U.S. Department of the Interior
Bureau of Land Management

National Petroleum Reserve in Alaska: 2020 Legacy Wells Strategic Plan

December 2020

Report to U.S. Congress

Mission Statement

The Bureau of Land Management sustains the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

Cover Photo

The West Dease Test Well #1 with associated reserve pit (July 2019).

For More Information

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I. EXECUTIVE SUMMARY

This report was prepared in response to a directive included in Senate Report 116-123, which accompanied the Further Consolidated Appropriations Act, 2020 (Public Law 116-94). The report presents a strategy for completing the remediation of legacy wells within the next ten years. This report is not intended to circumvent or foreshadow the President's annual budget request process under 31 U.S.C. 11, and the resource estimates in this report should not be construed to imply Administration support for particular levels of appropriations for this program beyond FY 2021.

A total of 136 wells and core tests were drilled in the National Petroleum Reserve in Alaska (NPR-A) by the Federal Government between 1944 and 1982. Since 2002, the Bureau of Land Management (BLM) has spent approximately $155 million cataloging and remediating priority legacy wells. That effort has led to 99 wells that require no further action and 37 remaining wells, 17 of which are being used by the United States Geological Survey (USGS) for temperature monitoring studies. This report focuses on the remaining 20 wells that have been identified as requiring BLM action. Estimated total costs for completion of remediation of the 20 wells is $136.4 million, or in the range of $125 to $150 million depending on potential efficiency savings or unforeseen costs. The strategic plan prioritizes and groups the remaining wells.

II. INTRODUCTION

Between 1944 and 1982, the U.S. Navy and USGS conducted exploratory and scientific drilling programs on Alaska's North Slope in the Naval Petroleum Reserve No. 4, now called the NPR-A. In 1976, the BLM was given responsibility for managing the NPR-A, and in 1982 the BLM inherited the responsibility to assess, plug, and clean up the wells that the U.S. Navy and USGS left behind (see Appendix 3 for a detailed timeline).

In 2013, the BLM developed the *2013 Legacy Wells Summary Report*—a comprehensive, site-by-site assessment of the condition of the remaining inherited wells—as well as the *2013 Legacy Wells Strategic Plan*. Since that time, the BLM has successfully addressed 30 well sites at a total cost of approximately $68 million, funded primarily by the Abandoned Wells Remediation Fund, authorized through the Helium Stewardship Act of 2013, with supplemental funding from the Management and Land Resources appropriation (see Appendix 3).

The 2013 Legacy Wells Strategic Plan clustered wells together for economies of scale, specifically in the reduction of mobilization and demobilization costs. Upon completion of those wells, the remaining wells are further from infrastructure and in certain cases are single wells. This document, the *2020 Legacy Wells Strategic Plan,* addresses those priority wells. For the purposes of this document, remediation is defined as plugging the well bore to Federal regulatory standards and surface cleanup activities at a legacy well site. There have been no new legacy well sites identified since the 2013 report was issued.

III. STATUS OF LEGACY WELLS

This assessment examines all 136 legacy wells that were drilled under the direction of the U.S. Navy or USGS and groups them into three categories (see Table 1).

Table 1: Legacy Well Summary Status

Category	# of Wells
Wells Requiring No Further BLM Action	99
Temperature-Monitoring Wells (USGS)	17
Wells Requiring BLM Action	20

The 99 wells requiring no additional action include those wells previously remediated by the BLM, those conveyed to the North Slope Borough (NSB) under the Barrow Gas Field Transfer Act of 1984 (P.L. 98-366), and shallow uncased test boreholes that present no subsurface or surface risks.

The USGS is using 17 wells for temperature monitoring for permafrost studies. Due to the threat of coastal erosion, Tulageak (previously in this group) was moved from the Temperature Monitoring Well category to Wells Requiring BLM Action.[1] The BLM will continue to work with USGS to establish a plan for the eventual disposition and remediation of the Temperature Monitoring Wells when they are no longer necessary for research or as coastal erosion dictates a need for plugging and remediation.

The 20 wells requiring action are prioritized in this plan based on the surface and subsurface risks they pose to human health, safety, and the environment. The remaining 17 USGS temperature monitoring wells will be considered over the life of the strategic plan if a change in condition occurs; otherwise, they will remain available to USGS to continue its studies. Table 2 summarizes all 136 wells.

Table 2: Legacy Wells Disposition Summary

(Numbers in Parentheses Indicate Number of Wells)

Wells Requiring No Additional BLM Action (99)

Well Category	Well Names
Transferred under the Barrow Gas Field Transfer Act (19)	South Barrow 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20; Walakpa 1, 2
Transferred under the 1981 Cape Halkett Exchange (1)	W.T. Foran 1
Plugged: no subsurface risk, no surface risks (37)	Arcon Barrow Core Test 1, Atigaru Point 1, Avak 1, Barrow Core Rig Test 2, Drew Point 1, East Teshek-puk 1, JW Dalton 1, North Simpson , Simpson 1, Simpson Core Test 13, 14, 14A, 15, 26, 27, 28, 29, 30, 30A, 31; South Barrow 1, 2, 3; South Simpson 1, Square Lake 1, Titaluk1, Umiat 2, 3, 4, 5, 6, 7, 10, 11; Wolf Creek 1, 2, 3

[1] "Coastal erosion threat" is defined as a site that will be at risk of falling into the ocean in the next 10 years. Wells not affected by coastal erosion are assumed to not need BLM remediation in the next 10 years.

Well Category	Well Names
Shallow, uncased wellbore: no subsurface risk, no surface risks (35)	Barrow Core Rig Test 1, Ikpikpuk Core Test 1, Oumalik Core Test 1, Oumalik Foundation Tests 1, 2, 3, 4, 5, 6, 7, 8, 9, 10; Simpson Core Tests 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12; Simpson Core Tests 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
Cased wellbore, surface inaccessible due to subsequent land use by NSB (1)	Barrow Big Rig Test 1
Plugged well, U.S. Army Corps of Engineers doing surface cleanup (3)	Umiat 1, 8, 9
Transferred to Arctic Slope Regional Corporation in 1996; requires no more BLM action, plugged and abandoned (3)	Grandstand 1, Gubik Test 1, Gubik Test 2

USGS Temperature Monitoring Wells (17)

Well Category	Well Name
Wells being used by USGS for temperature monitoring; future plugging and surface cleanup will be necessary when no longer in use (17)	Awuna 1, East Simpson 1, East Simpson 2, Ikpikpuk 1, Koluktak 1, Kugrua 1, Kuyanak 1, Lisburne 1, North Inigok 1, North Kalikpik 1, Peard 1, Seabee 1, South Harrison Bay 1, South Meade 1, Tunalik 1, West Dease 1, West Fish Creek 1

Wells Requiring BLM Action (20)

Well Category	Well Name
Require plugging and surface cleanup (18)	Cape Halkett 1, East Oumalik 1, East Topagoruk 1, Fish Creek 1, Iko Bay 1, Inigok 1, Kaolak 1, Kniefblade 1, 2, 2A; Meade 1, Oumalik 1, Oumalik Core Tests 2, 11, 12;, Skull Cliff Core 1, Topagoruk 1, Tulageak 1 (active Temperature Monitor Well threatened by coastal erosion)
Wells with unknown locations; no apparent risk at this time (2)	Minga Velocity Test 1, Sentinel Hill Core Test 1

IV. STRATEGY

The wells are ranked in priority using the risk assessment methodology found in Appendix 2. The BLM grouped together wells that may be near priority wells for economies of scale, which reduces the overall cost of mobilization and demobilization per well.

Subject to the availability of funding, the implementation of this strategy for plugging and remediating the remaining 20 wells requiring BLM action could be accomplished within 10 years.

This timeframe would be subject to change due to unforeseen circumstances that affect a current project or changing conditions, such as coastal erosion, that would require action on an unexpected temperature monitoring well. As noted above, the estimated cost for plugging and remediating the 20 remaining wells is approximately $125-150 million. That range takes into account the possibility of opportunistic cost savings or unforeseen expenditures due to unknown conditions. For example, clustering of wells allows for project mobilization and demobilization to be combined for substantial cost savings. Equipment costs can fluctuate based on demand of oil field activity. Limited rental camps and equipment are available, as the BLM competes with industry on a first come, first served basis. Weather delays occur with some regularity due to blizzard conditions or temperatures below -40° F.

The BLM has gained experience in the process of plugging and remediating legacy wells over the years. While the ability to have no year funds made a difference in the planning and efficiency of projects – with mobilization as the primary cost, clustering of wells allows for greater efficiencies over a series of years – the BLM is currently working to structure the program to work with the new two year funding cycle. The ability to enter into partnerships may also influence the priority order and pace of legacy well work. Partnerships can help the BLM leverage resources with other Federal agencies or non-Federal entities that are conducting work near legacy well sites where additional action is necessary. Those opportunities to share costs ultimately can benefit all parties. Cooperation from stakeholders has contributed extensively to legacy wells work. The primary cooperators have been the Alaska Oil and Gas Conservation Commission (AOGCC), Alaska Department of Environmental Conservation (ADEC), Arctic Slope Regional Corporation (ASRC), and North Slope Borough (NSB).

Although not a factor in this strategic plan's priorities and actions, exploration and development of Federal oil and gas lease tracts in the coming years may also help to facilitate legacy well plugging and site cleanup. Section 349 of the Energy Policy Act of 2005 allows the BLM to offset costs for remediation on lands subject to a new or current lease with royalty relief; this authority has not been used to date. If an operator plugs a legacy well, the cost can be given in royalty relief dollar for dollar. For example, if completing the plugging of a legacy well costs $10 million, that operator may receive $10 million in royalty relief. The BLM has been and will continue to work closely with industry to identify those opportunities as part of their exploration or development programs.

The BLM does not plan to plug any temperature monitoring wells currently in use by USGS unless they are threatened by coastal erosion but will continue to monitor coastal erosion at those sites and elevate them in priority as needed due to changing site conditions.

V. PRIORITY WELL RANKING

1. TULAGEAK

TULAGEAK 1

Subsurface: The well has low subsurface risk because plugs are present that isolate potentially productive zones. The well is currently in use by USGS for temperature monitoring. Diesel fuel is present from the top plug to near the surface, and that allows monitoring to occur through the noncorrosive, nonfreezing medium.

Surface: The surface ranking for this well is high because the threat of coastal erosion is significant. The reserve pit is approximately 200 feet from the existing shoreline. Approximately 10–25 feet of coastline is being eroded per year, but it is also possible to lose between 50 and 100 feet of coastline with severe storm events. The reserve pit was delineated in 2019 to determine the extent of contaminants requiring removal. The reserve pit contains drilling muds, additives and cuttings that require removal prior to the reserve pit being compromised by the coastal erosion. Such a compromise would result in a direct discharge of contaminants into the Beaufort Sea, which poses a direct or indirect risk to human health (for instance via harvesting of subsistence species) and the environment.

2. IKO BAY

IKO BAY 1

Subsurface: The subsurface ranking is high because the well continues to have pressure and will be a complex plugging operation due to current downhole conditions. Previous attempts were made to complete the plugging of this well in 2016 and 2017. Based on lessons learned, the BLM has developed a technical solution that is suitable to the downhole challenges.

Surface: The surface cleanup was completed during the winter 2016/2017 seasons.

3. OUMALIK WELLS (5)

EAST OUMALIK 1

Subsurface: The subsurface ranking is moderate because no cement plugs are currently isolating the geologic horizons. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface risk is moderate. A refrigerant system of piping was left in place, which may contain diesel, and other scattered debris is present.

OUMALIK 1

Subsurface: The subsurface ranking is moderate because the uppermost plug in the well is below a formation that contained hydrocarbons. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: This site has been classified as a moderate surface risk because a refrigerant system used during drilling and minor solid wastes remains at the site. Oumalik 1, Oumalik Core 2, Oumalik Core 11, and Oumalik Core 12 are within the same operations area.

OUMALIK CORE 2

Subsurface: The subsurface ranking is moderate because no cement plugs are currently isolating the geologic horizons. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: Same as Oumalik 1

OUMALIK CORE 11

Subsurface: The subsurface ranking is moderate because no cement plugs are currently isolating the geologic horizons. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: Same as Oumalik 1

OUMALIK CORE 12

Subsurface: The subsurface ranking is moderate because no cement plugs are currently isolating the geologic horizons. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: Same as Oumalik 1

4. TOPAGORUK WELLS (2)

TOPAGORUK 1

Subsurface: The subsurface ranking for this well is moderate because no plugs are isolating the formations where hydrocarbon shows were encountered. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface risk ranking is high because of the extensive surface debris present, including battery cores, extensive refrigerant piping, and drilling muds.

EAST TOPAGORUK

Subsurface: The subsurface risk ranking is low because the formations containing hydrocarbons have been isolated.

Surface: The surface ranking is low because only minor solid wastes are present.

5. SKULL CLIFF

SKULL CLIFF CORE TEST 1

Subsurface: The subsurface risk is moderate because no plugs were set in the well.

Surface: The surface priority is high because solid wastes present a hazard to winter travel, as Skull Cliff lies within a popular corridor connecting Barrow and Wainwright.

6. KNIFEBLADE WELLS (3)

KNIFEBLADE 1

Subsurface: The subsurface ranking is moderate because no plugs are currently in the well. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface ranking is low because no known debris or contaminants are at the site.

KNIFEBLADE 2

Subsurface: The subsurface ranking is moderate because no plugs are currently in the well. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface ranking is low because a small amount of debris exists at the site.

KNIFEBLADE 2A

Subsurface: The subsurface ranking is moderate because no plugs are currently in the well. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: Same as Knifeblade 2.

7. FISH CREEK

FISH CREEK 1

Subsurface: The well is a moderate subsurface risk because hydrocarbon zones are present that have not been adequately isolated, and the current plugs are below the productive horizon. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface risk is moderate because a deteriorating concrete pad and other solid waste is present that could pose a risk to local residents.

8. KAOLAK

KAOLAK 1

Subsurface: The subsurface ranking for the well is moderate because no plugs are currently isolating the hydrocarbon zones. Plugging is required to ensure no hydrocarbons migrate from the formation and the reservoir is not compromised.

Surface: The surface ranking is moderate because the extensive solid waste poses a travel risk to subsistence travelers. The BLM has an agreement with the Alaska State Historic Preservation Office that an archeological assessment will be done before any cleanup or remediation activities will occur.

9. CAPE HALKETT

CAPE HALKETT 1

Subsurface: The subsurface risk is low because the well is assumed to be adequately plugged and abandoned; that assumption will be verified when the wellhead is cut off.

Surface: The surface risk is moderate because the metal pilings present a travel hazard to residents. In low-light or whiteout conditions, the pilings and cement blocks are obscured along this winter travel route. Drilling wastes and mud were left on the tundra and are subject to occasional flooding.

10. MEADE

MEADE 1

Subsurface: The subsurface priority is low because the productive gas zone has been isolated with cement plugs.

Surface: The surface risk is considered moderate because of the potential of diesel fuel leaking into the surrounding soils from a refrigeration system buried under the tundra.

11. MINGA TEST VELOCITY AND SENTINEL HILL

MINGA TEST VELOCITY 1 AND SENTINEL HILL 1

These two wells are grouped together because their exact locations are currently unknown. Minga Test Velocity 1 was drilled in a lake in 1950 to test the underlying permafrost with the casing cut off five feet below the surface. Sentinel Hill 1 was buried in a landslide just months after it was drilled in 1947. The BLM is taking action by actively monitoring the approximate well locations and any changing conditions through the use of overflights, aerial imagery, and exploring other ideas such as lidar. If the wells are found, they will be evaluated for future action.

12. INIGOK

INIGOK 1

Subsurface: The well is believed to have been plugged to surface. The subsurface priority is low because whether adequate cement is present at the surface cannot be verified until the wellhead is cut off.

Surface: The surface priority is considered low because the reserve pit present was closed by ADEC in 1995.

VI. STAKEHOLDER ENGAGEMENT

The 136 wells were vetted through a three-year public process (from 2013–2015) with the AOGCC, in which downhole properties for each well were examined. Current information and conditions from the 2013 Legacy Well Summary Report and its citations were examined, along with re-constructed wellbore diagrams, to determine plugging solutions that would satisfy both Federal and State regulations. The BLM continues to coordinate with the AOGCC on seasonal well plugging projects for all phases, including plugging design, procedures, downhole site condition changes, and contingencies.

Surface sampling lab results are sent to ADEC for each well that is being plugged. The ADEC provides a high-level review and works together with BLM to ensure that no harmful materials remain at those locations.

Several legacy wells have been conveyed out of Federal ownership to ASRC. The BLM worked with ASRC to plug and clean up those wells. In 2019, three wells were plugged on ASRC lands. The ASRC provided surface clearance and final approval of the surface reclamation.

The BLM has plugged six legacy wells on NSB lands within the vicinity of Utqiaġvik. The BLM paid the $30,000 site fee per well to the NSB while completing the plugging over two seasons. The ongoing work required constant coordination with the NSB.

VII. CONCLUSION

The BLM will procure services to remediate the remaining 20 priority wells based on funding availability.

The BLM will continue to regularly inspect these wells for the following parameters to determine if any conditions have changed that would require reprioritization: rate of coastal erosion for those sites within 1,000 feet of the coastline along the Beaufort Sea; erosional stability of the well site; the integrity (corrosion or failure) of any wellhead protection devices; visible petroleum contamination related to solid waste or wellhead leaks; other well integrity issues; and changes in land use patterns or proximity to travel corridors or population centers.

VIII. BIBLIOGRAPHY

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APPENDICES

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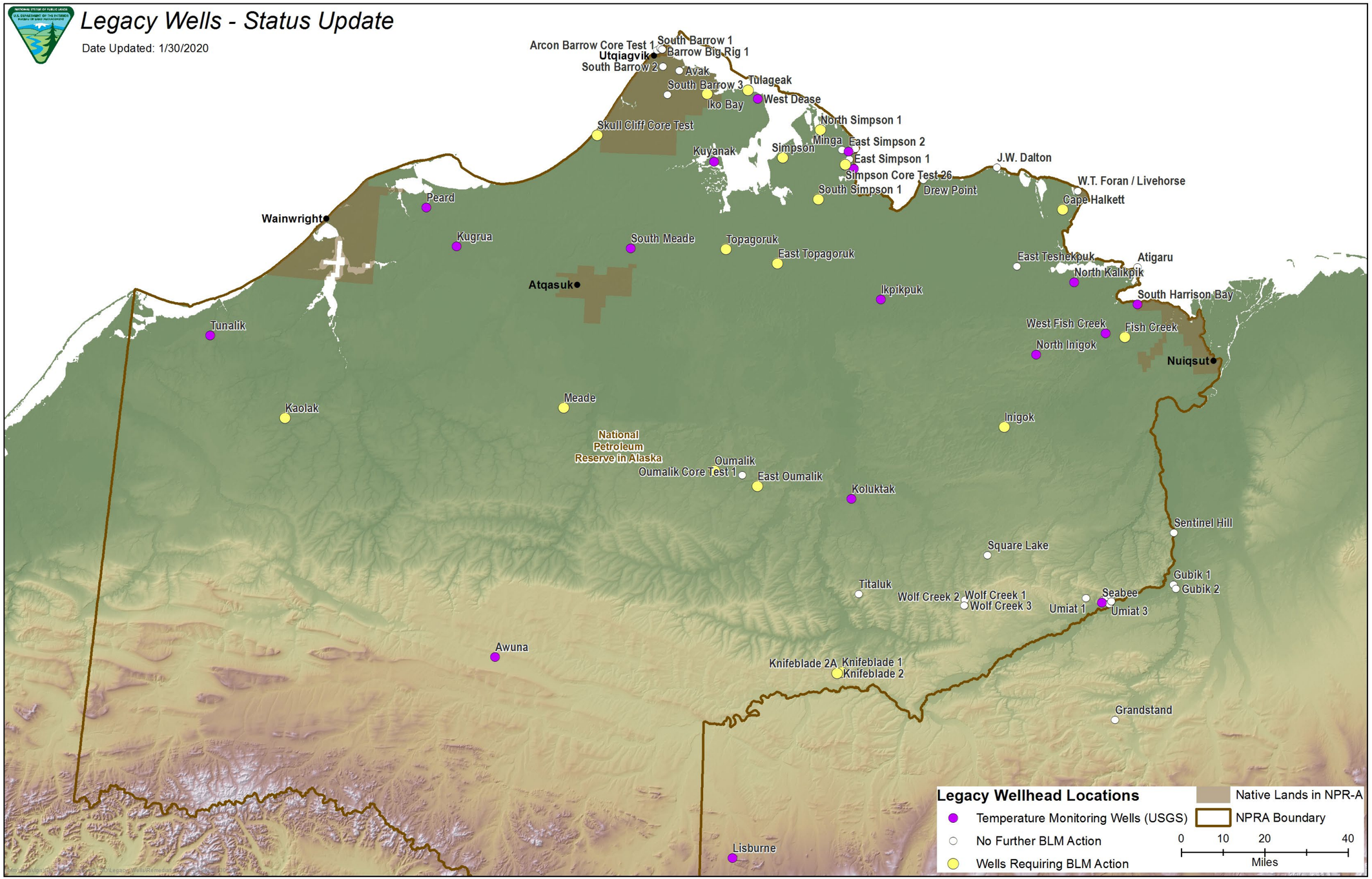
APPENDIX 1: MAP



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APPENDIX 2: RISK ASSESSMENT METHODOLOGY

The sites were assigned surface and subsurface risk rankings of none, low, moderate, or high before also being assessed against more general risk evaluation criteria (see Section C below). Generally, sites with higher risk rankings were considered for more immediate actions, and those risk assessments were used to prioritize the actions outlined in this strategic plan. Sites with lower risk ratings may be completed ahead of higher priority wells, however, if they are near locations where work is being completed. Note that the existence of a single factor within any of the surface or subsurface risk categories (none, low, moderate, or high) translates directly into an assignment of at least that risk category. In other words, it is not necessary for all factors to exist for a given risk category to be assigned.

The BLM regularly inspects legacy well sites to assess changing conditions, which may result in different ranking if a change has occurred.

A. SURFACE RISKS

The surface risk assessment is based on the potential of the well or core test site to pose a risk or negative impact to surface resources and activities, including air, water, vegetation, or wildlife resources as well as travel and visual resources. To assess surface risk, the BLM evaluated site conditions surrounding the well or core test.

The BLM assessed and rated the surface risk conditions at each site if it had any of the following:

HIGH SURFACE RISK:

- A well that may be adversely affected by coastal erosion within 5 years.
- Significant solid waste present that affects public safety.
- Potential to affect air or water quality because of the discharge of hydrocarbons under pressure.

MODERATE SURFACE RISK:

- A travel or transportation risk to local residents due to surface debris.
- Debris that negatively affects visual resources.
- Evidence of buried waste on site.

LOW SURFACE RISK:

- Minor solid waste present with minimal impact to visual resources or transportation.
- No known contaminants documented in historical literature, but not verified.

NONE (NO SURFACE RISK):

- No known contaminants present.
- Fully remediated, with minor surface disturbance.
- Minimal impact to visual resources.

B. SUBSURFACE RISKS

To determine a well's or core test's subsurface risk, the BLM evaluated historical documents, such as drill logs and geologic reports, and conducted site assessments. The BLM also considered data on well plugging—including casing and cementing depth and materials—and the composition of materials believed to be left in the well.

HIGH SUBSURFACE RISK:

- A well or core test at the site that has penetrated oil or gas stratigraphy or water resources and the well or core test is either leaking hydrocarbons or has a history of leaking hydrocarbons.

MODERATE SUBSURFACE RISK:

- A cement plug is present below the perforations of the producing interval, but some surface controls are in place, including a wellhead and/or a column of frozen drill mud that currently isolates the formation. There must be no indication of migration of fluid to surface.
- No cement plugs in the well or core test that encountered oil or gas, but some surface controls are in place, such as a wellhead or column of frozen drilling mud, currently isolate the formation; and there is no indication of migration of fluid to the surface.

LOW SUBSURFACE RISK:

- Well or core test penetrated oil or gas stratigraphy or water resources, but producible oil and gas formations or water resources are isolated with adequate cement plugs.
- Well that has been historically plugged to surface, but the wellhead has not yet been removed.

NONE (NO SUBSURFACE RISK):

- Well or core test did not penetrate oil or gas stratigraphy or water resources.
- Well has been adequately plugged.

C. ADDITIONAL RISK EVALUATION CRITERIA

In addition to the surface and subsurface risk rankings, the BLM also evaluates risk by considering a number of different factors for each site, such as the specific impacts on public health and safety, how the site conditions may affect natural resources or future energy development, the type and condition of solid waste present, and the manner in which wells were plugged. For each factor, the BLM evaluates the answers to several specific questions. These criteria do not carry a specific rating, but rather are meant to augment discussion to apply to the specific well circumstances that may affect the overall rating of the well.

Protection of Public Health and Safety

1. Is the well near human activity? If so, are conditions present that pose a risk to people?
2. Did the well encounter any oil or gas? If so, is the well capable of flowing?
3. Is there a wellhead? What is the condition of the wellhead? Have there been any previous problems or repair work?
4. What is the condition of the existing pad and pits, and is there any indication of contamination? If so, what is the type, nature, and extent of contamination?

Impact on Resources and Future Energy Development

1. Does the well site in its current condition (such as oil and gas resource penetrated, but not currently isolated with plugs) affect future energy leasing?
2. Does the well site in its current condition pose an unacceptable risk to wildlife, subsistence, and other natural resource uses?
3. Are there open wellbores and cellars in which small animals may become trapped?
4. Is the wellsite threatened by the environment through natural progressions (coastal erosion, fluvial processes, landslides, etc.)?

Solid Waste Characterization

1. Is there a reserve pit associated with the site? Have all reserve pits present received regulatory closure from the Alaska Department of Environmental Conservation? Is there a new concern or information that warrants a new evaluation of those sites? What is the character (volume and chemical nature) of waste associated with a reserve pit? Are there any water quality issues present within the reserve pit?
2. What is the surface condition of the existing pad and pits? Is contamination a possibility?
3. What is the inventory of other solid waste (old equipment, piping, barrels, etc.), and do any associated current conditions pose a potential hazardous material release threat?

Plugging

1. Are there any new risks that were not addressed during the original plugging operation that may need to be mitigated?
2. Does anything associated with the well possibly make plugging the well technically challenging?

APPENDIX 3: HISTORICAL TIMELINE—PAST SUCCESS

The legacy well program has had many past successes. Since 2002, BLM has plugged 39 legacy wells, with 10 of those located on lands conveyed to other entities. With the exception of three wells, the remainder have been plugged during the winter months. Traveling overland during the winter involves specialized heavy-duty equipment so as not to damage the tundra. Snow trails to the specific legacy well locations are constructed from existing infrastructure, often covering more than 100 miles. Some notable wells that have been plugged include Umiat #8, previously known as the whistling well; Gubik #2, another gas well that had such extreme gas pressure that it had previously caused a well blowout; J.W. Dalton, a USGS monitoring well with a reserve pit that was the first well plugged due to coastal erosion; and East Teshekpuk, another USGS well that was threatened from shoreline erosion from Lake Teshekpuk.

1944–1952: The U.S. Navy drills 91 wells in the Naval Petroleum Reserve No. 4 (PET-4), including 59 cased exploratory wells and 32 uncased core tests.

1953–1975: The Navy drills 17 additional wells near Barrow in support of the Barrow Gas Field development.

1976: The Naval Petroleum Reserves Production Act of 1976 (NPRPA; Public Law 94-258) renames the PET-4 the National Petroleum Reserve in Alaska (NPR-A) and orders the transfer of jurisdiction over the reserve from the Secretary of the Navy to the Secretary of the Interior, effective June 1, 1977.

The law directed the Department of the Interior to protect the surface and explore for oil and gas. At the time the law was enacted, the USGS supervised exploration and development for leases on Federal, Indian, and certain Naval Petroleum Reserve land (to include NPR-A after the transfer).

1977: The BLM and USGS enter into a Memorandum of Understanding (42 FR 4542) giving USGS exclusive jurisdiction over the South Barrow Gas Field and specifying that BLM and USGS share management of the surface areas of operations. The MOU designated USGS as manager of the continuing exploration program during the interim period between the transfer of jurisdiction from the Navy to Interior.

1975–1982: The Navy and USGS drill 28 wells through a contract with Husky Oil Company.

1980: The NPRPA is amended to direct an expedited program of leasing.

1981: The BLM conveys the W.T. Foran well to the ASRC.

1982: In January, the Minerals Management Service (MMS) takes over the functions of oil and gas exploration and development from the USGS Conservation Division. In December, onshore minerals management functions are transferred to the BLM via Secretarial Order 3087.

The first BLM oil and gas lease sale is held for the NPR-A.

1984: The Barrow Gas Transfer Act transfers ownership responsibility of 19 legacy wells to ASRC.

1986: The BLM conveys Grandstand 1 well to ASRC.

1995: The ADEC issues final closure for 27 of the USGS reserve pits. ADEC issues one reserve pit (East Teshekpuk) conditional closure. BLM conveys Gubik 1 and Gubik 2 wells to ASRC.

2002: The U.S. Army Corps of Engineers, under the oversight of the BLM, plugs Umiat 2 and Umiat 5, at a cost of $25 million.

2003: The BLM inspects and evaluates all 136 wells and uncased core test sites to determine the threat posed to human health, safety, and the environment. The 2004 Legacy Wells Summary Report prioritizes those sites with the most immediate need of corrective action.

2004: The BLM plugs three wells at Umiat, including the high-pressure Umiat #8, known locally as the "whistling well."

2005: Severe coastal erosion at J.W. Dalton well site triggers an emergency Plug and Abandonment and reserve pit removal. BLM-Alaska receives Department of the Interior Environmental Achievement Award for execution and cost savings at the site.

2006-2010: The BLM focuses on remediation of wells and reserve pits that are threatened by coastal erosion. Drew Point was the most expensive project completed under the American Recovery and Reinvestment Act (ARRA). BLM employs innovative reserve pit content disposal option by engineering and utilizing an inland reserve pit to store drilling muds, saving millions of dollars in transport and disposal costs.

2008: BLM-Alaska receives second DOI Environmental Achievement Award for plugging and remediation efforts on the East Teshekpuk well.

2010-2015: The BLM establishes Interagency Agreement with the Army Corps of Engineers to expedite procurement activity and utilize qualified environmental contractors to complete the Umiat well cluster.

2013: The Helium Stewardship Act of 2013 makes $50 million available to the Department of the Interior ($10 million in FY 2014, $36 million in FY 2015, and the remaining $4 million in FY 2019), without further appropriation, to remediate, reclaim, and close priority legacy wells in the NPR-A. Approximately $3 million of the $50 million is permanently sequestered.

2013-2014: The BLM prepares strategic plan with other agency and stakeholder input to classify the risks posed by each well and prioritize future work.

2015: The BLM awards an indefinite deliverable and indefinite quantity (IDIQ) contract to two Alaska Native-owned companies. The IDIQ is very successful using primarily no-year funding to plug 30 wells in a 6-year period.

2016: The BLM plugs three wells in Utqiaġvik (formerly Barrow) during the summer months along their road system. They are the only legacy wells not plugged during the winter.

2019: The BLM plugs Gubik #1, #2, and Grandstand wells on now-conveyed ASRC lands. Gubik #2, a high-pressure gas well, is the first successful open-hole plug set by a legacy well contractor. It is also the deepest plug set. These wells were plugged with MLR funds as they are located just outside the NPR-A boundary.

2020: The BLM completes cleanup efforts of all high-priority well sites identified in the 2013 Legacy Wells Strategic Plan and initiates updated strategic plan.

The BLM publishes Updated Strategic Plan.

Total cost and funding source for the past well clusters since 2015

Calendar Year	# Wells	Well Cluster	Total Cost	Remediation Fund Amount	MLR Program Fund Amount
2015	3	Umiat	$10,500,000	$8,300,000	$2,200,000
2016	9	Simpson	$7,700,000	$7,700,000	
2016	3	Utqiaġvik (summer)	$4,000,000	$4,000,000	
2017	3	Utqiaġvik	$13,000,000	$13,000,000	
2018	5	Wolf Creek	$11,000,000	$11,000,000	
2019	3	Gubik/Grandstand	$10,300,000		$10,300,000
2020	4	Simpson	$11,200,000	$3,800,000	$7,400,000
Total	**30**		**$67,700,000**	**$47,800,000**	**$19,900,000**

*MLR = Appropriated funding for Management of Lands and Resources authorized annually from an act of Congress (annual budget)