

**Foothills Oil and Gas Development Infrastructure
Investigations Phase 1 of 3**

**FY2011 Request: \$370,000
Reference No: 49203**

AP/AL: Appropriation

Project Type: Research / Studies / Planning

Category: Natural Resources

Location: Statewide

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House District: Statewide (HD 1-40)

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Estimated Project Dates: 07/01/2010 - 06/30/2011

Brief Summary and Statement of Need:

This project will provide critical data for judging the feasibility of state and federal infrastructure investment to access both undeveloped and undiscovered oil and gas in the central North Slope foothills. Better understanding of undeveloped discoveries with multiple wells (e.g., Umiat and Gubik) will help predict resource potential of sparsely explored areas. This will inform decisions on infrastructure, investments and spur exploration. Funding will also be used to identify potential geologic hazards and construction material sites along the proposed routes. Failure to fund could result in the state missing a resource development opportunity that may generate large revenues over the next 30 years.

Funding:	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>	<u>Total</u>
Gen Fund	\$370,000	\$370,000	\$370,000				\$1,110,000
Total:	\$370,000	\$370,000	\$370,000	\$0	\$0	\$0	\$1,110,000

<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	0
Totals:	0	0

Additional Information / Prior Funding History:

New Project – No Prior Funding History

Project Description/Justification:

Considered from a petroleum resource perspective, the North Slope foothills province extends more than 500 miles east to west along the north side of the Brooks Range and south of the Arctic coastal plain. The province encompasses more than 40,000 square miles, including the state's Foothills Areawide Lease Sale lands, the southern part of the North Slope Areawide Sale lands, more than half of the federally-managed National Petroleum Reserve in Alaska (NPR-A), the southern Arctic National Wildlife Refuge (ANWR) 1002 area, native corporation lands, and lands of mixed ownership on the far western North Slope. The foothills belt has been lightly explored, beginning in 1946, primarily in search of oil resources. Only 61 exploration wells have been drilled in the foothills belt, with only seven wells drilled in the last 25 years. Exploration well densities range from one well per 250 square miles in the northern foothills between southeastern NPRA and the western edge of ANWR to less than one well per 650 square miles in the foothills province as a whole. To date, this sparse exploration drilling has yielded nine gas accumulations and one oil accumulation. Delineation drilling has been conducted on a few of these discoveries, but none has been commercially produced because the infrastructure needed to develop and transport the resource has not been built. Federal

resource assessments and comparisons with similar foothills settings elsewhere suggest that the North Slope foothills province has considerable potential for future discoveries of conventional and unconventional hydrocarbon resources, especially natural gas.

This project will focus on providing key state and federal decision makers some of the critical information required to determine how and where to invest in the infrastructure needed to access both discovered but undeveloped and yet-to-be-discovered oil and gas resources in the central foothills of the North Slope. Recent discussion concerning a transportation corridor from the Dalton Highway to Umiat has highlighted our lack of detailed knowledge concerning these potentially significant accumulations. This project proposes to start with developing the best possible technical understanding of reservoir characteristics and reserves potential in undeveloped but partially delineated hydrocarbon accumulations such as the Umiat oil field and the Gubik gas field. This will involve integrating subsurface data from wells and seismic surveys (Division of Oil and Gas) with new and existing surface geologic mapping and results of other outcrop-based analyses (Division of Geological and Geophysical Surveys). The findings from these case studies will help DNR develop appropriate geologic models for discoveries on state land that have more limited well and seismic data. Results will also support resource evaluation in prospective but undrilled areas.

These more complete geologic models and resource estimates in the central foothills area will facilitate informed decision-making concerning the large capital investments needed for building transportation infrastructure (roads, pipelines, staging areas, etc.). Many of the expected technical findings will be appropriate for public release, which is anticipated to help spur renewed industry exploration in the foothills trend. This funding will also be used to identify potential geologic hazards, as well as materials sites for road construction along the proposed routes. Failure to fund this project could result in the state missing a key opportunity to stimulate resource development in this area, which has the potential to generate significant state revenue in decades to come.

Project execution will likely involve some private-sector employment in the form of direct contracting with geological and geophysical consultants. Indirect industry employment benefits will result to the extent that the project successfully stimulates renewed exploration of underexplored lands. The goals of this project are clearly in keeping with the statutory mandates of the Division of Oil and Gas and the Division of Geological and Geophysical Surveys. In addition to responsibility for oil and gas leasing and licensing on state lands, the Division of Oil and Gas has an obligation to promote exploration and development through incentives, advocacy and negotiation, and is expected to provide technical and policy support to state government. The responsibilities of the Division of Geological and Geophysical Surveys include determining potential for energy resources, construction materials and geologic hazards. This project directly addresses those responsibilities.

Why is this Project Needed Now?

This project is highly time-sensitive. It bears on pending decisions that will have long-range impacts on State revenue and energy supplies statewide, including the Railbelt region. This project is directly relevant to discussions of a possible bullet line from the North Slope, and has important implications for issues surrounding the construction of a major Alaska North Slope gas pipeline, particularly the long-term availability of gas resources from the North Slope foothills. Failure to fund this project could result in poorly informed decisions regarding the path to optimal development of foothills gas resources.

Specific Spending Detail:

<u>LINE ITEM</u>	<u>DOLLAR AMOUNT</u>	<u>DESCRIPTION (text)</u>
Travel	\$20,000	Travel to work with contractor
Services	\$340,000	Contractor to conduct investigations
Commodities	\$10,000	Small equipment

Project Support

The Alaska Department of Transportation and Public Facilities is evaluating potential routes for the transportation corridor and has sought DNR advice on optimizing the route. Arctic Slope Regional Corporation owns surface and subsurface rights to a large land position in the central North Slope foothills, and would benefit from an improved understanding of its resource potential.

The U.S. Geological Survey Energy Resources Program is a regular collaborator with the Alaska Division of Oil and Gas and Division of Geological and Geophysical Surveys, and will embrace these investigations as supporting their ongoing resource assessment responsibilities.

The Alaska Oil and Gas Conservation Commission benefits from improved understanding of oil and gas reservoirs and the potential for hazards associated with exploration and development drilling.

Oil and gas corporations (present and future) exploring the North Slope will welcome the data and interpretive results produced by this project.

The U.S. Bureau of Land Management clearly stands to benefit from this project as the land management agency and resource owner in federal portions of the North Slope foothills province, but official endorsement is uncertain.

The University of Alaska—Fairbanks faculty and students benefit from state-administered geoscience and engineering investigations of this kind, which have synergies with academic research programs and educational opportunities.

Project Opposition:

Formal opposition to these geologic and geophysical investigations *per se* is unlikely; the proposed studies do not have any material impact on the environment, subsistence use, or other surface resources. Opposition to infrastructure construction is likely to emerge when the planning process reaches certain milestones, for example, the public comment phase.