

APPENDIX D

Reasonably Foreseeable Development Scenario



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

Alaska State Office

ANCSA 17(d)(1) Withdrawals Environmental Impact Statement

REASONABLY FORESEEABLE DEVELOPMENT SCENARIO

December 2023

CONTENTS

1	Introduction	1
1.1	Lands More Likely to be Conveyed	1
2	Leasable Minerals.....	2
2.1	Fluid Leasable Minerals	2
2.1.1	Bay Planning Area	2
2.1.2	Ring of Fire Planning Area	3
2.1.3	Bering Sea-Western Interior Planning Area	3
2.1.4	East Alaska Planning Area.....	4
2.1.5	Kobuk-Seward Peninsula Planning Area	4
2.2	Geothermal Resources	5
2.2.1	Bay Planning Area	5
2.2.2	Ring of Fire Planning Area	5
2.2.3	Bering Sea-Western Interior Planning Area	6
2.2.4	East Alaska Planning Area.....	6
2.2.5	Kobuk-Seward Peninsula Planning Area	7
2.3	Non-energy Leasable Minerals	7
2.3.1	Bay Planning Area	7
2.3.2	Ring of Fire Planning Area	7
2.3.3	Bering Sea-Western Interior Planning Area	7
2.3.4	East Alaska Planning Area.....	7
2.3.5	Kobuk-Seward Peninsula Planning Area	8
2.4	Coal.....	8
2.4.1	Bay Planning Area	8
2.4.2	Ring of Fire Planning Area	8
2.4.3	Bering Sea-Western Interior Planning Area	8
2.4.4	East Alaska Planning Area.....	9
2.4.5	Kobuk-Seward Peninsula Planning Area	9
3	Locatable Minerals.....	10
3.1	Bay Planning Area.....	10
3.1.1	Mineral Occurrences.....	11
3.1.2	Historical Mineral Development.....	11
3.1.3	Mining Claims	11
3.1.4	Active and Planned Mining Operations	12
3.1.5	Locatable Mineral Potential Development	12
3.2	Ring of Fire Planning Area.....	13
3.2.1	Mineral Occurrences.....	13
3.2.2	Historical Mineral Development.....	13
3.2.3	Mining Claims	13
3.2.4	Active Mining Operations.....	14
3.2.5	Locatable Mineral Potential Development	14
3.3	Bering Sea-Western Interior Planning Area	15
3.3.1	Mineral Occurrences.....	15
3.3.2	Historical Mineral Development.....	15
3.3.3	Mining Claims	15
3.3.4	Active Mining Operations.....	15
3.3.5	Locatable Mineral Potential Development	16

3.4	East Alaska Planning Area	16
3.4.1	Mineral Occurrences.....	16
3.4.2	Historical Mineral Development.....	17
3.4.3	Mining Claims	17
3.4.4	Active Mining Operations.....	17
3.4.5	Locatable Mineral Potential Development	17
3.5	Kobuk-Seward Peninsula Planning Area.....	18
3.5.1	Mineral Occurrences.....	18
3.5.2	Historical Mineral Development.....	18
3.5.3	Mining Claims	18
3.5.4	Active Mining Operations.....	19
3.5.5	Locatable Mineral Potential Development	19
4	Salable Minerals	19
4.1	Bay Planning Area.....	20
4.2	Ring of Fire Planning Area.....	20
4.3	Bering Sea-Western Interior Planning Area	21
4.4	East Alaska Planning Area	22
4.5	Kobuk-Seward Peninsula Planning Area.....	22
5	Rights-of-Way.....	23
6	Land Selection Facts and Assumptions for Analysis.....	23
7	Summary and Conclusions	31
8	Glossary	32
9	Literature Cited.....	33

Attachment

Attachment A. Maps

Tables

Table 2-1.	Acres of Oil and Gas More Likely to be Developed in the Ring of Fire Planning Area	3
Table 2-2.	Acres of Oil and Gas More Likely to be Developed in the East Alaska Planning Area	4
Table 2-3.	Acres of High Geothermal Potential in the Bay Planning Area	5
Table 2-4.	Acres of High Geothermal Potential in the Ring of Fire Planning Area	5
Table 2-5.	Acres of High Geothermal Potential in the Bering Sea-Western Interior Planning Area.....	6
Table 2-6.	Acres of High Geothermal Potential in the East Alaska Planning Area.....	6
Table 2-7.	Acres of High Geothermal Potential in the Kobuk-Seward Peninsula Planning Area	7
Table 2-8.	Acres of High Coal Potential in the Ring of Fire Planning Area	8
Table 2-9.	Acres of High Coal Potential in the Bearing Sea-Western Interior Planning Area	8
Table 2-10.	Acres of High Coal Potential in the East Alaska Planning Area	9
Table 2-11.	Acres of High Coal Potential in the Kobuk-Seward Peninsula Planning Area	9
Table 3-1.	Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Bay Planning Area	12
Table 3-2.	Acres of Locatable Minerals More Likely to be in the Bay Planning Area	12

Table 3-3. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Ring of Fire Planning Area	14
Table 3-4. Acres of Locatable Minerals More Likely to be Developed in the Ring of Fire Planning Area.....	14
Table 3-5. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Bering Sea-Western Interior Planning Area.....	15
Table 3-6. Acres of Locatable Minerals More Likely to be Developed in the Bering Sea-Western Interior Planning Area.....	16
Table 3-7. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the East Alaska Planning Area	17
Table 3-8. Acres of Locatable Minerals More Likely To Be Developed in the East Alaska Planning Area.....	18
Table 3-9. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Kobuk-Seward Peninsula Planning Area	19
Table 3-10. Acres of Locatable Minerals More Likely to be Developed in the Kobuk-Seward Peninsula Planning Area	19
Table 4-1. Acres of Salable Minerals More Likely to Be Developed in the Bay Planning Area	20
Table 4-2. Acres of Salable Minerals More Likely to Be Developed in the Ring of Fire Planning Area.....	21
Table 4-3. Acres of Salable Minerals More Likely to Be Developed in the Bering Sea-Western Interior Planning Area.....	21
Table 4-4. Acres of Salable Minerals More Likely to Be Developed in the East Alaska Planning Area.....	22
Table 4-5. Acres of Salable Minerals More Likely to Be Developed in the Kobuk-Seward Peninsula Planning Area	22
Table 5-1. Acres of ANCSA 17(d)(1) Withdrawals with Authorized Rights-of-Way per Planning Area.....	23
Table 5-2. Acres of ANCSA 17(d)(1) Withdrawals with Pending Rights-of-Way per Planning Area	23
Table 6-1. Selection Sequencing: Lands without Alaska Native Corporation or State of Alaska Selections	27
Table 6-2. Selection Sequencing: Lands with Alaska Native Corporation or State of Alaska Selections	28
Table 6-3. Selection Sequencing: Top Filed Lands	29
Table 7-1. Summary: Leasable Minerals More Likely to Be Developed	31
Table 7-2. Summary: Locatable Minerals More Likely To Be Developed	31
Table 7-3. Summary: Salable Minerals More Likely To Be Developed	31

This page intentionally left blank.

1 INTRODUCTION

The Bureau of Land Management's (BLM's) ANCSA 17(d)(1) Withdrawals environmental impact statement (EIS) will evaluate the revocation of withdrawals established pursuant to Section 17(d)(1) of the Alaska Native Claims Settlement Act (ANCSA) within Public Land Orders (PLOs) 7899 through 7903, which include portions of five planning areas across the State of Alaska: Bay, Ring of Fire, Bering Sea-Western Interior, East Alaska, and Kobuk-Seward Peninsula. The EIS will explore a range of alternatives that will revoke in full or revoke in part the ANCSA 17(d)(1) withdrawals, which may then result in changes to land use.

This reasonably foreseeable development (RFD) scenario identifies and quantifies potential development activity in the decision area, including the extraction of leasable, locatable, and salable minerals, as well as the establishment of associated rights-of-ways (ROWs,) assuming the land is not withdrawn from availability for such activities. The RFD scenario is a baseline projection of reasonably foreseeable activity for a defined area and period that is used for analysis purposes; an RFD scenario is not a plan of development nor a guarantee of development. It is a projection of potential activity based on best available data at the time of writing to allow the analysis of possible impacts to comply with NEPA.

For this analysis, reasonably foreseeable is assumed to be within 30 years from publication of the record of decision (ROD). This assumption is driven by the relatively little exploration occurring in the 17(d)(1) parcels and the average time it takes to bring a mine to production: 17 years from mine concept to production (Wood et al. 2021). Times from discovery to production are similar for fluid minerals (if exploration leads to discovery) (BLM 2012; TotalEnergies 2020). The reasonably foreseeable timeline allows the analysis to capture potential impacts to the extent possible.

For all categories of development described in the RFD scenario, the analysis assumes that the likelihood of both exploration and development becomes lower with distance from the existing road system, rail belt, freshwater barge routes, and ports due to the cost to construct and maintain access to a potential development site. For example, a site with high mineral potential and connectivity to the road system, ports, or the railway system would have a higher likelihood of development than a site with high mineral potential that lacked reasonable access.

Mining claims and existing mining activities were also used as an indicator of mineral development potential and future mineral activity. Therefore, the RFD scenario summarizes the known and presumed activity in each planning area. The BLM used this information, combined with access considerations, to identify areas **more likely to be developed** for leasable, locatable, and salable minerals on ANCSA 17(d)(1) withdrawals.

Because the RFD scenario is a projection of reasonably foreseeable activity for the decision area, it was used to identify areas more likely to be developed regardless of if those lands are currently open to mineral entry. Maps supporting this RFD scenario are in Attachment A, Figures 1 through 27.

1.1 Lands More Likely to be Conveyed

The RFD also identifies the areas that are more likely to be conveyed due to revocation of 17(d)(1) withdrawals, termed **priority conveyances**. Priority conveyances are Priority 1 and 2 State top filings on lands that would become available should the Secretary revoke the 17(d)(1) withdrawals. Current effective selections are not affected by Secretarial decision for this project because they could be conveyed regardless of the Secretarial decision, and thus are not included as lands likely to be conveyed due to a revocation. Priority conveyances are highlighted because once the State receives these lands, Federal land management and BLM regulatory protections would not apply.

Should the Secretary revoke the 17(d)(1) withdrawals, the greatest impacts to the quality of the human environment from future development can be expected to occur where an area is both more likely to be conveyed out of Federal ownership and more likely to be developed (for leasable, locatable, or salable mineral materials). For most resources, the EIS highlights 1) the number of acres where this development is more likely to occur, and 2) the number of acres that are more likely to be conveyed, should the Secretary revoke the withdrawals.

Therefore, areas more likely to be developed within the priority conveyances form the **focused analysis area** for most resources analyzed in Chapter 3. The focused analysis area comprises 475,000 acres, or 2 percent of the decision area.

The lands selection assumptions for analysis and the selection sequencing process are summarized in Section 6.

2 LEASABLE MINERALS

Leasable minerals are minerals or materials designated as leasable under the Mineral Leasing Act of 1920 and include energy materials such as oil, oil shale, gas, and coal, as well as non-energy minerals such as phosphate, potassium, sodium, and gilsonite. The following sections discuss fluid leasable minerals, geothermal resources, non-energy leasable minerals, and coal.

Mineral occurrence data were used to determine where leasable minerals have a high likelihood of occurring. However, mineral occurrence does not imply that mineral development would be economical. This RFD analysis assumes that areas where minerals are more likely to be developed would occur within 31 miles of the existing road system, rail belt, barge routes, and ports where there is also a high likelihood of mineral occurrence. The 31-mile distance was the median distance of seven recent resource development projects that would require new access roads (range of distances was 82 miles for Pebble Mine and 28 miles for Graphite One Mine). Additionally, consideration was given to the current and projected demand for leasable minerals. In summary, those areas with a high likelihood for mineral occurrence, within 31 miles of existing access routes, and with a demand for extraction are considered areas that are **more likely to be developed**.

In each section below, the acres of leasable mineral occurrence and the overlap of those acres with 17(d)(1) withdrawals are summarized by planning area. Additionally, acres of overlap between leasable minerals and State top filed Priority 1 and 2 lands and ANCSA-selected lands are provided because these areas are likely to be conveyed should those lands be revoked (see Section 6, Land Selection Facts and Assumptions for Analysis).

2.1 Fluid Leasable Minerals

Fluid leasable minerals include oil, gas, and coal bed natural gas (CBNG).

2.1.1 Bay Planning Area

There are no known lands with a high potential for oil and gas in the Bay planning area. However, geological formations within the Bay planning area are not as well mapped as other parts of the State; therefore, current geological maps contain little detailed geological information (BLM 2007). Subsurface geology of the Bay planning area is largely unknown. Based on the surface geology descriptions from Beikman (1980), geological formations in the Bay planning area are unlikely to have large deposits of fluid leasable minerals. Therefore, there is a low potential for oil and gas deposits to occur in the Bay

planning area. In addition, the Bay planning area is not connected to the road and rail system and has no existing oil and gas infrastructure. Therefore, the likelihood of development of oil and gas in the ANCSA 17(d)(1) withdrawals in the Bay planning area is low. Future mapping of the Bay planning area may occur and provide further information on oil and gas potential.

CBNG may be present in the region based on data collected from exploratory wells drilled on the Alaska Peninsula and offshore in the Bristol Bay Basin, but the area has a low potential for CBNG production (BLM 2007). There are no lands with a high potential for CBNG in the Bay planning area. There is also a lack of infrastructure, and transportation of materials would be difficult. Therefore, no areas are likely to be developed for oil and gas on 17(d)(1) withdrawals within the Bay planning area.

2.1.2 Ring of Fire Planning Area

The total acres of oil and gas that are more likely to be developed within the Ring of Fire planning area are summarized in Table 2-1.

Table 2-1. Acres of Oil and Gas More Likely to be Developed in the Ring of Fire Planning Area

Acres of High Oil and Gas Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on 17(d)(1) Withdrawals
6,434,000	10,000	165,000	10,000

The primary oil and gas sedimentary basins in the Ring of Fire planning area are in the following areas: on the Alaska Peninsula, in the Cook Inlet-Susitna Basin in Southcentral Alaska, on the western edge of the Copper River Basin, and in the Yakutat area of southeast Alaska (Ehm 1983; Kirschner 1992). The Cook Inlet-Susitna Basin is a known oil and gas province with approximately 15 producing oil and gas fields in the onshore portion of the basin approximately 15 miles east of BLM-managed lands in the Neacola Mountains and approximately 50 miles west of the Knik River. The Cook Inlet-Susitna Basin contains Tertiary strata overlying a sequence of Mesozoic sedimentary rocks belonging to the Peninsular Terrane (Swenson 1997) that form important oil and gas, coal, and CBNG resources in the Ring of Fire planning area. Exploration and development of oil and gas are anticipated to occur in the Southcentral region. The Cook Inlet-Susitna Basin is a maturely developed basin that has produced oil and gas since 1957 (BLM 2006a). The basin continues to be of interest to the oil industry. The remaining land with 17(d)(1) withdrawal areas in the Ring of Fire planning area has low to no oil and gas potential; however, the lands discussed above will continue to be of interest for oil and gas development (BLM 2006a). Therefore, some 17(d)(1) withdrawals in the Ring of Fire planning area are more likely to be developed. Figure 1 displays the oil and gas areas that are more likely to be developed and the overlap with priority conveyances.

2.1.3 Bering Sea-Western Interior Planning Area

There are no acres of high oil and gas potential in the Bering Sea-Western Interior planning area. However, there are some potential oil and gas-bearing basins in the planning area, including the Bethel Basin, Galena Basin, Holitna Basin, Innoko Basin, Minchumina Basin, and the Yukon Delta Basin. There has been little interest or activity in oil and gas exploration in the planning area since the early 1960s largely due to the remoteness of the planning area (BLM 2020). The planning area is not connected to the existing road or rail system and has no year-round deepwater ports. The presence of sufficiently large, commercially valuable accumulations of oil and gas is presently unknown, and no recent Federal oil and gas leasing has taken place in the planning area. Therefore, no areas are likely to be developed for oil and

gas on 17(d)(1) withdrawals within the Bering Sea-Western Interior planning area. CBNG resources in the planning area are concentrated in the Lower Koyukuk and Minchumina Basins (BLM 2020). The development potential for these resources is considered low due to the low grade of the coal, the high initial cost of production, and a lack of local infrastructure for storage and distribution. Therefore, no areas are likely to be developed for CBNG on 17(d)(1) withdrawals within the Bering Sea-Western Interior planning area.

2.1.4 East Alaska Planning Area

The total acres of oil and gas more likely to be developed within the East Alaska planning area are summarized in Table 2-2.

Table 2-2. Acres of Oil and Gas More Likely to be Developed in the East Alaska Planning Area

Acres of High Oil and Gas Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on 17(d)(1) Withdrawals
4,668,000	54,000	1,568,000	43,000

Three petroleum basins (plays) fall either entirely or partially in the planning area and are considered prospective for oil and gas production (Ehm 1983). The Yakataga Fold Belt Play has a high potential for the generation of oil and gas. However, it has a low potential for development due to the inaccessibility to the resources and the low success rate of exploratory wells. The Gulf of Alaska Yakutat Foreland Play has a high potential for the generation of oil and gas but has low potential for development because, within the boundaries of the planning area, more than 80 percent of the play lies beneath the ice of the Malaspina Glacier (BLM 2006b). There are ANCSA 17(d)(1) withdrawals in the Gulf of Alaska Yakutat Foreland Play, which is located on the western part of the Malaspina Glacier. The Copper River Upper Cretaceous Play is within 31 miles of major roads. Therefore, the ANCSA 17(d)(1) withdrawals in the East Alaska planning area that are more likely to be developed are in the Copper River Upper Cretaceous Play. Figure 2 displays the oil and gas areas more likely to be developed and the overlap with priority conveyances.

The most accessible areas available for CBNG exploration and development in the planning area are the Copper River Basin and coal resources near Summit Lake, approximately 10 miles north of Paxson (BLM 2006b). However, there is a low potential for development of CBNG due to the low potential for commercial amounts of CBNG and the lack of existing interest despite high accessibility. Therefore, no areas are likely to be developed for CBNG on ANCSA 17(d)(1) withdrawals within the East Alaska planning area.

2.1.5 Kobuk-Seward Peninsula Planning Area

There is no land with a high potential for oil and gas in the Kobuk-Seward Peninsula planning area. Therefore, no areas are likely to be developed for oil and gas on ANCSA 17(d)(1) withdrawals within the planning area. The western Colville Basin has been identified as a prospective CBNG coal basin (Clough et al. 1995). There is uncertain potential here because CBNG productivity data in the planning area are insufficient (BLM 2008). Therefore, no areas are likely to be developed for CBNG on ANCSA 17(d)(1) withdrawals within the Kobuk-Seward Peninsula planning area.

2.2 Geothermal Resources

Geothermal energy consists of heat stored in rocks and, to a lesser extent, in water- or steam-filled pores and fractures. Water and steam transfer geothermal heat by convection to shallow depths within the Earth's crust, and it may be tapped by drilling. Geothermal heat may also escape at the surface in geysers, thermal springs, mud volcanoes, and vents. A known geothermal resource area (KGRA) is an area where the BLM determines that persons knowledgeable in geothermal development would spend money to develop geothermal resources.

2.2.1 Bay Planning Area

The total acres of high potential for geothermal resources within the Bay planning area are summarized in Table 2-3.

Table 2-3. Acres of High Geothermal Potential in the Bay Planning Area

Acres of High Geothermal Potential	Acres of High Geothermal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
792,000	15,000	92,000

There are 792,000 acres of lands with high geothermal potential in the planning area, 15,000 acres of which are on ANCSA 17(d)(1) withdrawals. Geothermal resources in the Bay planning area, including the Katmai Pass Hot Springs, are largely located in Katmai National Park and Preserve and on the boundary of the Bay planning area (BLM 2007). There is a lack of demand in the local market for geothermal energy, and the remoteness of the area makes development challenging (BLM 2007). Therefore, no areas are likely to be developed for geothermal energy on ANCSA 17(d)(1) withdrawals within the Bay planning area. Figure 3 displays the geothermal potential in the Bay planning area.

2.2.2 Ring of Fire Planning Area

The total acres of high potential for geothermal resources within the Ring of Fire planning area are summarized in Table 2-4.

Table 2-4. Acres of High Geothermal Potential in the Ring of Fire Planning Area

Acres of High Geothermal Potential	Acres of High Geothermal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
18,116,000	290,000	165,000

There are 18,116,000 acres of lands with high geothermal potential in the planning area, 290,000 acres of which are on ANCSA 17(d)(1) withdrawals. High-temperature geothermal resources are known to occur in volcanoes of the Aleutian arc, the Alaska Peninsula, the west side of Cook Inlet, and the Edgumbe volcanic field along the western edge of Southeast Alaska (BLM 2006a). Two KGRAs are in the Ring of Fire planning area: the Okmok Caldera and the Geyser Spring Basin. However, neither of these have been developed due to a lack of local market (BLM 2006a).

The Southcentral region and the Railbelt power grid provide the only market in the Ring of Fire planning area that could use geothermal generation. The most promising location identified for future exploration lies on the south side of Crater Peak (Turner and Wescott 1986), which is not located on ANCSA 17(d)(1)

withdrawals. The State of Alaska has held lease sales east of Chakachamna Lake. However, there has been little interest and no permits issued for geothermal energy. Therefore, no areas are likely to be developed for geothermal energy on ANCSA 17(d)(1) withdrawals within the Ring of Fire planning area. Figure 4 displays the geothermal potential in the Ring of Fire planning area.

2.2.3 Bering Sea-Western Interior Planning Area

The total acres of high potential for geothermal resources within the Bering Sea-Western Interior planning area are summarized in Table 2-5.

Table 2-5. Acres of High Geothermal Potential in the Bering Sea-Western Interior Planning Area

Acres of High Geothermal Potential	Acres of High Geothermal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
429,000	428,000	1,254,000

There are 429,000 acres of lands with high geothermal potential in the planning area, almost all of which are on ANCSA 17(d)(1) withdrawals. Although there are no acres of geothermal potential on Priority 1 and 2 top filed lands, 340,000 acres of geothermal potential are located on State-selected lands. There are only two confirmed geothermal springs in the planning area: Ophir Hot Springs and Chuilnuk Hot Springs. Both geothermal springs are located on private inholdings (BLM 2020). No major geothermal reservoirs exist elsewhere in the planning area (BLM 2020). The planning area is not connected to the existing road or rail system, and the expense of developing geothermal energy is high. This would likely preclude development in the foreseeable future. Therefore, no areas are likely to be developed for geothermal energy on ANCSA 17(d)(1) withdrawals in the Bering Sea-Western Interior planning area. Figure 5 displays the geothermal potential in the Bering Sea-Western Interior planning area.

2.2.4 East Alaska Planning Area

The total acres of high potential for geothermal resources within the East Alaska planning area are summarized in Table 2-6.

Table 2-6. Acres of High Geothermal Potential in the East Alaska Planning Area

Acres of High Geothermal Potential	Acres of High Geothermal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
4,602,000	< 1,000	1,568,000

There are 4,602,000 acres of lands with a high potential for geothermal resources in the planning area, and less than 1,000 of these acres are on ANCSA 17(d)(1) withdrawals. The distribution and extent of potential geothermal resources in Southcentral Alaska are centered around Mount Wrangell located in the East Alaska planning area. These geothermal resources are mostly on National Park Service lands (BLM 2006b). There are no KGRAs in the East Alaska planning area and a lack of infrastructure to support geothermal development. Therefore, no areas are likely to be developed for geothermal energy on ANCSA 17(d)(1) withdrawals within the East Alaska planning area. Figure 6 displays the geothermal potential in the East Alaska planning area.

2.2.5 Kobuk-Seward Peninsula Planning Area

The total acres of high potential for geothermal resources within the Kobuk-Seward Peninsula planning area are summarized in Table 2-7.

Table 2-7. Acres of High Geothermal Potential in the Kobuk-Seward Peninsula Planning Area

Acres of High Geothermal Potential	Acres of High Geothermal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
9,441,000	3,118,000	505,000

There are 9,441,000 acres of lands with high geothermal potential in the planning area, 3,118,000 acres of which are on ANCSA 17(d)(1) withdrawals. Pilgrim Hot Springs is the only KGRA in the planning area. Currently, there is no production from Pilgrim Hot Springs. Therefore, no areas are likely to be developed for geothermal energy on ANCSA 17(d)(1) withdrawals within the Kobuk-Seward planning area. Figure 7 displays the geothermal potential in the Kobuk-Seward Peninsula planning area.

2.3 Non-energy Leasable Minerals

Non-energy leasable minerals include phosphate, asphalt, potassium, and sodium minerals.

2.3.1 Bay Planning Area

There are no occurrences of or potential for non-energy leasable minerals, including phosphates or sodium resources, in the Bay planning area. The likelihood of commercially valuable deposits is not currently known (BLM 2007).

2.3.2 Ring of Fire Planning Area

Two occurrences of phosphate in the Ring of Fire planning area have been reported by the U.S. Bureau of Mines (1995) and Kline and Pinney (1994). One is at an unknown site in Tuxedni Bay along the southwest side of Cook Inlet, and one is in southeast Alaska on the Snettisham Peninsula; neither of these locations overlap with ANCSA 17(d)(1) withdrawals. There is a low potential for development because of the low occurrence of phosphate in the planning area and the low potential for commercially valuable deposits of these minerals to occur (BLM 2006a). Therefore, no areas are likely to be developed for non-energy leasable minerals in the Ring of Fire planning area.

2.3.3 Bering Sea-Western Interior Planning Area

No information currently exists for non-energy leasable minerals in the Bering Sea-Western Interior planning area (BLM 2020). Currently, there are no plans or proposed development of non-energy leasable materials in the planning area; therefore, the potential for non-energy leasable development is low.

2.3.4 East Alaska Planning Area

No information currently exists for non-energy leasable minerals in the East Alaska planning area. Currently, there are no plans or proposed development of non-energy leasable materials in the planning area; therefore, the potential for non-energy leasable development is low.

2.3.5 Kobuk-Seward Peninsula Planning Area

No information currently exists for non-energy leasable minerals in the Kobuk-Seward Peninsula planning area. Currently, there are no plans or proposed development of non-energy leasable materials in the planning area; therefore, the potential for non-energy leasable development is low.

2.4 Coal

2.4.1 Bay Planning Area

Outside of village communities, the Bay planning area is remote with little to no infrastructure. There are currently no known occurrences of any type of coal on Federal lands in the planning area and no existing coal leases. There are no high potential coal lands within the Bay planning area, and the local demand for these resources is not likely to change. Therefore, the potential for coal extraction is low in the ANCSA 17(d)(1) withdrawals of the Bay planning area.

2.4.2 Ring of Fire Planning Area

The total acres of high coal potential within the Ring of Fire planning area are summarized in Table 2-8.

Table 2-8. Acres of High Coal Potential in the Ring of Fire Planning Area

Acres of High Coal Potential	Acres of High Coal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
4,465,000	17,000	165,000

There are 4,465,000 acres of lands with high coal potential in the Ring of Fire planning area, 17,000 acres of which are on ANCSA 17(d)(1) withdrawals. Coal occurs in the Cook Inlet-Susitna Basin of Southcentral Alaska. Most of the Ring of Fire planning area has a high potential for coal. Areas with a high potential for coal are mapped in all regions of the Ring of Fire planning area except for in the Aleutian Chain. These areas include the Herendeen Bay and Chignik coal fields, Ugashik coal district, and Bristol Bay coastal plain on the Alaska Peninsula; the Cook Inlet-Susitna Basin of Southcentral Alaska; and the Gulf of Alaska-Yakutat Basin and areas near the Angoon and Admiralty coal districts of Southeast Alaska. The high potential coal areas on ANCSA 17(d)(1) withdrawals are isolated and lack infrastructure. Therefore, no areas are likely to be developed for coal in the ANCSA 17(d)(1) withdrawals of the Ring of Fire planning area.

2.4.3 Bering Sea-Western Interior Planning Area

The total acres of high potential for coal within the Bering Sea-Western Interior planning area are summarized in Table 2-9.

Table 2-9. Acres of High Coal Potential in the Bearing Sea-Western Interior Planning Area

Acres of High Coal Potential	Acres of High Coal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
557,000	432,000	1,254,000

There are 557,000 acres of lands with high coal potential in the Bering Sea-Western Interior planning area, 432,000 acres of which are on ANCSA 17(d)(1) withdrawals. There is no coal potential within priority conveyances in the Bering Sea-Western Interior planning area. Coal resources in the planning area are concentrated in the Lower Koyukuk and Minchumina Basins. The development potential for these resources is low due to the low grade of the coal, the high initial cost of production, and a lack of local infrastructure for storage and distribution. Therefore, no areas are likely to be developed for coal in the ANCSA 17(d)(1) withdrawals of the Bering Sea-Western Interior planning area.

2.4.4 East Alaska Planning Area

The total acres of high potential for coal within the East Alaska planning area are summarized in Table 2-10.

Table 2-10. Acres of High Coal Potential in the East Alaska Planning Area

Acres of High Coal Potential	Acres of High Coal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
1,111,000	23,000	1,568,000

There are 1,111,000 acres of lands with high coal potential in the East Alaska planning area, 23,000 acres of which are on ANCSA 17(d)(1) withdrawals. There are four coal fields in the East Alaska planning area: Broad Pass, Jarvis Creek, Copper River, and Bering River. These coal fields have moderate resource potential and contain one or more known coal beds. The resource potential was previously classified as high due to accessible coal resource in the Copper River Basin and at Jarvis Creek, though there is currently a lack of a viable market for new coal at this time, resulting in the downgrade of the mineral potential (Brumbaugh 2023). Copper River, Broad Pass, and Jarvis Creek fields are located near highways, making them more accessible than the Bering River coal field. The most accessible areas available for exploration and development are the Copper River and Jarvis Creek. There are 23,000 acres of lands with a high potential for coal on ANCSA 17(d)(1) withdrawals in the Copper River and Jarvis Creek coal fields. These lands with a high potential are accessible from or are near existing infrastructure. However, currently, 100 percent of demand for coal in Alaska is being met by the existing Usibelli Coal Mine in Healy, and it is deemed highly unlikely that any new coal mines in Alaska could profitably compete with this existing supplier. Therefore, no areas are likely to be developed for coal in the ANCSA 17(d)(1) withdrawals of the East Alaska planning area.

2.4.5 Kobuk-Seward Peninsula Planning Area

The total acres of high potential for coal within the Kobuk-Seward Peninsula planning area are summarized in Table 2-11.

Table 2-11. Acres of High Coal Potential in the Kobuk-Seward Peninsula Planning Area

Acres of High Coal Potential	Acres of High Coal Potential on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area
2,281,000	248,000	505,000

There are 2,281,000 acres of lands with high coal potential in the Kobuk-Seward Peninsula planning area, 248,000 acres of which are on ANCSA 17(d)(1) withdrawals. There are five coal fields in the planning area: Cape Beaufort, Lisburne, Kukpowruk, Chicago Creek, and Kobuk Basin. The Cape Beaufort field is

located on the northern coast of Alaska east of Cape Lisburne. Most of the coal in the Cape Beaufort field is from the Nanushuk Group of Early to Late Cretaceous age and bituminous in rank. The Lisburne field stretches from Niak Creek, 5 miles south of Cape Lisburne with Mississippian-age Kapaloak Formation coals that are high-quality semianthracite in rank. The Kukpowruk field is located northeast of the Cape Beaufort field toward the western boundary of the planning area.

The Chicago Creek field is located on the northwestern part of the Seward Peninsula and occupies an area of less than 40 square miles (Merritt 1988). The coal occurs in one primary bed that is approximately 100 feet thick with intermittent sand and clay (Clough et al. 1995). Coal from the Chicago Creek field was mined from 1907 until 1911 with the extraction of approximately 110,000 short tons to help support local gold placer operations (Clough et al. 1995). The Kobuk Basin field is composed of the East and West Kobuk fields and several other coal occurrences. The coals are mid- to late Cretaceous and bituminous in rank.

There is no active coal mining occurring in the Kobuk-Seward Peninsula planning area. Several studies and exploratory wells have been completed in the planning area, but the remoteness and structural complexity of the area make development difficult. Therefore, no areas are likely to be developed for coal in the ANCSA 17(d)(1) withdrawals of the Kobuk-Seward Peninsula planning area.

3 LOCATABLE MINERALS

Locatable minerals include commodities like gold, silver, copper, lead, zinc, barite, gypsum, and certain varieties of limestone, which are subject to appropriation under the General Mining Act of 1872. For this analysis, the term *high mineral potential* refers to areas where the potential for minerals is high and the certainty of that potential is high. Minerals included in the analysis are placer gold, hard rock gold, platinum, copper, uranium, tin, and rare earth elements.

Existing mining claims and operations were used to determine where locatable minerals have a high likelihood of occurring. However, occurrence of a mineral does not imply that mineral development would be economical or that there would be a demand for mineral extraction. Therefore, this analysis assumes that areas with potential for locatable mineral extraction would occur within 1 mile of existing State or Federal mining claims. Areas within 1 mile of existing State or Federal mining claims are considered areas that are **more likely to be developed**. Mineral development refers to those activities from exploration and discovery through mineral extraction and processing and production of a marketable commodity.

In each section below, the acres of each type of locatable mineral occurrence and the overlap of those acres with 17(d)(1) withdrawals are summarized for each planning area. Additionally, acres of overlap between locatable minerals and State top filed Priority 1 and 2 lands and ANCSA-selected lands are provided because these areas are likely to be conveyed should those lands be revoked (see Section 6, Land Selection Facts and Assumptions for Analysis).

3.1 Bay Planning Area

The Bay planning area is underlain by 11 mineral terrane units with geologic settings that are considered highly favorable for the existence of metallic mineral resources. Placer mining for gold and platinum is the most common type of mining (BLM 2007). Exploration for gold and copper occurs mostly in the Iliamna area. There are several exploration projects in the planning area that could lead to increased development in the future.

3.1.1 Mineral Occurrences

The U.S. Geological Survey (USGS) incorporates regional geochemical sampling information available from State and Federal agencies to determine mineral potential for locatable resources. The USGS puts statistical emphasis on specific geochemical signatures and includes data from geologic maps, regional scale geophysical data, and data from the Alaska Resource Data Files (ARDF) database (USGS 2023).

Mineral occurrence locations were taken from the ARDF database developed by the USGS; this database is primarily used to locate mines, prospects, and occurrences in the planning area. The ARDF database indicates there are 89 mineral occurrences in the Bay planning area and two within ANCSA 17(d)(1) withdrawals, with one occurrence and one prospect. Figure 8 displays locatable mineral occurrences in the Bay planning area, differentiating between mining prospects, mine locations, and occurrences, and the overlap with priority conveyances.

3.1.2 Historical Mineral Development

Placer platinum mining has historically occurred on the Salmon River near the Goodnews Mining Camp and its associated drainages such as Dowery Creek, Squirrel Creek, and Clara Creek (BLM 2007). Historically, placer gold mining has occurred in the headwaters of the Arolik River and the Wattamuse Creek-Slate Creek area, near BLM-managed lands north of Goodnews Bay. The largest placer gold operation is located in Wattamuse Creek and its drainages and has produced approximately 30,000 troy ounces of gold between 1917 and 1947. Additional locations with historical placer mining are Trail Creek, American Creek, north of Naknek Lake, and Portage Creek and Bonanza Creek north of Port Alsworth (BLM 2007).

With Statewide interest in rare minerals exploration, especially in platinum group metals, there has been an increase in exploration efforts in Goodnews Bay along the Salmon River (BLM 2007). The Bay resource management plan (RMP) predicted that Goodnews Bay will experience lode mineral activities at Tatlignagpeke Mountain and Mitlak Mountain (BLM 2007); there are currently active State mining claims at Tatlignagpeke Mountain but not at Mitlak Mountain (Figure 9).

3.1.3 Mining Claims

The Bay planning area currently has active Federal mining claims within one contiguous claim block. The claim concentrations are located along the Salmon River near Goodnews Bay. Most of the Goodnews claims have been extensively mined for placer platinum and are covered with placer tailings. The claims are connected to the village of Platinum by a maintained gravel road that traverses the claim block. Sixty-three Federal claims in the area north of the Kvichak River tributary were recorded in 2000 for suspected copper/gold mineralization, and all were abandoned by the end of 2012.

As of early 2005, there were 3,256 State mining claims in the Bay planning area, of which 182 are located on State-selected lands. (Mining claims may be filed on State-selected lands, but mining cannot occur until the land is conveyed.) No active Federal or State mining claims are located on ANCSA-selected lands. Table 3-1 and Figure 9 display recorded Federal and active State mining claims on ANCSA 17(d)(1) withdrawals in the Bay planning area as of June 19, 2023. Once the claim is located, the claimant can 1) operate under that claim for casual use on less than 5 acres (operator must reclaim any disturbance created on those acres), or 2) operate on more than 5 acres and provide a notice or plan of operations (depending on the activity) for the BLM's approval (43 Code of Federal Regulations 3809.10).

Table 3-1. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Bay Planning Area

Number of Active State Mining Claims	Number of Recorded Federal Mining Claims	Number of Mining Claims with a Notice or Plan of Operations
136	4	0

3.1.4 Active and Planned Mining Operations

There are 10 active mines within the Bay planning area (USGS 2023). Placer platinum is the most likely development target, whereas placer gold is the most likely target for exploration and development. Placer mining activity in the planning area is expected to occur in the Snow Gulch part of Goodnews Bay (BLM 2007). Copper is another mineral that has historically been developed and explored within the Bay planning area. One to three small-scale placer operations employing three to five people are expected at each location (BLM 2007). Activity would most likely occur on Barnum Creek, Domingo Creek, Faro Creek, or on Jacksmith Creek.

Development projects involve gold and copper from developing new and old prospects for hard rock. Most of these are located in the Kvichak area. Hard rock exploration is increasing due to the increasing price of gold and increased interest in mineral occurrences. The Pebble deposit, on State lands near Lake Iliamna in the Bay planning area, is currently in the pre-production phase of exploration and development. Although the project has secured some permits, there are a number of factors that may prevent the project from being developed. Although the deposit does not directly intersect ANCSA 17(d)(1) withdrawals, the proposed road to the mining area potentially goes through ANCSA 17(d)(1) withdrawals.

3.1.5 Locatable Mineral Potential Development

Multiple factors contribute to the likelihood of mine development. Mineral exploration does not necessarily imply mine development. Notice-level mineral exploration may disturb up to 5 acres and remove up to 1,000 tons of material without requiring a permit or National Environmental Policy Act analysis. Mineral exploration that exceeds these disturbance thresholds, as well as subsequent mineral development, requires submission of plans of operations and associated National Environmental Policy Act analysis to support permit issuance. Mine development would only occur if results of exploration are favorable and development is economical.

Federal and State mining claims were buffered by 1 mile to determine where mining activity was more likely. The total acres of locatable minerals that are more likely to be developed within the Bay planning area are summarized in Table 3-2.

Table 3-2. Acres of Locatable Minerals More Likely to be in the Bay Planning Area

Acres of High Locatable Mineral Potential	Acres of Locatable Minerals More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
7,932,000	29,000	92,000	28,000

Figure 10 displays the acres of high locatable mineral potential on 17(d)(1) withdrawals in the planning area that are more likely to be developed and the overlap with priority conveyances.

3.2 Ring of Fire Planning Area

Mineral terrane information is generally unavailable for the Aleutian Chain. Throughout the islands, several occurrences of gold, silver, copper, lead, and zinc have been documented. On the Alaska Peninsula, there are several significant mineral deposits associated with intruded vein and porphyry deposits. These deposits are estimated to contain reserves of gold, silver, copper, and molybdenum.

The Kodiak Island archipelago has not been explored as extensively as other areas of the Ring of Fire planning area. Mineral terranes encompass several chromium, gold, silver, copper, and lead occurrences. A significant deposit of chromite is in the southwest part of Kodiak Island. Placer deposits of gold and other heavy minerals occur along the western and southern beaches of the Kodiak region (U.S. Bureau of Mines 1995).

Southcentral Alaska is traversed by several mineralized regions and historical mining districts. Vein and porphyry deposits along the west side of Cook Inlet may have significant concentrations of gold, silver, zinc, copper, and lead.

The Yentna-Petersville area is known primarily for its past gold production from placer deposits. The Hatcher Pass-Willow Creek Mining District in the Talkeetna Mountains contains vein gold deposits hosted in granitic rocks, as well as placer gold deposits (Szumigala et al. 2003). Gold quartz vein deposits are found within the Chugach and Kenai Mountains.

In the planning area's Alaska Peninsula/Aleutian Chain region and Kodiak region, the potential for development of locatable minerals is low, even in areas of high occurrence potential, due to their remoteness and inaccessibility.

In the Southcentral part of the planning area, locatable mineral development potential is moderate in areas of high potential locatable mineral occurrence because the area is more accessible than other parts of Alaska. Areas in the Aleutian Range may receive a moderate level of interest based on gold and porphyry copper-gold deposits. On the Kenai Peninsula, there may be interest in small-scale placer gold production in areas mapped as high potential for occurrence along the Seward Highway corridor. BLM-managed surface tracts at the head of Kings Bay overlap areas that are rated as highly favorable for undiscovered Chugach-type vein gold or placer deposits (Nelson and Miller 2000).

3.2.1 Mineral Occurrences

The ARDF database indicates that there are 335 mine locations (mostly historic or inactive), 826 mineral occurrences, and 1,170 prospective mineral locations in the planning area. Six of the 826 mineral occurrences are located on ANCSA 17(d)(1) withdrawals. Figure 11 displays mineral occurrences in the Ring of Fire planning area, differentiating between mining prospects, mine locations, and occurrences, and the overlap with priority conveyances.

3.2.2 Historical Mineral Development

The Apollo Mine on Unga Island produced gold in the early 1900s from vein deposits in volcanic rocks.

3.2.3 Mining Claims

In the Southcentral region of the planning area, there are six mining sites where Federal mining claims are active or are occupied by individuals involved in mining activities. Five of these mining sites have had no mining activity in over 10 years, but structures and/or equipment remain. There are 664 Federal mining

claims in the Southeast region of the planning area. Some major mines have been or are being developed on U.S. Forest Service lands. Mining activity on BLM-managed lands has been declining for over 20 years, and most of the activity has been exploratory (BLM 2006a). Only a few of these claims are currently being actively mined. Table 3-3 and Figure 12 display recorded Federal and active State mining claims on ANCSA 17(d)(1) withdrawals in the Ring of Fire planning area. There are no current Federal mining claims in the ANCSA 17(d)(1) withdrawals in the Ring of Fire planning area. These claims were analyzed on June 19, 2023.

Table 3-3. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Ring of Fire Planning Area

Number of Active State Mining Claims	Number of Recorded Federal Mining Claims	Number of Mining Claims with a Notice or Plan of Operations
7	0	1

3.2.4 Active Mining Operations

The Southcentral region of the planning area has one exploration project (Shulin Lake) and three small placer operations (Crow, Canyon, and Quartz creeks) (Szumigala et al. 2003). A total of four placer properties and 13 gold-quartz vein (Chugach-type) properties are located in the Southcentral region of the planning area. Only the Crow Creek Mine is an active placer operation that is used as a tourist recreational panning site (BLM 2006a). A total of eight placer properties and three low-sulfide gold-quartz properties; one property each of Kuroko massive sulfide, Alaskan platinum group elements, and polymetallic vein; and five unknown properties are located in the Southeast region of the planning area (BLM 2006a). The Crow Creek Mine is the only current surface disturbance from locatable mineral activity.

3.2.5 Locatable Mineral Potential Development

As stated previously, mineral development is dependent on a multitude of factors (see Section 3.1.5).

Federal and State mining claims were buffered by 1 mile to determine where mining activity was more likely. The total acres of locatable minerals that are more likely to be developed within the Ring of Fire planning area are summarized in Table 3-4.

Table 3-4. Acres of Locatable Minerals More Likely to be Developed in the Ring of Fire Planning Area

Acres of High Locatable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
22,245,000	2,000	165,000	2,000

Figure 13 displays the acres of high locatable mineral potential on 17(d)(1) withdrawals in the planning area that are more likely to be developed and the overlap with priority conveyances.

3.3 Bering Sea-Western Interior Planning Area

The Bering Sea-Western Interior planning area consists of a series of terranes: the Ruby, Nixon Fork, Dillinger, Innoko, Kahiltna, and Farewell terranes (BLM 2020). The Farewell terrane makes up the bulk of the rock units within the planning area. Distribution of locatable mineral occurrences within the planning area is generally concentrated in the upland areas in the eastern portion of the planning area and the adjacent lowlands (BLM 2017). There are 30 deposit types within the planning area (BLM 2017). Five of the deposits are only lode-type strategic mineral deposits (BLM 2017). Of the deposit types assessed, only the placer and lode gold and the platinum-related deposit types are significant in the planning area (Karl et al. 2016).

3.3.1 Mineral Occurrences

The Bering Sea-Western Interior planning area contains 453 documented mineral occurrences and 2,480 mining claims; of these, 207 are under Federal management. The ARDF database indicates that there are 45 mineral sites in the ANCSA 17(d)(1) withdrawals within the Bering Sea-Western Interior planning area, comprising six mines, 29 occurrences, and 10 prospects. These minerals include placer gold, gold-bearing quartz veins, copper-gold skarns, and silica-carbonate mercury deposits (BLM 2020). Mineral production in the planning area totals 3.2 million ounces of gold, 151,750 ounces of silver, 2.1 million pounds of copper, and 41,767 flasks of mercury. Figure 14 displays mineral occurrences in the Bering Sea-Western Interior planning area, differentiating between mining prospects, mine locations, and occurrences, and the overlap with priority conveyances.

3.3.2 Historical Mineral Development

Placer gold mining supported the Iditarod, Marshall, and Nyac Mining Districts in the planning area. The Iditarod Mining District, including the Flat area, is ranked third in placer gold production in Alaska (BLM 2020).

3.3.3 Mining Claims

There are currently 2,480 mining claims in the Bering Sea-Western Interior planning area. Table 3-5 and Figure 15 display Federal, State, and mining claims with a plan of operations or notice on ANCSA 17(d)(1) withdrawals in the Bering Sea-Western Interior planning area as of June 19, 2023.

Table 3-5. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Bering Sea-Western Interior Planning Area

Number of Active State Mining Claims	Number of Recorded Federal Mining Claims	Number of Mining Claims with a Notice or Plan of Operations
322	79	2

3.3.4 Active Mining Operations

In 2014, an estimated 12 companies or individuals were producing metals (predominately gold) in the planning area. In addition, the Donlin Gold Project near Crooked Creek is an active exploration project (BLM 2020) that is permitted for development.

In 2015, there were 19 active placer mines and one active lode mine. As of December 2016, there were four active placer mines, one active lode mine, and two temporary placer mine closures on BLM-managed lands in the planning area; however, the number of active and temporarily closed mines changes annually (BLM 2020). Currently, less than 1 percent of the total acres under mining claims and prospecting sites are under Federal management, and most of the mining and mineral exploration in the planning area is on State, Alaska Native Corporations (ANC), or private lands (BLM 2020).

Current placer gold production occurs at a smaller scale as a revenue for regional shareholders. One shareholder in the planning area that has historically supported responsible development is the ANC NANA, which has historic involvement with the Red Dog Mine north of the planning area (BLM 2020).

3.3.5 Locatable Mineral Potential Development

As stated previously, mineral development is dependent on a multitude of factors (see Section 3.1.5).

The total acres of locatable minerals that are more likely to be developed within the Bering Sea-Western Interior planning area are summarized in Table 3-6.

Table 3-6. Acres of Locatable Minerals More Likely to be Developed in the Bering Sea-Western Interior Planning Area

Acres of High Locatable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
14,260,000	47,000	1,254,000	33,000

Figure 16 displays the acres of high locatable mineral potential on 17(d)(1) withdrawals in the planning area that are more likely to be developed and the overlap with priority conveyances.

3.4 East Alaska Planning Area

The most common type of mining to occur in the East Alaska planning area is placer gold mining. Historical data show that small placer mines will be more likely to reappear in the planning area than either medium or large placer mines (BLM 2006b).

There are currently a number of inactive gold placer mines in the planning area around the eastern Talkeetna Mountains area, one of which, Yacko Creek, has previously produced an estimated 1,000 ounces of gold. Anomalous levels of gold and platinum group elements were found in sediment samples taken from streams such as Yacko Creek, Red Fox Creek, Tyone Creek, and Busch Creek (BLM 2006b).

Exploration north of the Denali Highway has indicated that the area has the potential for a significant discovery of rare metals (nickel and platinum group elements). This area has been conveyed to the State of Alaska (BLM 2006b).

3.4.1 Mineral Occurrences

The ARDF database indicates that there are 57 mining sites within the ANCSA 17(d)(1) withdrawals in the East Alaska planning area, comprising 11 mines, 21 occurrences, and 25 prospects. The Granite Intrusive Terrane includes mainly Jurassic- to Tertiary-age felsic and alkalic intrusive rocks of typically granite to granodiorite composition. The terrane of the planning area is generally permissive to copper,

gold, molybdenum, tin, tungsten, uranium, thorium, and rare earth element deposits. Specific deposit models likely to occur include disseminated intrusive gold, gold-copper skarn, polymetallic vein, copper-molybdenum-gold porphyries, tin greisens, and tungsten deposits (BLM 2006b). Figure 17 displays mineral occurrences in the East Alaska planning area, differentiating between mining prospects, mine locations, and occurrences, and the overlap with priority conveyances.

3.4.2 Historical Mineral Development

The placer mines along Valdez Creek and its tributaries were the largest mines in the East Alaska planning area. Prior to April 2000, the total production from Valdez Creek and its tributaries has been over 650,000 ounces of gold. Lucky Gulch, the next largest producer in the Valdez Creek Mining District, discharges into Valdez Creek and had a total recorded production through 1925 of approximately 3,000 ounces. Since then, cumulative production is likely about equal to that amount. Lucky Gulch contains the coarsest placer gold in the district and the largest gold nugget, which weighed 52 ounces (BLM 2006b).

Historically, nickel and copper were discovered along the south flank of the Delta Range near Rainbow Mountain in the early 1950s. This area became known as the Nikolai Belt, which is the name of the rock formation where the mineralized rocks occur (BLM 2006b). In the 1990s, platinum group elements were sought after in the planning area along with nickel and copper.

3.4.3 Mining Claims

A number of large companies have staked mineral or optioned claims within the Nikolai Belt area, including Cominco, Falconbridge, and INCO. Some smaller companies have also been active over the years (BLM 2006b). Table 3-7 and Figure 18 display Federal, State, and mining claims with a plan of operations or notice on ANCSA 17(d)(1) withdrawals in the East Alaska planning area. These claims were analyzed on June 19, 2023.

Table 3-7. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the East Alaska Planning Area

Number of Active State Mining Claims	Number of Recorded Federal Mining Claims	Number of Mining Claims with a Notice or Plan of Operations
1,350	264	25

3.4.4 Active Mining Operations

There are currently two active mining operations within the East Alaska planning area (BLM 2006b). These mining operations submit regular plans of operation and are small scale (i.e., with disturbance areas smaller than 5 acres).

3.4.5 Locatable Mineral Potential Development

As stated previously, mineral development is dependent on a multitude of factors (see Section 3.1.5).

The total acres of locatable minerals that are more likely to be developed within the East Alaska planning area are summarized in Table 3-8.

Table 3-8. Acres of Locatable Minerals More Likely To Be Developed in the East Alaska Planning Area

Acres of High Locatable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
15,342,000	130,000	1,568,000	108,000

Figure 19 displays the acres of high locatable mineral potential on 17(d)(1) withdrawals in the planning area that are more likely to be developed and the overlap with priority conveyances.

3.5 Kobuk-Seward Peninsula Planning Area

Known deposits in the Kobuk-Seward Peninsula planning area that have seen active mining include deposits of placer gold, placer tin, placer nephrite (Alaskan jade), lode gold, lode lead-silver, lode copper, and zinc. Deposits that have not seen mineral production in the planning area include lode tin, fluor spar, and nickel/platinum group elements.

3.5.1 Mineral Occurrences

Within the Kobuk-Seward Peninsula planning area, there are 877 ARDF sites, 68 of which occur in ANCSA 17(d)(1) withdrawals and comprise 11 mines, 42 occurrences, and 15 prospects. Approximately 500 placer gold occurrences exist in the planning area; these occurrences are restricted to the area south and east of the Noatak River (BLM 2005). Figure 20 displays mineral occurrences in the Kobuk-Seward Peninsula planning area, differentiating between mining prospects, mine locations, and occurrences, and the overlap with priority conveyances.

3.5.2 Historical Mineral Development

Historical placer mining in the Nome area has occurred since the early 1900s, primarily in the beach deposits. In 1990, Tenneco Inc. explored the area of Rock Creek and patented mining claims. After one season, Tenneco withdrew, and the Alaska Gold Company continued development in the area in the patented region. Throughout the rest of the century, BHP-Utah International continued core drilling and geochemical sampling programs, and Bering Straits Native Corporation advertised opportunities for joint venture partnerships in the exploration of rare earth minerals and gold (BLM 2007). The Bima offshore bucket-line dredge suspended operations in 1990 in the planning area (BLM 2007).

In all, 18 acres on the Tubutulik River were mined by an individual for placer gold on mixed Federal and State claims between 1989 and 1993. Since then, the 4.8 acres of State land were prospected for hard rock minerals by Greatland Exploration Ltd.

3.5.3 Mining Claims

Table 3-9 and Figure 21 display Federal, State, and mining claims with a plan of operations or notice on ANCSA 17(d)(1) withdrawals in the Kobuk-Seward Peninsula planning area. There are no current mining claims with a plan of operations or notice within ANCSA 17(d)(1) withdrawals within the Kobuk-Seward Peninsula planning area as of June 19, 2023.

Table 3-9. Mining Claims within the ANCSA 17(d)(1) Withdrawals within the Kobuk-Seward Peninsula Planning Area

Number of Active State Mining Claims	Number of Recorded Federal Mining Claims	Number of Mining Claims with a Notice or Plan of Operations
471	17	0

3.5.4 Active Mining Operations

There are currently no active mining operations on Federal lands within the Kobuk-Seward Peninsula planning area. The Red Dog Mine is an active mining operation that mines tin, lead, and gold (BLM 2005). The Graphite One Mine is proposed on State lands adjacent to State top filed lands that are currently withdrawn under ANCSA 17(d)(1), approximately 34 miles north of Nome. This is an area that is more likely to be developed and more likely to be conveyed. The Graphite One Project would include a graphite mine as well as a processing plant adjacent to the mine. The project has completed a preliminary feasibility study (JDS Energy and Mining, Inc. 2022), and the Department of Defense recently announced up to \$37.5 million in subsidies for Graphite One (Anchorage Daily News 2023). Development of the Graphite One Mine is highly likely.

3.5.5 Locatable Mineral Potential Development

As stated previously, mineral development is dependent on a multitude of factors (see Section 3.1.5).

The total acres of locatable minerals that are more likely to be developed within the Kobuk-Seward Peninsula planning area are summarized in Table 3-10.

Table 3-10. Acres of Locatable Minerals More Likely to be Developed in the Kobuk-Seward Peninsula Planning Area

Acres of High Locatable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
8,580,000	69,000	505,000	21,000

Figure 22 displays acres of high locatable mineral potential on 17(d)(1) withdrawals in the planning area that are more likely to be developed and the overlap with priority conveyances.

4 SALABLE MINERALS

Salable minerals include sand, stone (such as decorative stone), gravel, pumice, clay, rock, and petrified wood. These non-energy-related materials are typically used in construction, agriculture, and decorative applications.

Mineral occurrence maps were used to determine where salable minerals have a high likelihood of occurring. However, occurrence of a mineral does not imply that mineral development would be economical or that there would be a demand for mineral extraction. Therefore, this analysis assumes that areas with potential for salable mineral extraction would occur within 0.5 mile of the existing road system, rail belt, barge routes, and ports and within 1 mile of communities. Additionally, consideration was given to the current and projected demand for salable minerals. Areas within 0.5 mile of access

routes and 1 mile of communities, and with a demand for extraction, are considered areas that are **more likely to be developed**.

In each section below, the acres of salable minerals and the overlap of those acres with 17(d)(1) withdrawals are summarized for each planning area. Additionally, acres of overlap between salable minerals and State top filed Priority 1 and 2 lands and ANCSA-selected lands are provided because these areas are likely to be conveyed should those lands be revoked (see Section 6, Land Selection Facts and Assumptions for Analysis).

4.1 Bay Planning Area

Significant quantities of salable minerals known to be present throughout the Bay planning area include sand and gravel aggregate, silica sand (abrasives), dimension and decorative stone, and common or bentonite clay. Active rock quarries are located on ANC land near Dillingham, Platinum, and Goodnews Bay. Numerous sand and gravel pits exist near Dillingham and King Salmon and are mostly located on private land. Most communities in the planning area have a small gravel pit for local use.

No active mineral material contracts, community pits, or free-use permits issued by the BLM exist in the planning area. Most of the sites in the planning area are roadside material sites owned by villages or private individuals.

Future sand and gravel needs for the planning area will be well supplied by the existing sources on private land (BLM 2007). Expected future needs will be project driven and related to the development of mines, oil and gas exploration and production, roads, airstrips/airports, village improvements, and other infrastructure needs.

Only a small portion of 17(d)(1) withdrawals are more likely to be developed for salable minerals (Table 4-1, Figure 23).

Table 4-1. Acres of Salable Minerals More Likely to Be Developed in the Bay Planning Area

Acres of High Salable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
1,469,000	< 1,000	92,000	< 1,000

4.2 Ring of Fire Planning Area

Salable minerals including sand and gravel, building stone, pumice, clay, and limestone are common throughout the Ring of Fire planning area (URS Corporation [URS] 2004). Currently, there are no known salable mineral activities on BLM unencumbered or State- or ANCSA-selected lands in the Ring of Fire planning area. Building stone, including limestone and marble, has been reported to be quarried primarily in the Southeast region. Prince of Wales and Dall Islands have large quantities of pure limestone and marble quarried (URS 2004). Kodiak Island, the Turnagain Arm area, both sides of lower Cook Inlet, and the Matanuska-Susitna Valley have had dimension stone quarried for riprap and construction purposes (URS 2004).

Pumice deposits occur throughout the Alaska Peninsula/Aleutian Chain region (URS 2004). However, these deposits are far from markets, and there is no foreseeable development potential for this material. Clay deposits occur in the Southcentral region in the Bootleggers Cove clay in the Anchorage area, at

Sheep Mountain in the Matanuska Valley, near Homer, and at Moose Pass on the Kenai Peninsula (URS 2004). There is an extremely small foreseeable development potential for this material due to the lack of markets.

Lands with a high potential for salable minerals occur on isolated road systems on several islands in the Aleutian Chain, as well as near Cold Bay and Port Moller on the Alaska Peninsula (BLM 2006a). Documented pumice sites near Chignik Lagoon and Mount Katmai on the Alaska Peninsula and along the southwest side of lower Cook Inlet have a high potential for salable minerals. Stone and aggregate extraction sites on northeast Kodiak Island have a high potential for salable minerals, as do known sand and gravel sites in Southcentral Alaska (BLM 2006a). In Southeast Alaska, much of Prince of Wales, Kupreanof, and northern Kuiu Islands have a high potential for salable minerals based on existing stone quarries near many of the Southeast Alaska communities.

Only a small portion of 17(d)(1) withdrawals are more likely to be developed for salable minerals (Table 4-2, Figure 24).

Table 4-2. Acres of Salable Minerals More Likely to Be Developed in the Ring of Fire Planning Area

Acres of High Salable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
1,225,000	2,000	165,000	2,000

4.3 Bering Sea-Western Interior Planning Area

The local demand for salable minerals in the Bering Sea-Western Interior planning area is generally being met by producers located on private lands. At the time of the RMP, there were tentative plans to construct a natural gas pipeline across the Alaska Range through Rainy Pass to Donlin Creek (BLM 2020), which may drive the material's demand higher. In addition, there is a proposed road to Donlin Creek from the vicinity of Aniak that could cross Federal lands. The Donlin Gold Project includes a 315-mile pipeline from Cook Inlet to the mine site, a 2-square-mile open pit mine near Crooked Creek, an industrial port site on the Kuskokwim River, a 25-mile road from the river to the mine, and industrial barge traffic on the Kuskokwim River from Bethel to the mine port. However, the proposed pipeline and road routes are mostly on State and private land, and most of the resources for the proposed routes may come from sources on those lands.

Only a small portion of 17(d)(1) withdrawals are more likely to be developed for salable minerals (Table 4-3, Figure 25).

Table 4-3. Acres of Salable Minerals More Likely to Be Developed in the Bering Sea-Western Interior Planning Area

Acres of High Salable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
13,466,000	< 1,000	1,254,000	< 1,000

4.4 East Alaska Planning Area

Significant quantities of salable minerals known to be present in the planning area include sand and gravel aggregate, silica sand (abrasives), dimension and decorative stone, and common or bentonite clay. Many of the sites in the planning area are roadside materials sites owned by municipalities or the State. There is a rock quarry at the entrance to Keystone Canyon and gravel sources readily available in Valdez, making gravel development unlikely.

A small portion of 17(d)(1) withdrawals are more likely to be developed for salable minerals (Table 4-4, Figure 26).

Table 4-4. Acres of Salable Minerals More Likely to Be Developed in the East Alaska Planning Area

Acres of High Salable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
6,412,000	18,000	1,568,000	17,000

4.5 Kobuk-Seward Peninsula Planning Area

River bars and beach lines are an abundant source of mineral materials for construction projects in the Kobuk-Seward Peninsula planning area. Villages in the region, due to their locations along rivers or coastlines, have developed local sources for mineral materials. Outside of these areas, mineral materials have low value unless they are near a project under development. Because of the low unit costs and high transportation costs for mineral materials, salable resource demand must be met locally for the respective projects to be economically viable.

The local demand for mineral materials in the Kobuk-Seward Peninsula planning area is generally being met by producers located on private lands. These producers will continue to provide larger portions of the future requirements. There is a low potential for development for salable minerals within this planning area.

Only a small portion of 17(d)(1) withdrawals are more likely to be developed (Table 4-5, Figure 27), and even fewer of those lands are priority conveyances.

Table 4-5. Acres of Salable Minerals More Likely to Be Developed in the Kobuk-Seward Peninsula Planning Area

Acres of High Salable Mineral Potential	Acres More Likely to be Developed on ANCSA 17(d)(1) Withdrawals	Acres of Priority Conveyances in Planning Area	Acres of Priority Conveyances More Likely to be Developed on ANCSA 17(d)(1) Withdrawals
11,781,000	3,000	505,000	< 1,000

5 RIGHTS-OF-WAY

There are approximately 68,000 acres of authorized ROWs on BLM-managed lands in the project area, as summarized in Table 5-1.

Table 5-1. Acres of ANCSA 17(d)(1) Withdrawals with Authorized Rights-of-Way per Planning Area

ROW	Bay	Ring of Fire	Bering Sea- Western Interior	East Alaska	Kobuk-Seward Peninsula
Communications	< 1,000	4,000	< 1,000	7,000	< 1,000
Roads	< 1,000	3,000	< 1,000	14,000	< 1,000
Other	< 1,000	3,000	1,000	1,000	0
Pipelines	0	1,000	< 1,000	6,000	0
Material sites	0	< 1,000	0	2,000	< 1,000
Power infrastructure	0	8,000	0	18,000	0
Total	< 1,000	19,000	1,000	48,000	< 1,000

Source: BLM LUA dataset, records with Case Type Code in the 280000s and CASE_STATUS as Authorized.

In addition, there are approximately 13,000 acres of pending ROWs within ANCSA 17(d)(1) withdrawals (Table 5-2). ROWs cannot be approved on State-selected lands without State concurrence. On ANCSA-selected lands, ROWs require coordination with ANCs (but not concurrence) prior to approval.

Table 5-2. Acres of ANCSA 17(d)(1) Withdrawals with Pending Rights-of-Way per Planning Area

ROW	Bay	Ring of Fire	Bering Sea- Western Interior	East Alaska	Kobuk-Seward Peninsula
Communications	0	0	< 1,000	< 1,000	< 1,000
Roads	0	3,000	< 1,000	< 1,000	3,000
Other	0	< 1,000	0	4,000	< 1,000
Pipelines	0	< 1,000	0	2,000	0
Material sites	0	0	0	< 1,000	0
Power infrastructure	0	< 1,000	0	0	0
Total	0	4,000	< 1,000	6,000	3,000

Source: BLM LUA dataset, records with Case Type Code in the 280000s and CASE_STATUS as Pending.

6 LAND SELECTION FACTS AND ASSUMPTIONS FOR ANALYSIS

The context of land selection is important to consider for analysis. In Alaska, public land is or has been subject to various laws that allow or allowed the State of Alaska, Alaska Native Corporations (ANCs), Alaska Native veterans, or others to select acres for future conveyance. In some cases, the 17(d)(1) withdrawals explicitly allowed these selections. For instance, PLO 5353 specifically allowed for selections under ANCSA 12. In other cases, the 17(d)(1) withdrawal orders were revoked in part to allow for selections, for instance PLO 5174 revoked the withdrawals in part to allow for State of Alaska selections, and PLO 7912 revoked the withdrawals in part to allow for selections under the Dingell Act.

When a withdrawal is revoked, the lands become available to the operation of all the currently applicable public land laws.

The selections under the Alaska Statehood Act are complete, but top filings can become recognized as additional effective selections. Section 906(e) of ANILCA allowed the State of Alaska to file future selections on lands that were not currently available because the land was withdrawn or selected by another entity. These are referred to as **top filings**; they are in effect waiting in line until the withdrawal is revoked or the first entity either receives their lands or relinquishes their claim or place in line. In addition, sometimes the land has been withdrawn by Congress, the President, or the Secretary and reserved for specific use by a Federal agency (e.g., the U.S. Department of the Army or the National Oceanic and Atmospheric Administration [NOAA]) in addition to the 17(d)(1) withdrawal that made the land unavailable. Revocation of the withdrawals in full (Alternative D) would remove the reservation of land caused by the ANCSA 17(d)(1) withdrawals and make the land available for selection under the Alaska Statehood Act, if otherwise available. Once the land is available, the State's top filings become effective selections under the Alaska Statehood Act.

Given the complexity of these various land statuses, the difficulty of providing granular analysis of the environmental impacts of revocation of the 17(d)(1) withdrawals, and the focus on the implications for these different kinds of selections, should the Secretary revoke the 17(d)(1) in relevant part, the analysis in this EIS is based on the following facts and reasonable assumptions:

1. Land selection in this EIS refers to lands selected by either ANCs pursuant to ANCSA or the State of Alaska pursuant to the Alaska Statehood Act. State top filings refer to where the State has an application to select the land that would not become effective until the land becomes available.
2. Once the State's top filings become effective selections under the Alaska Statehood Act, that selection's prioritization would correspond to the priority the State of Alaska applied to the top filing. For instance, Priority 1 top filings would become Priority 1 selections.
3. Priority 1 is the highest priority in State of Alaska selection, with subsequent rankings descending in priority to Priority 2 or 3 or 4. The State of Alaska can change their prioritization of selected lands at any time; however, for the purposes of this analysis, it is assumed that the prioritization of record as of March 1, 2023, will remain the same for the 10 years following a Secretarial decision on the project.
4. The EIS assumes that the BLM will not convey some top filed lands even if the Secretary revokes the 17(d)(1) withdrawal in relevant part, where top filings are in place due to an encumbrance other than the 17(d)(1) withdrawal. For instance, if the land is selected by an ANC, the State's top filing would not attach to that parcel, even if the Secretary revokes the 17(d)(1) withdrawal in relevant part unless the ANC relinquishes its selection or the selection is rejected by the BLM when the ANC has received its full entitlement. Other encumbrances can include withdrawals for other agencies or Native allotment selections under the Dingell Act. It is unknown when or if the other encumbrances would be removed; therefore, the only top filed lands reasonably likely to become effective State selections are parcels where the land would become immediately available to the State upon the Secretary's revocation of the 17(d)(1) withdrawal in relevant part.
5. In the event the top filing becomes an effective selection, even though the Secretary has revoked the 17(d)(1) withdrawal in relevant part, these lands would be unavailable for any other form of appropriation. This is because the effective State selections segregate (set aside) the lands from entry, that is, the State selection is still "first in line" against other possible users to whom the land might go. This also means that even in those cases where existing withdrawals allow for location and entry under the U.S. mining laws, the revocation of the 17(d)(1) withdrawals that allow State selections to become effective would result in closing those lands to mineral entry because such revocation would put the State first in line. Therefore, all selected land (whether the

17(d)(1) withdrawal is revoked or not) would not be available for location and entry under the U.S. mining laws. Also, since State-selected land is not included in the definition of public lands for purposes of ANILCA, the additional State selections that become effective upon revocation of the 17(d)(1) withdrawals would also not be available for Federal subsistence priority (ANILCA 102.3; ANILCA 804).

6. Though the BLM still manages the land on effective selections, the BLM cannot approve grants of right-of-way (ROW) on State-selected lands without State concurrence. Similarly, on ANCSA-selected lands, ROWs require coordination with ANCs (but not concurrence) prior to approval (43 CFR 2650.1). The management prescriptions of the existing RMPs would apply to these ROWs.
7. The BLM can convey effective selections to the State at any time. Conversely, the State can relinquish a selection at any time. There is no established timeline for the BLM to convey or the State to relinquish selections; however, for the purposes of this analysis, it is assumed that the State of Alaska would pursue the Priority 1 and 2 selections in the decision area for conveyance within 10 years of the Secretary's decision for the project.
8. If a 17(d)(1) withdrawal is revoked and 1) the lands have not been top filed and 2) if these lands are not otherwise withdrawn and reserved for some other purpose or agency or segregated by a selection or other public land law entry, they would be open to appropriation under the public land laws, including location and entry under the Federal mining laws and leasing under the Mineral Leasing Act. The BLM would manage these lands consistent with the applicable RMP for the area.
9. Land management prescriptions established in the applicable RMPs would continue to apply for both unselected and selected lands withdrawn under 17(d)(1) should the Secretary revoke those withdrawals.
10. The State of Alaska has overselected lands. That is, they have selected more lands than their entitlement. The State is entitled to receive approximately 104,525,000 acres from the Federal government, of which 95 percent has been conveyed to them (as of March 2023). The remaining State entitlement is approximately 5.2 million acres, which would be conveyed from existing selections and top filings across the State, assuming no withdrawal prevents the selection from becoming effective and no other entity is ahead of them in line. Across the state, there are currently (as of March 2023) 5.2 million acres of Priority 1 or 2 selected lands and 4.1 million acres of Priority 1 or 2 top filed lands. If all Priority 1 and 2 top filings become effective selections, there would be 9.3 million acres would be Priority 1 or 2 selections. Of the Priority 1 and 2 top filed lands, 3.8 million acres are withdrawn under 17(d)(1). The proposed Secretarial decision-making evaluated in this EIS is about a subset of those withdrawals.
11. This EIS assumes that the State would take title to all the lands it designated as its Priority 1 and 2 selections. Specifically, the BLM assumes that within 10 years of a Secretarial decision on the project, it would convey all Priority 1 and 2 top filings that become effective selections. Independent of such decision, though considered in the cumulative impacts analysis, the BLM also anticipates that it would convey all currently effective Priority 1 and 2 State-selected lands within 10 years of such a decision. For any land conveyed to the State, the State of Alaska management would apply upon its receipt.
12. Further, the BLM assumes that the conveyance of the Priority 1 and 2 selections would fulfill the State's entitlement, and therefore all the selections the State designated as Priority 3 and 4 would either be relinquished by the State or rejected by the BLM, and those lands would no longer be segregated.

13. Most ANCs in the decision area also have more land selected than their remaining entitlement. However, due to the prioritization method used by the ANCs and the multiple ANCs with selections, the BLM cannot assume at the project level which selections the ANCs may relinquish or the BLM reject, resulting in the lifting of the segregation due to such selections.
14. Some ANCs are underselected. If State top filings fall into place, the land would be segregated and would not be available for selection by ANCs that are underselected.
15. Conveyances are subject to valid existing rights; therefore, leases, ROWs, etc., would remain effective following conveyance of any Federal land to the State of Alaska.

Tables 6-1 through 6-3 summarize how the status of a given acre of land would change as withdrawals are revoked, selections are relinquished, and conveyances are completed or rejected. Similarly, the tables indicate if the parcels are open to location and entry under the U.S. mining laws or are available for Federal priority subsistence. The EIS effects analysis uses these assumptions when considering the potential result of revocation or retention of ANCSA 17(d)(1) withdrawals.

Table 6-1. Selection Sequencing: Lands without Alaska Native Corporation or State of Alaska Selections

Initial Land Status	Potential Action	Assumptions for Analysis	Resulting Minerals Entry Status	Effect on Availability of the Land for Priority Subsistence under ANILCA
BLM-managed lands, currently open to mineral entry	The Secretary does not revoke the ANCSA 17(d)(1) withdrawal.	Land remains open to mineral entry; terms of existing PLO apply.	Remains open.	Remains available for Federal subsistence priority.
BLM-managed lands, currently open to mineral entry	The Secretary revokes the ANCSA 17(d)(1) withdrawal.	Land remains open to mineral entry; management prescriptions of existing RMP apply.	Remains open.	Remains available for Federal subsistence priority.
BLM-managed lands, currently withdrawn from mineral entry	The Secretary does not revoke the ANCSA 17(d)(1) withdrawal.	Land remains closed to mineral entry; terms of existing PLO apply.	Remains closed.	Remains available for Federal subsistence priority.
BLM-managed lands, currently withdrawn from mineral entry	The Secretary revokes the ANCSA 17(d)(1) withdrawal.	Withdrawal is revoked, lands are no longer reserved by the ANCSA 17(d)(1) withdrawals and are open to mineral entry; management prescriptions of existing RMP apply.	Becomes open.	Remains available for Federal subsistence priority.

Table 6-2. Selection Sequencing: Lands with Alaska Native Corporation or State of Alaska Selections

Initial Land Status	Potential Action	Assumptions for Analysis	Resulting Minerals Entry Status	Effect on Availability of the Land for Priority Subsistence under ANILCA
State of Alaska– or ANCSA-selected lands (not top filed)	The Secretary does not revoke the ANCSA 17(d)(1) withdrawal.	Withdrawal remains in place. State or ANC selection remains in place. Terms of existing PLO apply.	Mineral entry remains closed.	Remains unavailable for Federal subsistence priority unless the land is not conveyed and the State of Alaska or ANC selection is rejected or relinquished.
State of Alaska– or ANCSA-selected lands (not top filed)	The Secretary revokes the ANCSA 17(d)(1) withdrawal.	Encumbered until conveyance, relinquishment, or rejection. For purpose of analysis, it is assumed conveyance to the State of Alaska would occur for Priority 1 and 2 selections but not Priority 3 and 4. Conveyance to the State would occur within 10 years of the ROD. It is also assumed that conveyance to ANCs could occur within 10 years after the ROD. ROWs and other non-mining authorizations could be authorized with concurrence from the State of Alaska on State-selected lands, and with consultation (not concurrence) with the ANC on ANCSA-selected lands. Management prescriptions of existing RMP would apply to these ROWs.	On Priority 1 and 2 selections, land remains segregated from entry, including mineral entry, until conveyed, relinquished, or rejected. If conveyed, then management would be determined by the receiving party. Priority 3 and 4 selections would be relinquished or rejected within 10 years of the ROD, and those lands would no longer be segregated from entry.	Remains unavailable for Federal subsistence priority unless the land is not conveyed and the State of Alaska or ANC selection is rejected or relinquished.

Table 6-3. Selection Sequencing: Top Filed Lands

Initial Land Status	Potential Action	Assumptions for Analysis	Resulting Minerals Entry Status	Effect on Availability of the Land for Priority Subsistence Use under ANILCA
State top filed Priority 1, 2, 3, and 4	The Secretary does not revoke the ANCSA 17(d)(1) withdrawal.	Withdrawal remains in place. Top filing remains in place.	Remains closed unless otherwise stated in PLO.	Remains available for Federal subsistence priority (unless State of Alaska top filing is due to another ANCSA selection).
State top filed Priority 1 and 2	The Secretary revokes the ANCSA 17(d)(1) withdrawal in full or in part.	<p>Top filing attaches as a selection, and the land is segregated from entry. Conveyance, assumed to occur within 10 years of the ROD. Once conveyed, then land managed by the State of Alaska.</p> <p>ROWs and other non-mining authorizations could be authorized with concurrence from the State of Alaska on State-selected lands. Management prescriptions of existing RMPs would apply to these ROWs.</p> <p>If State of Alaska top filed lands are ANCSA-selected, then the land would either be conveyed to the ANC and managed by them, or, if the ANC relinquishes the land, it would be conveyed to and managed by the State.</p> <p>Partial revocations (Alternatives B or C) would result in lands not otherwise being available for entry. Full revocation (Alternative D) would result in lands being available for entry.</p>	Land becomes segregated until conveyed, then managed by the State of Alaska.	Land becomes unavailable for Federal subsistence priority.

Initial Land Status	Potential Action	Assumptions for Analysis	Resulting Minerals Entry Status	Effect on Availability of the Land for Priority Subsistence Use under ANILCA
State top filed Priority 3 and 4	The Secretary revokes the ANCSA 17(d)(1) withdrawal.	<p>For purpose of analysis, it is assumed conveyance to the State would not occur on Priority 3 and 4 lands due to overselection. The State of Alaska is unlikely to have adequate remaining entitlement to request these acres once the Priority 1 and 2 selections are conveyed. Therefore, the analysis assumes Priority 3 and 4 top files on lands that are not otherwise encumbered that become effective selections would be relinquished or rejected.</p> <p>If lands are also ANCSA-selected, then the ANC could relinquish, reject, or retain their selection. If an ANC retains their selection and they are not overselected, it is assumed conveyance to the ANC could occur within 10 years after the ROD.</p> <p>However, if the ANC selection is relinquished or rejected, top filing attaches as a selection when the land becomes available, and the land is segregated from entry.</p>	Land becomes segregated until selection is rejected or relinquished, then the land becomes open to mineral entry if the withdrawal is revoked in full or remains closed if revoked in part.	<p>Top filed Priority 3 and 4 lands, not otherwise encumbered, would become effective selections and the land would be removed from Federal subsistence priority until the Priority 3 and 4 top files are relinquished or rejected, at which time lands would become available for Federal subsistence priority.</p> <p>If lands are encumbered by an ANC selection, it remains unavailable for Federal subsistence priority due to the ANC selection. If ANC selection is rejected or relinquished and lands are not otherwise encumbered, State top file becomes effective selection and lands remain segregated and unavailable for Federal subsistence priority until the Priority 3 and 4 top files are relinquished or rejected, at which time lands would become available for Federal subsistence priority.</p>

7 SUMMARY AND CONCLUSIONS

The leasable, locatable, and salable minerals assessed in this RFD scenario have a high or low likelihood for development, as shown in Tables 7-1 to 7-3. The mineral potential and the infrastructure, combined, indicate the potential for development. This information will help decision-makers understand the potential changes that the ANCSA 17(d)(1) withdrawals would have on land use.

Table 7-1. Summary: Leasable Minerals More Likely to Be Developed

Planning Area	Fluid Leasable Minerals	Geothermal	Non-energy Leasable Minerals	Coal
Bay	No	No	Unknown	No
Ring of Fire	Yes	No	No	No
Bering Sea-Western Interior	No	No	Unknown	No
East Alaska	Yes	No	Unknown	No
Kobuk-Seward Peninsula	No	No	Unknown	No

Table 7-2. Summary: Locatable Minerals More Likely To Be Developed

Planning Area	Locatable Minerals
Bay	Yes
Ring of Fire	Yes
Bering Sea-Western Interior	Yes
East Alaska	Yes
Kobuk-Seward Peninsula	Yes

Table 7-3. Summary: Salable Minerals More Likely To Be Developed

Planning Area	Salable Minerals
Bay	Yes
Ring of Fire	Yes
Bering Sea-Western Interior	Yes
East Alaska	Yes
Kobuk-Seward Peninsula	Yes, but not in priority conveyances

8 GLOSSARY

Fluid minerals. Oil, gas, coal bed natural gas, and geothermal resources.

Geothermal energy. Natural heat from within the Earth, captured for production of electric power, space heating, or industrial steam.

Leasable minerals. Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, potassium, and sodium minerals as well as oil and gas. Geothermal resources are also leasable under the Geothermal Steam Act of 1970.

Locatable minerals. Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale. Examples of locatable minerals include both metallic minerals (gold, silver, lead, copper, zinc, nickel, etc.) and nonmetallic minerals (fluorspar, mica, certain limestones and gypsum, tantalum, heavy minerals in placer form, and gemstones).

Mineral. Any naturally formed inorganic material, solid, or fluid inorganic substance that can be extracted from the earth. Any of various naturally occurring homogeneous substances (as stone, coal, salt, sand, petroleum, water, or natural gas) obtained usually from the ground, under Federal laws considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable minerals (subject to the Materials Act of 1947).

Mineral estate. The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Mining claim. A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

Mining Law of 1872. Provides for claiming and gaining title to locatable minerals on public lands. Also referred to as the “General Mining Laws” or “Mining Laws.”

Rare earth elements. A group of 17 chemical elements that occur together in the periodic table. The group consists of yttrium and the 15 lanthanide elements (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium).

Reasonably foreseeable development scenario. The prediction of the type and amount of development activity that would occur in a given area. The prediction is based on availability of resource, history of extraction or production, projected demand for the resource, and industry interest.

Right-of-way (ROW). Public lands authorized to be used or occupied for specific purposes pursuant to an ROW grant that are in the public interest and that require ROWs over, on, under, or through such lands.

9 LITERATURE CITED

- Anchorage Daily News. 2023. Tesla needs graphite. Western Alaska has plenty. But mining it raises fears in nearby villages. Published: September 27, 2023. Available AT: <https://www.adn.com/business-economy/2023/09/27/tesla-needs-graphite-western-alaska-has-plenty-but-mining-it-raises-fears-in-nearby-villages/>. Accessed October 14, 2023.
- Beikman, H.M. 1980. Geologic map of Alaska. U.S. Geological Survey, 1 sheet, scale 1:250,000.
- Brumbaugh, R. 2023. Minerals specialist, Bureau of Land Management. Personal communication on the coal potential within the East Alaska planning area. Comments received May 24, 2023.
- Bureau of Land Management (BLM). 2005. *Mineral Occurrence and Development Potential Report*. Locatable and Salable Minerals. Kobuk-Seward Peninsula Resource Management Plan. Anchorage, Alaska: Alaska State Office.
- . 2006a. *Final Ring of Fire Proposed Resource Management Plan and Final Environmental Impact Statement*. Anchorage, Alaska: Anchorage Field Office.
- . 2006b. *East Alaska Proposed Resource Management Plan and Final Environmental Impact Statement*. Glennallen, Alaska: Glennallen Field Office.
- . 2007. *FINAL Bay Proposed Resource Management Plan and Final Environmental Impact Statement*. Anchorage, Alaska: Anchorage Field Office.
- . 2008. *Kobuk-Seward Peninsula Final Proposed Resource Management Plan and Final Environmental impact Statement*. Available at: <https://eplanning.blm.gov/eplanning-ui/project/66967/510>. Accessed May 24, 2023.
- . 2012. *National Petroleum Reserve-Alaska Final Integrated Activity Plan/Environmental Impact Statement*. Anchorage, Alaska: Alaska State Office.
- . 2017. *Bering Sea-Western Interior Mineral Occurrence and Development Potential Report*. Available at: <https://eplanning.blm.gov/eplanning-ui/project/36665/510>. Accessed May 24, 2023.
- . 2020. *Bering Sea-Western Interior Proposed Resource Management Plan and Final Environmental Impact Statement*. Anchorage, Alaska: Alaska State Office.
- Clough, J.G., J.T. Roe, G.R. Eakins, J.E. Callahan, and K.M. Charlie. 1995. *Coal Resources of Northwest Alaska*. Report of Investigation 93-3. Fairbanks, Alaska: Alaska Division of Geological & Geophysical Surveys.
- Ehm, A. 1983. Oil and gas basins map of Alaska. 1 map sheet, scale 1:2,500,000. Fairbanks, Alaska: Alaska Division of Geological & Geophysical Surveys.
- JDS Energy and Mining, Inc. 2022. *Preliminary Feasibility Study Technical Report, Graphite One Project*. Vancouver, British Columbia: JDS Energy and Mining, Inc.
- Karl, S.M., J.V. III Jones, and T.S. Hayes. 2016. *GIS-Based Identification of Areas that have Resource Potential for Critical Minerals in Six Selected Groups of Deposit Types in Alaska*. Open-File Report 2016–1191. U.S. Geological Survey.

- Kirschner, C.E. 1992. Map showing sedimentary basins in Alaska. Plate 7 in *Volume G-1: The Geology of Alaska, Geological Society of America, Decade of North American Geology*. Anchorage, Alaska: U.S. Geological Survey, Alaska Science Center.
- Kline, J.T., and D.S. Pinney. 1994. Preliminary map of selected occurrences of industrial minerals in Alaska. Public Data Files 95-24, 3 map sheets. Fairbanks, Alaska: Alaska Division of Geological & Geophysical Surveys.
- Merritt, R.D. 1988. *Alaska Bituminous Coal and Anthracite*. Public Data File 88-15, 116 p. Fairbanks, Alaska: Alaska Division of Geological & Geophysical Surveys.
- Nelson, S.W., and M.L. Miller. 2000. *Assessment of Mineral Resource Tracts in the Chugach National Forest, Alaska*. Open-File Report 00-026. U.S. Geological Survey.
- Swenson, R.F. 1997. Introduction to Tertiary Tectonics and Sedimentation in the Cook Inlet Basin. In *1997 Guide to the Geology of the Kenai Peninsula, Alaska*, edited by S.M. Karl, T.J. Ryherd, and N.R. Vaughn, pp. 18–27. Anchorage, Alaska: Alaska Geological Society.
- Szumigala, D.J., R.C. Swainbank, M.W. Henning, and F.M. Pillifant. 2003. Alaska's mineral industry 2002. Special Report 57. Fairbanks, Alaska: Alaska Division of Geological & Geophysical Surveys. Available at: <https://doi.org/10.14509/2919>. Accessed May 8, 2023.
- TotalEnergies. 2020. Exploration and Production in a 5-Minute Nutshell. YouTube video. Available at: <https://www.youtube.com/watch?v=i9MjCeY8C1g>. Accessed August 11, 2023.
- Turner, D.L., and E.M. Wescott. 1986. *Geothermal Energy Resource Investigations at Mt. Spurr, Alaska*. U.S. Department of Energy Grant No. DE-FG07-841D2471. Fairbanks, Alaska: Geophysical Institute, University of Alaska.
- URS Corporation (URS). 2004. *Mineral Occurrence Potential Report for the Ring of Fire Planning Area*. Available at: <https://www.arlis.org/docs/vol1/71689711/71689711v3appG.pdf>. Accessed May 8, 2023.
- U.S. Bureau of Mines. 1995. Mineral Availability System/Minerals Industry Location System (MAS/MILS) CD-ROM, Data Dictionary. U.S. Bureau of Mines Special Publication 12-95.
- U.S. Geologic Survey (USGS). 2023. Alaska Resource Data File (ARDF). Available at: <https://mrdata.usgs.gov/ardf/>. Accessed June 23, 2023.
- Wood, D, A. Helfgott, M. D’Amico, and E. Romanin. 2021. *The Mosaic Approach: a Multidimensional Strategy for Strengthening America’s Critical Minerals Supply Chain*. Washington, D.C.: Woodrow Wilson International Center for Scholars. Available at: https://www.wilsoncenter.org/sites/default/files/media/uploads/documents/critical_minerals_supply_report.pdf. Accessed August 10, 2023.

ATTACHMENT A

Maps

FIGURES

Figure 1. Areas more likely to be developed for oil and gas in the Ring of Fire planning area	A-1
Figure 2. Areas more likely to be developed for oil and gas in the East Alaska planning area.	A-2
Figure 3. Geothermal potential in the Bay planning area.	A-3
Figure 4. Geothermal potential in the Ring of Fire planning area.	A-4
Figure 5. Geothermal potential in the Bering Sea-Western Interior planning area.....	A-5
Figure 6. Geothermal potential in the East Alaska planning area.	A-6
Figure 7. Geothermal potential in the Kobuk-Seward Peninsula planning area.	A-7
Figure 8. Locatable mineral occurrences in the Bay planning area.	A-8
Figure 9. Mining claims in the Bay planning area.	A-9
Figure 10. Areas more likely to be developed for locatable minerals and high mineral occurrence potential in the Bay planning area.....	A-10
Figure 11. Locatable mineral occurrences in the Ring of Fire planning area.	A-11
Figure 12. Mining claims in the Ring of Fire planning area.	A-12
Figure 13. Areas more likely to be developed for locatable minerals in the Ring of Fire planning.	A-13
Figure 14. Locatable mineral occurrences in the Bearing Sea-Western Interior planning area.....	A-14
Figure 15. Mining claims in the Bering Sea-Western Interior planning area.	A-15
Figure 16. Areas more likely to be developed for locatable minerals in the Bering Sea-Western Interior planning area.....	A-16
Figure 17. Locatable mineral occurrences in the East Alaska planning area.....	A-17
Figure 18. Mining claims in the East Alaska planning area.	A-18
Figure 19. Areas more likely to be developed for locatable minerals in the East Alaska planning area.....	A-19
Figure 20. Locatable mineral occurrences in the Kobuk-Seward Peninsula planning area.	A-20
Figure 21. Mining claims in the Kobuk-Seward Peninsula planning area.	A-21
Figure 22. Areas more likely to be developed for locatable minerals in the Kobuk-Seward Peninsula planning area.....	A-22
Figure 23. Areas more likely to be developed for salable minerals in the Bay planning area.....	A-23
Figure 24. Areas more likely to be developed for salable minerals in the Ring of Fire planning area...	A-24
Figure 25. Areas more likely to be developed for salable minerals in the Bering Sea-Western Interior planning area.	A-25
Figure 26. Areas more likely to be developed for salable minerals in the East Alaska planning area. ..	A-26
Figure 27. Areas more likely to be developed for salable minerals in the Kobuk-Seward Peninsula planning area.....	A-27

This page intentionally left blank.

Reasonable Foreseeable Development

High Potential Leasable Minerals in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

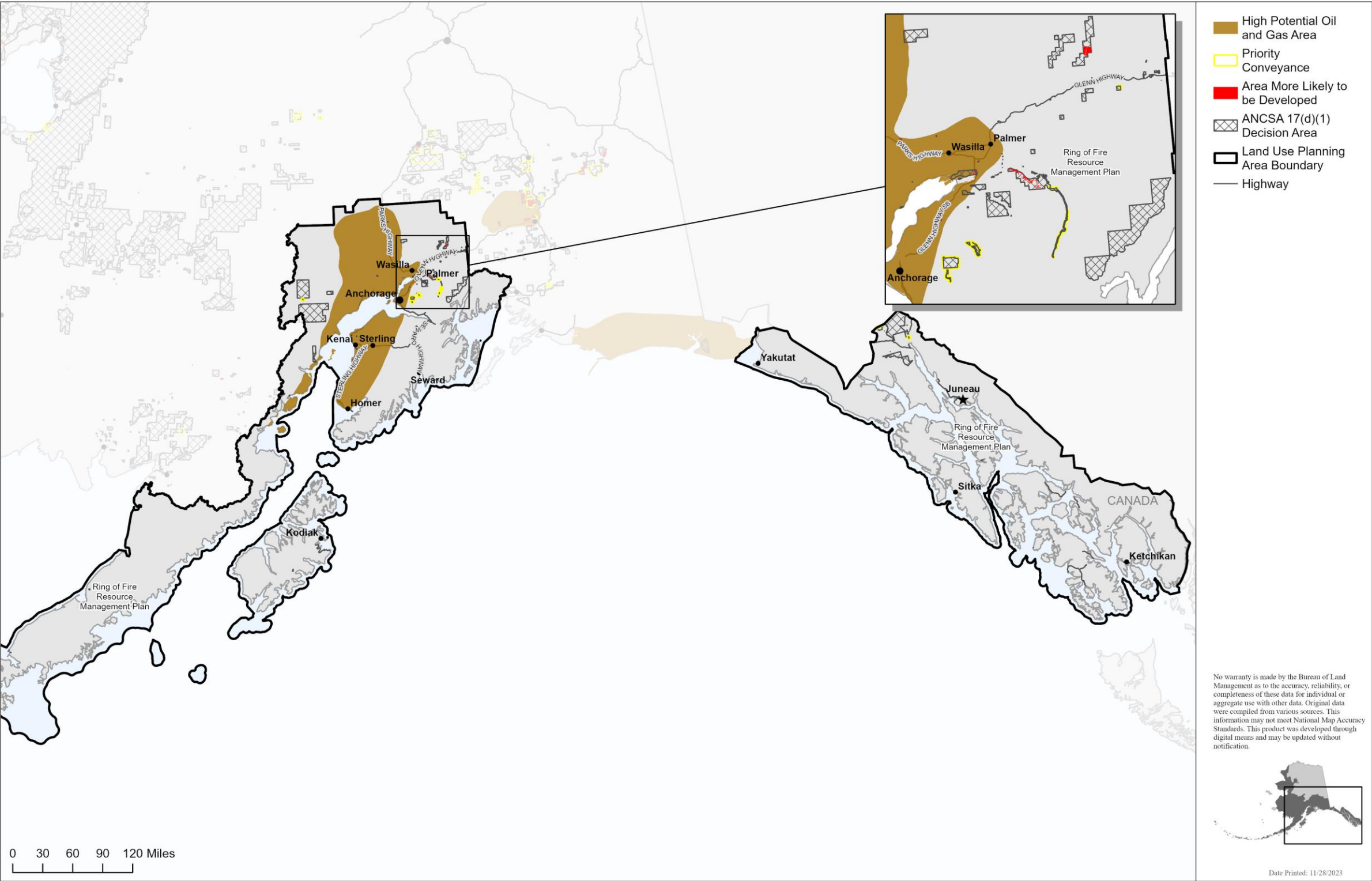


Figure 1. Areas more likely to be developed for oil and gas in the Ring of Fire planning area

Reasonable Foreseeable Development

High Potential Leasable Minerals in the East Alaska Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

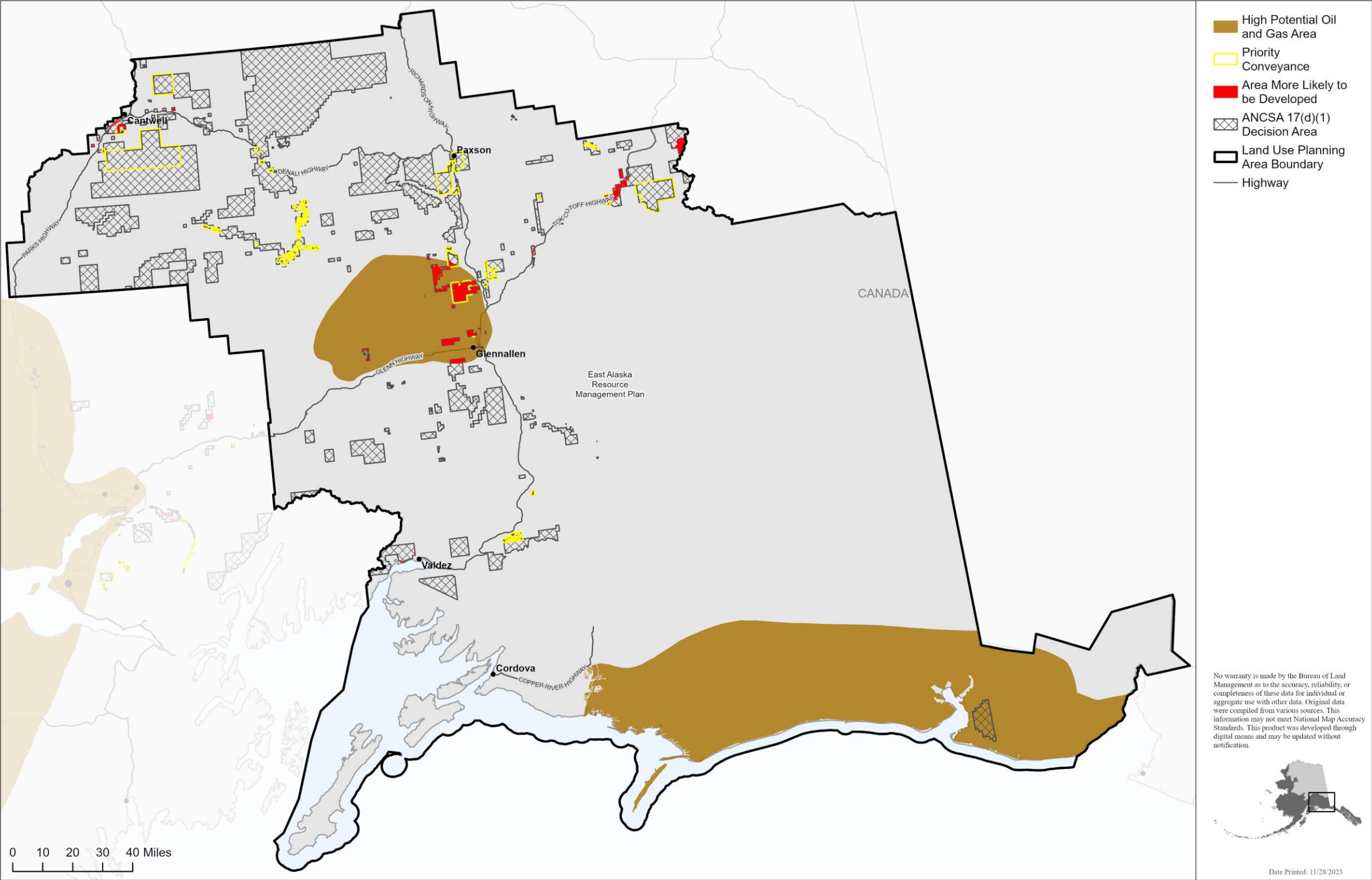


Figure 2. Areas more likely to be developed for oil and gas in the East Alaska planning area.

Reasonable Foreseeable Development

High Potential Geothermal in the Bay Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(D)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

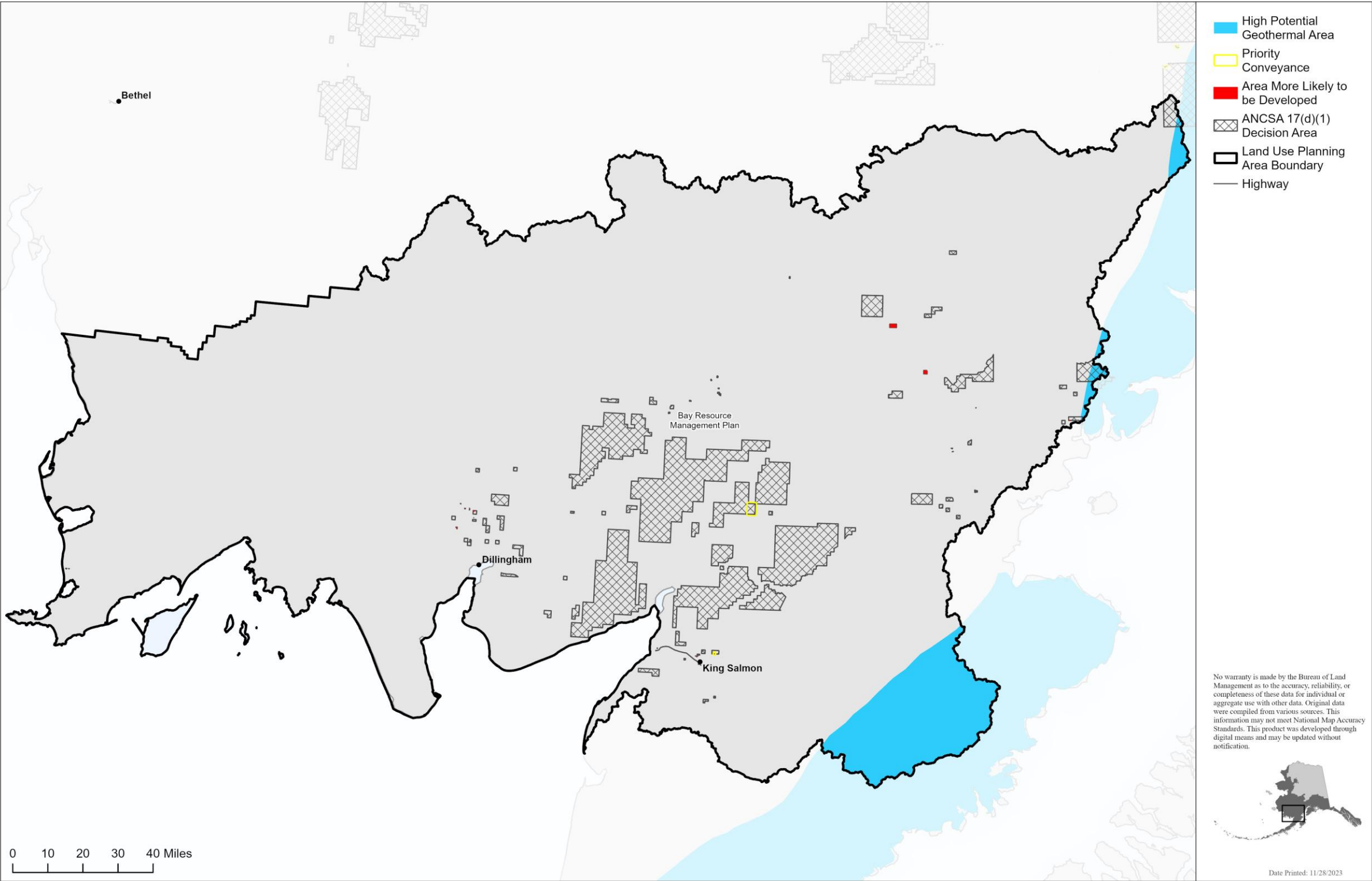


Figure 3. Geothermal potential in the Bay planning area.

Reasonable Foreseeable Development

High Potential Geothermal in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(D)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

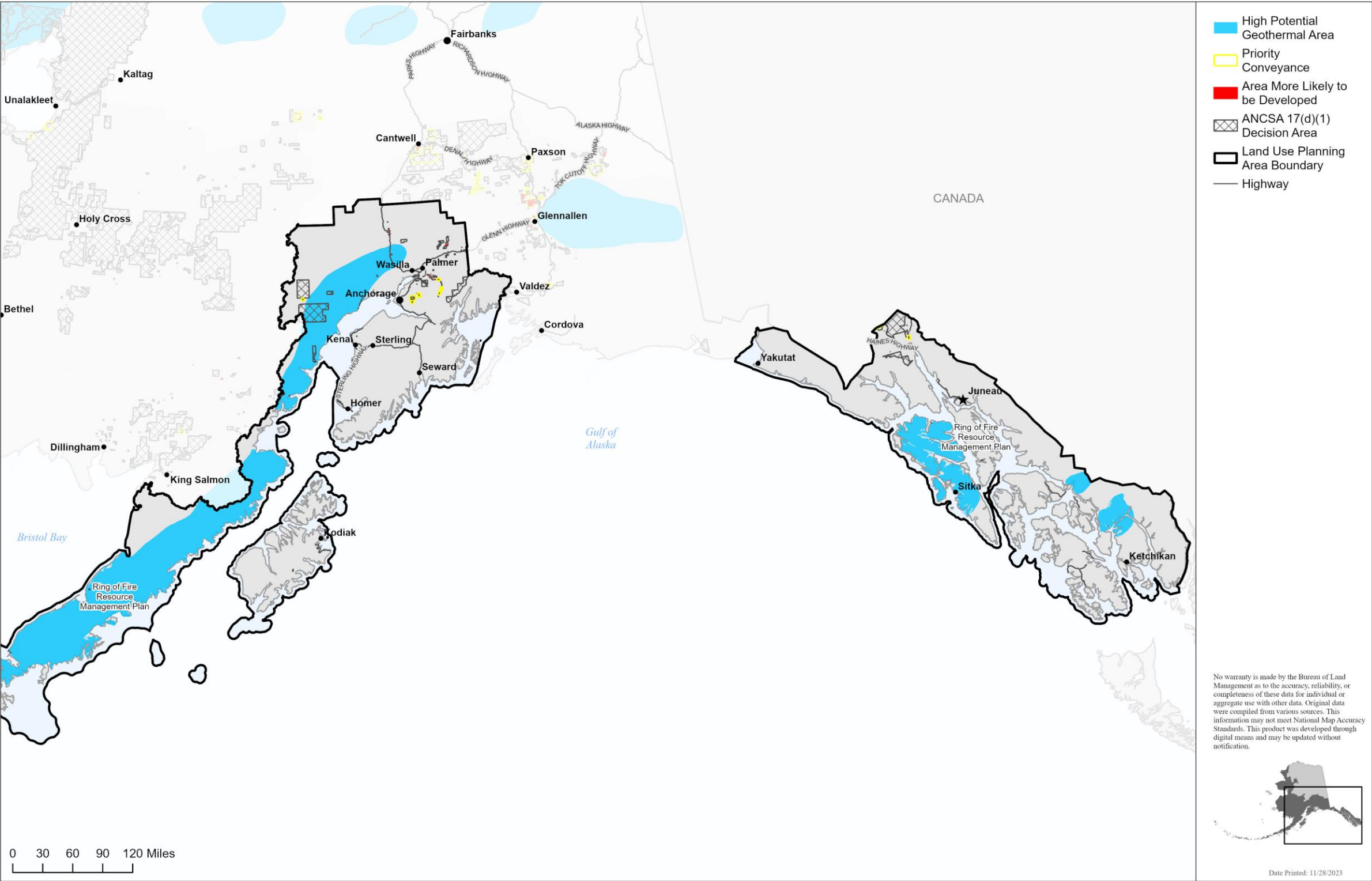


Figure 4. Geothermal potential in the Ring of Fire planning area.

Reasonable Foreseeable Development

High Potential Geothermal in the Bering Sea-Western Interior Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(D)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

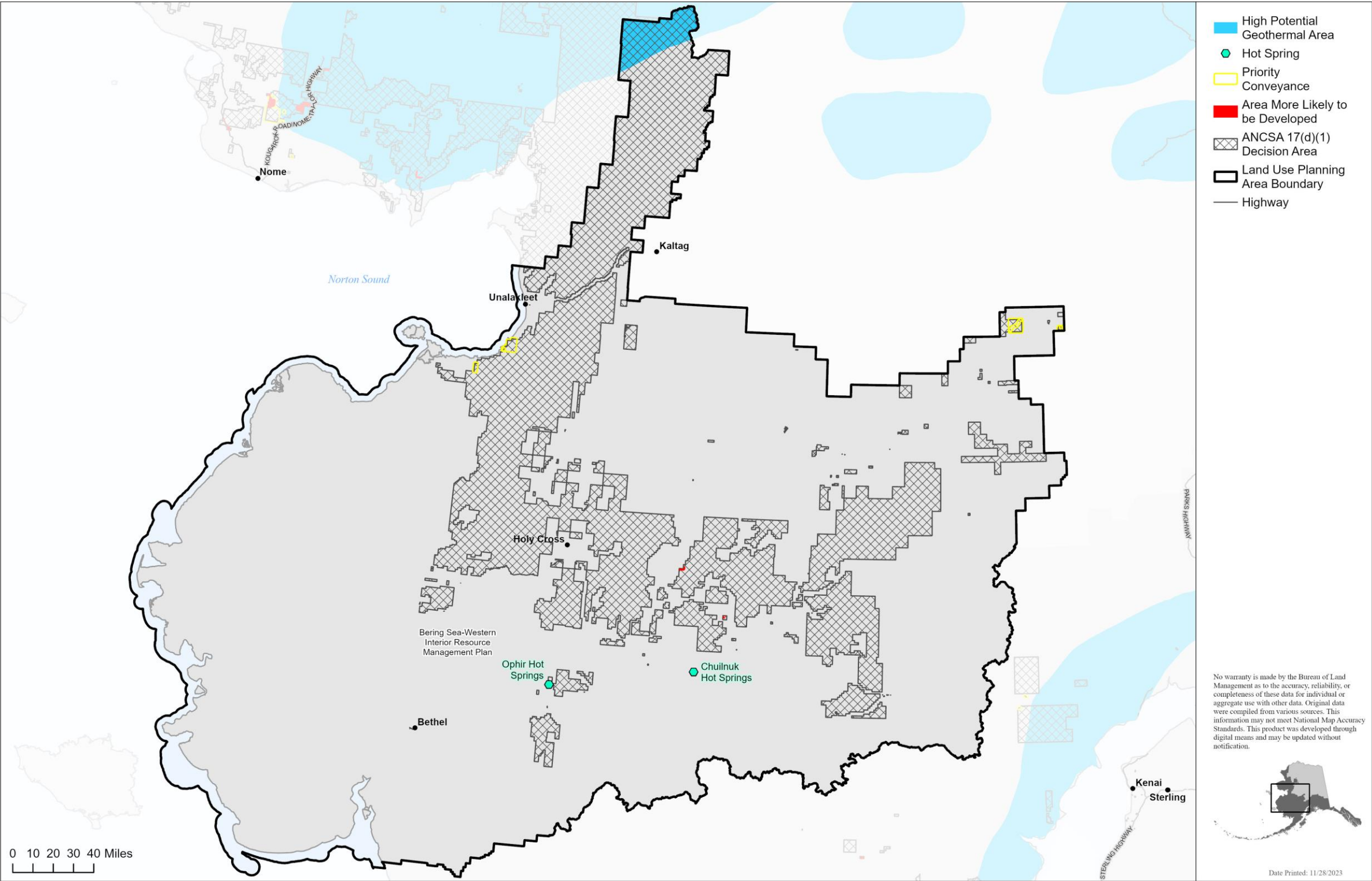


Figure 5. Geothermal potential in the Bering Sea-Western Interior planning area.

Reasonable Foreseeable Development

High Potential Geothermal in the East Alaska Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(D)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

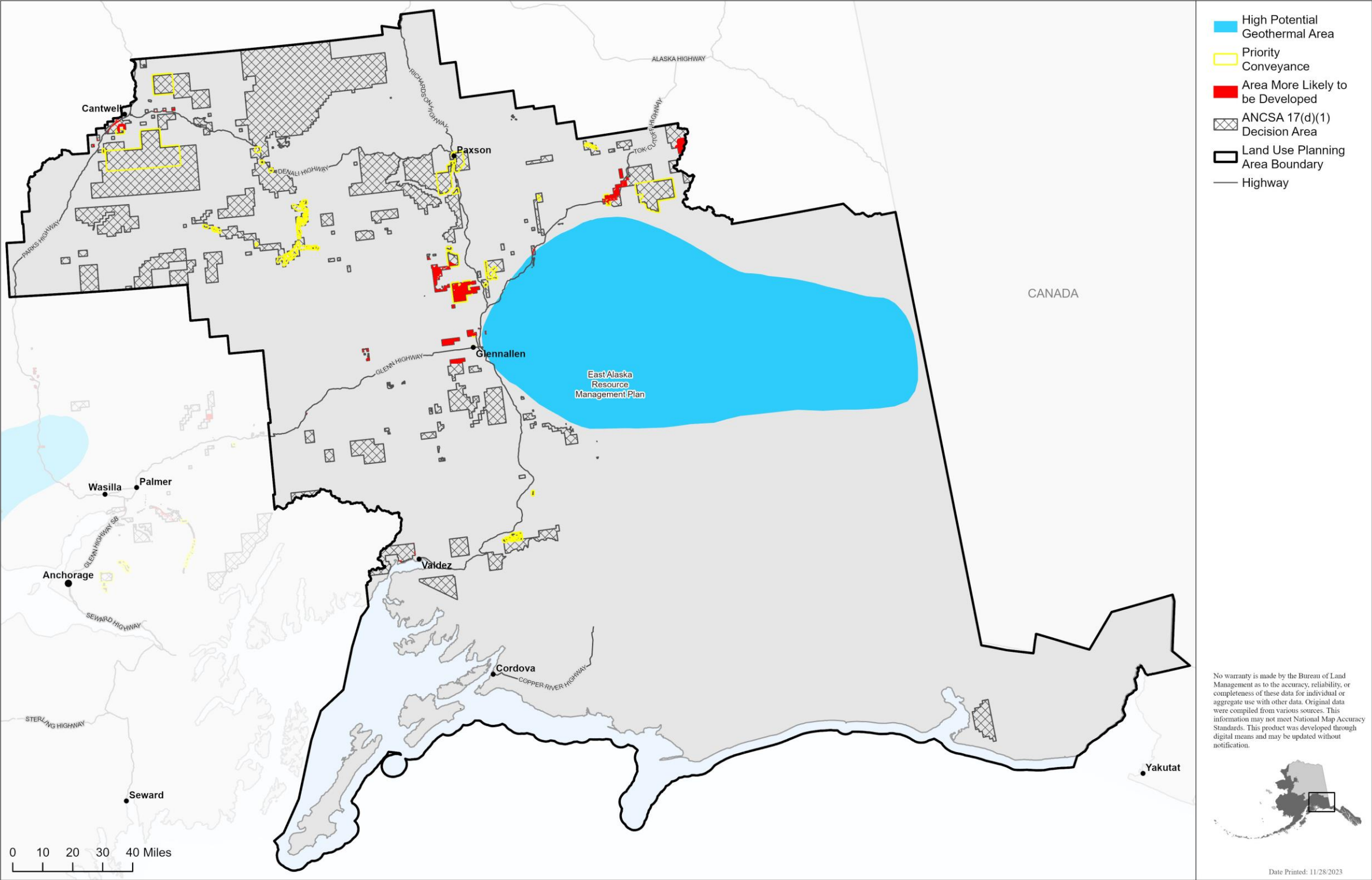


Figure 6. Geothermal potential in the East Alaska planning area.

Reasonable Foreseeable Development

High Potential Geothermal in the Kobuk-Seward Peninsula Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(D)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

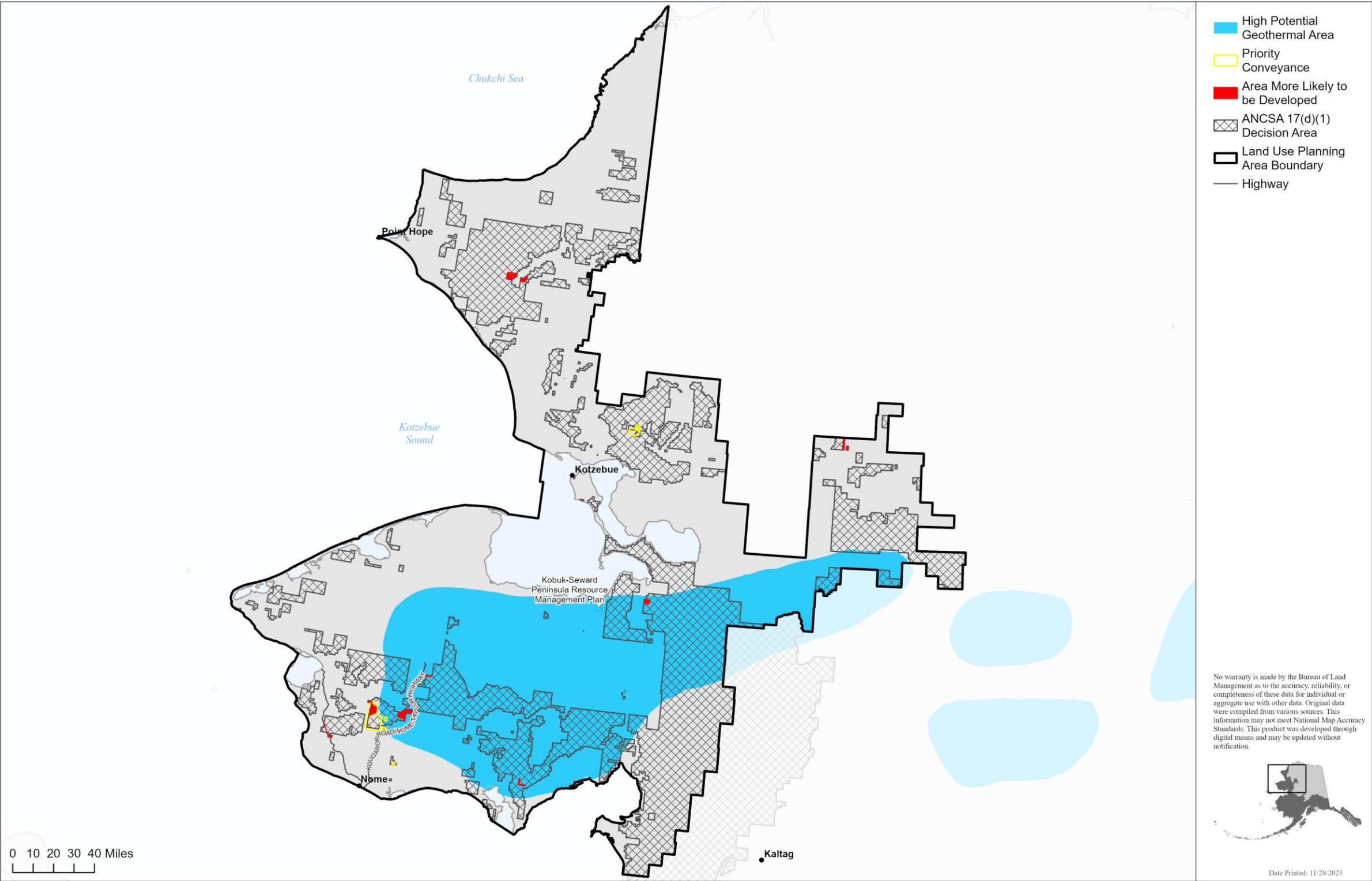


Figure 7. Geothermal potential in the Kobuk-Seward Peninsula planning area.

Reasonable Foreseeable Development

Mineral Occurrences in the Bay Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

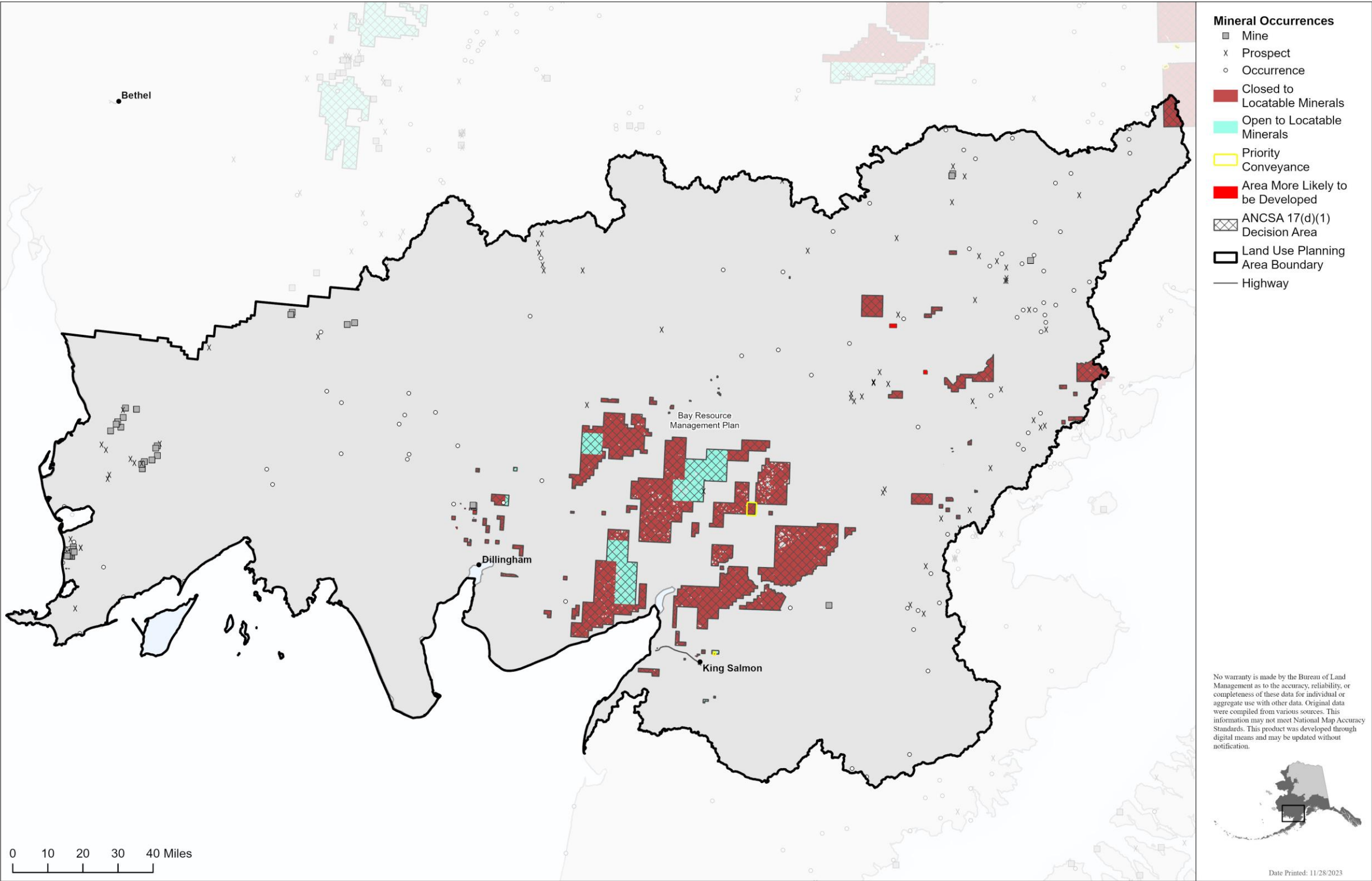


Figure 8. Locatable mineral occurrences in the Bay planning area.

Reasonable Foreseeable Development

Mining Claims in the Bay Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

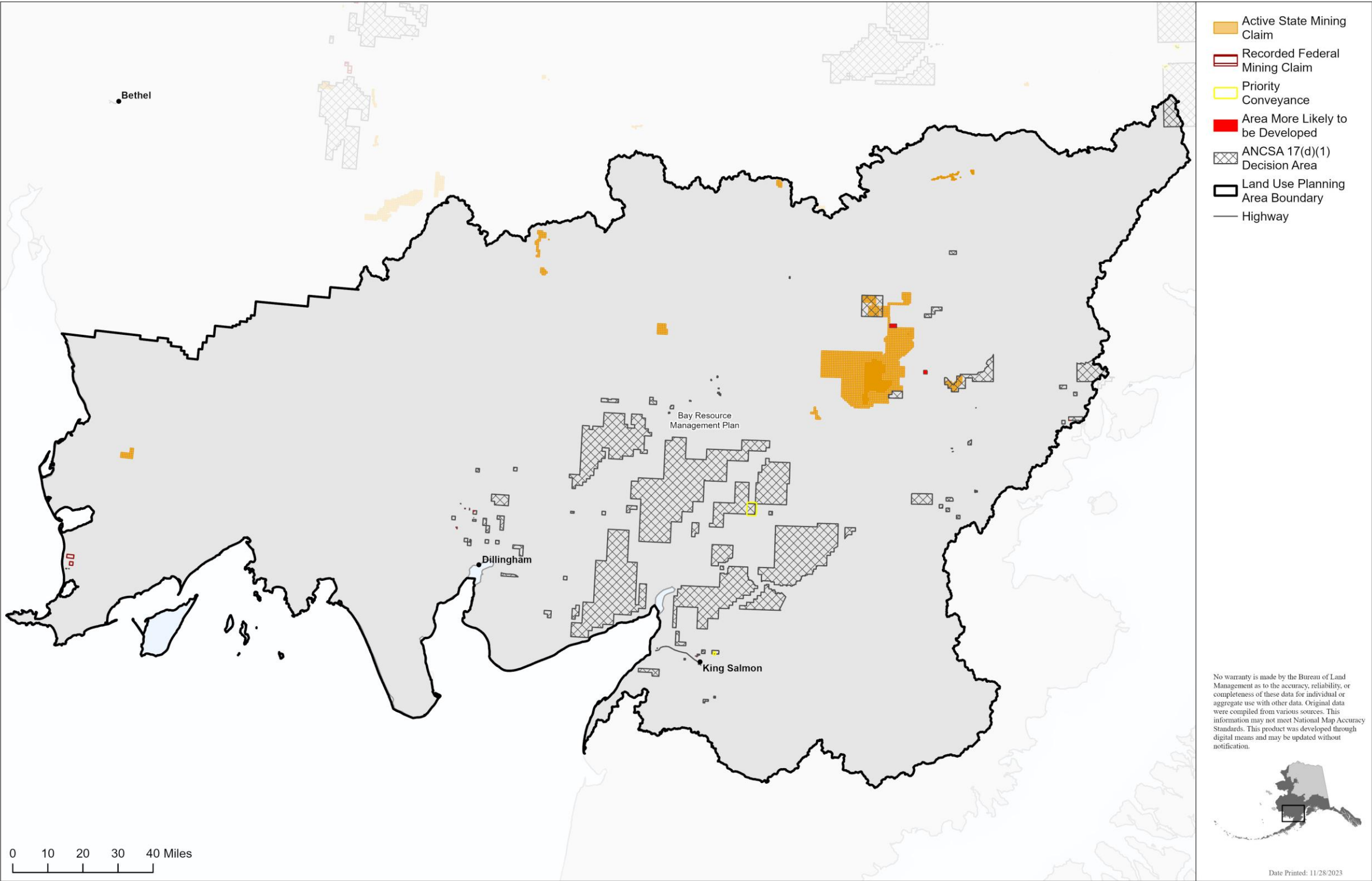


Figure 9. Mining claims in the Bay planning area.

Reasonable Foreseeable Development

High Potential Locatable Minerals in the Bay Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

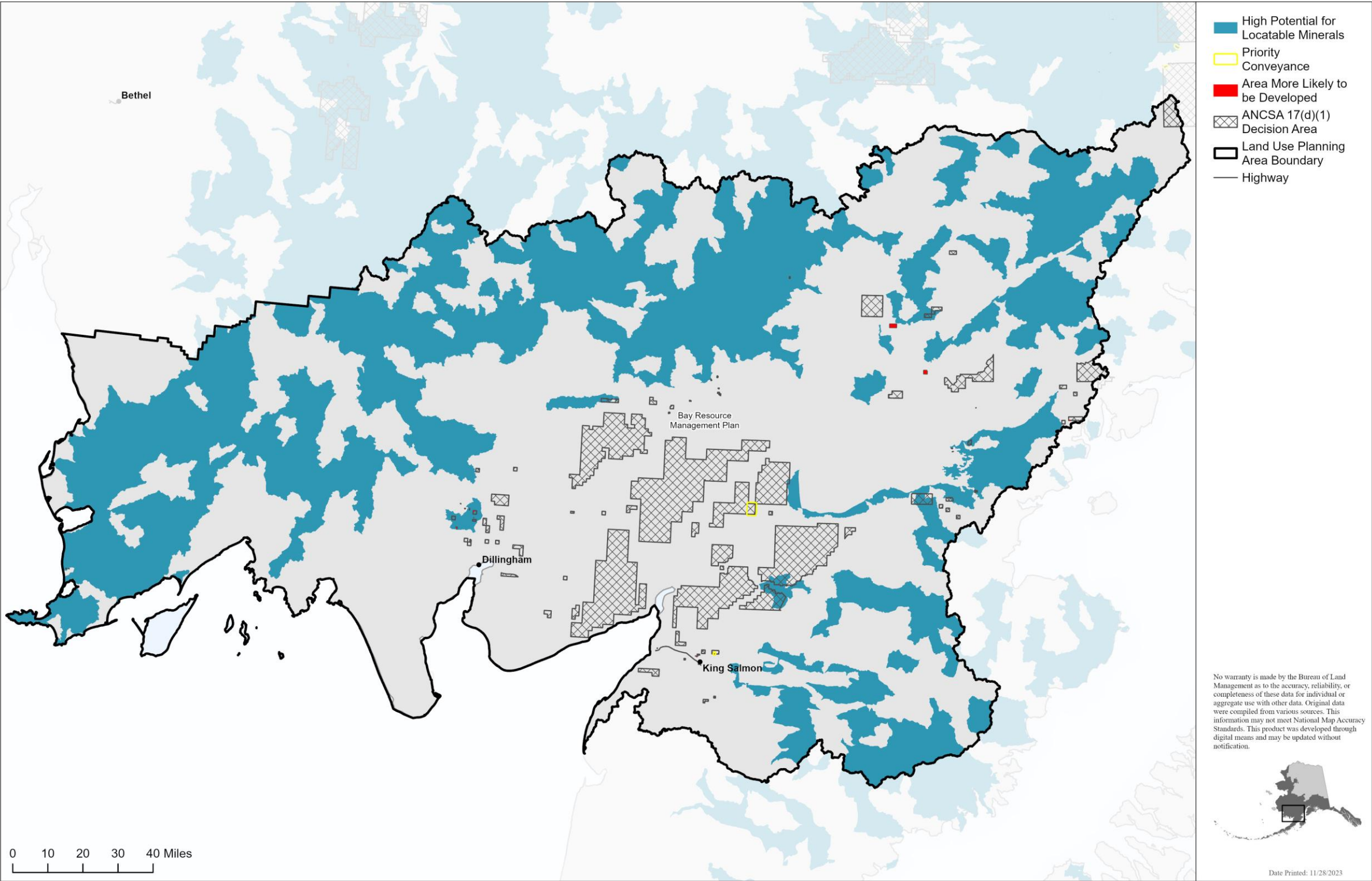


Figure 10. Areas more likely to be developed for locatable minerals and high mineral occurrence potential in the Bay planning area.

Reasonable Foreseeable Development

Mineral Occurrences in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

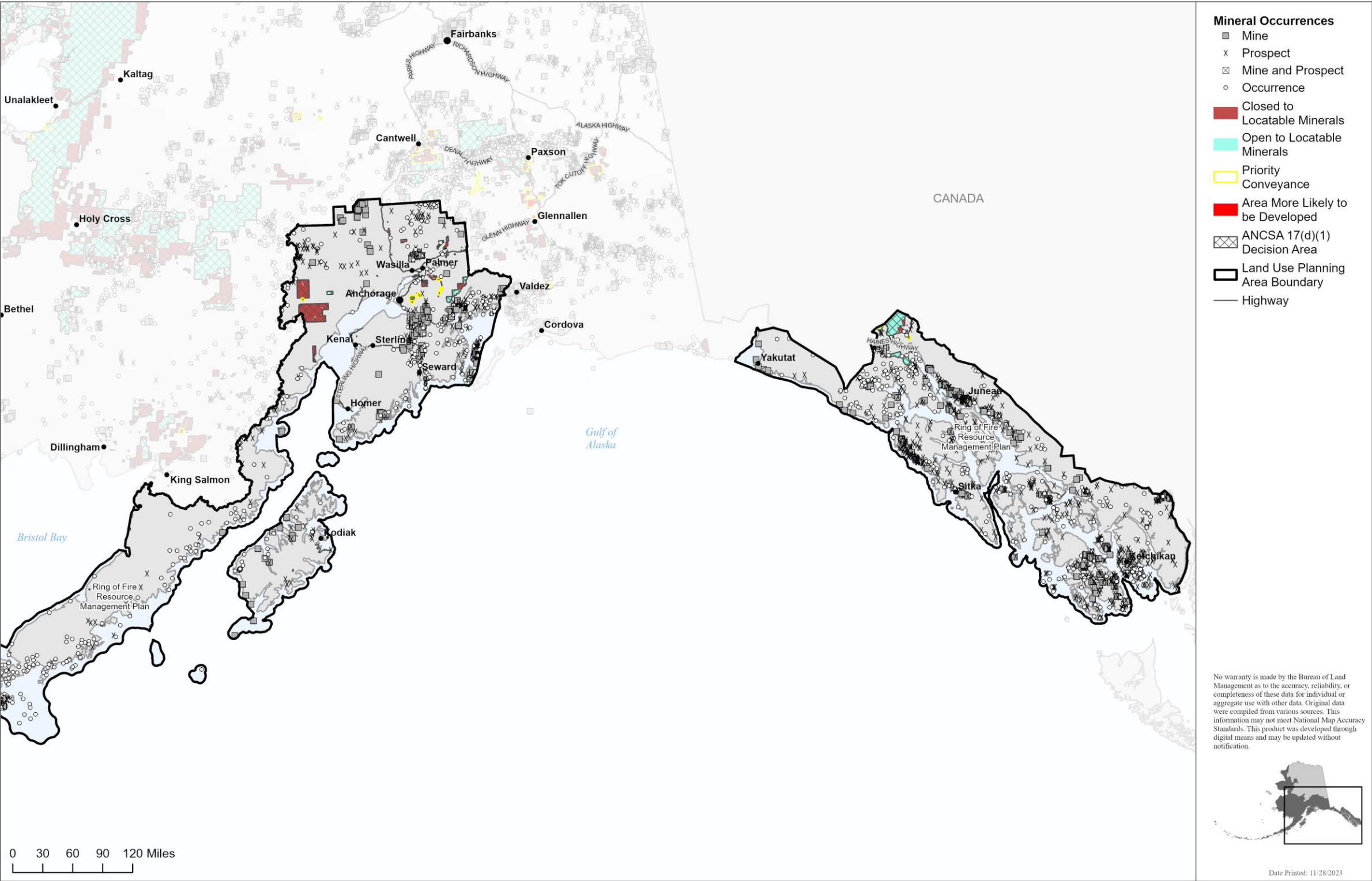


Figure 11. Locatable mineral occurrences in the Ring of Fire planning area.

Reasonable Foreseeable Development

Mining Claims in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

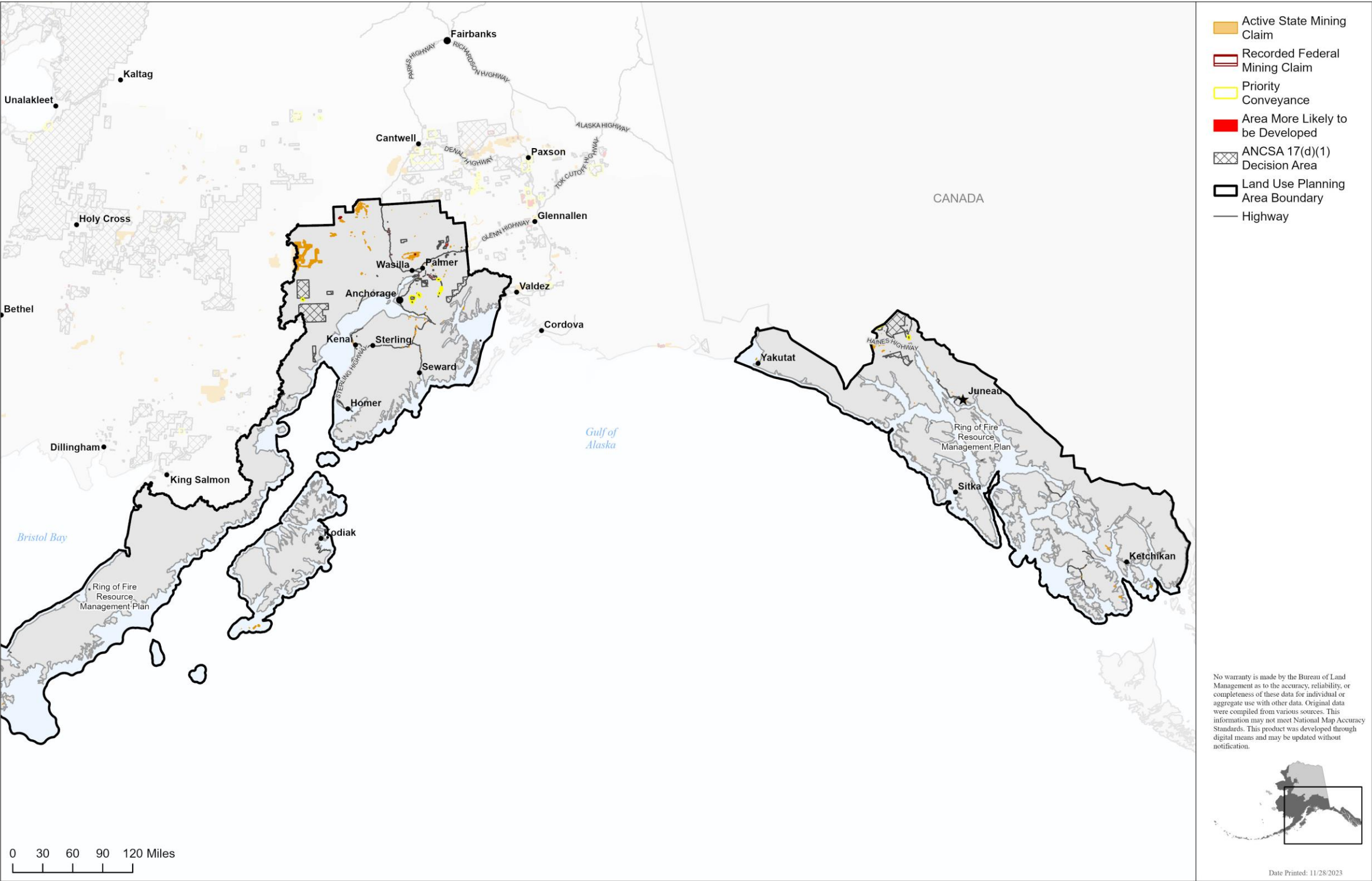


Figure 12. Mining claims in the Ring of Fire planning area.

Reasonable Foreseeable Development

High Potential Locatable Minerals in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

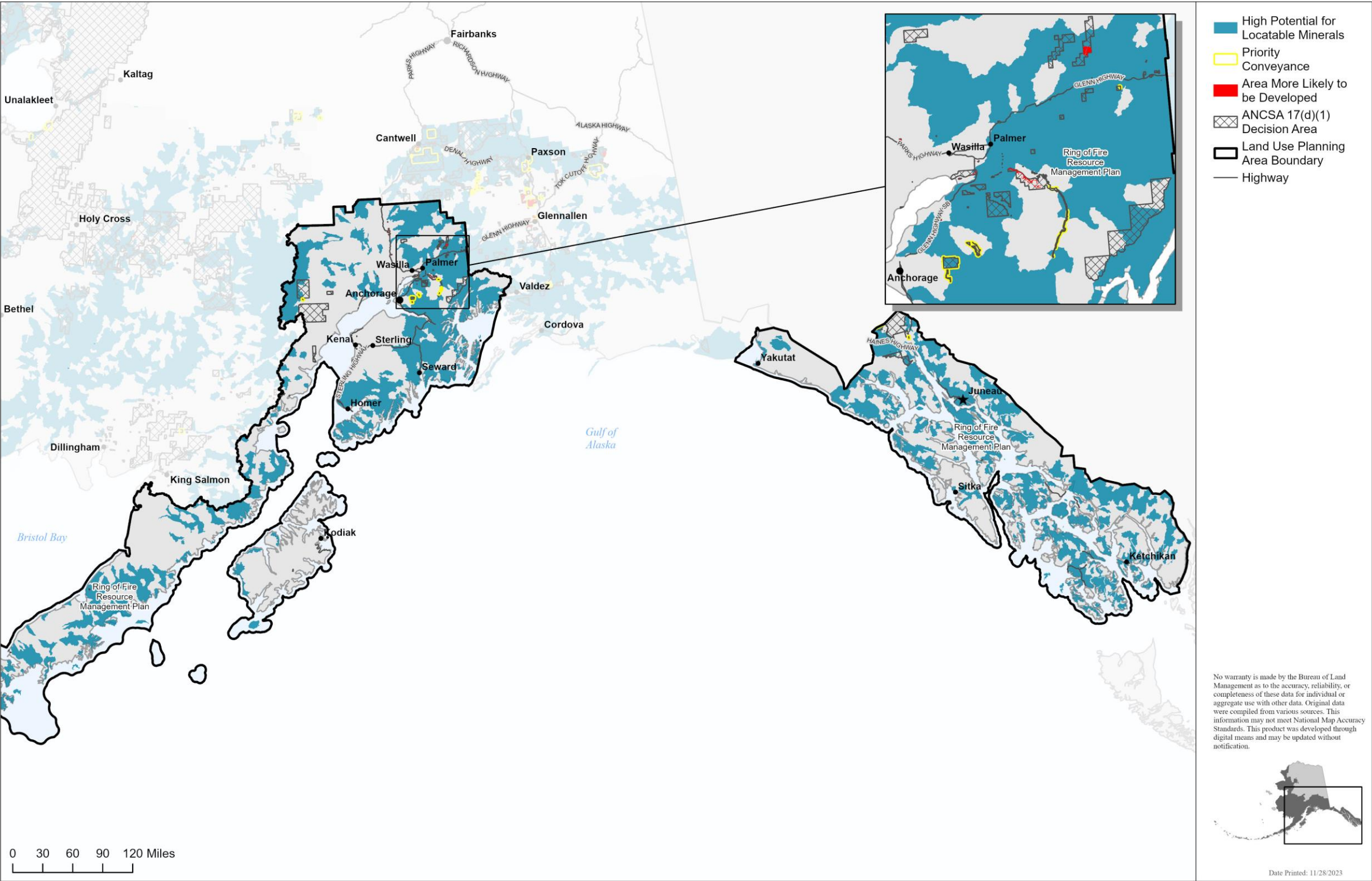


Figure 13. Areas more likely to be developed for locatable minerals in the Ring of Fire planning.

Reasonable Foreseeable Development

Mineral Occurrences in the Bering Sea-Western Interior Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

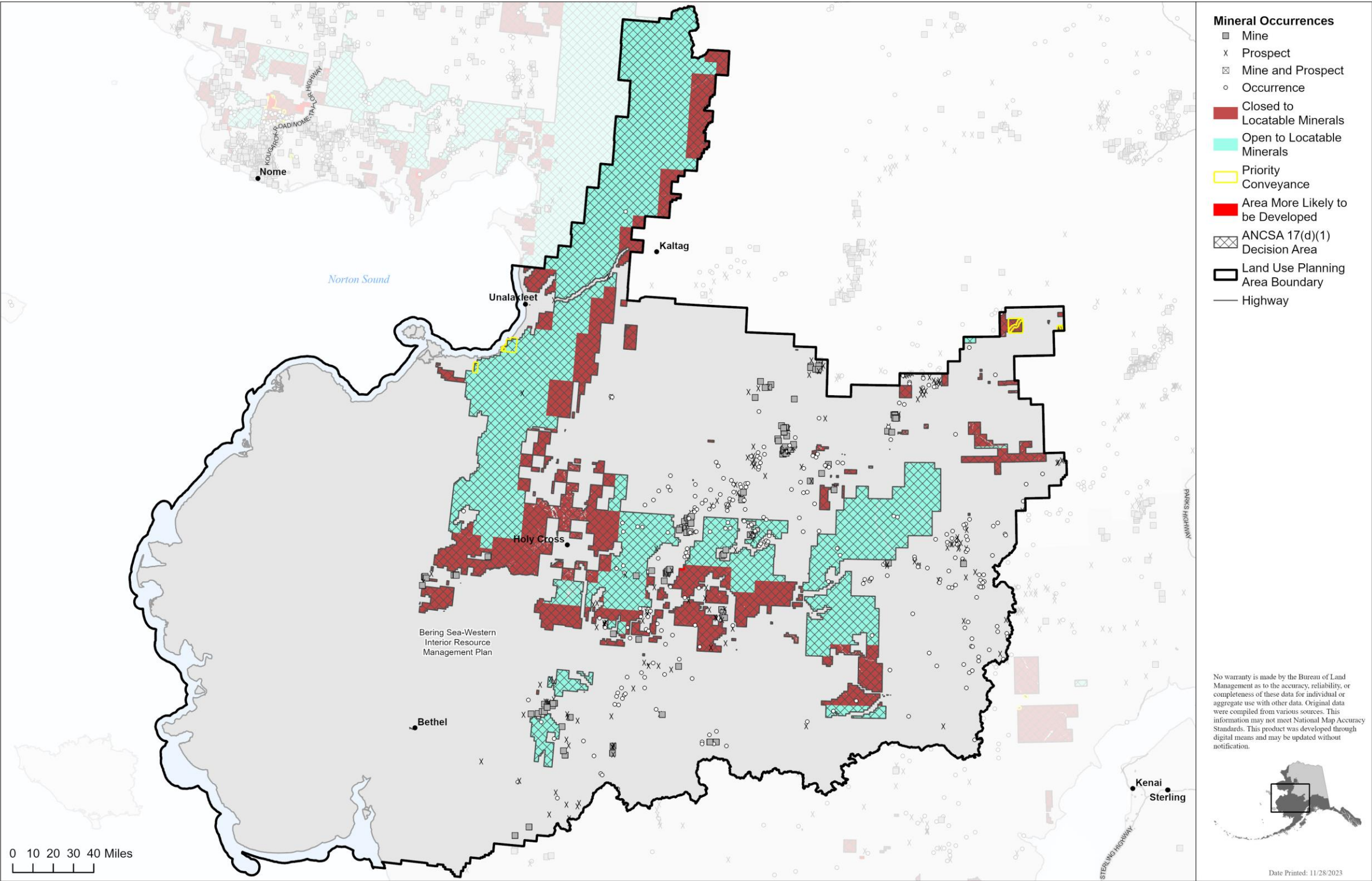


Figure 14. Locatable mineral occurrences in the Bearing Sea-Western Interior planning area.

Reasonable Foreseeable Development

Mining Claims in the Bering Sea-Western Interior Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

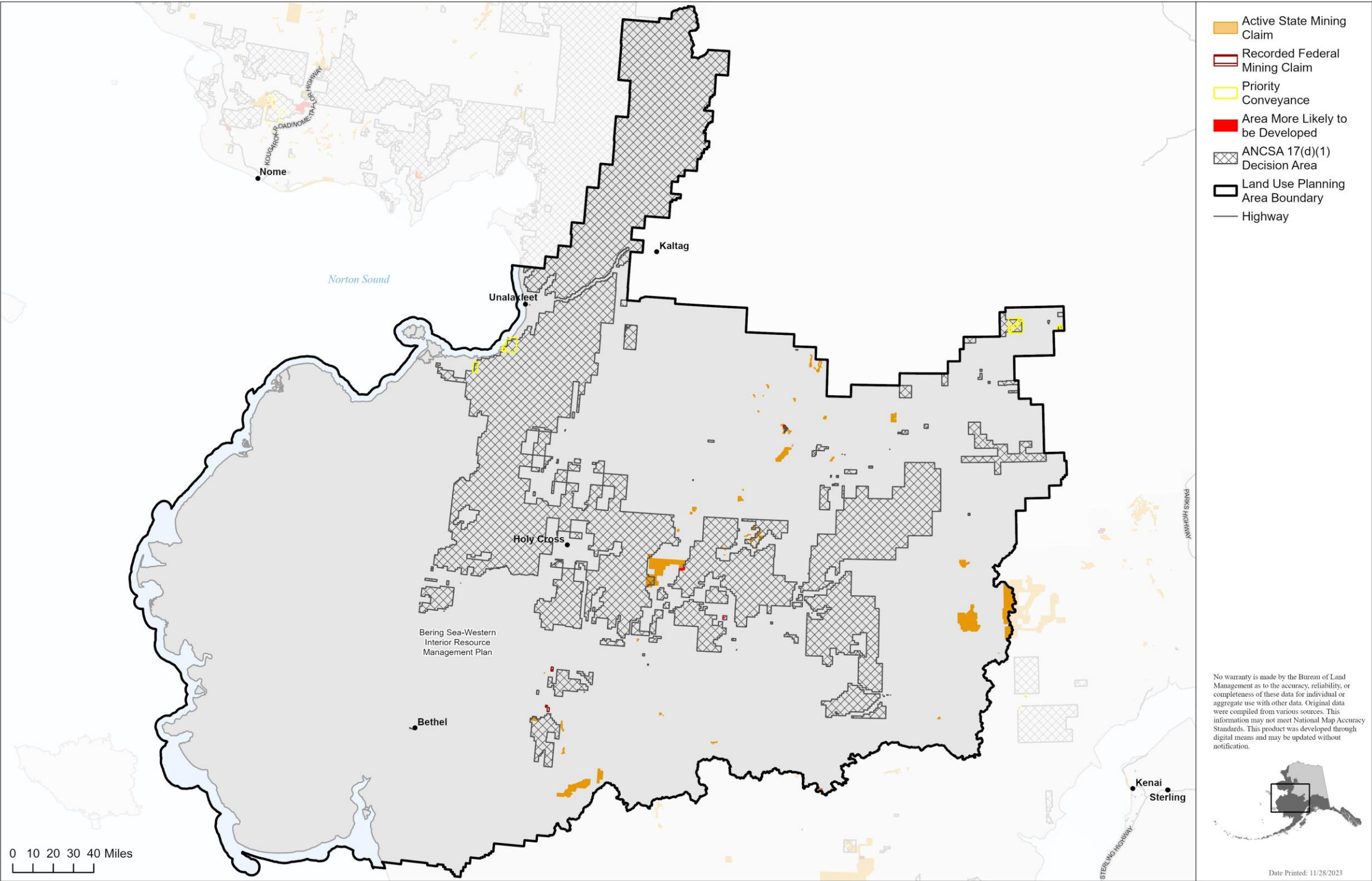


Figure 15. Mining claims in the Bering Sea-Western Interior planning area.

Reasonable Foreseeable Development

High Potential Locatable Minerals in the Bering Sea-Western Interior Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

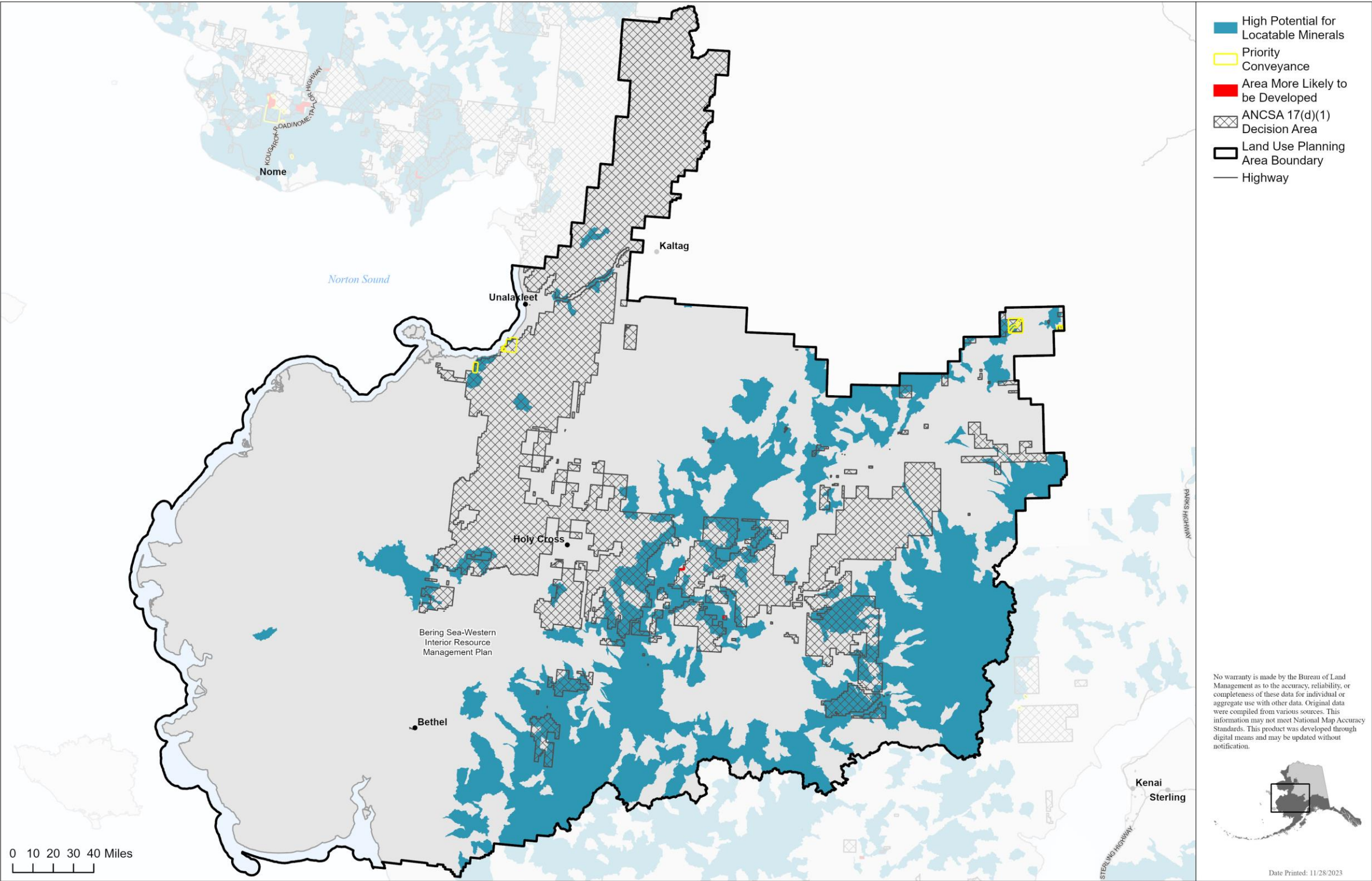


Figure 16. Areas more likely to be developed for locatable minerals in the Bering Sea-Western Interior planning area.

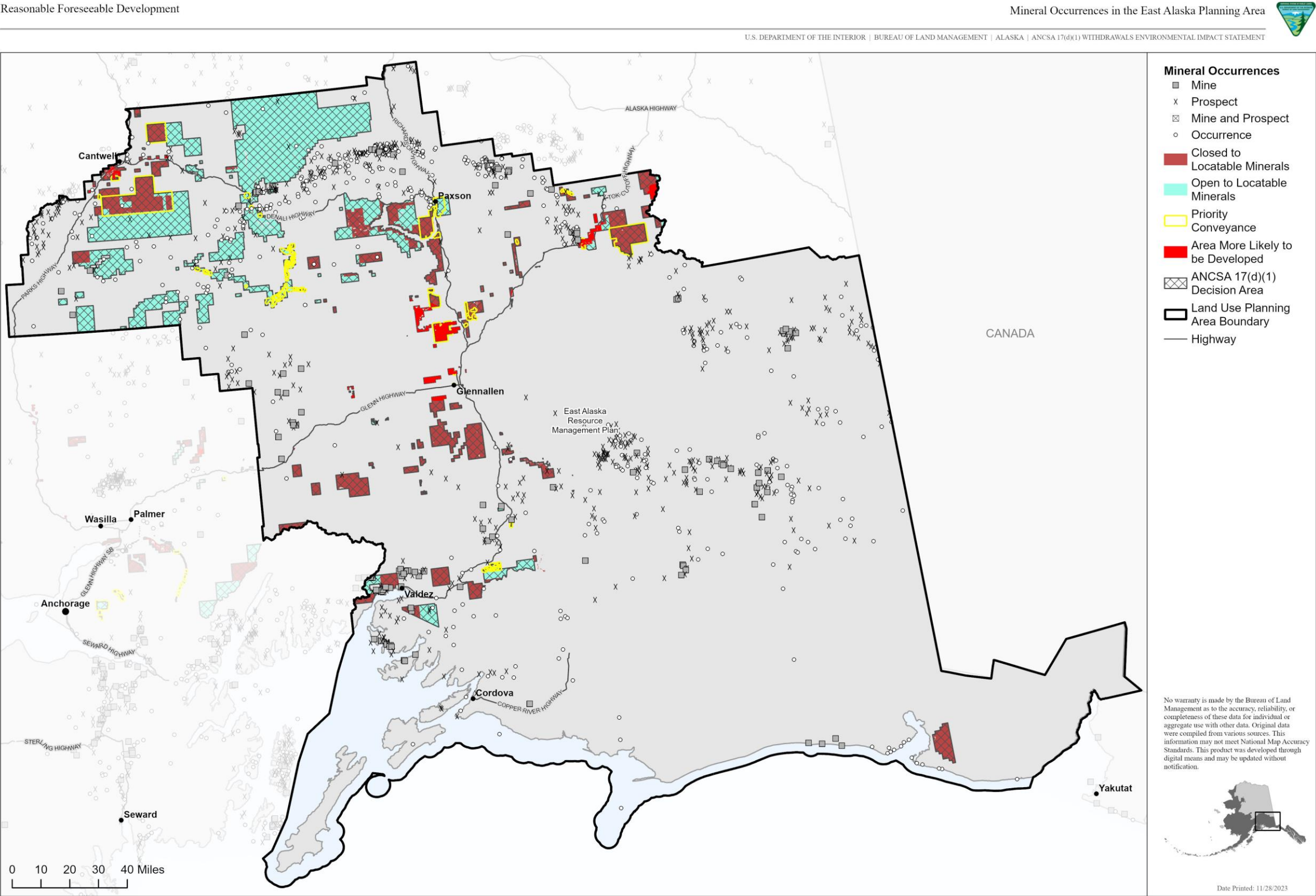


Figure 17. Locatable mineral occurrences in the East Alaska planning area.

Reasonable Foreseeable Development

Mining Claims in the East Alaska Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

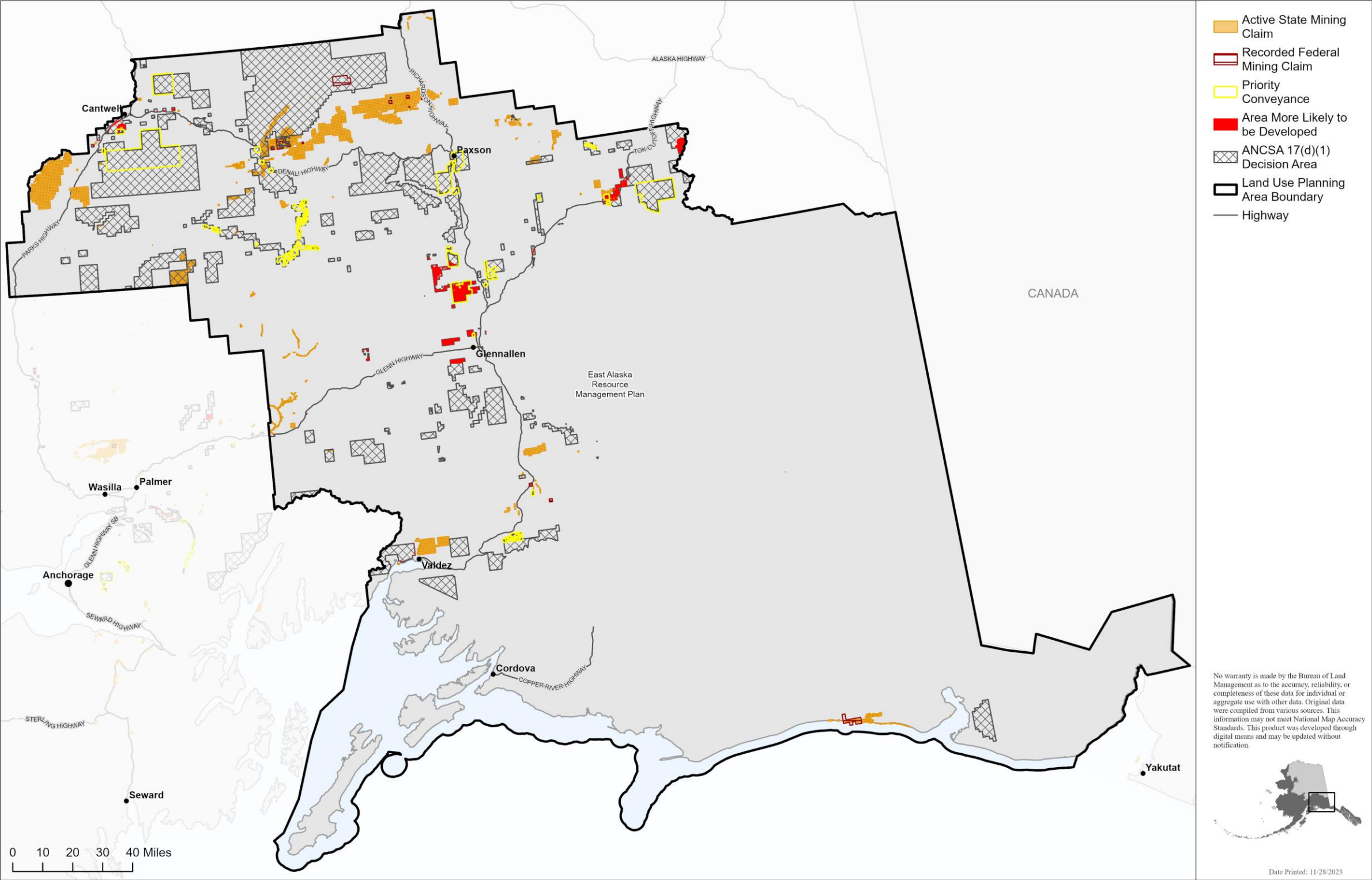


Figure 18. Mining claims in the East Alaska planning area.

Reasonable Foreseeable Development

High Potential Locatable Minerals in the East Alaska Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

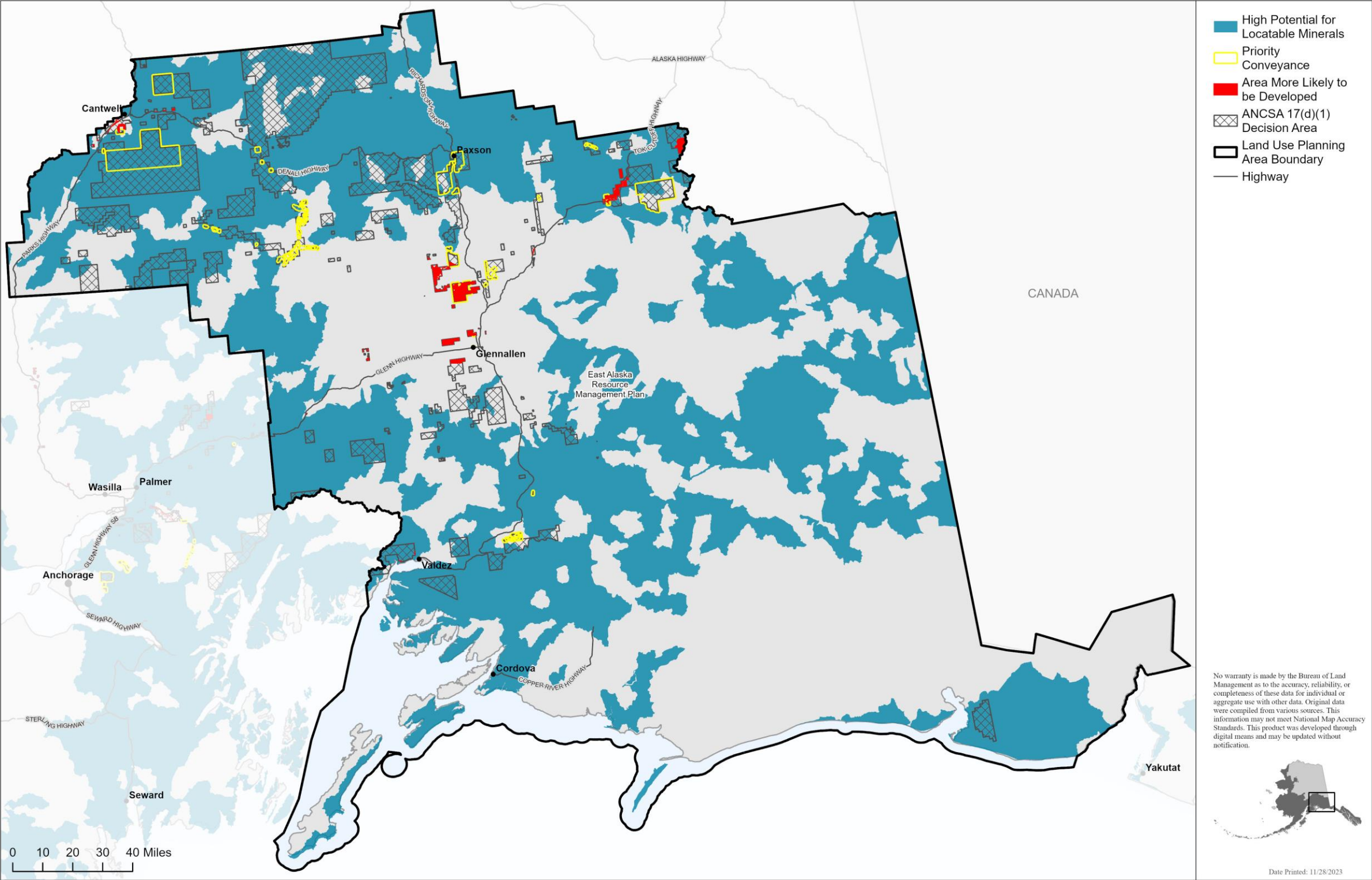


Figure 19. Areas more likely to be developed for locatable minerals in the East Alaska planning area.

Reasonable Foreseeable Development

Mineral Occurrences in the Kobuk-Seward Peninsula Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

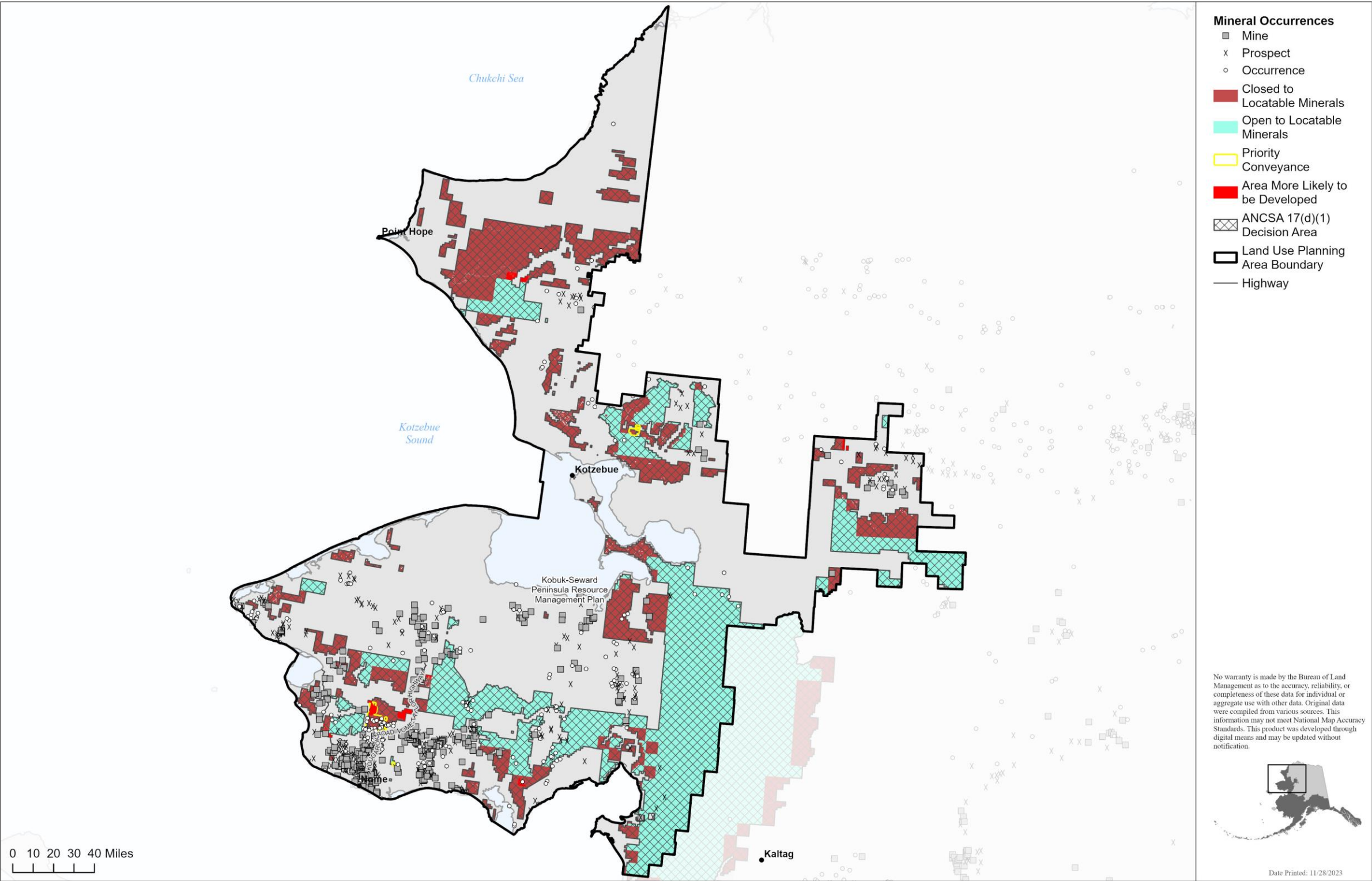


Figure 20. Locatable mineral occurrences in the Kobuk-Seward Peninsula planning area.

Reasonable Foreseeable Development

Mining Claims in the Kobuk-Seward Peninsula Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

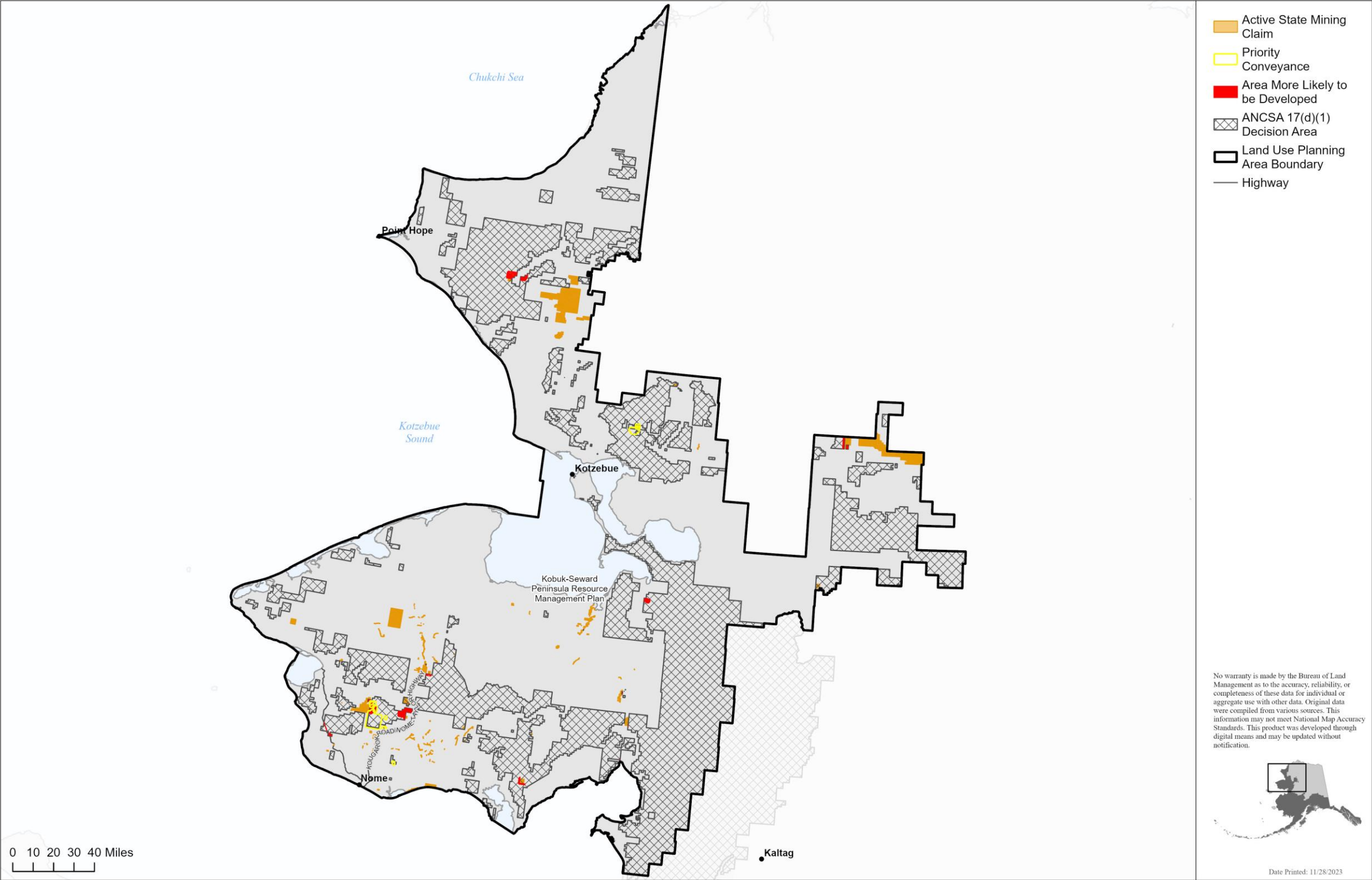


Figure 21. Mining claims in the Kobuk-Seward Peninsula planning area.

Reasonable Foreseeable Development

High Potential Locatable Minerals in the Kobuk-Seward Peninsula Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

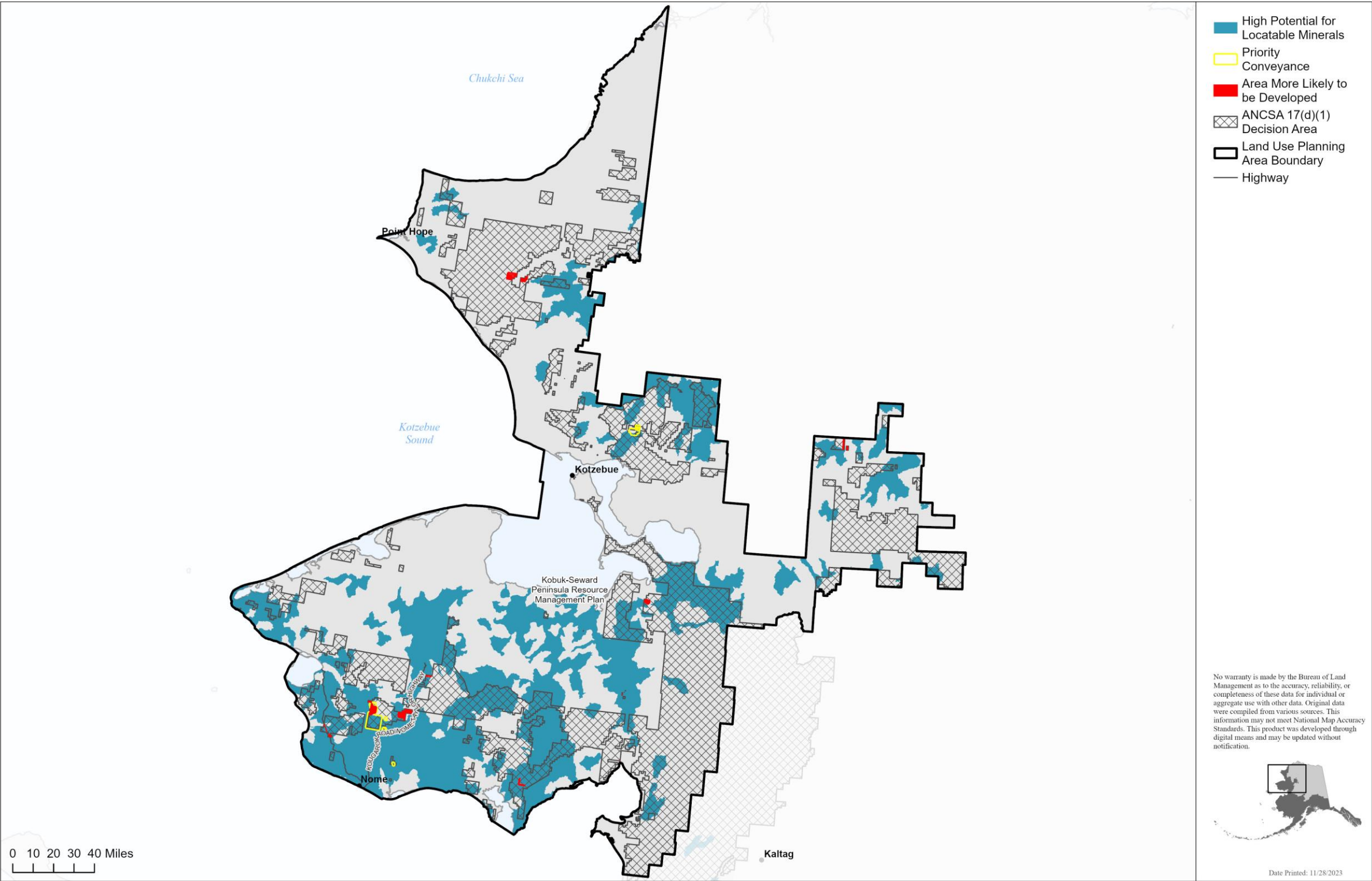


Figure 22. Areas more likely to be developed for locatable minerals in the Kobuk-Seward Peninsula planning area.

Reasonable Foreseeable Development

High Potential Salable Minerals in the Bay Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

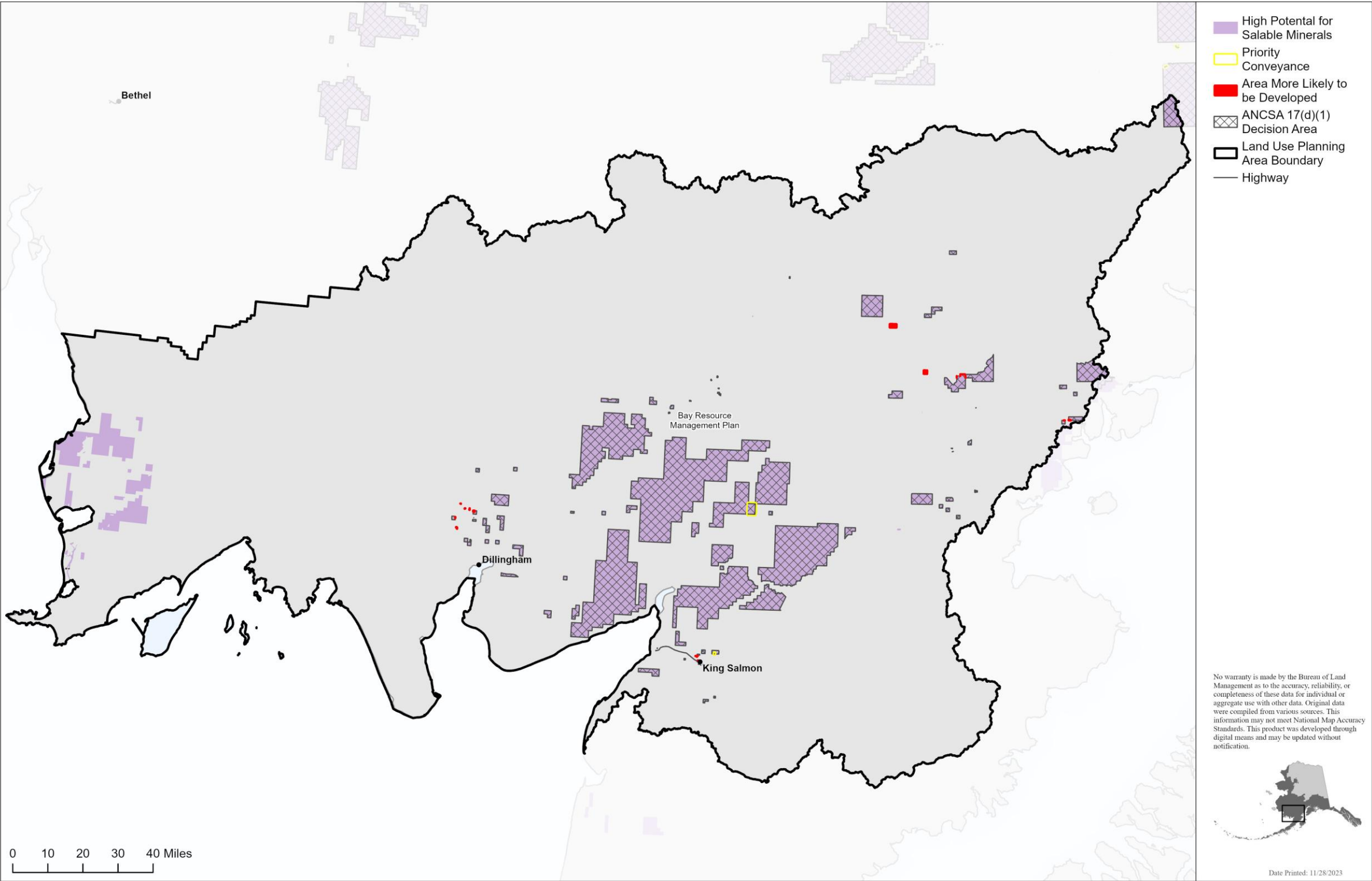


Figure 23. Areas more likely to be developed for salable minerals in the Bay planning area.

Reasonable Foreseeable Development

High Potential Salable Minerals in the Ring of Fire Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

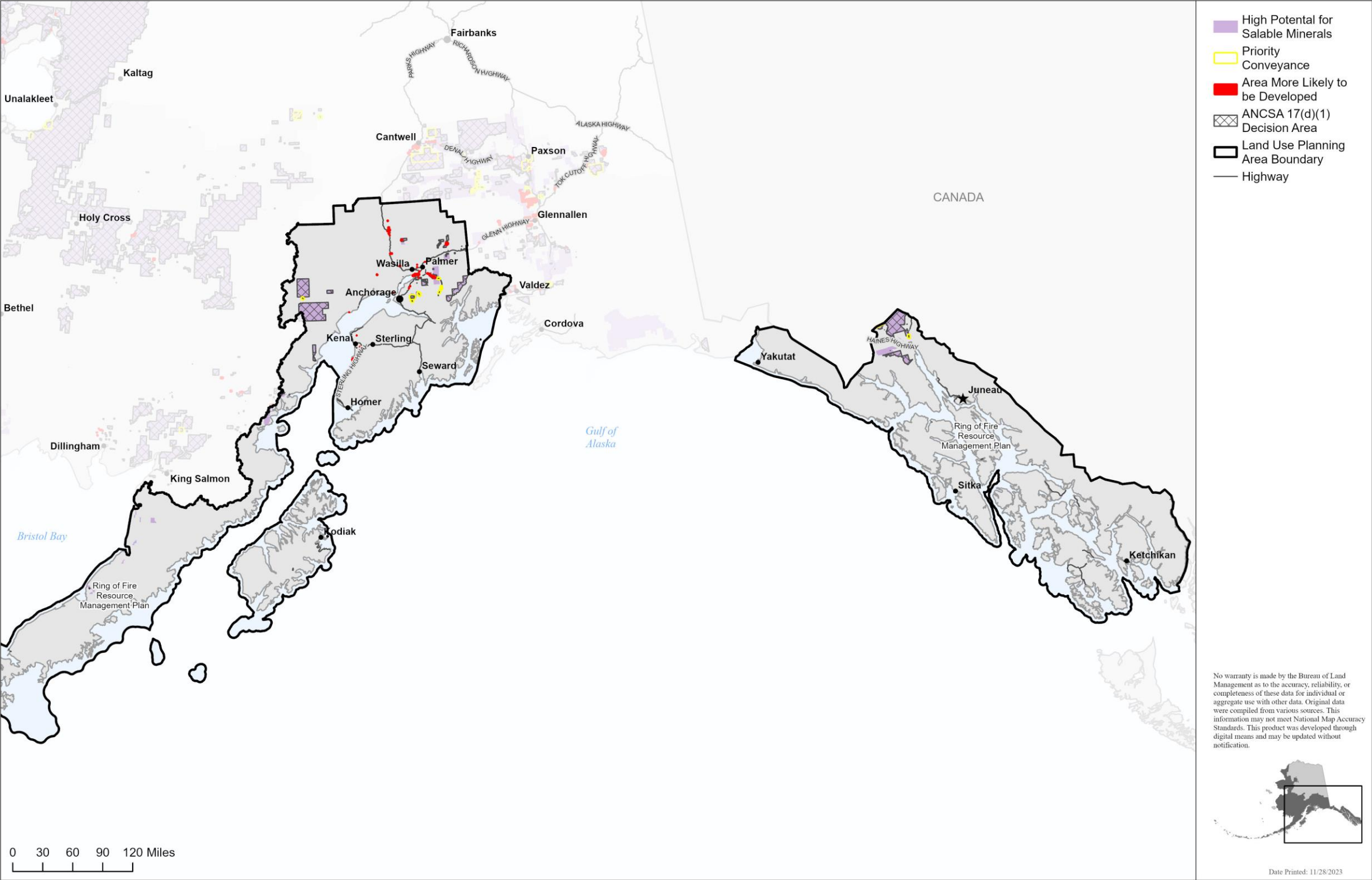


Figure 24. Areas more likely to be developed for salable minerals in the Ring of Fire planning area.

Reasonable Foreseeable Development

High Potential Salable Minerals in the Bering Sea-Western Interior Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

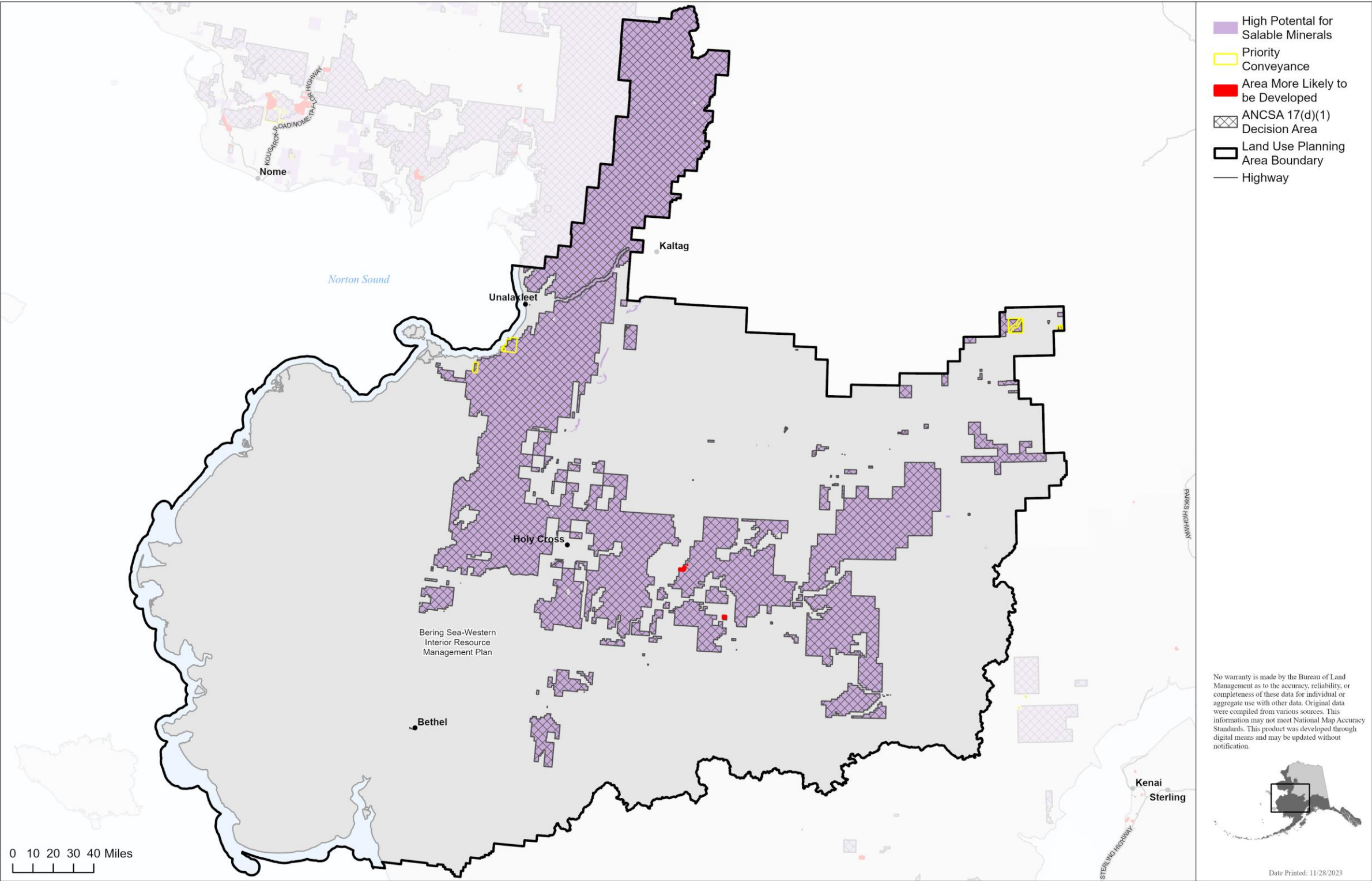


Figure 25. Areas more likely to be developed for salable minerals in the Bering Sea-Western Interior planning area.

Reasonable Foreseeable Development

High Potential Salable Minerals in the East Alaska Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

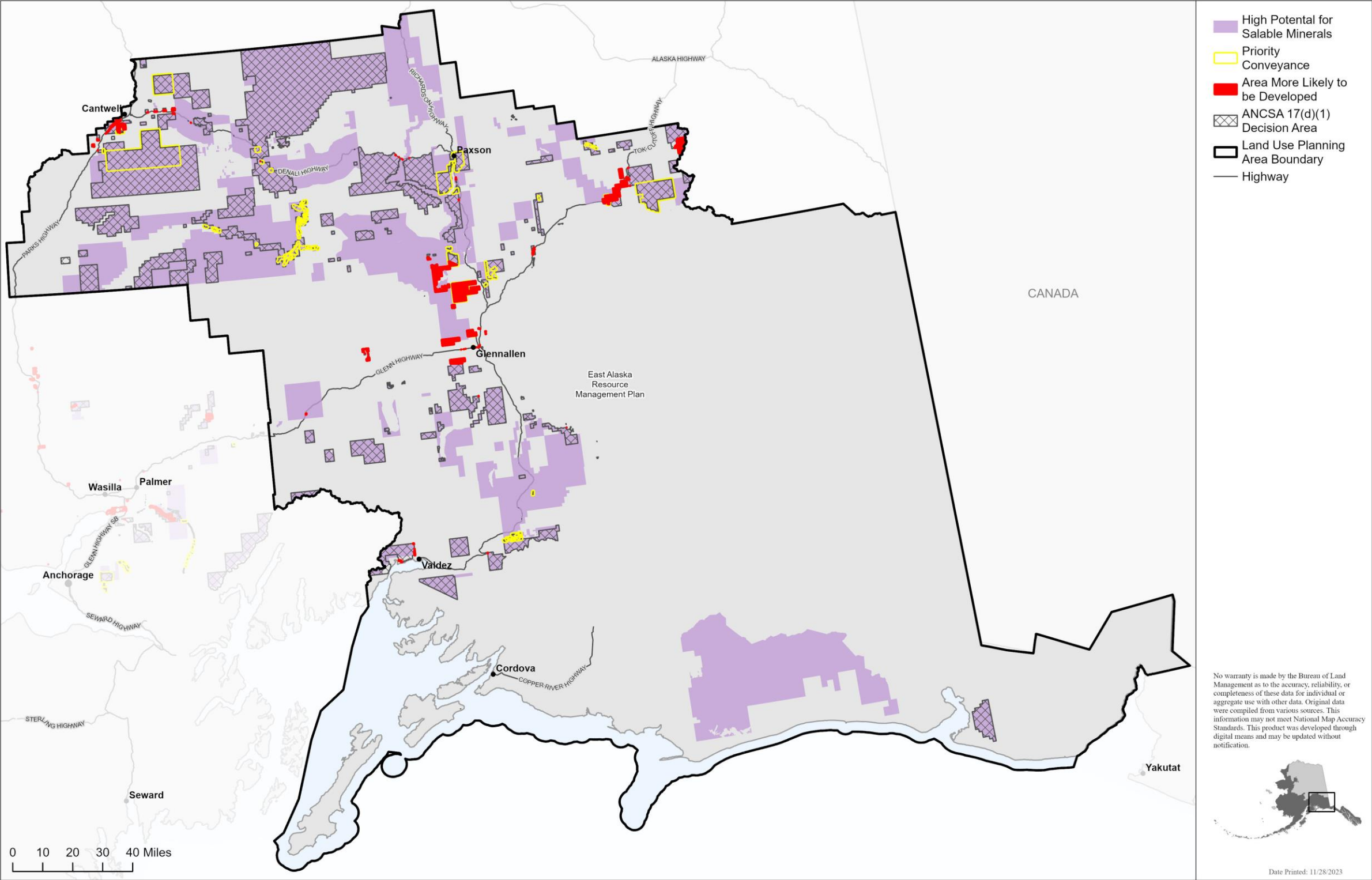


Figure 26. Areas more likely to be developed for salable minerals in the East Alaska planning area.

Reasonable Foreseeable Development

High Potential Salable Minerals in the Kobuk-Seward Peninsula Planning Area



U.S. DEPARTMENT OF THE INTERIOR | BUREAU OF LAND MANAGEMENT | ALASKA | ANCSA 17(d)(1) WITHDRAWALS ENVIRONMENTAL IMPACT STATEMENT

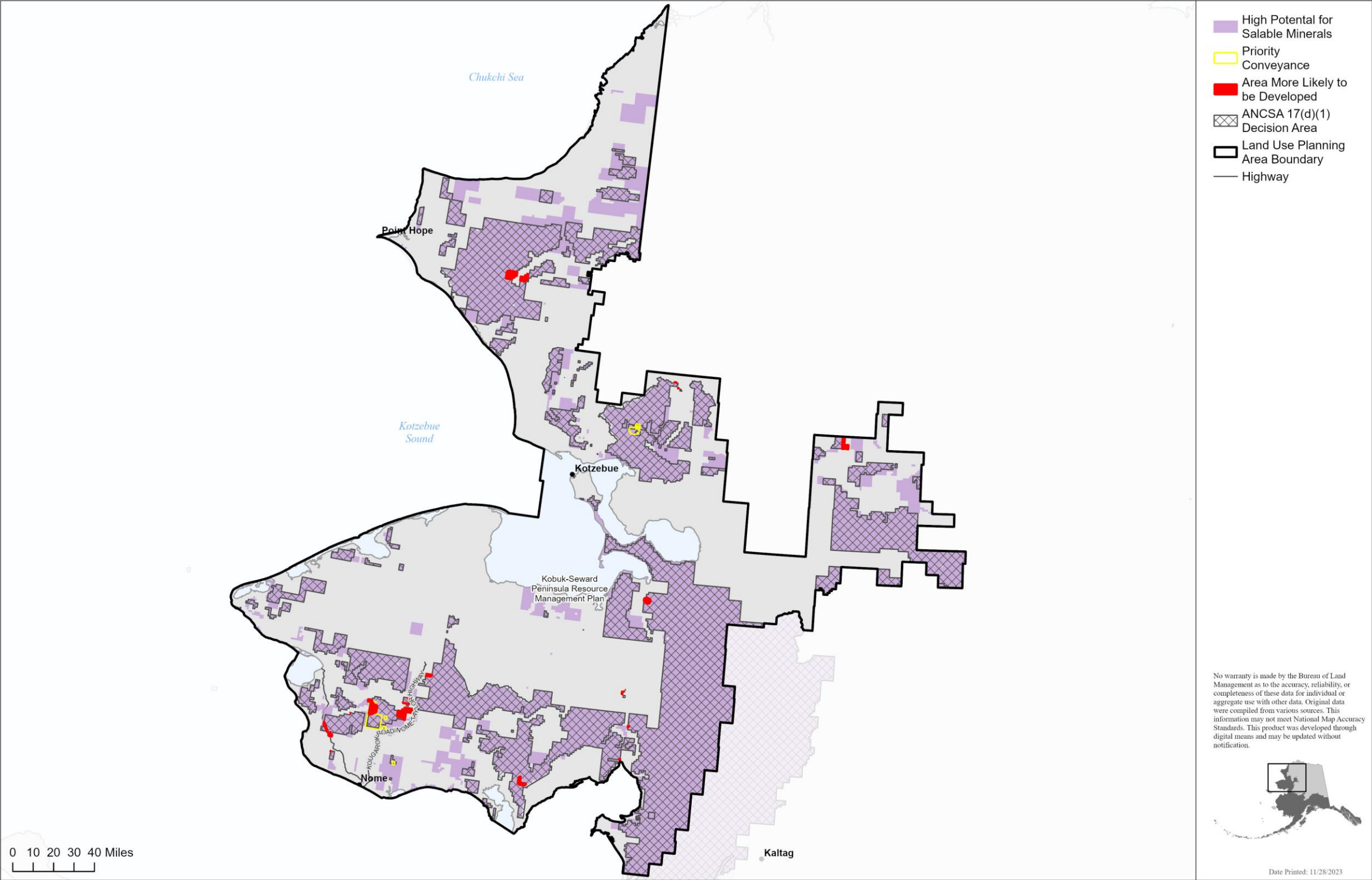


Figure 27. Areas more likely to be developed for salable minerals in the Kobuk-Seward Peninsula planning area.

This page intentionally left blank.