

**Statement of
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“Remediation of Legacy Wells in the NPR-A”

**Senate Committee on Energy and Natural Resources
July 12, 2012**

Introduction

Thank you for the opportunity to discuss the role of the Bureau of Land Management (BLM) in the remediation of legacy wells in the National Petroleum Reserve in Alaska (NPR-A). The BLM is responsible for the management of 136 test wells and reserve pits in the NPR-A that were drilled, but not closed, by the U.S. Navy and Federal civilian agencies from 1943 to 1982. The BLM’s priority is to protect human health and the environment through the remediation of the legacy wells. The agency actively monitors site conditions and directs available funding to address sites that pose a potential risk.

Background

The NPR-A is a 23 million-acre roadless area located 200 miles north of the Arctic Circle. This remote, treeless, mostly frozen landscape exists in a sensitive ecological balance. It is rich in both renewable and nonrenewable resources, including one of the most prolific geologic systems on the North American continent. Portions of the NPR-A hold high potential for oil and gas production. The area also features recreational and cultural values, including more than 1,000 historic and prehistoric sites, and Arctic wetland ecosystems, riverine habitats and upland areas that support caribou, waterfowl, shorebirds, polar bear, walrus, and other marine mammals. Furthermore, the area is home for a people who have inhabited it for 8,000 years and depend upon it for subsistence.

Petroleum exploration in the NPR-A has been ongoing for nearly 100 years. In the early 1900s, field geologists from the United States Geological Survey (USGS) exploring the North Slope of Alaska found several oil seeps in this area. Their discovery prompted President Warren G. Harding to set aside this portion of Alaska’s North Slope as an emergency oil supply for the U.S. Navy. President Harding established the Naval Petroleum Reserve No. 4 (NPR-4) by Executive Order in 1923. During early exploration programs, the U.S. Navy (1944-1953) and the U.S. Geological Survey (1975–1982) drilled 136 exploratory wells and boreholes at depths ranging from 100 to 20,335 feet. Now called “legacy wells,” these exploratory wells and boreholes were drilled to establish the feasibility of using modern petroleum exploration and production methods in Arctic conditions. Naval Petroleum Reserve No. 4 was renamed the “National Petroleum Reserve in Alaska,” and administration of the area was transferred from the U.S. Navy to the U.S. Department of the Interior, under the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258, 90 Stat. 303).

The BLM, an agency of the Department of the Interior, is responsible for protecting the resources and managing the uses of our nation's public lands, which are located primarily in 12 Western states, including Alaska. Within the NPR-A, the BLM is responsible for the management of the surface and subsurface resources which includes the legacy wells and reserve pits.

Since 1952, 19 wells have been plugged. The U.S. Navy plugged 1 well in 1952. The BLM began its plugging efforts in 2002 and has plugged 18 wells, remediated contaminated soils where necessary, and removed surface debris; another 18 wells are partially plugged and are used and managed by the U.S. Geological Survey (USGS) as climate change monitoring wells; 24 are on land that has been transferred out of Federal ownership; and 34 are uncased or partially cased boreholes drilled for geologic strata and permafrost research. On the remaining 41 legacy well sites, the BLM actively monitors site conditions.

Inventory, Assessment & Remediation

In 2004, the BLM completed an inventory and reviewed the condition and analyzed the risk posed to humans and the environment from the legacy wells. The inventory identified a number of legacy wells that posed a potential risk to public health, safety and the environment, and determined that many other sites presented no significant threat. The information from the assessments allowed the BLM to direct funding and attention to plug wells and remediate surface soils at sites that posed the greatest risk, while continuing to monitor conditions at the other sites. Costs for remediation vary dramatically depending on the proximity to infrastructure and the level of soil remediation necessary.

Umiat

Based on the priorities identified in the 2004 report, the BLM plugged a series of wells located near Umiat, addressing concerns with surface contamination and well condition. Umiat's proximity to infrastructure, including an airstrip, fuel supplies, and camp facilities, significantly reduced the cost to bring people, equipment, and materials into the area and to remove contaminated soils and surface debris from the area. In 2012, the BLM plugged two legacy wells near Umiat for \$3.5 million.

Response to Coastal Erosion

The BLM monitors wells adjacent to the ocean annually to determine if coastal erosion or other changes pose an increased risk to health and the environment and takes appropriate action as necessary. The BLM has responded to several emergencies. After a series of Arctic storms caused severe coastal erosion, including the calving of large swaths of coastal shoreline, four legacy well sites were in imminent danger of eroding into the Beaufort Sea. The BLM responded to the emergencies at these four sites in the following manner:

- ***JW Dalton.*** More than 300 feet of shoreline eroded near the JW Dalton well site during the 2004 winter season, exposing the well head. The BLM spent \$8.9 million to plug the JW Dalton well site.
- ***East Teshekpuk.*** The East Teshekpuk well remediation was completed by the end of 2008 for \$13 million. The high cost was due to the remote location of the site and the need to excavate, transport, and dispose of contaminated soils and solid waste.

- **Atigaru.** Remediation of the Atigaru well site was completed in April 2009 at a total cost of \$18.7 million. The high cost of this remediation was also due to the need to excavate, transport, and dispose of contaminated soils and solid waste.
- **Drew Point.** The BLM removed 13,500 gallons of diesel fuel from the wellbore prior to plugging the well and removed approximately 5,000 cubic yards of petroleum-contaminated mud from the reserve pit. The contaminated mud was hauled 35 miles overland from Drew Point to a disposal site. The project was completed in 2010 with \$16.8 million in American Recovery and Reinvestment Act (ARRA) funding.

Moving Forward

Moving forward, the BLM's strategy is to continue monitoring the legacy wells and to first plug and remediate those wells that present a potential risk, while prioritizing future plugging and remediation based upon available funding. The BLM also recognizes the importance of working collaboratively with the State of Alaska, Native Corporations, Tribal governments, and other partners including the Alaska Oil and Gas Conservation Commission (AOGCC) to accomplish this strategy.

To guide future efforts, the BLM expects to complete an updated Legacy Well Summary Report and a Strategic Plan in late 2012. The BLM monitors wells annually to determine changes in site or well conditions. The BLM uses the information gathered during inspections to assist in prioritizing the wells for future actions. The updated Strategic Plan will outline the agency's priorities for plugging the remaining legacy well sites. In preparing the updated Legacy Well Summary Report and Strategic Plan, the BLM is working closely with the AOGCC to come to a common understanding of the status and condition of the wells. The BLM has shared individual legacy well file information with the AOGCC. The BLM expects to receive the AOGCC recommendations on priority sequencing in September.

In the meantime, the BLM has developed cost estimates and a proposed plan to plug the Iko Bay #1 well and two other wells in close proximity to Iko Bay during the winter of 2013, pending funding approval. The BLM also developed a draft multi-season strategy to address 13 legacy wells over three seasons.

Conclusion

The BLM recognizes the importance of remediating the legacy wells in the NPR-A. The BLM remains committed to directing available funding to plug and remediate the remaining legacy wells in order to protect health, safety, and the environment. I will be glad to answer any questions.