Chapter 1: Introduction

1.1 Purpose of this Report

The purpose of the Oil and Gas Technical Report (Technical Report) is to provide guidance for future oil and gas activities in the National Petroleum Reserve-Alaska (NPR-A). The 23-million acre NPR-A represents about 38% of the area of the North Slope Borough (NSB or Borough) (See Figure 1-1).

This report is intended to address issues related to exploration and development as well as the eventual departure of the oil and gas industry from the North Slope. Although the report focusses on oil and gas exploration and development within the NPR-A, many of the recommendations are relevant to other areas of the NSB. Conversely, while oil and gas approval process for the NPR-A is different that the process for state lands on the North Slope, the experience of the State of Alaska will be useful when reviewing proposed oil and gas activities for the NPR-A.
This report provides background information about oil and gas activities on the North Slope, identifies issues important to the NSB, and proposes recommendations for consideration by industry, the NSB, and state and federal agencies. The recommendations in Chapter 5 address both issues that need further resolution as well as specific changes to Title 19 of the NSB Municipal Code. The intent of the recommendations is to encourage responsible development with fewer adverse impacts to local residents, subsistence species, critical habitat areas, and the environment. Certain recommendations in this report are especially relevant to address gaps created when the Alaska State Legislature terminated the Alaska Coastal Management Program in 2011.

The NSB recognizes the numerous technical and management improvements made by industry over the past 30 years on the North Slope. It especially appreciates efforts to “push the envelope” toward developing and implementing innovative ways to reduce environmental and cultural impacts while providing for the economic base of its residents.
1.2 Project History and Methodology

The NSB applied for funding in 2003 for this project through the NPR-A Special Revenue Fund. The need for the study was supported by conclusions in two key reports on North Slope petroleum development cited in the grant application:

- The 2003 *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*, by the National Research Council of the National Academy of Sciences, and

In 2005, the Alaska Department of Commerce, Community, and Economic Development approved the Borough’s application and awarded a grant for the project. The NSB awarded a contract to URS Corporation to assist in developing the *Technical Report*. URS began its work on the project in January 2006 and conducted community meetings to gather stakeholder input, completed research and compiled much of the background material for this report.

In 2010, the NSB determined that it would be appropriate to develop policy recommendations and conclusions in house, so it terminated the contract with URS. Borough staff continued to work on the various chapters of the plan. In late 2012, NSB Mayor Charlotte Brower assembled the Oil and Gas Technical Team to finish the project.

While the initial goal of the grant was to develop a comprehensive oil and gas land-use plan, the Technical Team implemented a strategic approach to focus on seven key areas that promote responsible development:

1. Communication and coordination,
2. Tundra travel,
3. Roads,
4. Pipelines,
5. Gravel islands,
6. Air traffic, and
7. Dismantlement, removal and restoration (DR&R).

The decision to use a strategic approach was chosen to make the project more manageable. While subsistence and wildlife issues are not listed separately, they are related to most of the seven topic areas and are addressed in the discussion of issues in Chapter 4 and the recommendations in Chapter 5. Important issues beyond the scope of this report are briefly

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1: The NPR-A Special Revenue Fund, authorized by 42 USC 78.6506a, provides 50% of NPR-A federal sales, rental, bonuses and royalties to the State of Alaska. The State of Alaska is required to give priority for the allocation of these funds to the subdivisions of the state directly or severely impacted by the development of oil and gas. State statues addressing the fund may be found at AS 37.05.030.
discussed in Chapter 6 with recommendations for further action or study. These issues include research gaps, cumulative impacts, comprehensive interagency planning, utility needs for oil and gas development in the NPR-A, economic opportunities for local residents, and compensatory wetlands mitigation.

It should be noted that the situation on the North Slope has changed since this project was proposed in 2003. New discoveries have occurred, estimates of oil and gas reserves have changed, and new institutions have been developed. The North Slope Science Initiative (NSSI), created in 2005, is an example of a new organization. The purpose of the NSSI is to improve scientific and regulatory understanding of terrestrial, aquatic and marine ecosystems. Additionally, the BLM recently created another organization called the NPR-A Working Group with members from local governments, Native corporations and tribes.

1.3 Public Involvement

During the initial phase of the project, the NSB sought input from a wide audience. Stakeholders with significant interests in oil and gas activities in the region were invited to participate in meetings and workshops. These stakeholders include village tribal governments, the Iñupiat Community of the Arctic Slope, the petroleum industry and trade groups (e.g., Alaska Oil and Gas Association (AOGA) and the Resource Development Council (RDC)), conservation organizations, the scientific community, sport hunting organizations, and Alaska Native corporations. Regional Native Corporations include the Arctic Slope Regional Corporation and the NANA Development Corporation. Village Native corporations in the vicinity of NPR-A include Kuukpik Corporation (Nuiqsut), Ukpeagik Iñupiat Corporation (Barrow), Atqasuk Corporation (Atqasuk), Olgoonik Corporation (Wainwright), Cully Corporation (Point Lay), and Nunamuit Corporation (Anaktuvuk Pass). The other village Corporations within the North Slope Borough include the Tikiġaq Corporation (Point Hope) and the Kaktovik Iñupiat Corporation.

Between March and August 2006, the NSB and URS held public meetings in Nuiqsut, Barrow, Anchorage, Atqasuk, and Wainwright. URS also facilitated meetings of the Infrastructure and Dismantlement, Removal & Restoration focus groups in September 2006. Finally, the NSB held a Traditional Knowledge Workshop in Anchorage during September 2007. These meetings are summarized in Appendix A.

Participants in the meetings and workshop identified a comprehensive list of issues. In the simplest terms, the two broad categories of activity identified as impacting the local population are oil and gas development and scientific research. Many of the comments addressed impacts to subsistence uses and resources as well as mitigation of all project impacts. Other discussion topics are summarized in the following bullets.
• Impacts to subsistence uses and resources
• Infrastructure development, including roads, pipelines, gravel islands, and air travel
• Permitting coordination issues and a lack of multi-agency comprehensive planning
• Cumulative effects of development
• Monitoring impacts of development
• Monitoring compliance with laws and permit conditions
• Impact funding
• Research and data gaps
• Use of traditional knowledge
• Abandoned Infrastructure and unrestored landscapes (i.e., DR&R)
• Impacts of tundra travel and seismic exploration
• Offsite impacts
• Offshore development

Although not specifically part of this project, public input from other processes was considered when developing the Technical Report. The 2007 NSB Oil & Gas Forum in Barrow, also financed by the NPR-A Special Revenue Fund, brought together more than 200 people from industry, state and federal agencies, the environmental community, and NSB villages. The forum provided an opportunity to discuss major issues and opportunities for oil and gas activities in the NSB.

A summary of issues and recommendations identified by the NPR-A Subsistence Advisory Panel (SAP) was also reviewed when developing the Technical Report. The Bureau of Land Management (BLM) established the SAP in 1998 to make recommendations to respond to possible impacts to subsistence resources and uses from oil industry activities. The SAP generally meets three times a year to hear presentations by industry representatives and researchers. The seven panel members represent Tribal organizations from NSB communities. In addition to making recommendations, panel members provide information to the organizations they represent. Appendix B includes a summary of issues and recommendations raised by the SAP between 1999 and 2012 (BLM 2013a). The list of concerns raised by the SAP is very similar to issues raised during meetings for this project.2

The NSB initiated a five-week comment period in May 2014 on the Public Review Draft of this report. In early June 2014, it developed a response to comments document that explained how it responded to the six comment letters it received.

2: Issues raised by the SAP include: Powers of the panel, need for analyses of cumulative impacts, monitoring needs, conflict avoidance agreements, impact assistance, research needs, mitigation measures, subsistence impacts, communication needs, tundra travel, seismic surveys, barging activities, water withdrawal from lakes, ice and gravel roads, pipelines, air traffic, handling of hazardous and other wastes, cleanup of legacy wells, and restoration of areas.
1.4 North Slope Borough Management Authorities and Responsibilities

The NSB is the regional municipal government that covers the northernmost part of Alaska. With respect to land and water mass, it is the largest municipality in the U.S. Its land and waters cover 94,763 square miles, an area larger than 39 other states. Its government consists of an elected mayor, a seven-member assembly, a seven-member school board, and an eight-member planning commission. Property taxes assessed by both the State of Alaska and the Borough provide about 89% of the Borough’s budget. The State of Alaska administers the tax on oil and gas properties under Alaska Statute (AS) 43.56, and it shares that tax with the Borough. The NSB is wholly responsible for assessing non-oil and gas local taxes under AS 29.45. Taxation of oil and gas property provides approximately 98% of the Borough’s total property tax receipts.

The NSB was established as a first class borough in 1972, and a Home Rule Charter was adopted in 1974. It is a non-unified home rule borough that includes one first class city (Barrow), six second class cities (Anaktuvuk Pass, Atqasuk, Kaktovik, Nuiqsut, Point Hope, and Wainwright) and one unincorporated city (Point Lay).

As a home rule borough, the NSB has all legislative powers not prohibited by its charter or by state or federal law. These powers include taxation, education, planning, platting, and zoning. Its villages have transferred many powers to the Borough such as areawide police powers, streets and sidewalks, water, sewers and sewage treatment, garbage and solid waste services and facilities, flood control facilities, health services, transportation, and many utilities (telephone, light, power, and heat). Unlike many other Alaska municipalities, the Borough is responsible for its airports.

Under the authority of Title 29 of Alaska Statutes, the NSB is responsible for planning and zoning through the implementation of its Title 19 ordinance. The NSB Department of Planning and Community Services administers Title 19 of the Borough Code through its permitting program. The purposes of Title 19 are to implement the comprehensive plan, ensure that future growth occurs in accord with the values of borough residents, secure beneficial impacts of development, address negative impacts of development, and ensure that future development is appropriate and served by a range of public services and facilities (NSBMC § 19.10.020).

The Department of Planning and Community Services develops capital improvement program plans and gathers and preserves data regarding Iñupiat history, language and culture. The department is responsible for comprehensive planning and land use regulation to address

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3: The 94,763 square miles includes 88,817 square miles of land and 5,945 square miles of water (Alaska Department of Commerce, Community and Economic Development 2013).

4: The oil industry opposed formation of the Borough, challenging the Borough’s taxation powers as well as inclusion of Pet 4 (now NPR-A) within the Borough (Getches 1973). The Alaska Supreme Court affirmed the Borough’s ability to tax, but the Alaska State Legislature established a per capita ceiling on the Borough’s taxing authority.
environmental, health, social and economic impacts to communities as well as the land and natural resources.

The borough-wide Planning Commission makes recommendations to the NSB Assembly on rezoning, amendments to Title 19, the Borough’s comprehensive plan, and capital improvements. It makes decisions on preliminary subdivision plats and approves conditional uses and appeals. The Barrow Zoning Commission makes recommendations to the Assembly on the City’s comprehensive plan and rezoning, and it acts on requests for conditional uses and hears appeals.

The NSB’s Title 19 zoning and land use code applies to private, state, borough, and municipally owned lands and waters within the Borough’s boundaries. It also applies to federal lands, waters, tidelands or submerged lands within the borough, unless preempted by federal law. Title 19 does not apply to federally restricted townsitie lots or allotments, except as may be allowed by federal law. Alaska statutes require state agencies to comply with local planning and zoning requirements unless specifically exempted by the governor (AS 35.30.020 – 35.30.030).

1.5 Applicability and Scope of the Technical Report

While this document focuses on oil and gas activities within the NPR-A, some issues and recommendations may be applicable to other oil and gas development across the North Slope. The Technical Report is also applicable to offshore activities to the extent they affect onshore areas. For example, development in the federal waters of the Outer Continental Shelf (OCS) could have shore-based facilities and potentially a pipeline corridor across the NPR-A. In addition, activities may be conducted in nearshore marine waters to avoid impacts to sensitive onshore areas. An example of such an activity could include construction of a gravel island to directionally drill to an onshore area.

This report includes information about oil and gas developments in areas outside the NPR-A. These activities were included to give a better idea of cumulative impacts and the need for improved coordination and planning among stakeholders.

1.6 How to Use this Report

This report provides background information about the Borough government, the NPR-A and petroleum resources in the region as well as recommendations and policies for improving management of oil and gas activities in the NPR-A. While some readers may be interested in the background information provided in Chapters 2-5 of the report, others may wish to focus on the recommendations in Chapter 6. A short description of each chapter follows to aid the reader in navigating through the document.

- **Chapter 1 – Introduction**: This chapter provides a brief overview of the purpose of
the Technical Report, a summary of the project approach and public involvement, and a description of how the report will be used.

• **Chapter 2 – General Background:** This chapter provides background for the report including an overview of NPR-A history, the natural and human environments, management authority, development trends, and an overview of oil and gas regulation in Alaska.

• **Chapter 3 – NSB Oil and Gas Resource Base:** Chapter 3 provides information about existing and imminent development, known undeveloped resources and prospective development.

• **Chapter 4 – Major Issues Related to Oil and Gas Activities:** This chapter provides an in-depth analysis of the 7 strategic issues covered by this report: Project coordination; tundra travel; roads; pipelines; gravel islands; air traffic; and dismantlement, removal and restoration (DR&R).

• **Chapter 5 – Recommendations:** Chapter 5 provides guidelines and proposed policies to address the major issues described in Chapter 4.

• **Chapter 6 – Way Forward:** This concluding chapter provides information about how the recommendations in Chapter 5 can be implemented as well as a brief discussion about subjects that merit additional study but are outside the scope of this report.

• **Appendices** – The appendices provide additional information that may be useful to some readers, including summaries of public meetings, a summary of issues raised by members of the NPR-A Subsistence Advisory Panel, descriptions of subsistence use by village, agency authorizations for oil and gas activities, a chart depicting cumulative oil production on the North Slope, a list of participating areas in units, fold out maps, BLM lease measures, NSB standard permit stipulations, and State of Alaska Areawide Lease Mitigation Measures.