



US Army Corps  
of Engineers  
Alaska District

# Public Notice of Application for Permit

Regulatory Division (1145)  
CEPOA-RD  
Post Office Box 6898  
JBER, Alaska 99506-0898

**PUBLIC NOTICE DATE:** December 14, 2016  
**EXPIRATION DATE:** January 16, 2017  
**REFERENCE NUMBER:** POA-1981-243-M7  
**WATERWAY:** Beaufort Sea

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Heather Markway at (907) 753-2797, toll free from within Alaska at (800) 478-2712, by fax at (907) 753-5567, or by email at [heather.n.markway@usace.army.mil](mailto:heather.n.markway@usace.army.mil) if further information is desired concerning this notice.

**APPLICANT:** Ms. Deborah Heebner, Hilcorp Alaska, LLC, 3800 Centerpoint Drive, Suite 1400 Anchorage, Alaska 99503, (907) 670-3382, [dheebner@hilcorp.com](mailto:dheebner@hilcorp.com).

**LOCATION:** The project site is located at the Milne Point Unit Mine Site, within Sections 20 and 29, T. 13 N., R. 11 E., Umiat Meridian; USGS Quad Map Beechey Point B-4; Latitude 70.457219° N., Longitude -149.358822° W.; North Slope Borough, Alaska.

**PURPOSE:** The applicant's stated purpose is to expand Milne Point Unit (MPU) Mine Site by 22.37 acres to obtain additional gravel material to meet the need of planned MPU development projects.

**PROPOSED WORK:** The Milne Point Unit Mine Site is proposed to be expanded by a total of approximately 22.37 acres - of which 15.15 acres would be mined (1.6 acres of which is currently utilized as the mine road), 1.32 acres would be utilized for a haul road along the western side of the new north pit expansion, 2.5 acres would be used for overburden storage, and 3.4 acres would provide a buffer around the overburden storage area (1.3 acres of which would be preserved from any impact). The total amount of proposed new impacts to wetlands would be 19.47 acres.



The amount of overburden that would be removed and stockpiled onsite is estimated at 400,000 cubic yards, while the amount of gravel to be removed from the cell would be 915,000 cubic yards. The area to be mined is 1,170 feet long and between 490 feet to 830 feet wide. It is located directly north of the previous mine excavations in the area identified as a "future potential mine boundary expansion" in the December 1995 Milne Point Gravel Mine Site Mining and Rehabilitation Plan. Proposed expansion activities are outlined in the attached 2016 Milne Mine Site Mining and Rehabilitation Plan.

The 2016 Milne Mine Site Mining and Rehabilitation Plan outlines the following:

- Removal of organic overburden material as necessary for future use for rehabilitation;
- The disposition of water in existing mine cells;
- Excavation specifications for gravel removal;
- Location and limitations relating to stockpiling excavated gravel;
- Maximizing gravel recovery at an existing site while considering habitat in order to minimize the area disturbed;
- Salvage and re-use of organic overburden for use in creating littoral habitat during reclamation of the Mine Site; and
- Conserving stockpiled overburden for use in potential reclamation and restoration projects.

All work would be performed in accordance with the enclosed plan (Figures 1-7), dated October & November 2016.

ADDITIONAL INFORMATION: The original permit was issued to Conoco, Incorporated on January 13, 1982, for stockpiling overburden and constructing a road to the Milne Point mine site, and was subsequently modified on March 9, 1994; January 8, 1990; May 6, 1991; January 24, 1995; December 8, 1995; and July 23, 1996; to change the length of the road, extend the permit time period, expand the mine area, include the excavation activities at the mine site, construct an erosion-protection levee; and incorporate the "Milne Point Gravel Mine Site Mining and Rehabilitation Plan" dated December 1995. The permit and modifications were transferred to BP Exploration (Alaska) Inc. on April 19, 1994, and then transferred to Hilcorp Alaska LLC on November 18, 2014.

This would be the 7<sup>th</sup> modification of POA-1981-243.

APPLICANT PROPOSED MITIGATION: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material:

1. Avoidance of impacts to waters of the U.S., including wetlands:
  - Hilcorp has reviewed options to avoid expansion of the Milne Point Mine Site, but an expansion could not be avoided. An extension to the existing Mine Site is required to access additional gravel resources. This mine site has been used extensively in the past, and the proposed expansion area is consistent with the historic development which identified this future expansion cell if gravel reserves ran low in the existing permitted material site.



The mine site is also governed by a Mining and Rehabilitation Plan which was approved by the North Slope Borough, the State of Alaska, and the US Army Corps of Engineers in 1996. This expansion is consistent with this Mining and Rehabilitation Plan (dated December, 1995) in that this area was identified as a "future potential mine boundary expansion" if gravel reserves ran low in the existing permitted material site.

- In support of this proposed expansion, the Mining and Rehabilitation Plan for Milne Point Mine Site has been updated. Hilcorp will maximize gravel recovery at an existing Material Site, while considering habitat in order to minimize the area disturbed. Gravel sources are limited on the North Slope so to use previously identified sources with active rehabilitation plans will avoid and minimize impacts to wetlands. Developing a new gravel source would not be a reasonable option. The following factors were incorporated into the project:
  - Use existing roads and facilities to the maximum extent possible;
  - Avoid crossing or impacting as many lakes, ponds and streams as possible;
  - Place no permanent fill in anadromous streams;
  - Salvage and re-use organic overburden to create littoral benches during rehabilitation of the Mine Site and for reclamation and restoration projects across the North Slope;
  - Conserve stockpiled, segregated organic overburden for use in potential reclamation and restoration projects; and
  - The goal of the Milne Point Mining and Rehabilitation Plan is to rehabilitate the area to establish productive, diverse, and self-sustaining plant communities on terrestrial areas. For the wetland created, the plan also describes the creation of shallow littoral habitat and optimization of shoreline length and diversity.
- The proposed expansion is necessary to meet the gravel needs for planned Milne Point Unit Development projects, including Moose Pad Development and additional pad expansions for drilling new wells to increase production within the MPU. Hilcorp has minimized the footprint necessary for the Moose Pad Development by minimizing the well spacing and optimizing the well row layout. Hilcorp also minimized the footprint required to drill additional wells by drilling the wells on existing pads, however pad extensions are required to drill the wells from and to accommodate drill rig access to the additional wells. When the pads in Milne Point were initially built in the 1980s, the gravel footprint was minimized to what was originally needed for the development, wells and rigs at that time. We are now adding more wells and infrastructure, which will require more gravel footprint.
  - The drill rigs are larger than drill rigs used when the pads were originally built. When the drill rigs are positioned on the well heads, there is not enough space for the entire drill rig and associated equipment, between the well head and the pad edge. Access to all sides of the rig is required, while the rig is drilling the wells. If access to the rig is blocked on any one side, it will require crane access only to load pipe, for drill cuttings transfer, mud chemical loading and equipment service and repair. Additional pad space is also required for rig associated infrastructure while the rig is working on a Pad



- Instead of developing a new gravel source, Hilcorp is expanding an existing mine site and mining as deeply as possible in an existing mine site. This expansion of the existing mine site avoids the following impacts:
  - Avoided impacting as many lakes, ponds and streams as possible;
  - Avoided Anadromous Water crossings to the maximum extent possible;
  - Avoided impacting pristine wetlands to develop a new gravel source;
  - Will use existing material sites and local existing roads to the maximum extent possible.
  
- Instead of developing a new gravel source, Hilcorp is expanding an existing mine site and mining as deeply as possible in an existing mine site, where an approved Rehabilitation Plan has been adhered to since the mine site was permitted in 1982. The areas backfilled with overburden are vegetated with continuous productive, diverse, and self-sustaining plant communities. Wildlife and migratory birds are observed utilizing the rehabilitated mine site area. Approximately 5.5 acres of shallow littoral habitat along the western perimeter of the reservoir that was part of the 1995 rehabilitation plan will be retained. The existing mine site has been segregated from East Creek by a 20-foot-high flood dike along the eastern boundary to avoid a potential breach between the mine and the creek during periods of high flow.
  - Overburden material is currently stored in three areas.
    - Overburden was used to create the 20-foot-high flood dike to the east of the mine site that was intended to prevent salt water intrusion.
    - There is one shallow littoral habitat area created with overburden material, approximately 5.5 acres in size, located to the west of the mine site (see Figure 2).
    - A large 1.3 million cubic yard stockpile of overburden material is located immediately east of the existing mine pit covering approximately 16.5 acres of wetlands. This overburden material is recognized as a source for future rehabilitation and abandonment projects on an as-needed basis. Located at the extreme south end of the stockpile are two perched, vegetated wetland areas, each encompassing approximately one half acre. The southern-most of these includes a small pond.

2. Minimization of unavoidable impacts to waters of the U.S., including wetlands:

- Hilcorp's decision to maximize gravel recovery from the existing Milne Mine Site by expanding the existing Mine Site to meet the required gravel needs demonstrated minimization of impacts to high quality wetland habitat within the Milne Point Unit. The proposed expansion has been designed to minimize the area disturbed. The overburden will be removed in phases to maximize the conservation, segregation and stockpiling of the organic overburden for use in reclamation and restoration projects.
  
- The length of the new Haul Road into the Milne Mine site has been shortened and minimized. The longer existing Haul Road has been incorporated into the area of the new pit expansion that will be mined minimizing the area impacted.



- The buffer area around the new pit expansion area and overburden storage area has been minimized. Approximately 1.3 acres in the southeast triangle of the new north pit expansion buffer area will not be impacted and will remain in its natural state.
  - The length of roads has been minimized and the pad footprint has been minimized for the Moose Pad Development. The pad footprint was minimized by minimizing well spacing and the well row layout was optimized to minimize new gravel footprint. All gravel expansions of existing pads will be designed to be minimal in size, but provide the necessary space for the additional drilling and infrastructure required.
  - Hilcorp has minimized the footprint necessary for additional development wells and associated infrastructure including providing access to the existing well rows for drilling, completion and operation of existing wells. Hilcorp designed the footprint to minimize impacts while still drilling new development wells and working on existing wells.
3. Compensatory Mitigation for unavoidable impacts to waters of the U.S., including wetlands:
- Hilcorp has investigated compensatory mitigation. Based on the discussion below, Hilcorp has not identified any means of practicable compensatory mitigation. Through Avoidance and Minimization, Hilcorp has worked to limit the impacts to wetlands. Hilcorp's due diligence analysis of methods of compensation is described below.
  - Hilcorp continues to commit to continued improvement of fish passage routes where existing roads and pads meet streams, creeks and rivers.
  - Through Avoidance and Minimization, Hilcorp has worked to limit the impact to wetlands. Hilcorp conducted due diligence analysis to investigate methods of compensation, including options through payment to an approved wetlands mitigation bank or in-lieu fee agency. No approved wetlands mitigation bank is currently available.
  - Hilcorp examined permittee responsible mitigation; including creation/restoration and preservation. Wetland creation/restoration on the North Slope is impracticable because wetlands are primarily developed through permafrost action (taking hundreds of years to develop) and the growing season is only 60 days. This prevents any reasonable success goals from being achieved that would show replacement of lost functions, as required by regulation. Also the perpetual protection instrument that would be required cannot be accomplished because of land ownership and constitutional protection restrictions.
  - Wetland preservation is also impracticable. Lands within the watershed are owned by the State of Alaska, United States Government, or private native corporations. There are currently no parcels of land available for purchase for preservation of the watershed.



State lands on the North Slope are identified for resource development, and any purchase/preservation of those lands would appear to contradict the Alaska Constitution that states those lands are for maximum resource development. The federal lands on the North Slope are not available for private purchase. According to communication with the Arctic Slope Regional Corporation's Director of Land Management and Enforcement, there are no private Native owned lands available for purchase in the area.

- Out of kind mitigation (working with state/private/federal owners) is not considered practicable because:
  - These projects (e.g. culvert replacement, DOT road reinforcement) are a compliance issue and specifically excluded from gaining credits through compensatory mitigation.
  - Ownership, long term maintenance, adaptive management strategies, financial assurance mechanisms, and perpetual conservation instruments would render any alternatives as being impracticable.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are no listed or eligible properties in the vicinity of the worksite. Consultation of the AHRS constitutes the extent of cultural resource investigations by the District Commander at this time, and he is otherwise unaware of the presence of such resources. This application is being coordinated with the State Historic Preservation Office (SHPO). Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

ENDANGERED SPECIES: The project area is within the known or historic range of the polar bear (*Ursus maritimus*), Steller's eider (*Polysticta stelleri*), and spectacled eider (*Somateria fischeri*).

We have determined the described activity may affect the threatened the polar bear, Steller's eider, and spectacled eider. We have initiated the appropriate consultation procedures under section 7 of the Endangered Species Act with the U.S. Fish and Wildlife Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat would be considered in our final assessment of the described work.



ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). No EFH species are known to use the project area.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.



The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authority:

(X) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings and a Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander  
U.S. Army, Corps of Engineers

Enclosures



# STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WATER  
401 Certification Program  
Non-Point Source Water Pollution Control Program

DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WQM/401 CERTIFICATION  
555 CORDOVA STREET  
ANCHORAGE, ALASKA 99501-2617  
PHONE: (907) 269-7564/FAX: (907) 334-2415

## NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice No. **POA-1981-243-M7, Beaufort Sea**, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project, with respect to Water Quality Certification, may submit written comments to the address above by the expiration date of the Corps of Engineer's Public Notice.



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**MINING AND REHABILITATION PLAN FOR MILNE POINT UNIT MINE SITE  
MILNE POINT UNIT, NORTH SLOPE BOROUGH, ALASKA**

as required by

Material Sale Contract ADL 420361

USACE Permit No. POA-1981-0243-M7, Beaufort Sea 201

ADF&G Fish Habitat Permit FG91-III-0067, Amendment 1

Revised by **Hilcorp Alaska, LLC**

October 18, 2016

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**INTRODUCTION**

Hilcorp Alaska (Hilcorp) submits this updated mining and rehabilitation plan for operation of the Milne Point Unit (MPU) Mine Site. The mining and rehabilitation plan was developed to fulfill requirements of the federal permit issued for the mine. The State Material Sale Contract also requires an Alaska Department of Natural Resources (ADNR) Division of Mining Land and Water (DMLW) approved Mining and Reclamation Plan. In 2008, BPXA applied for a permit to expand the footprint of the mine, which was withdrawn by BPXA in December 2008. As part of the application for the then-proposed expansion, a revised mining and rehabilitation plan was submitted and subsequently withdrawn. This 2016 plan is an update to the December 1995 Milne Point Gravel Mine Site Mining and Rehabilitation Plan that was submitted as part of the last mining activity at the mine and approved by the U.S. Army Corps of Engineers (USACE), State of Alaska and North Slope Borough in 1996. Revisions to the plan require review and approval by both federal and state agencies. This expansion is consistent with this Mining and Rehabilitation Plan (dated December, 1995) in that this area was identified as a "future potential mine boundary expansion" if gravel reserves ran low in the existing permitted material site.

**HISTORY**

MPU Mine Site contains approximately 82.2 surface acres and has been a source of gravel for exploration and development since it was permitted in 1982. The USACE permit 4-810243, Beaufort Sea 201, was issued to Conoco in 1982. Subsequent amendments were issued to Conoco in 1984 (M-810243, Q-810243) and 1991 (O-810243) and to BPXA in 1995 (P-810243, Q-810243) and in 1996 (R-810243).

A revised Milne Point Gravel Mine Site Mining and Rehabilitation Plan (Plan) was submitted for agency approval in December 1995, whereupon a Conclusive Consistency Determination (State I.D. NO. AK9602-01OG) and the above mentioned USACE permit, R-810243, were issued. The USACE permit expired in 2001; however, the Plan did not have an expiration date. In 2008, BPXA applied for a permit to expand the footprint of the mine



(POA-1981-243-M7), which was withdrawn by BPXA on December 23, 2008. As part of the application for the then-proposed expansion, a revised mining and rehabilitation plan was submitted and subsequently withdrawn. The October 8, 2008, revision log included the following:

1. Corrected Consistency Determination number (AK 9602-01OG) (pg 1, paragraph 4)
2. Reference in text to overburden place for this project was amended (pg 4, General Information # 1)
3. Corrected acreage chart on Figure 2 to reflect quantity of overburden created by this project (approx. 410,000 CY)
4. Corrected reference on Figure 2 that indicated east boundary overburden dike was "proposed". It was previously permitted and has been constructed.
5. Amended Figure 4 to better identify area for proposed placement of overburden from this project.

It was understood that any future expansion outside the 1996 permitted footprint of the mine would require an updated Plan, a COE permit modification, and a multi-agency review and approval. The COE transferred Permit Number POA-1981-243 from BPXA to Hilcorp on November 18, 2014. Currently, Hilcorp is seeking to conduct further mining activities within the current MPU Mine Site footprint, and a proposed mine expansion area. This expansion area is consistent with the Mining and Rehabilitation Plan (dated December, 1995) in that this area was identified as a "future potential mine boundary expansion" if gravel reserves ran low in the existing permitted material site.

The Alaska Department of Natural Resources (ADNR) Division of Mining Land and Water (DMLW) authorizations for mining were granted to Conoco through material sale contracts in 1982 (ADL 403604), 1988 (ADL 413649), and 1991 (ADL 414555). When BPXA acquired Conoco's assets in 1994, authorization for mining at Milne Point was granted through BPXA's Material Sales Contract (MSC) ADL 415140. A subsequent MSC ADL 416559 was approved and issued to BPXA on March 6, 2001. In 2007 MSC 417964 was issued to BPXA and this will not expire until June 11, 2017. Hilcorp assumed ownership and operations of Milne Point Unit on November 18, 2014. ADNR/DMLW issued MSC ADL 420361 to Hilcorp on June 9, 2015.

The ADNR/DMLW also issued Temporary Water Use Permit (TWUP) 2013-105 on June 6, 2013 to withdraw water from the Mine Site to dewater the Mine Site. ADNR/DMLW transferred TWUP 2013-105 to Hilcorp on November 18, 2014.

Authorization to expand and rehabilitate the mine site was issued by the Alaska Department of Fish and Game (ADF&G) to Conoco in 1991 (FG91-III-0067). The permit was transferred to BPXA in 1994. The current fish habitat permit (FG91-III-0067, Amendment 1) was approved on December 22, 1999 by ADFG and the fish habitat dewatering permit (FG96-III-0012, Amendment 1) was issued on December 30, 1999. The ADF&G Division of Habitat



transferred fish habitat permits, FG91-III-0067 and FG96-III-0012 from BPXA to Hilcorp on November 10, 2014.

The North Slope Borough's original approval authorizing mining was granted to Conoco on January 27, 1982 with subsequent approvals granted on March 12, 1984 and February 11, 1991. The North Slope Borough issued NSB 09-093 on October 21, 2008 approving BPXA's application for the then-proposed expansion of the existing MPU Mine Site footprint by 16.8 acres. BPXA subsequently withdrew this request to expand the footprint.

The Alaska Department of Environmental Conservation (ADEC) authorized discharge under the Alaska Pollutant Discharge Elimination System (APDES) for facilities related to oil and gas extraction under General Permit number AKG-33-1000 effective February 2, 2012. Gravel Pit Dewatering was approved under Permit Number AKG331064 on May 10, 2013. The ADEC transferred Permit Number AKG331064 from BPXA to Hilcorp on November 13, 2014. This General Permit and the authorization to discharge expire on January 2, 2017.

### **2016 MINING & REHAB PLAN REVISION**

This Mining and Rehabilitation Plan has been revised to reflect proposed future gravel extraction operations and re-vegetation techniques consistent with proven success and other recently approved rehabilitation plans.

The mine site plan meets the following objectives:

- maximize gravel recovery at an existing site while considering habitat in order to minimize the area disturbed,
- segregate the mine site expansion from East Creek to avoid a potential breach between the mine and the creek at high flow periods,
- conserve stockpiled, segregated organic overburden for use in potential site reclamation and restoration projects.

The existing gravel mine site configuration has been updated. Figure 2 provides the location of the mine site and identifies the previously permitted existing pit. The current Milne Point Mine Site permitted area is approximately 65.4 acres. Hilcorp proposes an expansion to the permitted area of 22.37 acres. Approximately 15.15 acres of the new pit expansion will be mined to obtain additional gravel material. Approximately 15.15 acres of the new pit expansion will be mined to obtain additional gravel material. Approximately 1.6 acres of the existing Haul Road is within the new pit expansion that will be mined, which subtracted from 15.15 acres equals 13.55 acres wetlands impacted for the new pit expansion. Approximately 2.5 acres will be used for overburden storage with a 3.4 acre buffer around the overburden storage area. Approximately 1.32 acres is for the new Haul Road along the western side of the new north pit expansion, which will replace the existing Haul Road, which will be within the new pit expansion that will be mined. The southeast triangle of the new north pit expansion (approximately 1.3 acre) buffer area will not be impacted and will remain in its



natural state. The approximate area of the permitted area that will be impacted by gravel mining activities is 19.47 acres. The area to be mined is 1,170 feet long and between 490 feet to 830 feet wide. It is located directly north of the previous mine excavations in the area identified as a “future potential mine boundary expansion” in the December 1995 Milne Point Gravel Mine Site Mining and Rehabilitation Plan.

The expansion area to the north will follow approximately the 8 foot contour along its eastern boundary. Preserving this topography along the eastern boundary will provide a natural flood-prevention barrier. An overburden stockpile along the eastern boundary will also provide additional protection between the mine and East Creek. The expansion will extend westward and will require a slight re-routing to the west of the existing road to eliminate the potential of flooding the mine site during high flow of East Creek. The mining and rehabilitation plan assumes that the entire extension area will be worked prior to final closure. The final area impacted by mining will be reduced if a lesser volume of gravel is required than is potentially extractable.

### **EXISTING CONDITION**

The mine site is located west of East Creek, a shallow, tidally-influenced creek flowing into Simpson Lagoon. The mine site is located within sections 20 and 29 of Township 13 North, Range 11 East, Umiat Meridian (see Figure 1), approximately 1.5 miles southeast of MPU B Pad, and can be accessed all year.

The current size and basic configuration of the gravel mine area are unchanged from what was approved in the 1995 Milne Point Gravel Mine Site Mining and Rehabilitation Plan. Approximately 42 acres of mine pit within the 65-acre permitted area was flooded with melt water and runoff until the mine site was dewatered in the summer of 2013. This flooded area included approximately 5.5 acres of shallow littoral habitat along the western perimeter of the reservoir that was part of the 1995 rehabilitation plan. The existing mine site has been segregated from East Creek by a 20-foot-high flood dike along the eastern boundary to avoid a potential breach between the mine and the creek during periods of high flow.

Overburden material is currently stored in three areas. Overburden was used to create the 20-foot-high flood dike to the east of the mine site that was intended to prevent salt water intrusion. There is one shallow littoral habitat areas created with overburden material, approximately 5.5 acres in size, located to the west of the mine site (see Figure 2). A large 1.3 million cubic yard stockpile of overburden material is located immediately east of the existing mine pit covering approximately 16.5 acres of wetlands. This overburden material is recognized as a source for future rehabilitation and abandonment projects on an as-needed basis. Located at the extreme south end of the stockpile are two perched, vegetated wetland areas, each encompassing approximately one half acre. The southern-most of these includes a small pond.



As some measure of flexibility is required in mining and rehabilitation, the plans and figures presented in this document are provided as guidance, and not as a precise description of final configuration. However, the outer permit boundary and size of the mine site and the re-vegetation performance standards listed in Table 1 are considered compliance requirements under the permits that regulate this project.

Permits authorizing the current mining and rehabilitation plan are listed in the "History" section of this plan.

## **MINING PLAN**

### **General Information**

Active gravel mining is currently underway at the MPU Gravel Mine within the area designated as Existing Pit (Phase I). The additional area in the proposed new pit expansion must be excavated to meet the gravel needs for Planned Milne Point Unit Development Projects, including Moose Pad Development and additional pad expansions required for drilling new wells to increase production within the MPU.

1. The 22.37 acre new permitted expansion boundary which includes an overburden storage area and buffer is identified in Figures 2 and 3. The overburden of peat and organic silt from the proposed excavation area will be suitable for site restoration work. Approximately 16 to 20 feet of overburden will be removed. The segregated overburden will be stockpiled to the east of the new pit expansion area and in the mined out areas of the existing pit (Phase I). Inorganic overburden can be used for restoration and erosion control projects.
2. The expansion is expected to provide approximately 915,000 cubic yards of gravel obtained in standard 20-foot lifts. Gravel extracted may be stockpiled at various locations within the permitted footprint.
3. Mining in the existing pit to the south did not result in significant measureable interstitial flow between the mine pit and East Creek, therefore we do not anticipate this to be an issue in the northern expansion. Although most of the mining will be done in the winter, we could continue mining during periods of thaw and, if necessary, de-water the new expansion pit.

### **Summer Mining Plan**

1. Summer mining will consist of mining gravel vertically to a depth of between 6 and 8 feet below the existing depth.
2. Gravel will be mined below the static water elevation if it is practical to do so and assumes continued authorization to discharge accumulated gravel mine water under the provisions of the existing Alaska Pollutant Discharge Elimination Systems (APDES) permit issued by the Alaska Department of Environmental Conservation. Mining below the static water table will be conducted so as to create a benched or shelved final



configuration. Generally, the shelf will extend laterally for a distance of approximately 100 feet. Beyond the shelf area, mining will continue vertically until it is determined to be no longer practical for reasons of safety, gravel quality, or operational efficiency. Reference Figure 4.

3. Side slopes of the cut will be contoured to a 1:1.5 side slope as mining progresses (Fig 4).

### Winter Mining Plan

1. Mining during the winter months will consist of deep mining, to a depth of approximately 40 to 60 feet MSL. A sloped access ramp will be constructed into the pit as mining progresses deeper into the pit. This deep mining will accomplish two important goals: the disturbance of surface area will be reduced through greater recovery of the natural resource gravel within a specific area and the mined material can be stockpiled within the perimeter of the expanded extraction site, if not immediately transported offsite for construction.
2. Side slopes in MPU Mine Site during winter mining will be contoured to a 1:1.5 side slope in those areas not already contoured during the summer. Some contouring may have to be performed during the following summer season.
3. Most of the overburden removal in the new expansion area will be conducted in the winter months to avoid any potential disruption of nesting birds.
4. Mining and overburden removal will extend from the existing mine pit into the proposed new pit expansion area.
5. The Haul Road has been moved over to the west in an area that will be used for a littoral bench. The Haul Road will be left in place during operations and will not be excavated until the material site is mined out and ready to flood. When the material site is mined out, the Haul road will be excavated to create the littoral bench, approximately 1.32 acres in size. The overburden mined from the haul road area will be placed into the mined pit or used for site reclamation and restoration projects.

## **REHABILITATION PLAN**

### **INTRODUCTION**

This plan describes procedures to be used for rehabilitating the MPU Mine Site Expansion located in the Milne Point Unit on the North Slope of Alaska.

Because flexibility is needed in rehabilitation, most of this plan is provided for information purposes only, with the understanding that some changes may be needed as rehabilitation progresses. Flexibility in the rehabilitation plan allows information from this site and other rehabilitation sites to be considered in the future; however, the monitoring requirements (see Table 1) and the Performance Standards (see Table 2) should be considered compliance requirements.



**Surrounding Vegetation:** The vegetation surrounding the MPU Mine Site Expansion has a rolling to flat landscape with minimal topographic relief. The wetland habitats of East Creek consist mostly of moist upland communities and wet meadow communities which are typical of the North Slope coastal plain. The moist upland vegetation occurs on the lowland areas that are well drained. The plant species of this vegetation type are primarily influenced by the moisture content of the soil and vary as moisture decreases from solely cottongrass to areas dominated by dwarf shrubs. The major species of the cottongrass tussock communities include: cottongrass (*Eriophorum vaginatum*), Bigelow's sedge (*Carex bielowii*) and dwarf birch (*Betula nana*). The dwarf shrub-heath communities are characterized by: dwarf birch (*Betula nana*), heather (*Cassiope tetragona*), Labrador tea (*Ledum palustre*), and netted willow (*Salix reticulata*). The wet meadow vegetation type is typical of the wetter areas with seasonally saturated soils which typically occur near the edges of ponds and streams. Depressed center polygons also typically include this plant community type. The dominant plant species of the wet meadow communities include: water sedge (*Carex aquatilis*), cottongrass (*Eriophorum* spp.), tundra grass (*Dupontia fisheri*), Bigelow's sedge (*Carex Bigelowii*), and other sedges (*Carex* spp.), rushes (*Juncus* spp.), horsetail (*Equisetum* spp.). Other grasses, mosses, lichens, and algae are also found in this vegetation type.

**Rehabilitation Approach:** Areas of stockpiled overburden will have elevations similar to the naturally occurring adjacent elevations so that the natural topography of the area is preserved as closely as possible. These areas of overburden will be fertilized, seeded, and monitored to achieve site conditions similar to the surrounding area.

**Goals and Objectives:** The goal of the Milne Point Mining and Rehabilitation Plan for the MPU Mine Site is to establish productive, diverse, and self-sustaining plant communities on terrestrial areas upon final mine site abandonment. The plan also describes the creation of shallow littoral habitat and optimization of shoreline length and diversity.

## SITE PREPARATION

1. The mine site will be left intact upon abandonment for possible future purposes such as stockpiling of reclaimed gravel, material staging areas, etc. As the mine pit is naturally filled by runoff and melt water, a freshwater reservoir will develop as it had in the existing mine pit to the south prior to dewatering in the summer of 2013. This will be a valuable fresh water source that will prevent other natural lakes from being drained and it will also provide bird habitat. We do not expect flooding from the creek due to its size and the nature of the coastal plain, but if severe flooding were to occur, overflowing the dike, breaching could be conducted to the extent practicable to allow flow through the mine-site created lake.
2. Overburden will be utilized to create shallow littoral habitat and islands in the 5.5 acre area identified as a littoral bench in the mid-western section of the existing mine site south of the mine access road. Overburden will also be utilized to create shallow littoral habitat and islands within the littoral zone where a littoral bench will be created with overburden material along the 1,000-foot long, north-south oriented crescent-shaped tundra



area located between the existing mine site and the existing mine site access road. When the material site is mined out, the Haul Road to the west of the new north pit expansion will be excavated to create a littoral bench, approximately 1.32 acres in size. The overburden mined from the haul road area will be placed into the mined pit or used for site reclamation and restoration projects. (Reference Figure 5).

3. Unused overburden will be stockpiled for use in site reclamation and restoration projects.

4. The access road leading into the gravel mine area at the northwest corner of Milne Point gravel mine will be retained as long as necessary to provide continued access to mining areas, overburden stockpiles for future reclamation and restoration projects, and possible future water withdrawal sites from the reservoir system.

5. The final grade around the mine pit relative to final water level will be no more than 3:1 out to 5 or 6 feet of water depth.

## **REHABILITATION TREATMENTS**

Areas excavated to tundra grade or backfilled areas will be seeded with *Puccinellia borealis*, a native grass that is short-lived and non-competitive to invasion by indigenous tundra plant species. An application of approximately 3-5 lb./acre of *Puccinellia borealis* should be adequate (BP Exploration (Alaska), Inc. et al. 2004). *P. borealis* seed is available in limited quantities, and this seeding plan (either the species or the year of planting) may need to be revised if adequate seed is not available.

Based on past experience, applying phosphorus fertilizer will greatly benefit establishment of the seeded grass and encourage the invasion of the site by indigenous graminoids. A fertilizer application to deliver 20:20:10 NPK at 400 lbs./acre is recommended as specified in the North Slope Plant Establishment Guidelines Table dated May 11, 2004. The year following Milne Point Gravel Mine site close-out, seed and fertilizer will be applied during the growing season, after breakup and before freeze up in autumn, when the soil surface has thawed and drained of excess moisture. The seeded grass is expected to reach maturity by the third growing season following seeding and to begin declining after four to five growing seasons, allowing natural colonizers to occupy the site.

## **PERFORMANCE STANDARDS**

By the tenth year following gravel removal, the mine site overburden will support 10% total live vascular plant cover, excluding seed grass cultivars. At least five species of naturally colonizing plants will be present, with at least 0.2% cover by each. These performance standards, intended to lead to a stabilizing plant cover on the site while also promoting eventual replacement of seeded grasses with naturally colonizing species, apply to areas that are not ponded for more than four weeks during the growing season.



## MONITORING FOR PERFORMANCE STANDARDS

Monitoring will be used to evaluate the progress of vegetation relative to performance standards. The final monitoring will establish whether the re-vegetation performance standards have been met.

## REPORTING

A short letter report summarizing the qualitative assessment of previous rehabilitation work will be submitted by 1 February of the year following the site visit scheduled in Table 1. The report will be provided to State of Alaska Department of Natural Resources, State of Alaska Department of Fish and Game, North Slope Borough, U. S. Army Corp of Engineers, and the U. S. Fish and Wildlife Service.

## REMEDIAL ACTION

If monitoring suggests that performance standards may not be met by year 10, additional seeding, fertilizing, and/or other planting approaches will be considered in consultation with agency representatives.

1. Table 1. Proposed schedule for application of rehabilitation treatments, monitoring, reporting.		
Year	Treatment & Monitoring	Reporting
Year 1	Sample soil and have it tested for fertility and other features	Progress report.
Year 2	Apply seed and fertilizer.	Progress report.
Year 6	Measure vegetation cover and species composition, and compile a species list, using a standard method. Sample soil where revegetation success appears lacking. Observe surface stability qualitatively. Measure relative elevations.	Progress report.
Year 10	Measure vegetation cover and species composition, and compile a species list, using a standard method. Observe surface stability qualitatively.	Final report.



Table 2. Goals, objectives, performance standards, and monitoring methods.

Goals	Establish diverse and productive wetland and upland plant communities on the site similar to those of the surrounding area, thereby improving the appearance of the site and improving its suitability for some wildlife species.
Objectives	Short-term establishment of seeded grass that will not persist, allowing natural tundra plant species to invade the site over time.
Performance Standard	By year 10, 10% cover by live vascular plants, including seeded grasses, with at least 1% cover of naturally colonizing species. Species composition consisting of at least 5 naturally colonizing species with 0.2% canopy cover each, on the overburden area.
Monitoring Methods	For vegetation cover, use a standard method for measuring plant cover.

## REFERENCES

BP Exploration (Alaska), Inc, Conoco Phillips Alaska, Inc., ABR, Inc., and Lazy Mountain Research. 2004. North Slope Plant Establishment Guidelines Table. May 11, 2004. Prepared by Oasis Environmental, Inc. 10 pp.

Kidd, J.G. and B. Streever. In preparation. Consistency of plant cover estimation using two vegetation sampling devices, Prudhoe Bay Oilfield, Alaska. Proceedings of the Arctic Science Conference, September 24-26, 2007, Anchorage, AK.

## REVISION LOG

### Revision 1, October 24, 2013

1. Updated Plan and figures to indicate that expansion into Phase II to the North of the current MPU Mine Site is not planned at this time.
2. Removed US Environmental Protection Agency as permitting agency for NPDES discharge permits and added Alaska Department of Environmental Conservation.
3. Updated current condition of mine and dewatering activity.
4. Updated Mining Plan to reflect proposed depth increase.
5. Removed reference to unused overburden in "Site Preparation" section.

### Revision 2, October 18, 2016

1. Updated Plan and figures to include the proposed new pit expansion (Phase II) to the North of the current MPU Mine Site.



2. Expanded the total acreage to include an additional overburden storage area along the east side of the proposed new pit expansion. Note, this revision provides more accurate dimensions, locations and cross sections.
3. Removed US Environmental Protection Agency as permitting agency for NPDES discharge permits and added Alaska Department of Environmental Conservation.
4. Updated current condition of mine and dewatering activity.
5. Updated mining activities to reflect proposed expansion of the Milne Mine Site and current operations.
6. Updated the Mining and Rehabilitation Plan so that it reflects the currently subscribed rehabilitation and revegetation techniques.