PIKKA SALES OIL PIPELINE
RIGHT-OF-WAY LEASE, ADL 421843
COMMISSIONER’S ANALYSIS AND PROPOSED DECISION

DNR Division of Oil and Gas
State Pipeline Coordinator’s Section
550 West 7th Avenue, Suite 1100
Anchorage, AK 99501

Publish date: September 2, 2022
**Purpose of Analysis and Proposed Decision**

The Right-of-Way Leasing Act (Alaska Statute 38.35) sets forth the procedures governing an application for an oil or gas pipeline right-of-way across State lands. Under this Act, the Commissioner of the Department of Natural Resources is granted all powers necessary to lease State land for pipeline right-of-way purposes. In leasing land for pipeline right-of-way purposes, the Commissioner must make a written finding that the applicant is fit, willing, and able to perform the transportation or other acts proposed in a manner that will be required by the present or future public interest. Additionally, prior to granting a right-of-way lease, the Commissioner is required to prepare an analysis of the application.

The following document is the Commissioner’s Analysis and Proposed Decision for the application for a right-of-way lease for the Pikka Sales Oil Pipeline that was submitted by Oil Search (USA), Inc. The pipeline is proposed to begin with a pig launcher on the Nanushuk Processing Facility Pad approximately 11.5 miles northeast of the community of Nuiqsut, then cross approximately 22 miles of State lands to end at a tie-in on the Kuparuk Pipeline Extension just east of Kuparuk Central Processing Facility 2 (“CPF2”). The public comment period for this Analysis and Proposed Decision begins September 2, 2022 and extends through 11:59 p.m. October 7, 2022. Written comments may be emailed to: spco.records@alaska.gov or faxed to (907) 269-6578 or submitted by U.S. Mail or in person to:

Alaska Department of Natural Resources  
Division of Oil and Gas  
State Pipeline Coordinator’s Section  
550 W 7th Avenue, Suite 1100  
Anchorage, AK 99501-3563

A public hearing will be held for this Commissioner’s Analysis and Proposed Decision in Nuiqsut or online on October 5, 2022, whichever the city determines is best for the community; and additional online public hearings will be held on October 7, 2022 at 12:00 p.m. and 6:00 p.m. Information on how to participate in these public hearings will be posted at:

https://dog.dnr.alaska.gov/Services/Pipeline/Pikka_Sales_Oil_Pipeline.

The public may provide testimony during the hearing or submit written comments in person, by mail or through email. Written comments must be received by DNR on or before 11:59 p.m. on October 7, 2022.
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Attachment 1: Draft Administrative Finding and Order for MO 1264
Nature of the Request

On February 1, 2022, Oil Search (USA), Inc. submitted an application for a non-exclusive Alaska Statute (“AS”) 38.35 right-of-way (“ROW”) lease to construct and operate a 16-inch diameter Pikka Sales Oil Pipeline (“Pikka Pipeline”) on State lands for the purpose of transporting sales oil from the Nanushuk Processing Facility (“NPF”) within the Pikka Unit to a Tie-in Point (“TIP”) near the Kuparuk Pipeline Extension (“KPE”) and a 12-inch diameter pipeline from the TIP to KPE, all on the North Slope of Alaska. The proposed approximately 22-mile pipeline will be placed on pipeline supports shared with pipelines authorized by ADL 421723 under AS 38.05.850 for an 8-inch gas pipeline, and a 16-inch seawater pipeline, and associated power and fiberoptic cables. The above-ground pipeline would be located on State of Alaska (“State”) owned lands. OSU has requested a 300-foot-wide construction ROW, decreasing to a 60-foot ROW for operations.

The Department of Natural Resources (“DNR”) Commissioner (“Commissioner”) is mandated, in accordance with AS 38.35.100, to determine whether the applicant is fit, willing, and able to perform the transportation or other acts proposed in a manner required by the present or future public interest. Per AS 38.35.080, the Commissioner must also analyze the proposed action and proposed lease on State land, including a review of the applicant’s technical and financial capabilities related to construction and operation of a hydrocarbon pipeline, as proposed in the project description and application.

Applicant

Oil Search Limited (“OS”) acquired and assumed operatorship of oil leases for the Nanushuk Oil Field in the Pikka Unit, on the North Slope of Alaska in 2018, through their Alaskan subsidiary Oil Search (Alaska), LLC, (“OSA”). OSA was established as a corporation doing business in Alaska, November 15, 2017. Since 2018, OSA has continued to invest in the Pikka Project, through exploratory activities such as 3D seismic mapping, and drilling. As a result of these activities, OSA has gained confidence in the reserves and as a result has increased their ownership interests in the area. OSA is a wholly owned subsidiary of Oil Search (USA) Inc., the Pikka Pipeline ROW Lease applicant (“OSU” / “Applicant”) which is a wholly owned subsidiary of Santos Limited, (“Santos”) as a result of a merger of its previous parent company, OS, in 2021, which made OS a subsidiary of Santos (Figure 1, on page 2).

OS underwent a merger when Santos acquired 100% of the issued capital in OS from the shareholders. New shares under Santos were issued December 14, 2021, with the merger taking effect on December 17, 2021; OS was retained as a non-publicly traded subsidiary to Santos.

Figure 1 on page 2 is a simplified diagram of the current Santos corporate structure and how OSU, the Applicant, fits into it this structure.
Proposed Right-of-Way Location

**Geographic:** The Pikka Pipeline will be located entirely within the North Slope Borough. The pipeline begins east of the Colville River East Channel, North of Kachemach River and south of the Miluvecach River. The pipeline heads in an east, to southeast direction, remaining north of the Mustang Pad and associated access roads, crossing the Miluvecach River, both the West Fork of the Kalubik Creek (aka the Kalubik Creek) and the East Fork of the Kalubik Creek (“East Kalubik Creek”), then terminating at a tie-in location on the Kuparuk Pipeline Extension, just north and east of the Kuparuk Central Processing Facility 2.

**Borough:** North Slope Borough

**Native Regional Corporation:** Arctic Slope Regional Corporation

**Village Corporation:** Kuukpik Corporation

**Village:** Native Village of Nuiqsut, closest village located approximately 12 miles southwest, across the Colville River

**U.S. Geologic Survey Map Coverage:** Beechey Point (B-5) and Harrison Bay (A-1, and B-1) (1:63,360 scale)

The Pikka Pipeline will begin within the Pikka Oil and Gas Unit, crossing un-unitized state lands, the newly formed Quokka Unit, the Southern Miluvecach and Kuparuk River Units.
Proposed Project Schedule:
The Applicant proposes to start construction of the Pikka Pipeline during the fourth quarter of 2023 with initial ice pad and ice road construction to support pipeline construction. Pipeline construction is proposed to start the first quarter of 2024 and start-up oil delivery is proposed for 2025.

Below is an overview of the proposed Pikka Pipeline Project ("Project") schedule:

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Project Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th Quarter 2023</td>
<td>• Construction of ice roads and pads to support construction activities. Initial staging.</td>
</tr>
<tr>
<td>1st Quarter 2024</td>
<td>• Pipeline Construction to begin</td>
</tr>
<tr>
<td>4th Quarter 2025</td>
<td>• Pipeline Service Start</td>
</tr>
</tbody>
</table>

Table 1: Pipeline Project Schedule

Proposed Pikka Pipeline Project Overview

The Applicant has requested a 300-foot-wide Right-of-Way during construction of the pipeline, to be reduced to a 60-foot-wide right-of-way for operations.

The proposed 16-inch Pikka Pipeline is expected to deliver approximately 87 thousand barrels of sales oil per day ("MBPD"), though that rate may be increased in the future. The Pikka Pipeline will extend from the Pikka Unit at the Nanushuk Operations Pad over approximately 22 miles of state lands through a tie-in pad near the Kuparuk Pipeline Extension ("KPE") to KPE, for eventual delivery to the Trans-Alaska Pipeline System ("TAPS"). The above-ground Pikka Pipeline will be approximately 7 feet above tundra surface and will be supported by shared horizontal and vertical support members ("HSMs" / "VSMs") set approximately 55 to 60 feet apart in accordance
with North Slope industry standards. The proposed placement for the Pikka Pipeline on the VSMs is depicted in Figure 3.

![Diagram of proposed pipeline placement](image)

Along the designated route, the Pikka Pipeline will cross other pipelines, pipeline supports and roads. At road crossings the pipeline will be installed inside steel pipe casing designed for minimal settling and water accumulation and to allow visual inspections.

During construction, temporary ice roads and pads will be accessed through existing gravel pads, roads, and temporary ice roads.

No permanent gravel pads for access to the pipeline will be built and access during operations and maintenance will make use of existing pads and roads, or if necessary, construction of temporary pads or roads at the time for specific purpose.

The unheated Pikka Pipeline will transport sales oil between 130 and 150 degrees Fahrenheit. The steel pipe will be coated with fusion-bonded epoxy, a 3-inch polyurethane foam insulation and covered by a 24-gauge sheet metal jacket per North Slope industry standards.

**II. Administrative Actions**

**AS 38.35 Right-of-Way Leases and the Adjudication Process**

Right-of-Way leases issued under AS 38.35.100(a) are legal agreements that grant a revocable property interest in State land for the construction and operation of common carrier or contract carrier hydrocarbon pipelines and their related facilities. As part of the adjudication process, the DNR Division of Oil and Gas ("Division") works closely with multiple agencies from different levels of government to ensure the lease facilitates safe development of State resources and protects the land for future generations.

AS 38.35 and Title 11, Chapter 80 of the Alaska Administrative Code ("11 AAC 80") govern how ROW leases will be managed and creates rigorous conditions that all applicants must meet before a lease may be offered.

Once a complete application is submitted, it is public noticed in accordance with AS 38.35.070, generally for 60 days. As the notice is running, the Division coordinates with other governmental agencies, writes the Analysis and Proposed Decision, and begins drafting the proposed lease. The
Analysis and Proposed Decision must consider potential impacts to existing uses, determine if an applicant is technically and financially fit willing and able to construct and operate the pipeline, and whether the applicant will adhere to laws regarding hiring Alaskans. If an applicant satisfies these conditions the Commissioner may offer the applicant a ROW lease under AS 38.35.100(a).

Once the Analysis and Proposed Decision has been issued, it is public noticed in accordance with AS 38.35.080, generally for 30 days. If there are no major changes to the analysis, the Commissioner may issue a Final Decision after the public notice period for the Analysis and Proposed Decision is completed. Any comments received during the public notice period, or during public hearings are considered and, if applicable, addressed in the Final Decision. Judicial review procedures concerning the Commissioner's Final Decision can be found in AS 38.35.200.

If a lease is issued, Oil Search (USA), Inc. must obtain Notice to Proceed ("NTP") authorizations to initiate construction. To obtain the NTP, they must submit a variety of documents for approval, including updated construction plans, final engineering designs, and a Quality Assurance Program. The Division will conduct a multi-agency state-level review of these documents to confirm they are compliant with previously issued authorizations and to validate the total effects of the Project as anticipated.

**Administrative Record**

Case file ADL 421843 constitutes the administrative record used in this Commissioner's Analysis and Proposed Decision ("Decision").

**Agency Review**

The Division provided review and comment opportunities for the activities under consideration in this Decision to the following state agencies: the Alaska Oil and Gas Conservation Commission, the Regulatory Commission of Alaska, and the Alaska Departments of Environmental Conservation, Fish and Game, Labor and Workforce Development, Transportation and Public Facilities, and within the Department of Natural Resources, the Divisions of Mining Land and Water, and Oil and Gas, and the Office of History and Archaeology. In addition, the U.S. Fish and Wildlife Service ("USFWS"), and the Alaska Division of Geological and Geophysical Surveys ("DGGS") were consulted. Comments were received from ADF&G and DGGS which informed the Fish, Wildlife, and Environmental Section and the Material Resources Section of this Decision.

**Public Notice of Application (AS 38.35.070)**

Public notice of the application began February 17, 2022 and ended at 5:00 p.m. on April 18, 2022. Notice of the application was published in the Anchorage Daily News and the Arctic Sounder; posted on the State of Alaska’s Public Notice website and the Division website; and sent to post offices in Nuiqsut, Utqiagvik and Prudhoe Bay. Notices were also sent to coordinating agencies (as defined by AS 38.35.230), private property owners, third party interest holders, government

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1 ADL – Originally stood for Alaska Division of Lands and continues to be used as part of the case file number within the Department of Natural Resources for certain authorization types.
agencies/entities, and Alaska Native Claims Settlement Act (ANCSA) Regional and Village Corporations within the vicinity of the proposed pipeline. Complete copies of the application were sent to the Tuzzy Consortium Library in Utqiagvik, the Nuiqsut Community Library, and the Z.J. Loussac Library in Anchorage.

DNR did not receive public comments on the notice of application.

Public Hearings on Commissioner’s Analysis and Proposed Decision
Concurrent with noticing the Commissioner’s Analysis and Proposed Decision, DNR has provided public notice for a public hearing in Nuiqsut or online on October 5, 2022, whichever the city determines is best for the community; and online public hearings on October 7, 2022 at 12:00 p.m. and 6:00 p.m. Complete details on how to participate in these hearings will be available at:

https://dog.dnr.alaska.gov/Services/Pipeline/Pikka_Sales_Oil_Pipeline.

The Commissioner will consider written comments submitted during the comment period, September 2, 2022 through 11:59 p.m. October 7, 2022, and oral comments recorded at the public hearings.

III. Land Status of Proposed Leasehold

Title
The proposed alignment of the Pikka Pipeline crosses only State lands. The State received title to lands along the alignment through Federal Patent Number (“Patent”) 50-74-0093, recorded in the Fairbanks Recording District as Document Number 401-1974-003775-0, on March 27, 1974, under General Selection Files (“GS”) 1294, 1298, and 1313; Patent 50-74-0100, recorded in the Fairbanks Recording District as Document Number 401-1974-003782-0, on March 27, 1974, under GS 1295 and 1299; and Patent 50-2020-0015, recorded in the Barrow Recording District as Document Number 413-2020-000042-0, under GS 1290. Each excepting and reserving to the United States a right-of-way for ditches and/or canals pursuant to the Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945. Patents 50-74-0093 and 50-74-0100 also except and reserve a right-of-way for railroads, telegraph and telephone lines pursuant to the Act of March 12, 1914, 38 Stat. 305. The United States pursuant to Sec. 9(c) of the Act of December 18, 1971 (85 Stat. 688), reserved for the benefit of the Alaska Natives, payments into the Alaska Native Fund. The reservation would continue only until $500,000,000 had been paid into the Alaska Native Fund from sources identified in Sec. 9 of the 1971 Act. This reservation no longer applies since the obligation has been fulfilled and final payment was made in 1980.

On May 21 and May 28, 1992, the Bureau of Land Management issued a Meanderable Water Acreage Credit pursuant to Sec. 101 of the Submerged Lands Act Amendment of August 16, 1988, P.L. 100-395, 43 U.S.C. 1631, for the following townships crossed by the Pikka Pipeline:

- Townships 10 North, Range 7 & 8 East, Umiat Meridian
- Townships 11 North, Range 6 through 9 East, Umiat Meridian
Third Party Interests
The Pikka Pipeline ROW will cross or be adjacent to known third party interests previously granted by the State. The following entities hold an interest in ROWs leases and easements, oil and gas leases and units, land use permit and water authorizations in the Project area:

- ASRC Exploration LLC
- Brooks Range Petroleum Corporation
- ConocoPhillips Alaska, Inc.
- ENI Petroleum Exploration Company, Inc.
- Kuparuk Transportation Company
- Mustang Holding LLC c/o AIDEA
- Oil Search (Alaska), LLC
- University of Alaska

Access
The area is encompassed by the North Slope Special Use Area which requires a permit for motorized vehicle use unless it is for subsistence purposes, or travel is on a graveled road. Except for gravel roads within the Kuparuk River Unit in the east, much of the area along the proposed Pikka Pipeline Project is roadless.

It is the policy of DNR that public access routes and the ROW will be open for the use and enjoyment of the public. A lease stipulation will require that Oil Search USA, Inc. provide for the public’s free and unrestricted access to and on the Leasehold except when restricting access is necessary to minimize conflicts between the public and pipeline activities. The Commissioner may approve restricted access in the following situations:

1. To temporarily facilitate construction or termination activities.
2. To facilitate operation or maintenance activities.
3. To provide for the protection of the public, workers, wildlife, or the environment from hazards associated with the project.
4. To provide for the security of the pipeline.

Easements
Section line easements are public rights-of-way for the construction of highways over public lands that run along section lines of the rectangular survey system. These easements exist along all section lines within the proposed Project area. Lands acquired by the State of Alaska after March 26, 1951, such as those in the Project area, are subject to a 100-foot section line easement (50 feet measured on either side of the section line) that remains in existence unless vacated by proper authority. Prior to survey, the State asserts the easements exist centered on the protracted section line; however, the easement must be surveyed before it can be used. These easements do not prohibit the development of a pipeline right-of-way across the affected section lines.

As of January 2021, no Revised Statute (“RS”) 2477 easements have been identified within the Project area.
Navigable and Public Waters

Alaska Statute 38.05.127 requires that, before the State may lease land adjacent to or inclusive of a water or waterway, DNR shall determine if that water or waterway is navigable water, public water or neither as defined in AS 38.05.965(14) and (21). If a water or waterway is determined to be navigable and/or public water, DNR shall establish specific easements to and along them. These easements are generally 50 feet wide, though they can be narrower under specific circumstances. The purpose of these easements is to guarantee free public access to waters and waterways for transportation, recreation, fishing, and a variety of other purposes in the public trust.

The proposed Pikka Pipeline ROW will cross three main waterways: the Miluveach River, the Kalubik Creek, and the East Kalubik Creek; and several minor pond or lake in/outflows. The unnamed waterways are predominantly short and of a beaded nature. The Miluveach River, the East and West Forks of the Kalubik Creek and a couple of the unnamed waterways which are over 10 feet wide (11 AAC 51.035(d)) are public waters. In addition, the Miluveach River, the Kalubik Creek, and the East Kalubik Creek are also anadromous at their pipeline crossings.

The State holds title to all waterways crossed by the proposed Pikka Pipeline ROW.

Public Trust Doctrine

All authorizations for this Project will be subject to Public Trust Doctrine; specifically, the right of the public to use navigable and public waters and the land beneath them for navigation, commerce, fishing, hunting, protection of areas for ecological studies, and other purposes. These rights will be protected.

Area Plans and Classifications

At statehood, the Alaska Legislature charged DNR with the job of managing State-owned general domain lands for the “maximum public benefit.” DNR, through the Resource Assessment and Development Section, develops regional specific area plans based on resource reviews. These plans encompass large tracts of land and, through a public process, establishes goals, policies, management intent, and guidelines for the use of State lands. These plans classify lands for certain types of activities and determine if some activities should be restricted or prohibited.

The Project area is subject to the North Slope Area Plan (“Plan”), Arctic Coast Region, West Planning Units A-02, A-04, A-09 and A-12 which are designated as Oil and Gas, and Habitat Lands. Nothing in the Plan prohibits or restricts the use of these units for oil and gas pipelines and the Project is consistent with the Plan’s goals, policies, management intent, and guidelines on the North Slope. The region including lands proposed for the Pikka Pipeline ROW are classified under Classification Order NC-19-001, to reflect the North Slope Area Plan Unit Designations described above.

On March 5, 1970, all lands within Umiat Meridian, were classified special use lands (ADL 50666). The special use lands designation established a permit requirement for motorized vehicle use, unless that use is for subsistence purposes or on a graveled road; and for geophysical, or other exploration, construction, or transportation activities, except along established roads, in addition to activities listed in 11 AAC 96.010.
Proposed Mineral Order (Closing)

Pursuant to AS 38.05.185(a) and AS 38.05.300(a), the Commissioner may close lands to mineral entry in excess of 640 acres if the closure is related to infrastructure or transportation corridors, in which mineral entry is an incompatible use that would adversely affect the proposed surface use. Although there has been minimal interest and little exploration for locatable minerals on the North Slope, and no major mining or placer mine operations have taken place, activities associated with mineral location are not compatible with the safe operation of or stability of hydrocarbon transportation pipelines. Oil and gas exploration and production are highly developed in the area and providing transportation to market, such as transportation by the Pikka Pipeline, is crucial.

Proposed Mineral Order ("MO") 1264 would close a 300-footwide corridor to mineral entry and development, measured 150 feet each side of the ROW control line. MO 1264 is being noticed concurrently with this Commissioner's Analysis and Proposed Decision. Please see Attachment 1 for the draft MO 1264 and Commissioner's MO 1264 Administrative Finding, which includes a complete description of the mineral order.

IV. Natural Resources Within the Proposed Right-of-Way

Cultural Resources

The North Slope region has a rich history of human occupation with sites along the Arctic coastal plain documenting the migratory history along the corridor.

Cultural resources which include paleontological resources (fossils, preserved remains in permafrost), and pre-historic and historic sites and districts are protected at both the federal and state levels. At the federal level this includes the National Historic Preservation Act ("NHPA") which, among other effects, established the State Historic Preservation Office ("SHPO") and the Section 106 Review Process for the purpose of preserving historical and archaeological sites. In Alaska, SHPO resides within DNR’s Office of History and Archaeology. As part of the Project adjudication Office of History and Archaeology was contacted to review the Project area. No response has been received to date.

Fish, Wildlife and Environment

Information from the Alaska Department of Fish and Game ("ADF&G") on significant species that can be found within, adjacent to, or passing through the Project area follows.

Wildlife

Four caribou herds are present along the entire North Slope Region, but only the Central Arctic Herd is found within the ROW area, with the entire area used for calving during the summer months. Musk Ox are also found in the area. Other large mammal such as brown bears (grizzly) and polar bears cross through and may den in the area. Polar bears are federally protected as a threatened species.

The Pikka Pipeline will cross the Muluwash River and the Kalubik Creek which are listed in the Catalog of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes, as
well as other named and unnamed waterways. Anadromous fish species found in the area include, broad and other whitefish, least cisco, and Dolly Varden. Resident fish species found in the area include Arctic grayling, ninespine stickleback, round whitefish, burbot, and slimy sculpin. There is limited overwintering habitat for fish due to the deep cold winters, and shallow lake and riparian areas. The ADF&G considers overwintering when habitat applications are submitted for water use and ice road construction in the area.

The low-lying wetlands, river delta and coastal plain areas are important breeding habitat to millions of birds, with a high concentration of migratory birds. During the summer, migratory birds nest and feed in the area. The area has a high density of breeding snowy owls, and waterfowl/birds such as black brant, greater white-fronted geese, king eider, tundra swan, yellow-billed loon, pacific loon, black scoter, long-tailed duck and eider. Also found in the area, are the Steller’s and spectacled eiders which are federally designated as threatened.

The 24-gauge sheet-metal jacket will have a non-reflective finish to reduce potential impacts to wildlife associated with reflection.

Cover Types and Vegetation
The area is predominantly flat, containing wetlands and brush tundra. The area has many small shallow lakes perched on poorly drained soils underlain by permafrost. There are no timber resources in the area.

Invasive Plant Species
The proposed pipeline route crosses mostly undeveloped tracts of Alaska with few documented invasive species. According to the Alaska Exotic Plant Information Clearinghouse Database, the only documented occurrence of an invasive plant species on the North Slope in the Project area has been common dandelion. Construction off gravel pad will occur during the winter construction season on permitted ice roads with minimal risk of incidental distribution of invasive plant species.

Water Resources
The proposed Pikka Pipeline ROW will cross 3 main waterways: the Miluache River, the Kalubik Creek, and the East Kalubik Creek; and several minor pond or lake in/outflows. The area is dotted by many small lakes, some provide over-wintering habitat for fish. Water is used from some lakes in the area to support ice road / ice pad construction and other industry water needs. See the Wildlife Section above for additional information on the typical water types and sources in the area.

Climate
Dramatic changes are occurring across the North Slope due to a warming climate trend, which are affecting the ground cover, permafrost and water resources habitat, and wildlife throughout the area and this is anticipated to continue, and possibly increase.
Sport Fishing and Hunting
The proposed Pikka Pipeline is located within the hunting Unit 26, which consists of the Arctic Ocean drainages between Cape Lisburne and the Alaska-Canada border. The proposed Pikka Pipeline ROW corridor will pass through the western side of subunit 26b, which is open to both resident and non-resident hunting of black and brown bear, Dall Sheep, caribou, wolf, and wolverine. Sport fishing is limited in the area, although the area drainage provides rearing habitat for diadromous Dolly Varden. Resident fish populations, which may include Arctic grayling and burbot, are slow-growing and support minimal harvest.

Subsistence Use
Fish, caribou, musk ox, birds, eggs, berries and plants are harvested throughout the area for subsistence uses. These noncommercial, customary and traditional activities are carried out by residents on the North Slope with most activities along the Pikka Pipeline alignment carried out by residents in Nuiqsut.

Material Resources
The area has scattered areas of moderate to high materials potential for sand and gravel on upland areas east of northeast/southwest trends from a point approximately at Lake ID WSAK 18 (aka M9512) through the Miluache River crossing. Additionally, there is potential for scattered areas of gravel on upland areas northeast and southwest of Lake ID MC7903, see Figure 2. Both potential sand and gravel areas may have thick ice-rich overburden which could impact their useability as gravel resource. Low-lying areas within this region usually consist of ice-rich silt, especially near Kalubik Creek. A collaborative initiative on the North Slope between DNR, Arctic communities and other stakeholders, known as the Arctic Slope Transportation and Resources (“ASTAR”) project, have been working through terrain unit and surface mapping to understand the sand and gravel resource distribution on the North Slope and especially in the area which includes the proposed pipeline corridor. This endeavor may identify additional material sources in the future. However, at the time of this writing, the closest active mine site is the Master Miluache Material Site K210, which is about ¼ mile south of the proposed pipeline alignment along the eastern side of the Miluache River, and is accessible by gravel road to a proposed ice pad; and Master Kuparuk Mine Site F, which is approximately 1½ miles north of the pipe alignment within Section 12, Township 11 North, Range 8 East, Umiat Meridian and is under both State and North Slope Borough ownership as approximately half the pit was conveyed to the North Slope Borough in 2011.

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2 WSAK 7903 (aka M9512) and MC7903 are lake identifiers for these two unnamed lakes. Lake identifiers on the North Slope have been set by the surveyors who calculated the lake volumes. The prefix letters may vary and do not have a specific definition. In some cases, a lake may have multiple lake identifiers, if its volume was calculated by multiple surveyors. Surveyors who have calculated lake volumes in the area include: Moulton of MJM Research, Michael Baker Jr. Inc., and Renaissance Umiat.
Oil and Gas Resources

State-owned lands within the proposed Project area are predominantly used for the exploration, production, and transportation of oil and gas under the State’s oil and gas leasing program. The pipeline route on State lands crosses from the Pikka Unit through the Kuparuk River, the Southern Miluweach, and the Quokka Units.

The Prudhoe Bay discovery in January of 1968 changed activities on the North Slope from solely exploratory to development, and production.\(^3\) The Kuparuk field, the second largest oil field on Alaska’s North Slope, was discovered in 1969.\(^4\) Transportation to market followed with construction on the Trans-Alaska Pipeline starting in 1974, and ending July 28, 1977, with the first delivery of North Slope Oil to the Port of Valdez.\(^5\,6\)

Companies with established history in the oil and gas industry in Alaska, and other companies looking to begin forays into exploration and production on the North Slope have led to new projects on State lands and other lands on the North Slope. The Ooguruk field (2008) was the first new project on State lands by an independent company not already established on the North Slope. Other projects followed such as: Mustang project in 2012 and Greater Moose’s Tooth in 2017, the first development within the National Petroleum Reserve in Alaska (“NPR-A”), on federal lands. In near proximity to the proposed Pikka Pipeline, the Division approved the Quokka Unit in June 2022; and Oil Search owners committed to Pikka Phase 1 development of the Pikka Unit in August 2022. The Pikka Pipeline will provide critical transportation for the Pikka Unit development.

**V. Technical Capability of the Applicant**

The Commissioner’s Analysis and Proposed Decision must consider if an applicant has the technical capability to transport oil, natural gas, or other products in Alaska consistent with the present and future public interest (AS 38.35.100).

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Reviewed Documents

- PIKKA Development Project NPF to TIP-CPF2 Pipeline Engineering Draft, Structural / Mechanical / Piping, Engineering Drawings & Scope of Work, Issued for Draft, Revision E, August 12, 2021
- PIKKA Development Project, Pipeline Design Basis and Criteria – Phase I, Doc# NPL-PLBOD-014010, February 1, 2022
- PIKKA Sales Oil Pipeline, Application for AS 38.35.050 Pipeline Right-of-Way Lease, February 2022
- PIKKA Development Project Phase I, General Site Conditions Design Criteria, Document Number NGE-GECRT-000001, Rev 3, November 6, 2020
- PIKKA Development Project Sales Oil Tie-in Pipeline Engineering Issued for FEED, Civil/Mechanical/Piping, Engineering Drawings & Scope of Work, Issued for FEED, Revision D, July 19, 2022
- PIKKA Development Project Sales Oil Tie-in Platform Issued for FEED, Structural/Mechanical/Piping, Engineering Drawings & Scope of Work, Issued for FEED, Revision B, June 10, 2022

Background

The Pikka Pipeline System is composed of a 16-inch and a 12-inch Pipeline. The proposed 16-inch pipeline will deliver sales-quality oil from the Nanashuk Processing Facility ("NPF") to the Tie-in-Point ("TIP") and a 12-inch pipeline will connect the TIP with the Kuparuk Transportation Company operated Kuparuk Pipeline Extension ("KPE"). The Pikka Pipeline will transport 80,000 barrels of oil per day ("BOPD") during Pikka Phase I.

Sales-quality oil will be transported via an above ground pipeline approximately 22 miles from the NPF to the TIP near CPF2 and subsequently to TAPS by way of the Kuparuk Pipeline Extension and the Kuparuk Pipeline. Seawater and gas pipelines, authorized separately under ADL 421723, will also run parallel to the Pikka Pipeline on the same pipeline support structure between the NPF and TIP.

Aboveground cross-country pipeline is the standard mode for Alaska North Slope oilfields. In the typical aboveground mode, pipelines rest in saddle assemblies on crossbeams, which are typically supported by one or two pipe piles, commonly referred to as VSMs. The crossbeam supporting the pipelines is commonly referred to as a horizontal support member or HSM and is attached to the VSM by bolts or welds.

The Pikka Pipeline will cross six roads through roadbed casings, and span three streams on VSMs at regular spacings.

Codes, Regulations, and Standards

An engineering review of the technical information provided by the Applicant thus far has determined that the Pikka Pipeline as planned will meet or exceed industry standards and established construction methods for Alaska North Slope oilfields. The Design Basis references
codes, regulations, and standards under which the pipeline will be designed and operated. See a partial listing below. The codes, regulations, and standards referred to in the Design Basis were checked for accuracy. For a full list, refer to the Design Basis.

- 49 Code of Federal Regulations ("CFR") 195 *Transportation of Hazardous Liquids by Pipelines*


- American Society of Civil Engineers ("ASCE") Standard 7-16, *Minimum Design Loads for Buildings and Other Structures*


**Technical Review**

*Hydrology*

The Pikka Pipeline engineers used Colville and Miluveach River hydrologic and hydraulic studies carried out annually since 2012. Water surface elevations (stage) and flow velocities taken from these studies from 2012 through 2018 were used for the Pikka Pipeline design.

*Colville River*

The Colville River is the largest river on the Alaska Arctic Coastal Plain, with a drainage basin of approximately 23,000 square miles that extends from the northern flank of the Brooks Range to
the Arctic Ocean, an area which encompasses approximately 30 percent of the North Slope area of Alaska. Sections of the Pikka Project are located within the Colville River floodplain.

**Muluveach River**
The Muluveach River is a meandering river with a bed consisting of sand and gravel. The drainage basin above the proposed channel crossing at river mile 16.9 encompasses approximately 128.9 square miles. The Muluveach River is subject to ice floes and ice jams during spring break-up. These ice events translate to increased stage and localized increases in velocities relative to open water conditions. The proposed river crossing is located upstream of backwater influences from the Colville River. The Muluveach River bridge is located upstream of the proposed pipeline crossing.

**Geophysical Factors**

**Design Climate**
The climate along the proposed Pikka Pipeline is Arctic marine, with extremely low winter temperatures, cool summers, dry air, low precipitation, and overcast skies. Persistent winds increase the effect of low temperatures through wind chill. Intense storms with high wind speeds can occur at any time of the year. Reduced visibility due to fog or blowing snow is common.

Average monthly temperatures can vary widely. Relative humidity is typically 0-5% in winter and 50% in summer. The region has little annual rainfall and snowfall; however, substantial snow drifting is common. Design climate conditions are presented in Table 2, *Design Climate Conditions* below and are derived from data provided by the National Oceanic and Atmospheric Administration’s National Climatic Data Center (“NCDC”) for the Kuparuk, Alaska Airport, spanning years 1983 to 2015.

<table>
<thead>
<tr>
<th>Design Climate Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Record High Temperature</td>
<td>83°F</td>
</tr>
<tr>
<td>Record Low Temperature</td>
<td>-58°F</td>
</tr>
<tr>
<td>Summer Ambient Air Temperatures</td>
<td></td>
</tr>
<tr>
<td>Average Monthly Extreme High Temperature</td>
<td>64°F</td>
</tr>
<tr>
<td>Average Monthly Extreme Low Temperature</td>
<td>19°F</td>
</tr>
<tr>
<td>Winter Ambient Air Temperatures</td>
<td></td>
</tr>
<tr>
<td>Average Monthly Extreme High Temperature</td>
<td>27°F</td>
</tr>
<tr>
<td>Average Monthly Extreme Low Temperature</td>
<td>-27°F</td>
</tr>
<tr>
<td>Average Annual Snowfall</td>
<td>30 inches</td>
</tr>
</tbody>
</table>

*Table 2: Design Climate Conditions*
Wind

Wind on the Alaska North Slope is persistent and due to the influence of the Brooks Range, wind tends to parallel the coastline (east to west) in the vicinity of the Project. Easterlies are more common than westerlies. Easterlies refer to winds that generally come out of the east moving west, while westerly winds originate out of the west and move east. Recorded wind data from NCDC Nuiqsut, Alaska Airport from 1999 through 2016 shows that the wind from the northeast is prevailing and the highest recorded wind speed was westerly 48 knots (55.3 mph). Wind data is used to determine wind loads for road signs, and pipelines; and wave heights in hydrology models to determine erosion. Table 3, Project Design Wind Conditions below presents project design wind conditions.

<table>
<thead>
<tr>
<th>Per ASCE 7</th>
<th>(as presented by the Applied Technology Council)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Annual Wind Speed (last 10 years)</td>
<td>16.7 mph</td>
</tr>
<tr>
<td>Design 3-second Gust</td>
<td></td>
</tr>
<tr>
<td>Risk Category I</td>
<td>124 mph</td>
</tr>
<tr>
<td>Risk Category II</td>
<td>133 mph</td>
</tr>
<tr>
<td>Risk Category III-IV</td>
<td>134 mph</td>
</tr>
<tr>
<td>Return (Mean Recurrence Interval)</td>
<td></td>
</tr>
<tr>
<td>10-year</td>
<td>92 mph</td>
</tr>
<tr>
<td>50-year</td>
<td>111 mph</td>
</tr>
<tr>
<td>100-year</td>
<td>112 mph</td>
</tr>
<tr>
<td>Average Annual Wind Speed</td>
<td>16.7 mph</td>
</tr>
</tbody>
</table>

Table 3: Project Design Wind Conditions

The Pikka Pipeline will be between seven and 15 feet above grade for a majority of the alignment. A wind induced vibration ("WIV") analysis will be performed for the entire alignment and where modal stresses which exceed 6 kilo-pounds per square inch will be mitigated in an appropriate manner such as installing either tuned vibration absorbers ("TVAs") or pipeline vibration dampers ("PVDs").

Soils

Permafrost underlies most of the Alaska Arctic Coastal Plain to a depth of approximately 2,000 feet. Permafrost is defined as soil or rock that is continuously frozen for at least two consecutive years. Ice is present in various forms and may include small veins, particle coatings, and inclusions to larger ice wedges and massive ice. Permafrost acts as a barrier to groundwater movement and inhibits subsurface drainage, which results in wet surface conditions in low areas during the summer.

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7 Modal analysis helps to show movement of different parts of the pipeline under dynamic loading conditions. It provides information on the limits of a pipeline’s response to loading. [https://whatispiping.com/modal-analysis/](https://whatispiping.com/modal-analysis/) (August 29, 2022)
Near-surface ground temperatures fluctuate seasonally in response to air temperatures and snow cover. The upper few feet of soil that thaw during the summer and re-freeze in winter define the “active zone” or “active layer.” Depth of thaw depends on climate, soil properties, and surface vegetation. In undisturbed tundra areas on the Alaska North Slope coastal plain, the active layer is typically 1 to 2 feet deep. Removal of the vegetation will likely result in deeper thaw penetration. Gravel fill will typically thaw seasonally to a depth of 4 feet or more. Soils typically found near the surface are fine-grained, weak, and susceptible to erosion by water if exposed.

Seismicity
The Project area is considered an area of low earthquake activity. Most seismicity in the region of the Project area is shallow (i.e., less than 20 miles deep). Thick permafrost present in the region, which underlies the Project area, will cause the alluvial sediments to respond seismically much like bedrock, limiting amplification and tending to prevent earthquake-induced ground failures (e.g., liquefaction).

Pipeline Support System
Above ground cross-country pipeline is the standard mode for Alaska North Slope oilfields. In the typical above ground mode, pipelines rest in saddle assemblies on crossbeams, which are typically supported by one or two pipe piles, commonly referred to as VSMs. The crossbeam supporting the pipelines is commonly referred to as a horizontal support member or HSM and is attached to the VSM by bolts or welds.

The Pikka Pipeline support assemblies are designed to resist substantial longitudinal loadings (perpendicular to crossbeams), most notably from thermal expansion and contraction. At intermittent locations the assemblies are designed as anchors with two-pile VSM’s and fixed saddle connections. In between anchors, the pipeline is designed to expand into a central loop, or a “Zee” configuration known as expansion loops. The support assemblies within an expansion loop are also typically a two-pile design with sliding supports to cope with potentially large lateral displacements. The remaining field supports between the anchors and loops or points of intersection (“Pls”) are single pile guided supports that allow for longitudinal movement but resist lateral movements.

The Pikka Pipeline support system is designed to carry the Pikka Pipeline, as well as a seawater pipeline and a gas pipeline; both under a separate authorization. The support system is a critical component of the pipeline system and is considered a related facility to be authorized under the Pikka Pipeline ROW Lease.

Crossings
Several features will be crossed by the Pikka Pipeline, including roads, other pipelines, streams and rivers. Construction methods for these crossings include simple above ground spans and short, cased sections under roads and pads.
Roads
The insulated Pikka Pipeline will rest on casing-carrier pipe isolators as it crosses through the roadbed prisms through oversized steel casings. Additional insulation will be installed under the casings to minimize thaw settlement and protect the underlying tundra. Shims will be included at the adjacent pipe supports to allow for future elevation adjustments in case of settlement. There are six road or pad crossings planned for the Pikka Pipeline.

Pipeline Crossings
The Pikka Pipeline will be elevated and cross over existing racks allowing adequate clearance between new and existing racks.

Waterbodies
Pipeline installation will avoid waterbodies (e.g., creeks, ponds) to the extent practicable, but will cross waterbodies including the Mиюveach River, East Fork Kalubik Creek, and Kalubik Creek. At stream crossings, VSMs placed within known floodplains will be designed to withstand the effects of scour, bank migration, and forces from ice floe impacts. The pipeline crossing at East Fork Kalubik Creek and Kalubik Creek will not require VSMs to be placed in the active channel. The Mиюveach River is approximately 75 feet wide at the pipeline crossing. As a result, a single set of supports will be placed within the active channel.

Pipeline Data
Pipe Specifications
Parameters for the Pikka Pipeline are listed in the table below:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Pikka Pipeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Code</td>
<td>ASME B31.4 49 CFR 195</td>
</tr>
<tr>
<td>Class Location</td>
<td>N/A</td>
</tr>
<tr>
<td>Design Factor</td>
<td>0.72</td>
</tr>
<tr>
<td>ASME B16.5 Rating</td>
<td>Class 600</td>
</tr>
<tr>
<td>Pipe</td>
<td>API X65</td>
</tr>
<tr>
<td>Nominal Pipe Diameter (inches)</td>
<td>16 (NPF-TIP)</td>
</tr>
<tr>
<td></td>
<td>12 (TIP-CPAI)</td>
</tr>
<tr>
<td>Pipe Wall Thickness (inches)</td>
<td>0.377 (NPF-TIP)</td>
</tr>
<tr>
<td></td>
<td>0.375 (TIP-KPE)</td>
</tr>
<tr>
<td>Length (miles)</td>
<td>22 miles (NPF-TIP)</td>
</tr>
<tr>
<td></td>
<td>1,000 feet (TIP-KPE tie-in)</td>
</tr>
<tr>
<td>Maximum Code Allowable Operating Pressure (MAOP [psig])</td>
<td>1,480</td>
</tr>
<tr>
<td>Design Flow Rate (MBPD)</td>
<td>87</td>
</tr>
<tr>
<td>Maximum Operating Temperature (°F)</td>
<td>150</td>
</tr>
<tr>
<td>Minimum Ambient Temperature (°F)</td>
<td>-50</td>
</tr>
<tr>
<td>Minimum Delivery Temperature (°F)</td>
<td>90</td>
</tr>
</tbody>
</table>

*Table 4: Pipeline Parameters*
Pipe Coating
The Pikka Pipeline will be externally coated with 14 to 30 mils of fusion-bonded Epoxy ("FBE"), covered with 3 inches of polyurethane foam insulation, and wrapped in 24-gauge sheet-metal jacket. The Pikka Pipeline will have a non-reflective finish to reduce glare.

Pipeline Stress Analysis
Detailed requirements concerning allowable internal pressure and other loads, loading combinations, or limitations on combined states of stress are presented in ASME B31.4, ASCE 7, and the Project design specifications.

The design operating condition is defined to include all normal operating conditions and environmental loadings. Design loads included internal pressure; temperature differential; dead load, fluid, and hydrostatic test loads; and transient environmental loads. Surge pressure forces, and slugging forces will be considered where appropriate.

Stresses due to wind and earthquake are not considered to occur concurrently. Circumferential, longitudinal, shear, and equivalent stresses were calculated considering stresses from all relevant load combinations. Calculations considered flexibility and stress concentration factors of components other than straight pipe.

Title 49 CFR 195, and by reference ASME B31.4 were used as the governing code for the Pikka Pipeline. Allowable stress criteria for aboveground pipelines flowing liquid are shown in the table below:

<table>
<thead>
<tr>
<th>Aboveground Allowable Stresses – B31.4 Criterion</th>
<th>Allowable</th>
<th>Basis¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydrostatic Test Stresses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoop Stress <em>(pressure)</em></td>
<td>0.95 SMYS²</td>
<td>Project Defined</td>
</tr>
<tr>
<td>Effective Stress <em>(test pressure, dead load, 1/3 wind load, and temperature differential between tie-in and test fluid)</em></td>
<td>1.00 SMYS</td>
<td>Project Defined</td>
</tr>
<tr>
<td><strong>Primary Stresses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoop Stress <em>(pressure)</em></td>
<td>0.72 SMYS</td>
<td>Table 403.3.1-1</td>
</tr>
<tr>
<td>Longitudinal Stress <em>(pressure, dead load)</em></td>
<td>0.75 SMYS</td>
<td>Table 403.3.1-1</td>
</tr>
<tr>
<td>Longitudinal Stress <em>(pressure, dead, and occasional load)</em> <em>(i.e., wind, snow &amp; ice, slugging &amp; earthquake)</em></td>
<td>0.80 SMYS</td>
<td>Table 403.3.1-1</td>
</tr>
<tr>
<td><strong>Secondary Stresses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longitudinal Stress Range <em>(temperature differential)</em></td>
<td>Varies</td>
<td>Table 403.3.1-1</td>
</tr>
</tbody>
</table>

Notes:

¹ Basis refers to sections of ASME B31.4 code unless otherwise noted.
² SMYS – Specified Minimum Yield Strength

Table 5: Allowable Stress Criteria for Aboveground Pipelines
**Sales Oil Tie-In (SOT)**

The 16-inch Pikka Sales Oil Pipeline will terminate on the TIP located near CPF2 and accessible directly off Spine Road. The pad will include accessory equipment for production pigging, leak detection, power generation, and communications. The pad area also allows for future sales oil and seawater pumping facilities.

From the TIP, the sales oil is reduced to a 12-inch pipeline and travels 0.2 miles east, on additional VSM supports, to the SOT Platform and transfer of custody point located on the upstream 12-inch valve directly above the proposed hot tap fitting on the 18-inch KPE.

**Safety and Integrity**

*Corrosion Control Measures*

The Pikka Pipeline will be constructed of fusion-bonded epoxy ("FBE") coated pipe and will include launchers and receivers capable of handling state-of-the-art in-line inspection ("ILI") tools as well as a variety of maintenance tools. The Pikka Pipeline is designed to allow passage of these tools using a minimum of three-diameter (3D) bends. The frequency of inspection will be determined upon the development of the Pikka Project corrosion management plan.

*Vertical Loops*

Pipeline vertical loops will be installed on the Pikka Pipeline on either side of the Miluvecach River to minimize potential waterway contamination should a leak occur in the vicinity. Vertical loops are considered a viable option to isolation valves, per 49 CFR 195 and ASME B31.4, on pipelines transporting single-phase liquid only.

In addition to vertical loops either side of Miluvecach River, there will be isolation valves at either end of the pipeline at on-pad facilities.

*Leak Detection*

Mass balance and pressure-monitoring leak-detection systems will be incorporated into the Pikka Pipeline design. These systems work in parallel and provide redundant measurements to ensure accuracy. Under normal operating conditions, these systems would be capable of detecting a daily discharge equal to not more than 1 percent of daily throughput in the pipeline. Flow verification will occur at least once every 24-hour period. The incoming flow of oil to the Pikka Pipeline can be completely stopped within 1 hour after detection of a discharge, as required by 18 Alaska Administrative Code 75.055. Emergency shutdown of the Pikka Pipeline can be activated at the control room. Pipeline emergency shutdown will result in a complete pipeline shutdown.

**Design Life**

The minimum engineering design life of the Pikka Pipeline is 30 years. A 30-year design life does not indicate that the pipeline and associated support structures will be used up, failure prone, or require replacement at the end of the design life. Engineering design life is determined from a combination of technical, regulatory, economic, and commercial considerations. There are various
definitions of design life; however, for purposes of this application, it is the period over which the systems, components, and structures are required to perform their primary functions with acceptable safety, regulatory, and environmental performance, and with acceptable probability will not experience large failures, require extensive replacements, or need significant repairs. Through maintenance and operating procedures such as pipeline cleaning, use of corrosion inhibitors, and routine in-line-inspections, the operational life of the pipeline may extend beyond the design life of 30 years.

**Technical Review Finding**

The Decision must consider if an applicant has the technical capability to transport oil, natural gas, or other products in Alaska consistent with the present and future public interest (AS 38.35.100).

The State’s Engineering Team reviewed the Pikka Pipeline Project Design Basis, Design Drawings Issued for Approval (“IFA”), and Lease Application documents for compliance with 49 CFR Part 195 federal code. It was found that the OSU project team sufficiently demonstrated a technical capability to design, construct and operate the proposed pipeline. The Pikka Pipeline Project has met all Front End Engineering and Development (“FEED”) level milestones and is now shifting to implementation. Upon issuance of a ROW lease but before a notice to proceed can be issued, the following documents must be submitted to DNR for review:

1. WIV Analysis
2. Pipe stress Analysis
3. Construction Plan
4. IFC Design Drawings to include:
   - Leak Detection & Safety Systems
   - FOC support details

**VI. Financial Capability of the Applicant**

Pursuant to AS 38.35.050, Oil Search (USA), Inc. (“OSU”), parent company to Oil Search (Alaska), LLC (“OSA”), and a subsidiary of Santos Limited (“Santos”) post-merger (see below), submitted an application (“Application”) for a Pipeline Right-of-Way Lease to construct and operate an AS 38.35 pipeline associated with the Pikka Development Phase 1 Project. As a requirement of AS 38.35.100, the Commissioner must consider whether an applicant has the financial capability to transport oil, natural gas, or other products in Alaska consistent with the present and future public interest. Although the Decision includes multiple components, the Financial Fit, Willing & Able Review (“FFW&AR”) is primarily offered by the Commercial Section (“Commercial”), of the Division to assess OSU’s financial ability to transport oil using the Pikka Pipeline.
Background

Oil Search Limited ("OS") was incorporated on January 17, 1929, in Port Moresby, in what is now modern-day Papua New Guinea ("PNG"), to explore oil and gas resources. Several very profitable ventures in oil and gas within PNG led the way to the creation of Papuan Oil Search Limited ("POSL") in 1958, which was incorporated in New South Wales, Australia.

After successfully developing resources in PNG and other regions, OS acquired and assumed operatorship over a portfolio of oil leases on the Alaskan North Slope, USA, in early 2018, including the Nanushuk oil field in the Pikka Unit. OSU and OSA were born as a result just prior to this in 2017. OSU is the parent company to OSA. In April 2019, OS completed an inaugural drilling program within Pikka. On December 17, 2021, OS merged with Santos, although OS still exists as a corporate entity under Santos and is no longer publicly traded, but owns POSL, OSU and OSA.

![Figure 4: Santos Limited – Oil Search (USA) Inc. Corporate Structure](image)

Santos is an Australian energy producer, and was incorporated in 1954 in Adelaide, Australia. Santos is an acronym of South Australia Northern Territory Oil Search. Santos had five core assets in Australia and Papua New Guinea prior to the merger, and these assets made them a significant supplier of natural gas in Australia and Asia. Santos is Australia’s biggest domestic gas supplier. After the merger with OS, Santos became the ultimate parent. POSL is a wholly owned subsidiary.

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OS, which is a wholly owned subsidiary of Santos through this merger. As stated above, POSL owns OSU, which is the Applicant for the ROW Lease (Figure 4).

**Evaluation**

Since OSU is a wholly owned subsidiary of POSL, OSU does not prepare certified financial statements. OSU did provide unaudited financial information for the first quarter (“Q1”) of 2022. The Q1 2022 unaudited financial report from POSL was not available because POSL only issues financial information on a half-yearly basis. As part of OSU’s Application, OSU also submitted the following:

- Consolidated, audited financial statements for years 2018, 2019, 2020, and 2021 for POSL,
- The 2019, 2020, and 2021 Annual Reports for Santos that include the audited, consolidated financials,
- Santos’ Q1 2022 Report with information on sales revenue and capital expenditures, since Santos does not publish consolidated financials on a quarterly basis,
- A certified Turner & Townsend Larkspur estimate of Dismantlement Removal and Restoration (“DR&R”) for the Pikka Pipeline, the 12-inch tie-in point pipeline, and other associated assets listed in the Application,
- Santos’ global Reserves Statement for 2021, including those in Alaska,
- The 2021 Moody’s Credit Opinion of Santos,
- Credit ratings by Standard and Poor’s (“S&P”) and Fitch Ratings (“Fitch”),
- The biographies of the Pikka Pipeline management team, and
- Details of existing third-party insurance OSU has access to for the Project, including their 2021-22 Insurance Program Chart (“Insurance Chart”).

DNR examined these financial and related statements, as well as other available information, to assess OSU’s financial capability as the owner of the ROW Lease. The same was assessed of POSL’s capacity and performance as the sole parent guarantor of OSU, and of Santos as the ultimate parent. OSU requested that these documents be held confidential under AS 38.05.035(a)(8)(D), and as such, specific details about the companies’ financials and field development potential are not discussed here.

The Division’s Commercial Section reviewed OSU submitted financial and other documents using a five-criteria assessment method for evaluating a lessee’s ability to carry out present and future obligations in the Oil and Gas (“O&G”) sector, and specifically their ability to perform all obligations under a proposed Pikka Pipeline ROW Lease, including construction, operation, maintenance and DR&R. The five criteria included OSU’s:

- Financial capacity,
- Projected financial strength,
- Business stability,
- Reliability in meeting obligations, and
- Record of compliance.

Each of these criteria is discussed in detail on the following pages.
Financial Capacity

OSU’s financial capacity to operate associated assets under the ROW Lease, POSL’s ability as the parent guarantor under the ROW Lease, and Santos’s capacity, as the ultimate parent, were evaluated using two methods: first, by determining relevant financial ratios from the financial statements that were submitted; second, by estimating the risk of default within two years using Altman’s Z-Score for a public company (Santos), and Altman’s Z”-Score for a non-manufacturing firm (general case) for POSL. The analyses and the results (details omitted due to confidentiality) were obtained based on knowledge of the metrics considered, and sector level benchmarks for these ratios in the O&G industry.

Only OSU’s short-term liquidity could be determined with the information provided for the financial analysis. For POSL, although the short-term and long-term metrics did not indicate generally unfavorable results, Commercial recommends OSU provide POSL’s financials (audited and consolidated) at least every 3 of years as part of a monitoring of their ability to fulfill obligations under the ROW Lease. The same was true for the publicly traded Santos: in terms of the short-term metrics, their asset holdings have increased significantly over the last 3 years, resulting in high liquidity ratios, with commendable coverage and plenty of free cash flow. In terms of the long-term metrics, they showed a higher than usual leverage, but given their size, scope, breadth, and longevity, this finding was not overly problematic. Sales have been consistently increasing, with unit costs holding steady and with steady performance. Overall, although the metrics indicated generally favorable results for Santos in relation to the O&G Industry market averages, Commercial will review Santos’ publicly available financials (Annual Reports, such as those provided for the FFW&AR) at least every 3 years as one part of monitoring OSU’s ability to fulfill obligations under the ROW Lease.

When Altman’s Z-Score was calculated for Santos, it showed that Santos was in the distress zone, although Commercial noted several possible mitigating circumstances and factors. Commercial will be cognizant of Santos’ performance based on the Z-Score and will be evaluating Santos’ standing periodically as outlined above. The Altman’s Z”-Score was calculated for POSL. Since POSL is the agreed upon sole parental guarantor of OSU’s obligations for all assets under the ROW Lease, Commercial will be cognizant of POSL’s performance based on the Z”-Score and will be evaluating POSL’s standing with regards to the Altman’s Z”-Score periodically as outlined above.

Projected Financial Strength

Projected financial strength is typically tied to an assessment of existing production and proven reserves of future production. DNR conducted this projected financial strength assessment for OSU in 3 ways: consideration of proven reserves; assessments of free cash flow; and additional long-term performance and profitability financial ratios, namely gross profit margin and operating

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margin. In short, there were adequate proven, and proven and probable reserves at OSU’s disposal through its parents, which enhanced its net worth as the applicant. Commercial expects OSU and its parents’ free cash flows, levered and unlevered, to increase or remain steady. Both gross profit margin and operating margin provided somewhat mixed, but not too concerning, results for OSU and its parents.

**Business Stability**

DNR attempted to assess OSU’s, and its parents’ business stability based on continuous operation and production history in the O&G Industry. As noted above, even though OSU has a short history, its parents have very long and prolific histories. OS was incorporated in 1929 and had operated assets mostly in PNG but also in other regions as well. POSL had helped streamline and lead these efforts since its creation in 1958. Both entities experienced considerable stability and growth. OS and POSL had been leading efforts to develop their 2018 acquired leases on the Alaskan North Slope with the creation of OSA and OSU. Santos had a long history in developing O&G in Australia prior to its merger with OS in 2021. Even though OSU and its parents did not have seasoned operational experiences in Alaska or in the continental US, its subsidiary OSA has recent experience on the North Slope through their development activities associated with the Pikka Unit, and more recently with their Quokka Unit; and judgement dictated that the combined histories of POSL, OS and Santos be given considerable weight. Therefore, OSU, and its parents, were deemed to have stable and credible business histories related to O&G development and operations.

**Reliability in Meeting Obligations**

Reliability in meeting obligations related to the ROW Lease was assessed in one of three ways: through credit ratings or third-party credit assessments; by examining the operational expertise dedicated to the Pikka Pipeline; and by examining third-party insurance available.

Neither OSU or POSL were evaluated in terms of credit ratings or third-party credit assessments. In the case of OSU, they are fully owned by POSL and is not an independent entity with the need to approach credit markets. With the latter, POSL, they are a privately owned company that is now owned, through OS, by Santos. Commercial reviewed the credit worthiness and reliability of the ultimate parent, Santos, which is a publicly traded company. The Moody’s Credit Opinion listed Santos as Investment Grade, giving it a long-term rating of “Baa3,” which is essentially an investment that is medium grade, considered good, but is subject to moderate credit risk. Commercial also examined available credit ratings by other issuers, notably S&P and Fitch. In terms of the S&P ratings, the long-term issuer ratings for both foreign and domestic debt were “BBB-”, indicating investment grade with an adequate capacity to repay obligations. The short-term ratings for both foreign and domestic debt was “A-3”, again indicating investment grade with an adequate capacity to repay obligations. Fitch issued Santos a “BBB” rating for both Santos’ foreign senior unsecured debt and for its foreign long term default risk. This rating again indicated that Santos is investment grade and has a low expectation of default. Overall, these credit ratings and assessments did provide Commercial with sufficient confidence in OSU’s ability to reliably meet its financial obligations.

In terms of dedicated operational expertise, OSU, POSL and Santos have decades of experience in the O&G sector globally. Although OS and its subsidiaries do not currently own or operate any
pipelines in Alaska, OSA, a subsidiary, holds interests in O&G Leases and has begun developing the Pikka Unit. In addition, OSU has created a dedicated team of four employees to manage the Pikka Pipeline and will also be assigning other employees, when need be, per the management biographies submitted to Commercial. These four members will oversee designing, commissioning, operating, and maintaining the Pikka Pipeline and facilities related to it. The four members have years of deep knowledge of the O&G sector and have collective experience working in North Slope of Alaska, New Mexico, Colorado, Texas, Indiana, Tunisia, and Australia. They also have experience operating United States (US) Department of Transportation, and US Coast Guard regulated marine terminals in Texas and Indiana.

This cumulative and dedicated experience and expertise, coupled with a requirement for bonding and financial assurances as noted below, gave Commercial confidence to determine that OSU would be fit, willing, and able, to own and operate the Pikka Pipeline. Commercial also weighed the fact that the ultimate parent Santos, parent guarantor POSL, and OSU, have personnel within their own organizations with many years of collective experience and expertise in managing O&G resources and facilities in Alaska and around the world.

OSU provided Commercial with their 2021-22 Insurance Chart that displayed the current list of insurance policies the company maintained. Since the Pikka Pipeline has not begun construction, there were no dedicated third-party insurance coverages obtained, nor was the Pikka Pipeline identified specifically in the existing coverages. Commercial, through frequent conversations with OSU, was informed that they were not planning on obtaining more insurance for the Pikka Pipeline that would deviate from this Insurance Chart. The Insurance Chart was quite extensive, and as expected, coverage could extend to the Pikka Pipeline if needed to cover individual incidents for which coverage existed during life of the pipeline for operation and maintenance activities. Particularly, Commercial was pleased with the Pollution and other related coverages that OSU had at its disposal to be used against any Pikka Pipeline and ROW Lease related incidents. However, Commercial made the following recommendations for third-party insurance coverage to ensure that adequate coverages are present to meet DNR requirements:

- Worker's Compensation Insurance in compliance with Workers' Compensation Laws of Alaska, including Employer's Liability Insurance, with a limit of not less than $1,000,000.00.
- Per AS 38.35.100(a)(3)(A) & (C), DNR would like to see third-party insurance and the ability to meet considerations related to environmental claims or claims by nearby residents to impacts on fish & game, soil, subsistence, etc. DNR would consider this FFW&AR incomplete without adequate third-party insurance coverage to meet these liabilities in consideration of AS 38.35.100(a)(3)(A) & (C).

Record of Compliance
Under this evaluation criterion, DNR attempted to examine the following: historical incidents of non-compliance, both minor and major infractions; statewide bonding/credit in place for pipeline and other OS assets and operations; and Financial Assurances for DR&R.

As noted above, OSU, POSL and Santos have decades of experience in the O&G sector globally, even though they collectively, or individually, do not currently own or operate any pipeline facility
in Alaska, or in the US. As such, no Alaskan incidents of non-compliance were available for examination as of this writing. This new entrant status, coupled with OSU’s willingness and ability to abide by all DNR statutory and regulatory requirements during their Pikka Pipeline and ROW Lease creation process, provides Commercial with confidence that incidents of non-compliance are unlikely to be a significant issue. OSU has filed the necessary documentation required for the creation and operation of the Pikka Pipeline and possess a clear record of ownership leading all the way to their ultimate parent, Santos. Santos and OS did not have major historical incidents of non-compliance in regions that they previously had assets in, and engaged in business in, and had a record of compliance with various local and regional laws and regulations. OSU indicated that there are six bonds/credit instruments currently with DNR, with OSA as the principal and the State as the beneficiary or trustee: there are four Division of Mining, Land and Water (“DMLW”) letters of credit (cash backed) for permits; there are two instruments in place with the Division of Oil and Gas: a cash backed letter of credit for easements related performance, and the other is the statewide operator bond in the form of a certificate of deposit (“CD”). This statewide bond can be used for any permitted purpose related to maintaining, operating and DR&R related costs tied to their statewide O&G leases assets, possibly including the Pikka Pipeline. In addition, OSA has bonding in place with the Alaska Oil and Gas Conservation Commission (“AOGCC”) for the Pikka wells and will be obtaining all well bonding through AOGCC as Pikka develops. This AOGCC bonding is strictly for well plugging and abandonment and cannot to be used for any other assets or operations. As of this writing, there is no specific Pikka Pipeline related bonding in place. Commercial recommends such bonding to be placed, as is described below.

Commercial actively sought Financial Assurances for the Pikka Pipeline and other assets related to the ROW Lease. There were two avenues for Financial Assurances that Commercial investigated, including a full parental guaranty for expenses related to the Pikka Pipeline and all associated assets subject to the ROW Lease, and funding for DR&R of the Pikka Pipeline and all related assets subject to the ROW Lease. Commercial agreed to having POSL as the parent guarantor for the ROW Lease, under two conditions: first, that the parent guaranty is a full guaranty, as described below; second, that there be accompanying cash or equivalent funding for DR&R for the Pikka Pipeline and all related facilities under the ROW Lease (for the full abandonment scenario).

Financial Analysis Conclusion

It is DNR’s conclusion that OSU has adequate financial capability to meet the obligations to the State under the Pikka Pipeline ROW Lease for all operations, maintenance, insurance, incidents, and DR&R. The Commissioner will continue to monitor OSU’s financial capability to make sure that it remains able to address the requirements established in AS 38.35.100.

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To ensure that the State’s interests are protected over the life of the Pikka Pipeline, and other assets associated with the ROW Lease, the Commissioner will require the following:

1. OSU will provide DNR with a parental guaranty from POSL wherein POSL irrevocably and unconditionally guarantees to the State the full performance, fulfillment, and satisfaction of all the duties, obligations, and liabilities of OSU arising under or pursuant to the ROW Lease.

2. OSU provides, and maintains, the third-party insurance listed in the Reliability section above and agrees to abide by the requirements for the third-party insurance coverages discussed in that section.

3. OSU provides POSL’ s, and, if requested, the publicly available Santos’s financials (Annual Reports acceptable for the latter) every three of years from date of ROW Lease issuance as part of a continuous monitoring effort of their ability to fulfill obligations under the ROW Lease.

4. OSU provides either: a general obligation bond, CD, or cash, of at least $10,000,000 that accompanies the ROW Lease that could also be used for DR&R activities; or a DR&R specific bond, CD, or cash of at least $10,000,000 to be used for DR&R purposes at the end of asset life. OSU also understands that the Commissioner has the discretion to increase the amount of either the general or specific bond, based on updated financial reports and assessments that are to be delivered every 3 years as was stated above. Such a bond requirement will continue to future Lessees should the ROW Lease be assigned, unless otherwise released from this requirement by the Commissioner.

DNR finds that, based on OSU’s short and medium term financial standing expectations, and provided that the four requirements set out above are met, OSU has sufficient financial capability to undertake the proposed operation, maintenance, and to restore, rehabilitate, and revegetate the ROW to the satisfaction of the Commissioner.

VII. Analysis of Application and Proposed Right-of-Way

Fit, Willing and Able Requirements

In accordance with AS 38.35.100, the Commissioner is required to determine whether an applicant is fit, willing, and able to construct and operate a pipeline in the State of Alaska. During the Decision process the Commissioner shall consider the following:

♦ Whether the ROW will unreasonably conflict with existing uses.

♦ Whether the applicant has the technical capability to protect State and private property interests, and act to prevent any significant adverse environmental impacts.

♦ Whether the applicant has the financial capability to protect State and private property interests, and act to prevent any significant adverse environmental impacts, and that the has the financial capability to pay for reasonable, foreseeable damages associated with construction, operation, maintenance and termination of the pipeline.

♦ Whether the applicant agrees to comply with applicable and valid laws regarding hiring of Alaskan residents.
This section will evaluate the potential impacts from the proposed Pikka Pipeline Project to existing uses in the area, and consider the technical and financial analyses, and finally whether the applicant will follow any applicable laws related to hiring Alaskans, before determining if the applicant has favorably met the conditions for an AS 38.35 pipeline ROW Lease.

If the applicant and Pikka Pipeline Project application are found favorable, the Commissioner may grant all or part of the application.

**Existing Uses**

Existing uses in the area include oil and gas production, subsistence uses, and a minimally disturbed natural ecosystem.

**Evaluation**

**Cultural Resources**

The Project area has the potential for containing archaeological sites. The permafrost conditions paired with the lack of disturbed lands has likely protected any sites in the area from being disturbed, damaged and destroyed. Installation of the Pikka Pipeline should have a minimal impact on any sites that may exist in the area, as travel will be permitted to minimize impacts on the ground, the pipeline will be roadless with only the VSMs along the alignment, and the gravel pad at the Kuparuk Pipeline Extension Tie-In, impacting the ground. No cultural sites have been identified along the alignment, however, should any sites be encountered, pipeline activities will stop, and the site evaluated by SHPO before activities may continue at that location.

No cultural sites were identified along the Pikka Pipeline alignment. The Alaska Historic Preservation Act prohibits the appropriation, excavation, removal, injury or destruction of any state-owned historic, prehistoric, or archaeological sites without a permit from the Commissioner. Language in the ROW Lease and any subsequent permits and authorizations will require that the OSU stop work, protect any cultural, historic, prehistoric, and archaeological resources, if encountered during pipeline activities, and to notify the State Historic Preservation Office of the Division of Parks and Outdoor Recreation and the State Pipeline Coordinator’s Section of the Division of Oil and Gas immediately.

**Fish, Wildlife, Environment**

The Arctic Coastal Region is a valuable habitat and ecosystem, providing a destination for many, nesting, migratory birds, Polar Bears, and other large and small arctic wildlife. In addition, the Central Arctic Caribou makes this area its primary home. The Pikka Pipeline as proposed will be roadless on shared vertical and horizontal support members, with one gravel pad near the Kuparuk Pipeline Extension tie-in. The raised pipeline design will minimize impacts on migration and movement of large and small animals and will span all but the Miluveach River. At the Miluveach River, one support member will help the pipeline span the river with minimal impact to stream flow and is structurally designed to withstand ice floes and scour during breakup. Vertical pipeline loops will be used to protect the Miluveach River, crossing. The non-reflective jacket will reduce glare impacts to wildlife. Design and construction of the Pikka Pipeline will follow the standards developed over years to protect the permafrost and impacts to the ecosystem, and wildlife. The
elements include: the exclusion of an access gravel pad, winter construction following the off-road permitting process, pipeline elevation, VSM slurry installation techniques, and the use of vertical pipeline loops at the Miluveach River crossing as opposed to valves.

Construction of the pipeline and gravel pad; and ongoing operations and maintenance will be carried out under off-road travel requirements which considers the conditions at the time and dictates if vehicle or travel restrictions must be imposed to minimize impacts to the environment, and wildlife.

The Pikka Pipeline as designed will have minimal impact on fish, wildlife, and the environment. Stipulations in the ROW Lease will provide continual protections to fish, wildlife, and the environment. Language in the ROW Lease will specifically provide continual protections to threatened and endangered species, and migratory birds.

*Subsistence Use*

The closest village, Nuiqsuit, is located approximately 12-miles southwest of the western most point of the proposed Pikka Pipeline. The areas crossed by the pipeline are used for subsistence activities, such as harvesting of fish, caribou, musk ox, birds, eggs, berries and plants. During construction, OSU may restrict access in areas of construction to protect public and wildlife. Following construction of the pipeline, language in the ROW Lease will ensure that there is free and unrestrained access across the pipeline to include subsistence use of the area, unless such approved by the Commissioner.

The minimum elevation for the pipeline, which is 7-feet above tundra surface, is the North Slope standard and provides for free access across pipelines and rights-of-way both by subsistence users and the resources they are harvesting. In addition, the lack of a gravel access road means that very little of the tundra habitat will be lost to the pipeline project, and that the pipeline will have a minimal impact to the underlying permafrost which is easily disturbed by surface ground activities, and road dust. In addition, the lack of a gravel access road means that new competing users will not be introduced to or be provided new access to the area. Any travel off gravel pad on the North Slope requires additional permitting which will protect tundra habitat, wildlife and the subsistence users that rely on them.

The Pikka Pipeline will have a non-reflective jacket, which will minimize glare from the pipeline, and reduce visual impacts to subsistence users.

The Pikka Pipeline design will have a minimal impact on subsistence uses. Off-gravel pad travel on the North Slope requires additional permitting, in addition there will be language within the Pikka Pipeline ROW Lease that protects threatened and endangered species, and protects against environmental impacts.

*Invasive Plant Species*

The proposed pipeline route crosses mostly undeveloped tracts of Alaska with few documented invasive species. If any documented or undocumented invasive plant species are within the work area, spread of these species is not likely to occur because construction off-gravel pad will occur
during the winter season. Conditions during this time will include snow cover, frozen ground and below freezing temperatures, and “hitchhikers” are not likely to occur. Any additional soils needed for the slurry installation will be excavated and filtered from local material sites which will minimize the incidence of contamination with invasive plant material.

The Pikka Pipeline ROW Lease will have language requiring lessee minimize potential accidental/incidental introductions of invasive plant species.

Access

The proposed Pikka Pipeline does not unreasonably conflict with access in the area. The pipeline design which places the pipeline a minimum of 7-feet above tundra surface and the lack of a gravel pad, provide free and unhindered access across the pipeline. Only one support member will be placed within a waterway, the Miluveach River. This sole support structure should have a minimal impact in the hydrology of the river, the conditions for the resident fish or the ecosystem.

Language within the Pikka ROW Lease will confirm that access across the Pikka Pipeline, to and along any public water will not be impacted.

Third Party Interests

The entire pipeline is located on State lands. There are third party interests along the ROW both within, adjacent and nearby. These include a couple of land use permits to industry, and one to the University for research purposes. Additionally, there are oil and gas leases in the area, some of which overlay the ROW boundaries, but do not have a surface component along the Pikka Pipeline. Other interests include water use within nearby lakes/ponds associated with oil and gas activities in the area, and pipelines, including the Kuparuk Pipeline Extension, to which this pipeline will deliver sales-quality oil. No conflicts are anticipated related to these third-party interests.

The seawater and gas pipelines which will share a pipeline support structure with the Pikka Pipeline, will be owned and operated by OSA, a separate entity to OSU, the applicant for the Pikka Pipeline. These other pipelines are considered compatible with the Pikka Pipeline Project. Construction of the Pikka Pipeline and the seawater and gas pipelines will occur concurrently using jointly developed engineering and design plans. No conflicts are anticipated with this third-party interest.

DNR also proposes to close 300-foot corridor along the pipeline to mineral entry, although not anticipated in the area, would be a conflicting use.

Impacts and effects of the project

Immediate impacts of the project include the potential for temporary restrictions on access to construction areas to protect, construction workers, the public and wildlife: minor distributions to the tundra at VSM installation locations, and loss of tundra habitat near Kuparuk Pipeline Extension tie in, where there will be a small gravel pad. Additional minimal immediate impacts will be a re-distribution of water in the area, as the applicant uses water from local water sources.
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(lakes) and builds ice roads and pads to support the pipeline construction. This redistribution of water is local and does not leave the local hydrologic system and is adjudicated by both ADF&G and DNR. Ice construction impacts to the tundra are managed through a permitting process, so ice construction is according to North Slope standards to ensure minimal impacts and monitored for potential impacts that may need to be addressed.

Cumulative effects include the potential for tundra disturbances associated with Pikka Pipeline travel across the tundra; installation or replacement VSMs; or maintenance activities on the Pikka Pipeline system during the life of the Pikka Pipeline, all which must adhere to the Pikka ROW lease. The lease will contain requirements to protect against damage and requirements for mitigation of immediate and/or long-term damage to the ROW. The lease will include mitigation required before the lease is transferred or released back to the State. DNR, through the ROW Lease, would monitor and actively engage the Lessee to ensure that the ROW is protected, and damage is monitored, and mitigated as required and approved by Commissioner and other legal standards. In addition, all off-gravel pad travel is authorized under additional separate tundra travel permits which may place specific conditions and monitoring requirements to protect the tundra.

The anticipated cumulative impacts are minimal and can be managed and addressed through the requirements under the proposed Pikka Pipeline AS 38.35 ROW Lease, and oversight of the Pikka Pipeline by DNR, including spill response, and eventual dismantlement, removal, and rehabilitation.

Summary
There will be minimal impacts to existing uses in the area, by the proposed Pikka Pipeline Project, based on a review of the information in this Decision and the potential impacts discussed in this section.

Technical Capability
The Right-of-Way Leasing Act requires that the Commissioner consider if the applicant has the technical capability to protect State and private property interests, prevent significant environmental impacts, undertake restoration and revegetation actions, and protect subsistence activities.

Evaluation
The Pikka Pipeline design basis and engineering drawings as developed meet or exceed applicable federal regulations and state requirements and current engineering standards. Based on the technical review of the Pikka Pipeline design basis, engineering drawings, modeling information, and an analysis of those submitted materials against existing federal regulations, state requirements, national engineering, welding, and material standards, as well as best engineering practices for the North Slope, the Pikka Pipeline and the construction project as submitted will exceed regulations and technical standards.
Summary
Based on the technical review, see Section V. Technical Capability of the Applicant, starting on page 12 the applicant is considered technically fit, willing, and able for the purposes of the AS 38.35 Pikka Pipeline ROW Lease.

Financial Capability
The Right-of-Way Leasing Act requires that the Commissioner consider if the applicant has the financial capability to protect State and private property interests, prevent significant environmental impacts, undertake restoration and revegetation actions, protect subsistence activities, and pay reasonably foreseeable damages arising from the project.

Evaluation
The financial fit, willing and able analysis included evaluation under five-criteria as recommended by the Bureau of Oceanic Energy Management (BOEM) for evaluating a lessee’s ability to carry out present and future obligations in the Oil and Gas Sector\(^\text{14}\). These are:

- Financial Capacity
- Pikka Pipeline Project Financial Strength
- Business Stability
- Reliability in Meeting Obligations
- Record of Compliance with Laws, Regulations, and the Lease Terms

This review and analysis of financial and corporate information for OSU, as the applicant, POSL, as the immediate parent and guarantor, and Santos, as the parent company through a recent merger, resulted in positive, though leveraged assessment, and an Altman Z-Score in the distressed zone. Mitigating factors considered included:

- Recent global Oil and Gas Industry volatility, and economic conditions.
- POLS and OS’s past global holdings which contributed to their susceptibility to volatility, which likely will be dampened by the recent merger which is not reflected in those evaluations.
- Santos, POSL and OS’s high valued assets and high market valuations.
- Santos historic fluctuating Z-Scores with an improving trend recently.

Summary
Section VI. Financial Capability of the Applicant starting on page 21 evaluated the Applicant’s corporate structure, and financial information. Based on the financial analysis and the

consideration of mitigating factors, the applicant has been found to be financially fit, willing and able.

However, since Oil Search USA is a fairly recent entrant into the state, and on the North Slope, through its subsidiary, Oil Search (Alaska) Inc. combined with some of the highlighted uncertainties, this determination is contingent on providing a parental guaranty by POSL, maintain third-party insurance, provide parental company financials, and provide a CD, bond or cash to cover pipeline DR&R obligations.

**Hiring of Residents**

AS 38.35.100(a)(5) requires the applicant and their subcontractors to comply with all applicable laws regarding the hiring of Alaskan residents.

**Evaluation**

The Lease will require the lessee to comply with all applicable laws and regulations regarding hiring of State residents, and that all lessee agents and sub-contractors comply with all terms of the lease. By signing the lease, Oil Search USA, Inc. will agree to all requirements within the lease and will meet this condition.

In addition, although the oil and gas industry in Alaska is changing, the oil and gas industry has provided thousands of jobs in Alaska, and in 2020 crude oil production averaged 448,000 barrels per day. Oil revenues supplied more than two-thirds of the State’s budget in 2020.\(^\text{15}\) The oil and gas industry has created approximately 25% of all jobs in Alaska, which provide an economic lift through indirectly supporting other jobs in Alaska.\(^\text{16}\) In addition, Alaskan’s have the third-highest demand for oil and gas products per capita and consumed more electricity per capita than any state except Hawaii.\(^\text{1}\)

**Summary**

Language within the lease will require that the lessee and its contractors comply with applicable and valid laws and regulations in effect or taking effect subsequently regarding hiring Alaska residents.

**Fit, Willing, and Able Determination**

The Commissioner must consider a variety of factors within the scope of AS 38.35 before determining if an applicant is fit, willing, and able to design, construct, operate, maintain, and terminate an AS 38.35 pipeline in Alaska.

The applicant and Pikka Pipeline Project meet all the conditions necessary under an evaluation of requirements under AS 38.35.100, which results in a favorable fit, willing and able determination.

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\(^\text{16}\) The Role of the Oil & Gas Industry in Alaska’s Economy, January 2020, Alaska Oil and Gas Association, p. 2-3
COMMISSIONER’S PROPOSED DECISION AND ACTION

Based on the foregoing, the Commissioner reaches the preliminary conclusion that the Applicant is fit, willing and able to construct, operate, maintain, and terminate the proposed Pikka Pipeline under an AS 38.35 ROW lease as presented and described in their application and supplemental information. This preliminary conclusion is subject to further consideration of all comments submitted during the public comment period for this Decision.

As such, the Commissioner directs that the following actions be taken:

1. DNR shall make copies of this Commissioner’s Analysis and Proposed Decision available at cost to any member of the public requesting copies.

2. DNR shall solicit written comments and provide for public hearings regarding the leasing of State land for the Pikka Pipeline (ADL 421843). To solicit public comments, DNR will place public notice in newspapers of general circulation, on the State’s public notice web site, on the Division’s web site, and will request that post offices and libraries in the vicinity of the pipeline publicly post it. Notices will also be sent to local governments, tribal entities, and local ANCSA corporations. A public hearing will be held in Nuiqsut or online on October 5, 2022, whichever the city determines is best for the community; and additional online public hearings will be held on October 7, 2022 at 12:00 p.m. and 6:00 p.m. Written comments must be received by DNR on or before 11:59 p.m. on October 7, 2022.

3. Following completion of the public comment period, and consideration of all comments received, the Commissioner will make a final decision on the ROW lease application under AS 38.35.100.

4. Should the ROW lease be issued, the Commissioner shall close to new mineral entry those State lands adjacent to and included within the ROW lease to mineral entry under MO 1264. In accordance with AS 38.05.250, the Commissioner finds that the best interests of the State of Alaska and its residents are served by issuing the mineral order. At the same time the lease is issued to Oil Search USA, Inc., the Commissioner shall issue Mineral Order 1264.

5. Should the ROW lease be issued, Oil Search USA, Inc. will be required to
   a. Obtain Notices to Proceed from DNR before initiating any construction of the Pikka Pipeline or its related facilities, which will include submission of the documents listed above in the Engineering Technical Analysis.
   b. Provide DNR with a parental guaranty from POSL wherein POSL irrevocably and unconditionally guarantees to the State the full performance, fulfillment, and satisfaction of all the duties, obligations, and liabilities of OSU arising under or pursuant to the ROW Lease.
c. Provide and maintain third-party insurance listed below:
   i. Worker's Compensation Insurance in compliance with Workers' Compensation Laws of Alaska, including Employer's Liability Insurance, with a limit of not less than $1,000,000.00.
   ii. Per AS 38.35.100(a)(3)(A) & (C), DNR would like to see third-party insurance and the ability to meet considerations related to environmental claims or claims by nearby residents to impacts on fish & game, soil, subsistence, etc. DNR would consider this FFW&AR incomplete without adequate third-party insurance coverage to meet these liabilities in consideration of AS 38.35.100(a)(3)(A) & (C).

d. Provide POSL and the publicly available Santos’s financials (Annual Reports acceptable for the latter) every three of years from date of ROW Lease.

e. Provides either a general obligation bond, CD, or cash, of at least $10,000,000 which can be used to cover DR&R costs. This requirement will continue with the lease to future lessee’s unless specifically waived or removed by the Commissioner. DNR will have the discretion to increase the amount of this requirement based on updated financial reports and assessments.

[Signature]
Akis Gialopoulos Acting Commissioner
Alaska Department of Natural Resources

[Signature]
Date
09/22/20
The Commissioner of the Alaska Department of Natural Resources (DNR) proposes to close state lands on the North Slope to mineral entry.

The lands subject to this Mineral Order (MO) are associated with the Pikka Sales Oil Pipeline Right-of-Way (ROW) Lease, ADL 421843, and will close to mineral entry all state lands within 150 feet of each side of the control line for the Pikka Sales Oil Pipeline (300 feet total width), affecting approximately 800 acres. Graphic representation of the proposed Pikka Sales Oil Pipeline alignment is attached. Should the Pikka Sales Oil Pipeline ROW Lease not be approved, the MO will not be issued. Once issued, this MO will remain effective until the administrative need is met, and will be rescinded upon the closure, termination, or expiration of the related ROW Lease. The reliable and safe transportation of natural gas on the North Slope is essential to the economy and wellbeing of the State of Alaska. Mining operations have the potential to adversely impact pipeline operations and as such are incompatible uses.

For these reasons, I find:

1. The requirements for closure under AS 38.05.185-38.05.275 and AS 38.05.300 have been met.
2. It is appropriate to close to mineral entry state lands associated with the pipeline corridors as mining is an incompatible use that would adversely affect the proposed use of the surface estate.
3. The proposed Mineral Order will not be issued if a ROW Lease is not approved and issued.
4. The proposed Mineral Order will have a sunset clause. The Mineral Order will automatically be rescinded upon the termination, expiration, or closure of the ROW Lease.

Concur:

Kristin Hess, Acting Director  
Division of Mining, Land, and Water  
Date

Approved:

Akis Gialopsos, Acting Commissioner  
Department of Natural Resources  
Date
REQUEST FOR RECONSIDERATION PROCEDURES

A person affected by this decision who provided timely written comment or public hearing testimony on this decision may request reconsideration, in accordance with 11 AAC 02. Any reconsideration request must be received in writing within 20 calendar days after the date of “issuance” of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to Akis Gialopsos, Acting Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. Under 11 AAC 02.030, appeals and requests for reconsideration filed under 11 AAC 02 must be accompanied by the fee established in 11 AAC 05.160 (d) (1) (F) which has been set at $200 under the provisions of 11 AAC 05.160(a) and (b).

If reconsideration is not requested by that date or if the Commissioner within the time allowed does not order reconsideration on her own motion, this decision goes into effect as a final order and decision on the 31st day after the date of issuance. Failure of the Commissioner to act on a request for reconsideration within 30 days after issuance of this decision is automatic denial of the request for reconsideration and is a final administrative order and decision for purposes of an appeal to Superior Court. (AS 44.37.011(c); 11 AAC 02.020(c)). The decision may then be appealed to Superior Court within a further 30 days in accordance with the rules of the court, and to the extent permitted by applicable law. An eligible person must first request reconsideration of this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.
STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS  
STATE PIPELINE COORDINATOR'S SECTION

MINERAL ORDER (MO) NO. 1264  
Closing Lands to Mineral Entry

X    Closing Lands to Mineral Entry        _________ Opening Lands to Mineral Entry

I. Name: Pikka Sales Oil Pipeline

II. Reason for Mineral Order: This Mineral Order is based on the attached Commissioner’s Administrative Finding (Attachment A).

III. Authority: Alaska Statute (AS) 38.05.185 - 38.05.275 compliant with AS 38.05.300.

IV. Location and Legal Description: This order affects lands associated with the Pikka Sales Oil Pipeline, Right-of-Way (ROW) Lease, ADL 421843. This action closes to future mineral entry, all state lands within 150 feet of each side of the Pikka Sales Oil Pipeline, and when surveyed the survey control line for ADL 421843 (300 feet total width), affecting approximately 800 acres, located within the Barrow Recording District, east of the Colville River and west of the Kuparuk Pipeline in Prudhoe Bay, Alaska. The Pikka Sales Oil Pipeline Right-of-Way is located, and the pipeline will be constructed, within the following sections of the Umiat Meridian:

- Sections 1, 2, 3, Township 10 North, Range 7 East;
- Sections 5, 6, Township 10 North, Range 8 East;
- Sections 14, 23, 24, Township 11 North, Range 6 East;
- Sections 19, 29, 30, 32-35, Township 11 North, Range 7 East;
- Sections 23, 24, 26, 27, 28, 31-33, Township 11 North, Range 8 East; and
- Sections 17-21, Township 11 North, Range 9 East.

See Attachment B, Mineral 1264 Location Map, for reference.

V. Mineral Closing: This mineral order is subject to valid existing rights and is issued under the authority granted by AS 38.05.185 - 38.05.275 and AS 38.05.300. to the Department of Natural Resources. In accordance with AS 38.05.185(a), I find that the best interests of the State of Alaska and its residents are served by closing to mineral entry under the mineral location and mining laws of the State of Alaska, the land described in this mineral order. Thereby, a 300-foot corridor, on state lands along the proposed Pikka Sales Oil Pipeline within the above-described lands, is hereby closed to entry under the locatable minerals and mining laws of the State of Alaska, concomitantly with the effective date for the Right-of-Way Lease, ADL 421843.
Lands covered by this mineral closing order will become open to mineral entry under the locatable mineral and mining laws of the State of Alaska upon termination or closure of the Right-of-Way Lease, ADL 421843, with no further action.

Concur:

__________________________  _______________________
Kristin Hess, Acting Director  Date
Division of Mining, Land, and Water

Approved:

__________________________  _______________________
Akis Gialopsos, Acting Commissioner  Date
Department of Natural Resources