licensing and the establishment of annual Alaska Peninsula areawide lease sales have raised the public's awareness of the potential economic benefits of hydrocarbon exploration throughout the Bristol Bay region. Since 2004, public briefings, community outreach, and a large amount of new geological and geophysical information distributed by the Department of Natural Resources have reached diverse audiences throughout Alaska and beyond.

Industry bidding in the first Alaska Peninsula areawide sale (AP 2005, held in October, 2005) was tightly focused on the southwestern part of the sale area near Port Moller, where the majority of geologic subsurface data exists, and the thickest and most prospective part of the Bristol Bay/North Aleutian sedimentary basin lies along the peninsula's northern shoreline. Despite the industry's clear and limited interest in the Port Moller area, many residents of the greater Bristol Bay region remain optimistic that oil and gas exploration will become widespread, bringing economic benefits and possibly even rural energy supply to communities and commercial endeavors across the region.

Geologic and geophysical data, although very limited in most of the actual lowlands rimming Bristol Bay, indicate that the northern lowlands are on the periphery of the main Bristol Bay basin, and are characterized by thin Cenozoic cover deposited on Mesozoic flysch and accreted metamorphic and magmatic rocks, which constitute economic basement. Historical reports of possible oil seeps near Dillingham were investigated by state geologists in 2005, and laboratory

analyses of all samples tested negative for actual hydrocarbons, and positive for iron bacteria that form iridescent sheens that are frequently mistaken for oil seeps.

This is in stark contrast to the southern lowlands on the Alaska Peninsula, where nearby outcrop exposures, previously drilled exploration wells, and publicly-available seismic data from nearby offshore areas demonstrate all the necessary components of a functioning conventional petroleum system: 1) mature source rocks that have generated oil and gas well shows and bona fide surface hydrocarbon seeps, 2) a thick sedimentary section hosting multiple potential reservoir formations, and 3) large structures and stratigraphic pinch-outs that might trap substantial accumulations of oil or gas.

This CIP would fund a phased investigation to further understand local and regional variations in hydrocarbon potential throughout the Bristol Bay region via field geologic studies, to be followed by limited seismic acquisition and stratigraphic test drilling.

- ? **Year 1 (2007) Geologic exploration:** The initial phase will involve geologic field investigation and collaboration with local residents to inform them of current geologic knowledge, and to seek their input on any additional suspicious sheens that have not yet been fully investigated. Additional mapping of coastal and river bluffs may yield useful information regarding pre-glacial geologic units.
- ? **Year 2 (2008) Seismic acquisition:** Depending on results of 2007 explorations, limited seismic acquisition may be planned and conducted during 2008 to image the subsurface. This would likely be highly focused to locations lacking nearby Tertiary outcrop exposures that could be projected to depth. Such data could provide better estimates of the depth to economic basement, the amount and type of structural development in the sedimentary section, and possibly some indications of rock types present as inferred from their acoustic reflectivity.
- ? **Year 3 (2009) Stratigraphic test drilling:** Depending on results of 2007 and 2008 investigations, this phase would consist of relatively shallow stratigraphic test drilling. The most likely site would be in the Nushagak lowlands outside of the deep Bristol Bay sedimentary basin, where the thin Tertiary and younger section has never been tested. The existing data suggest this area to have low hydrocarbon potential, but the lack of prior drilling leaves certain questions without definitive answers at this time. For example, does the area contain unexpectedly thick, hidden coal beds as potential sources and reservoirs of biogenic gas, and if so, what is their natural gas yield?

**Why is this Project Needed Now:**

The Bristol Bay region is in clear need of a stable and long term supply of energy, and most residents would also welcome the economic benefits associated with oil and gas exploration and development. These studies should help both state government and local residents better understand whether local hydrocarbon potential might be sufficient to help meet that demand. Current geologic knowledge suggests that only limited portions of the Alaska Peninsula areawide offering are sufficiently prospective to attract industry explorers, yet many in the region remain optimistic regarding more widespread economic benefits. It is essential that this discrepancy be resolved in the near term to ensure appropriate planning for the future.

**Specific Spending Detail:**

Line Item Expenditures:

Personal Services	----	n/a
Travel	\$150,000	field work and community travel, contractor crew travel
Services	\$600,000	laboratory analyses, seismic and drilling contractor services
Capital Outlay	----	n/a
Commodities	----	n/a

**Project Support:**

Broad support can be expected from 1) regional residents, 2) energy industry companies and independent investors that could benefit from these studies, 2) Native regional and village corporations with stakeholder interests, 3) natural resource management agencies in the State and Federal government, including DGGGS, USGS, MMS, BLM, and 4) research institutions, including UAF.