

STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
State Pipeline Coordinator's Section

<input type="checkbox"/> Northern Region 3700 Airport Way Fairbanks, AK 99709 (907) 451-2740	<input type="checkbox"/> Southcentral Region 550 W 7th Ave., Suite 900 Anchorage, AK 99501-3577 (907) 269-8560	<input type="checkbox"/> Southeast Region P.O. Box 111020 400 Willoughby, #400 Juneau, AK 99801-1021 (907) 465-3400
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MATERIAL SALE APPLICATION
AS 38.05.550-565; AS 38.05.810(a)

Receipt Types: **17 – Application for sale of material, except**
 A1 – Application for sale of peat from other than a designated material site or source

Non-refundable filing fee: See current Director's Fee Order for applicable fees.

		ADL # _____
Applicant's Name	TAPS Owners	Doing business as: Alyeska Pipeline Service Co.
Mailing Address	P.O. Box 196660	E-mail address: Peter.Nagel@alyeska-pipe
City/State/Zip	Anchorage, AK 99519	E-Mail: _____
Message Phone (907)	787-8170	Work Phone (907) 787-8170 Fax ()

Location of material site Designated material Site ADL# _____ DOT MS# _____ Other ☐

legal description: Proposed TAPS Operation Material Site 130-3; portion within the active floodplain of the Sagavanirktok R.

Meridian Umiat Township 6 N. , Range 14 E. , Section 22,26,27 1/4 1/4

Municipality North Slope Borough Approximate size of the material site in acres 130

Applicant is at least 18 years old: ☐ Yes ☐ No.

Quantity of material desired (cubic yards): 100,000 _____

Length of time requested for removal: 2 years _____

When is the removal operation proposed to begin? July 20, 2020 , End? December, 2021

For what purpose will the material be used? TAPS Maintenance and Operations, Flood Control Upgrades and Repairs

Are there any existing permits, leases or authorizations covering any part of the application site? ☒ Yes ☐ No. If yes,

state name and last known address of ☐ lessee ☒ permittee ☐ authorized user:

APSC, Agent

Name	Message Phone	Work Phone
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Address	City	State	Zip
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Are there any improvements on the application site? ☒ Yes ☐ No. If yes, describe; state their approximate value and

the name and address of the last known owner:

TAPS Access Road 130 APL/AMS-5

Name	Message Phone	Work Phone
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APSC, Agent

Address	City	State	Zip
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Describe the proposed method of excavation, including the type of equipment to be used: See attached Mining and Reclamation Plan

How many cubic yards do you propose to remove per month? N/A per year? N/A

Describe the type of material, (e.g., coarse, un-sized angular rocks; well-sorted and sized gravel; sand and gravel mixed with some shale; class of rip rap; ballast) Riverrun Gravel

If permits are required by other agencies, have they been applied for? ☒ Yes ☐ No.

Nagel, Peter C.

Digitally signed by Nagel, Peter C.
Date: 2020.05.08 10:43:01 -08'00'

Applicant's Signature

May 8, 2020

Date

NOTICE: If the proposed material sale is intended to be used for commercial purposes, please include a copy of your business license authorizing you to do business in the State of Alaska. This application will not be considered complete unless accompanied by a sketch map sufficiently detailed to enable the Division of Mining, Land and Water to locate the application site. If the Division of Mining, Land and Water considers it necessary, the applicant may be required to submit a more detailed map or survey plat.

To your knowledge, is the general shoreline in the vicinity of the proposed site undergoing ☐ erosion or ☐ accretion?

AS 38.05.035(a) authorizes the director to decide what information is needed to process an application for the sale or use of state land and resources. This information is made a part of the state public land records and becomes public information under AS 40.25.110 and 40.25.120 (unless the information qualifies for confidentiality under AS 38.05.035(a)(8) and confidentiality is requested, AS 43.05.230, or AS 45.48). Public information is open to inspection by you or any member of the public. A person who is the subject of the information may challenge its accuracy or completeness under AS 44.99.310, by giving a written description of the challenged information, the changes needed to correct it, and a name and address where the person can be reached. False statements made in an application for a benefit are punishable under AS 11.56.210. In submitting this form, the applicant agrees with the Department to use "electronic" means to conduct "transactions" (as those terms are used in the Uniform Electronic Transactions Act, AS 09.80.010 – AS 09.80.195) that relate to this form and that the Department need not retain the original paper form of this record: the department may retain this record as an electronic record and destroy the original.

ADDITIONAL INFORMATION TO BE COMPLETED IF APPLICATION IS FOR TIDELANDS

Is the applicant the upland owner? ☐ Yes ☐ No. If not, state the name and address of the upland owner or owners:

Name	Message Phone	Work Phone
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Address	City	State	Zip
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State the name and address of the adjacent upland owners:

Name	Message Phone	Work Phone
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Address	City	State	Zip
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Is the application site seaward of any lands reserved by the United States for military, lighthouse, national park or national forest purposes, or by the state for state or local government agencies, or other public purposes? ☐ Yes ☐ No. If yes, state the use of the land and the name of agency: _____

State the distance to the nearest occupied tidelands _____ and the name and address of the occupant:

Name	Message Phone	Work Phone
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Address	City	State	Zip
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Have you applied for a U.S. Army Corps of Engineers (COE) permit? ☐ Yes ☐ No.

Trans Alaska Pipeline System
Gravel Mining in Active Floodplain, Sagavanirktok River
Alyeska Pipeline Service Company, Permit Narrative (May, 2020)

Purpose

River flooding over the past five years resulted erosion that threatened the integrity of the TAPS mainline pipe along the segment between Pipeline Mileposts (MP) 18 and 85. Most of this pipeline segment is buried in the thaw-stable soils along the periphery of the Sagavanirktok floodplain between the river and highway. To prepare for planned and contingent gravel use in anticipation of continued flooding, Alyeska proposes selective gravel mining from a location on the active floodplain approximately three miles south of the Franklin Bluffs Pad which is at Dalton Highway Milepost (DHMP) 377.

Site Description

The project site is located off the end of TAPS Access Road 130 APL/AMS-5 near Pipeline MP 42, seventeen miles north of Pump Station 2 and downstream of the Ivishak River confluence. In this area the Dalton Highway and the pipeline follow the west side of the Sagavanirktok River floodplain which is over two miles wide.

The gravel bar is located on a braided but stable reach of the river with multiple islands, midchannel and point bars. The bar is approximately one mile long and a third of a mile wide, depending on water levels. Surface of the point bar is almost exclusively bare mineral soils such as gravels and sands with little or no vegetation. Soils adjacent to the river in this area consist of erosive fine sands overlying thaw stable gravel which is covered by Arctic tundra consisting of sedges, grasses, mosses, and dwarf shrub communities.

The river is classified as an anadromous fish stream, and its side channels are also considered anadromous because of their connection to the main channel. Fish species are the Arctic Char, Arctic Grayling, Burbot and White Fish.

Problem Description

In May of 2019, high water breached several TAPS flood control structures and exposed the pipeline at MP 28. Significant support from state, local and federal regulatory agencies permitted Alyeska to restore the pipeline cover and bolster the control structures. The response included shallow mining of an unvegetated gravel bar in the vicinity. Continued flooding is anticipated both downstream and upstream of the Ivishak confluence because the river's annual discharge has been increasing, with precipitation on the North Slope up about 8% (Alaska Climate Research Center).

In continued response to the 2019 events in this area, Alyeska is doubling its annual large rock (riprap) production in 2020 and targeting deployment of 200,000 cubic yards of gravel either to flood-control structures between MP 22 and 47 or to contingency stockpiles. Implementing this plan will require commitment of significant resources by the company.

Gravel deposits along the northern third of the Dalton Highway are limited geographically. The known deposits which can be developed without compromising pipeline integrity are either near Deadhorse north of the TAPS frontage in the floodplain or south of it near Slope Mountain.

Using these material sources would significantly increase transportation cost and hazards due to excessive haul distances. Also, the Alaska Department of Transportation and Public Facilities highway work on the northern sixty miles of the highway would increase further the costs of hauling from these “remote” pits. The State has issued a contract for paving of the northernmost twenty-two miles of the highway in 2020 and will contract next year for paving south from there to DHMP 360. At this time, there is no viable, regional material source to support the needed TAPS protection.

Work Description

100,000 cubic yards of material is proposed to be mined from the unvegetated gravel bar at PLMP 42 (DHMP 374) for deployment in 2020 to TAPS work sites or to stockpile on the existing gravel pad adjacent to the pipeline right-of-way near the old Franklin Bluffs Pad. Another 50,000 cubic yards would be mined from the currently permitted site, ADL 421216, at PLMP 25 (DHMP 392) and combined for deployment with the 50,000 CY currently stockpiled nearby.

As in 2019, mining would be performed during low water conditions using an excavator and bulldozer to excavate the top of the bars above the water line. Setbacks, isolation berms and restoration details for protecting water quality and fish populations are covered in the attached draft mining plan. If environmental and resource factors delay completion of the production past Freeze-up, mining would be continued into the winter season and 2021.

Hauling and stockpiling the material would be primarily by articulating 40-ton rock trucks along the pipeline workpad, bolstered as needed by highway transportation routes.

Alternatives Analysis (see attached Gravel Source Area Map)

There is an abundance of cited literature on the adverse effects of river mining (Smith, 2014). The studies generally cover large industrial scale mining done continuously year after year. The sites were often mined on the same reach of the river with cumulative extractions in the tens of millions of cubic yards resulting in sediment depletion in the riverine system and other adverse environmental effects (Kondolf, 1997).

Proposed Alternative

The proposed alternative would mine gravel at a sustainable scale from certain river bars where mining and removal can be conducted in a manner that minimizes or avoids adverse impacts to the physical, biological and socio-economic/safety environments.

Criteria for mining at gravel bars include;

- Stability of the river reach, taking into account susceptibility to bank erosion, channel migration and avulsion, floodplain degradation/aggradation and changes to channel morphology
- Sparse vegetation or completely bare gravel bars
- Extracting only from the top of the bar above water level, typically 1 – 3 feet
- Intermittent mining only of very low-volume extractions (under 150,000 CY).
- All-season road access
- Central location within the area where the pipeline is routed along the river floodplain.

Meeting these criteria, results in;

- Minimal adverse effect on the floodplain environment, such as vegetation and fish habitat, and avoidance of wetlands. (Woodward-Clyde, 1980).
- Preservation of the gravel bar substrate and minimal impacts to the river system including channel morphology and sediment transport. (Church, 2006)
- Natural recharge of the gravel bar over two to four years. A multi-year hydro-sedimentological study on the Sagavanirktok River near the proposed gravel bar was conducted from 2015 to 2019. The research results show that infilling on two excavated rectangular trenches to original conditions was achieved between two to four years (Toniolo et al, 2019). This field study enabled the development of sediment transport equations and a first-order estimate on sediment transport rates for the Sagavanirktok River (Toniolo, 2020).
- Reduced conflict with highway construction schedules and safety plans from thousands of truck trips
- Reduced costs from expanded construction season, use of existing TAPS infrastructure and central location within the flood-control work area.

The proposed alternative, comprising limited extraction in a large, braided river system, is consistent with the conclusions of scientific research on gravel extraction in active floodplains. (NOAA/NMFS, 2004 and 2005; Joint State/Federal Fish and Wildlife Advisory Team, 1977)

Deep Pit Sites in the Active Floodplain:

Deep pit gravel extraction on the active floodplain such as at point bars have been used in the past throughout North America on large gravel mining operations. This type of mining is more likely to have adverse hydrological and environmental effects. When done on a gravel bar for example, it can alter the point bar morphology and also trap fish. Deep pits can offer temporary overwintering habitat for fish on the Sagavanirktok. The deep excavations, however, can also lead to headcuts resulting in channel avulsions or change in flow patterns on the active floodplain that can threaten the river banks, habitat, and integrity of infrastructure in the vicinity (Collins and 1990). Therefore, for the small volume of gravel extraction proposed and increased environmental/infrastructure risk, this method is not desirable.

Sites in the Land Buffer between the River and the Highway:

Developing existing or new sites which are located on either side of the pipeline in the land buffer between the river and the highway would increase unacceptably the exposure of the pipeline to erosion by highwater and flood events. The Sagavanirktok (“river which is swift”) has eroded as much as 200 feet of buffer next to TAPS in a single flood event.

An example of a land buffer site between the river and the pipeline is the deep pit developed and expanded for highway improvements at DHMP 381 (M.S. 65-9-024-2, PLMP 36). Recent high flows resulted in increased bank erosion towards the gravel pit. When the river connects with the gravel pit, the buffer between the pipe and river will immediately decrease from 1500 to 800 feet. The resulting, sudden change in the river bank configuration would create instability in the river reach and very possibly contribute to more vigorous and accelerated erosion.

An example of a land buffer site between the pipeline and the highway is the deep pit developed for highway improvements at DHMP 342 (M.S. 65-9-071-2, PLMP 73. Flood overflows

inundate the terrain on both sides of the buried pipeline and plunge into the causing “headcutting” erosion and scour of the tundra from the pit towards the Pipeline. These headcuts can result in deep channels emanating from the pit towards the river, crossing the pipeline and reducing or completely removing the cover over the pipeline.

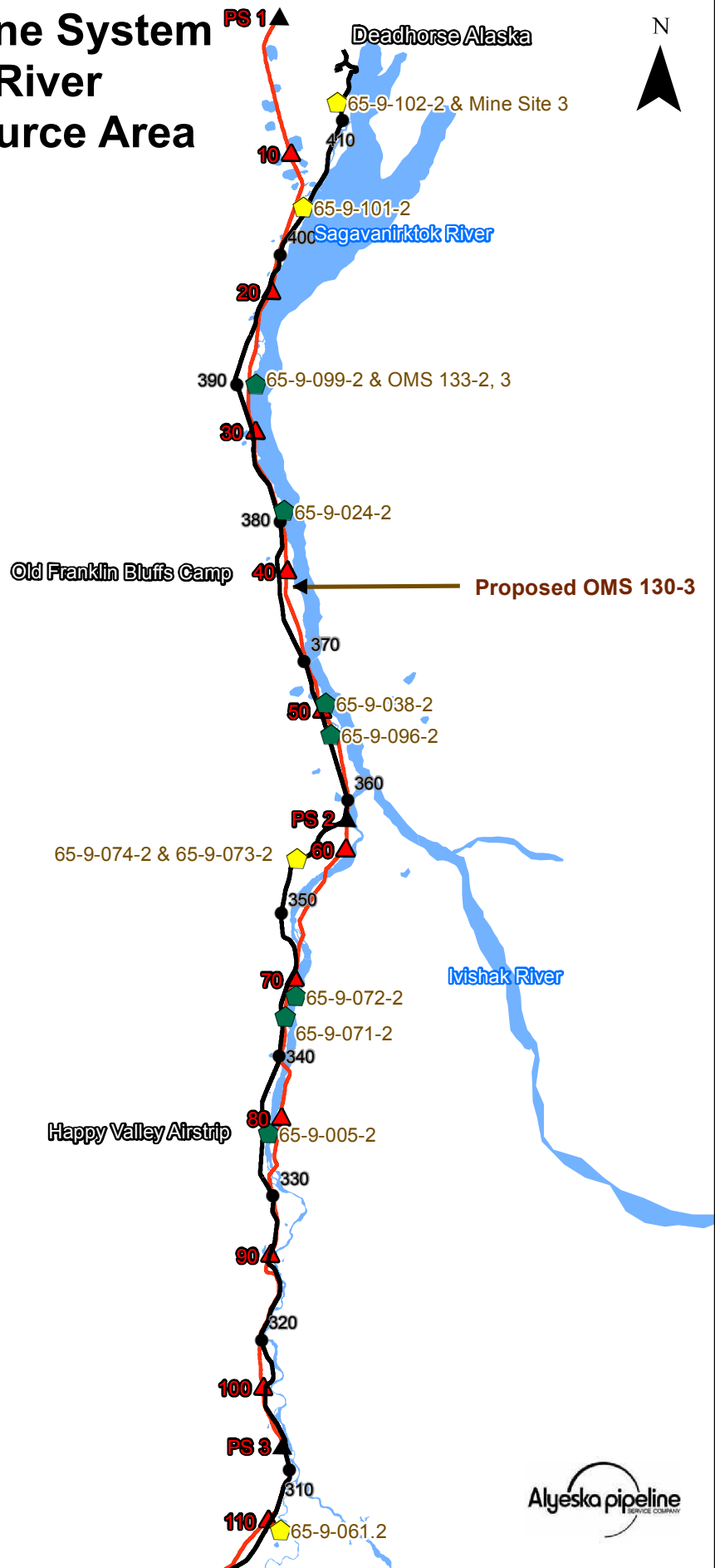
Sites West of the Highway, outside of the Flood Zone:

Existing borehole log data confirms the absence of material sources on the west side of the highway away from the river in this area. The nearest sources of good quality material are at DHMP 412, 404, and 306. Although there are two partly-developed sites at DHMP 354 (M.S. 65-9-074 & -073-2), the material is of poor quality, consisting mostly of sandstone and shale bedrock with some conglomerates. This material breaks down to form a silty sand and pebble conglomerate. It’s too fine grained and frost susceptible for building dikes, roads, and other earth structures.

The table below encompasses the alternative sites discussed above and shown on the attached map.

ADNR ADL No.	ADOTPF M.S. No.	DHMP	Comments
416097	65-9-102-2	412	Remote (38 miles to Subject)
419954	65-9-101-2	404	Remote (30 miles to Subject)
421216		392	In active floodplain, Proposed to continue at site A
419958	65-9-099-2	390	In Land Buffer adjacent to Pipeline
419572	65-9-024-2	381	In Land Buffer adjacent to PL
Subject		374	In active floodplain; Proposed OMS 130-3
419574	65-9-038-2	367	In Land Buffer adjacent to PL
419584	65-9-096-2	365	In Land Buffer adjacent to PL
419582	65-9-074-2	354	Poor quality material
419581	65-9-073-2	354	Poor quality material
419432	65-9-072-2	344	In active floodplain
419579	65-9-071-2	342	In Land Buffer adjacent to PL
419570	65-9-005-2	334	In active floodplain
418802	65-9-061-2	306	Remote (68 miles to Subject)

Trans Alaska Pipeline System Sagavanirktok River Gravel Material Source Area



ADL Site No.	ADOT M.S. No.	TAPS OMS
416097	65-9-102-2	
419954	65-9-101-2	135-4
419958	65-9-099-2	
419572	65-9-024-2	
419574	65-9-038-2	
419584	65-9-096-2	
419582	65-9-074-2	
419581	65-9-073-2	
419432	65-9-072-2	
419579	65-9-071-2	
419570	65-9-005-2	
418802	65-9-061-2	OMS 119-4

Annette Nauheim: GIS Specialist

Legend

- Highway Milepost
- ▲ TAPS Milepost
- Dalton Highway
- Pipeline Centerline
- Gravel Pits - Inside Floodplain
- Gravel Pits - Outside Floodplain

0 10 20 Miles

Environmental Impacts and Mitigation

The project will avoid adverse impacts to water flow, floodplain and existing vegetation in riparian areas. Heavy equipment use will be confined to the existing TAPS workpad and spur dikes and unvegetated gravel bars. All fueling will be done on the R.O.W. outside the active floodplain.

Water quality will be impacted only nominally because the mining will not be conducted in flowing water and will not extend into the water table. Access to the mining sites, will be routed as much as practical to avoid any small isolated waters or very minor braids, and best management practices such as silt fencing, tundra mats and/or temporarily filling or rock-lining the crossings if avoidance is not practical. Gravel ramps will be installed if needed for equipment access from the end of the existing access roads and then removed after mining is completed. The piling of gravel on the gravel bar/s for loading the hauling equipment will be of short-term duration only.

There will be minimal impact to aquatic life because the gravel extraction will not be in active channels. Any fish encountered in pools subject to repair and access will be captured and released in the waterways nearby. Alyeska's operations in this area are covered by the company's Polar Bear Interaction Plan and a Letter of Authorization for Unintentional Take from the US Fish and Wildlife Service.

The gravel mining will not occur in wetlands. The proposed source bar have been subjected to disturbances from recent floods and icing events and supports only sparse vegetation, if any. Therefore, impact to local flora will be minimal. No additional mitigation is planned.

Construction Order of Work and Schedule

1. Mobilize equipment and personnel
2. Establish access to the site, such as gravel ramps
3. Install outer perimeter gravel berms to prevent fish entrapment
4. Scrape/mine gravel bar
5. Load and haul gravel offsite
6. When mining is complete remove gravel berms
7. Grade site and contour to avoid fish entrapment
8. Clean up and demobilize

References

Collins, Brian; Dunne, Thomas, Fluvial geomorphology and river-gravel mining: a guide for planners, case studies included, ; California. Division of Mines and Geology 1990.

Church, Michael, River Processes: How Do Rivers Provide Gravel? in Regional Symposium on In-stream Gravel Extraction and its Effects on Fish Habitats, (2006).

Joint State/Federal Fish and Wildlife Advisory Team (JFWAT) Environmental Surveillance of Gravel Removal on the Trans-Alaska Pipeline System with Recommendations for Future Gravel Mining (Burger and Swenson, 1977)

Kondolf, Mathias G. Hungry Water: Effects of Dams and Gravel Mining on River Channels.

Environmental Management Vol. 21, No. 4, (1997).

National Marine Fisheries Service (NMFS) National Gravel Extraction Guidance: A review of the effects of in- and near-stream gravel extraction on anadromous fishes and their habitats, with recommendations for avoidance, minimization, and mitigation (2005)

National Oceanic and Atmospheric Administration (NOAA) Sediment Removal From Freshwater Salmonid Habitat: Guidelines to NOAA Fisheries Staff for the Evaluation of Sediment Removal Actions from California Streams (2004).

Toniolo, Horacio. (2020). Bed-Sediment Transport Conditions Along the Sagavanirktok River in Northern Alaska, USA. Water. 12. 774. 10.3390/w12030774.

Toniolo, Horacio et al., Hydrological, Sedimentological, and Meteorological Observations and Analysis of the Sagavanirktok River: 2019 Final Report. University of Alaska Fairbanks, WERC, Report INE/WERC 20.01, Fairbanks, AK

Smith, Julie, Sagavanirktok River Gravel Extraction Resources and Land Management Considerations. Alaska Department of Natural Resources (July 2014)

Woodward-Clyde Consultants. Gravel Removal Studies in Arctic and Subarctic Floodplains in Alaska. U.S. Fish and Wildlife Service. (1980)

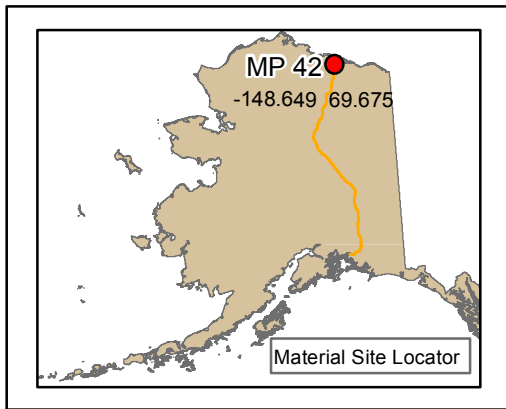


MINING
AND
RECLAMATION PLAN
OPERATIONS MATERIAL SITE 130-3

DRAFT

INDEX

<u>CONTENTS</u>	<u>PAGE</u>	<u>DATE OF LAST REVISION</u>
COVER PAGE	1	April 6, 2020
LOCATION & VICINITY MAP	2	April 6, 2020
MATERIAL SITE PHOTO	3	April 6, 2020
PLAN REPORT		
I. LOCATION AND ACCESS	4	April 6, 2020
II. SITE DESCRIPTION	4	April 6, 2020
III. MINING REQUIREMENTS	5	April 6, 2020
IV. SPECIAL CONSIDERATIONS	6, 7	April 6, 2020
V. RECLAMATION	8	April 6, 2020
VI. JURISDICTION	9	April 3, 2020

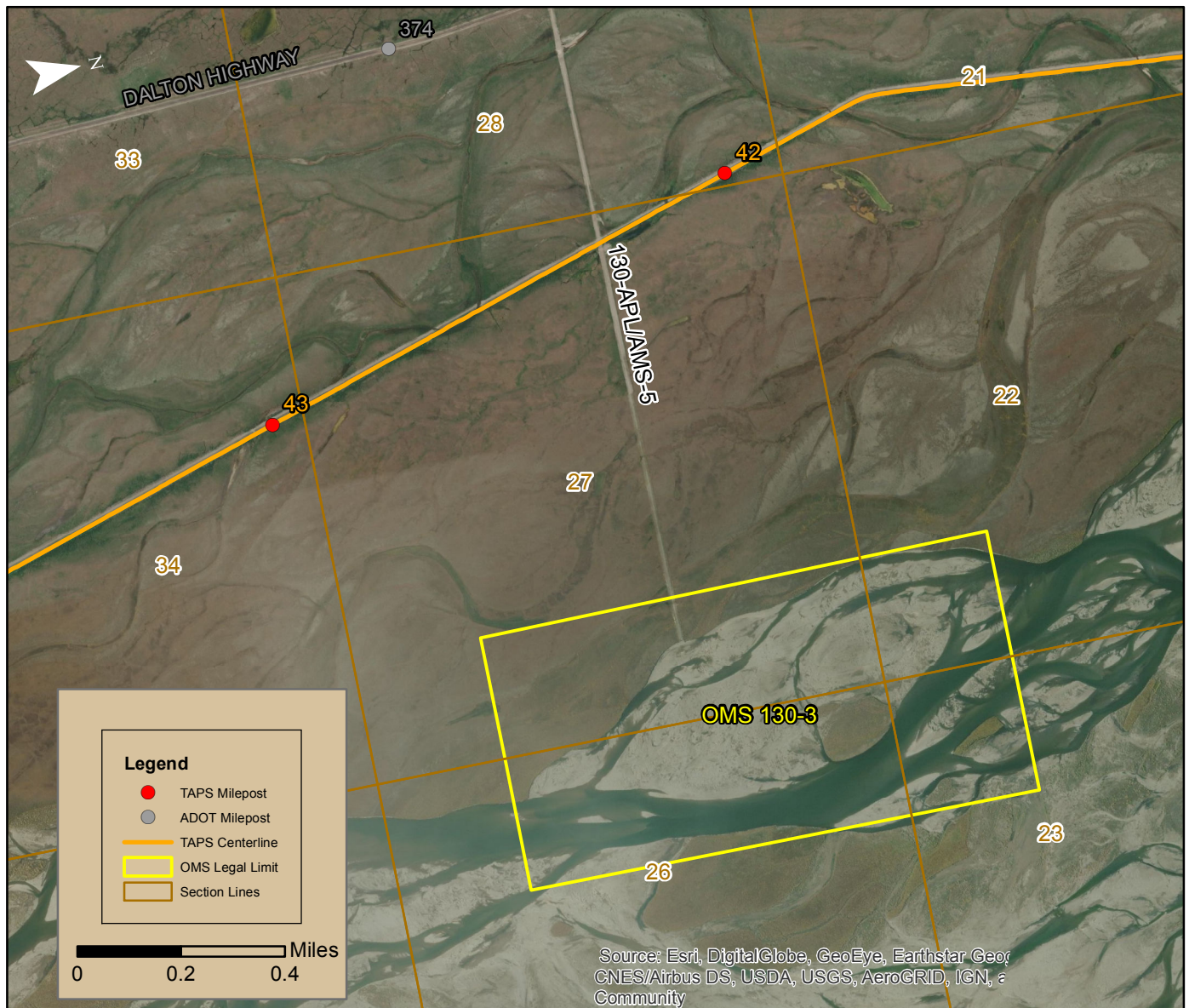


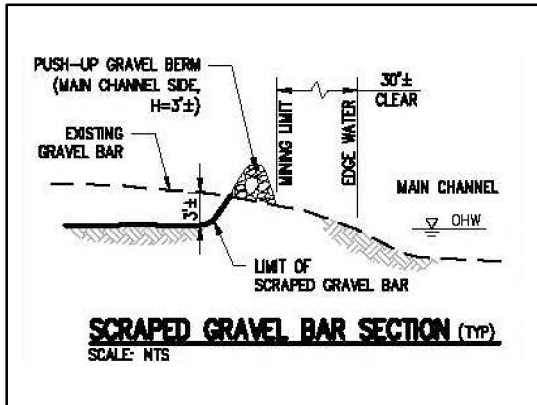
Legal Description of Material Site Tract:
 T4N, R14E, U.M,
 SEC 22: SE1/4 SE1/4, SEC 23: SW1/4 SW1/4,
 SEC 27: E1/2 NE1/4, NE1/4 SE1/4 &
 SEC 26: W1/2 NW1/4, NW1/4 SW1/4
 OMS Legal Limits: Approximately 320 acres

Property Owner: State of Alaska
 U.S.G.S Sagavanirktok (C-3)
 North Slope Borough, Alaska



Proposed OPERATIONS MATERIAL SITE 130-3 Sagavanirktok River Location and Vicinity Map



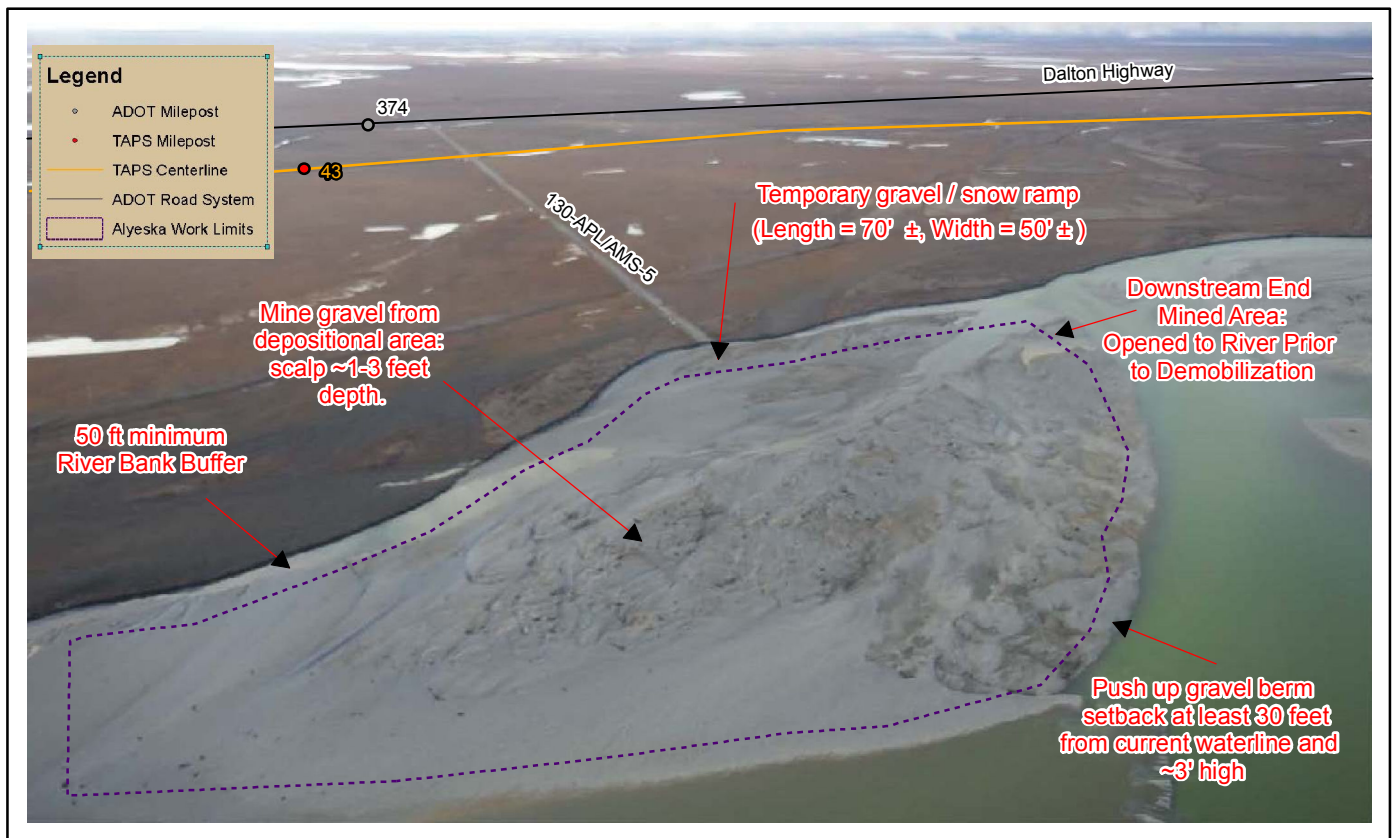


Legal Description of Material Site Tract:
 T4N, R14E, U.M,
 SEC 22: SE1/4 SE1/4, SEC 23: SW1/4 SW1/4,
 SEC 27: E1/2 NE1/4, NE1/4 SE1/4 &
 SEC 26: W1/2 NW1/4, NW1/4 SW1/4
 Alyeska Work Limits: Approximately 129 acres

Property Owner: State of Alaska
 U.S.G.S Sagavanirktok (C-3)
 North Slope Borough, Alaska



Proposed OPERATIONS MATERIAL SITE 130-3 Sagavanirktok River Material Site Photo



Annette Nauheim: GIS Specialist

Photo is not geo-referenced or ortho-rectified.

Date of Photo: September 2019

LAST REVISION DATE: April 6, 2020

ALYESKA PIPELINE SERVICE COMPANY
MINING AND RECLAMATION PLAN
OPERATIONS MATERIAL SITE 130-3

LAST REVISION DATE: April 6, 2020

I. LOCATION AND ACCESS

Pipeline Milepost:	42
Highway Milepost:	Dalton Highway MP 374
Access Road:	130-APL/AMS-5
Latitude/Longitude:	N 69° 40' 29.994" / W 148° 38' 56.4" -148.649, 69.675 Decimal Degrees
Comments:	Unvegetated gravel bar/s in floodplain of the Sagavanirktok River

II. SITE DESCRIPTION

Pit Users:	Alyeska
Past Mining Use:	Workpad and access road construction
Future Material Use:	Workpad, road, and erosion control structure repair and upgrade
Landform:	Braided river floodplain gravel bars
Material Type:	Alluvial gravel with cobbles
Work Area:	Approximately 129 acres. Alyeska work limits have not been surveyed.
Estimated Yield:	396,000 cu yds
Volume Extracted:	N/A
Select Material:	Screening operations will not be required
Groundwater Depth:	Varies with the level of the Sagavanirktok River
Permafrost:	None. Seasonal freeze and thaw.

LAST REVISION DATE: April 6, 2020

III. MINING REQUIREMENTS**A. Excavation Methods**

Equipment:	Equipment to be used includes, but is not limited to, graders, dozers, excavators and light plants.
Blasting:	No
Working Depth:	Approximately three feet from surface, or depth of water table whichever is less. Material shall be removed in shallow even lifts.
Side Slopes:	N/A
Processing and Stockpiling:	None. Temporary floodplain stockpiling shall not exceed 5 days subsequent to the completion of active mining operations.
Work Limits Subdivision:	Site will be developed as material quantities dictate.

B. Clearing, Waste and Overburden Material

Previous Clearing:	None
Merchantable Timber:	None
Clearing Required:	None
Clearing Debris:	None
Burning:	None
Waste Stockpile:	None
Overburden Depth:	None
Overburden Stockpile:	None
Petroleum Wastes:	No petroleum wastes will be disposed of at this site.

C. Site Hydrology

Buffer Zone:	No active mining within 30 ft of any active channel.
Drainage:	N/A; Permeable gravels.
Water Quality Impact:	None anticipated. No de-watering needed because the depth will not exceed the top of water table; Also, 30' buffer zone and temporary berms between the mining area and river edge. Other BMP's as needed include temporary culvert/low water crossing, silt fence, and waddles.
Hydraulic Analysis:	Mining in the Sagavanirktok River floodplain as proposed will not have an effect on the river regime. Maintain even smooth lifts. This shallow-scrap technique will not increase channelization or channel migration because it alters the floodplain profile only negligibly.

LAST REVISION DATE: April 6, 2020

IV. SPECIAL CONSIDERATIONS**A. Impact on Non-Mineral Resources****1. Aesthetics**

Visible from Highway:	Will appear as an exposed, unvegetated gravel bar.
Impact:	None

2. Antiquities and Historical Sites

Known Resources:	None
If Found:	Stop mining, notify APSC Land/Legal

3. Big Game Movements and Wildlife Protection

Wildlife Concerns:	Polar Bears, Caribou and Musk Ox may pass through
Comments:	Follow best management practices in the Polar Bear Interaction Plan. Assure free passage and avoid harassment. Future wildlife utilization will not be jeopardized.

4. Fisheries Protection

Fish Stream/Lake:	Sagavanirktok River supports anadromous fish
Impact to Fish:	None.
Comments:	Buffer strips along moving water boundaries maintained to avoid siltation. Material shall be removed in a manner to prevent fish entrapment. A temporary ramp will be constructed per the Site Photo. Temporary low-water crossing/s or culvert/s will be installed if needed for equipment to cross minor connected waterways of the river.

5. Land and Water Quality:

There will be no hazardous substances stored in the mining area overnight. Equipment will be taken to the access road or RPW offsite of the river pits for fueling and servicing. BMP's will include but not be limited to the use of 110% containment for all stationary units, e.g. unattended equipment, light plants.

B. Special Authorizations

<u>Stipulation</u>	<u>Applies</u>
1. 2.2.2.2	Mobile ground equipment may operate briefly in the Sagavanirktok River.
2. 2.3.3.1	Alyeska work limits for this site encroach within 300 ft of the Sagavanirktok River.
3. 2.4.4.1	Disturbed areas will not be reseeded.
4. 2.6.1.3	Gravel to be removed from the river bed (floodplain) of the Sagavanirktok River.
5. 2.8.1	Mining in the Sagavanirktok River, as proposed, will not have an effect on the river regime.

C. Anticipated Third Party Effects

Known Effects:	None.
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LAST REVISION DATE: April 6, 2020

V. RECLAMATION

Cut Slope Grading:

N/A

Grading and Stabilization:

The perimeter berms and ramp will be removed at the end of each mining season. The site will be re-graded to the best of our ability to prevent ponding. The downstream end of the mined area will be daylighted to the river edge. All stockpiles, equipment and any artificial materials such as culverts, silt fence or waddles, will be removed before each seasonal demobilization is complete.

Annual Reclamation Statement:

Filed as directed by the Alaska Department of Natural Resources (Statute 27.19) upon request for a release from bond

LAST REVISION DATE: April 3, 2020

VI. JURISDICTION

Legal Description:

OMS 133-2.3 T. 4N., R 14E. U.M.
 Sec. 22, 26 & 27

Barrow Recording District

The land within the outer land use limits of this site is under the jurisdiction of the State of Alaska, Department of Natural Resources, by virtue of Patent No. 50-74-0096 (F-10325) dated March 27, 1974. Within the land use area of the site there appear the following encumbrances:

AS 19.40.010, restricting certain activities within the Dalton corridor.

ADL 50666, Special Use Land designation requiring permits for certain activities.

Mineral Order 1147, as to Section 27

ADL 63574, a Pipeline Right-of-Way for the Trans Alaska Pipeline System.

ADL 414571, a Road Right-of-Way issued to Alyeska Pipeline Service Company.

LAS 20644, an Instream Water Flow Reservation issued to the Alaska Department of Fish and Game.

The land is within the corporate boundaries of the North Slope Borough.