

MILNE POINT UNIT

**APPROVAL OF THE APPLICATION FOR THE
FIFTH EXPANSION THE MILNE POINT UNIT**

Findings and Decision of the Director
of the Division of Oil and Gas
Under a Delegation of Authority
from the Commissioner of the State Of Alaska
Department of Natural Resources

May 12, 2016

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I. INTRODUCTION AND DECISION SUMMARY

The State of Alaska, Department of Natural Resources (DNR), Division of Oil and Gas (Division), received the Application to expand the Milne Point Unit (Application), on February 17, 2016, from the Milne Point Unit (MPU) Operator, Hilcorp Alaska, LLC (Hilcorp). The existing MPU contains approximately 49,588 acres. The proposed MPU expansion area covers portion of two State leases containing approximately 1,268 acres. Attachments 2 and 3 set out the proposed and approved Exhibits A and B to the MPU agreement.

“A unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations.” 11 AAC 83.356(a). Previously, Hilcorp had submitted confidential geological, geophysical, and engineering data demonstrating that the area approved for expansion includes all or part of an oil or gas reservoir and potential hydrocarbon accumulations. Hilcorp’s unit expansion application provides data and explanations on how the proposed expansion “facilitates production on the immediately adjacent lands necessary for secondary or tertiary recovery, pressure maintenance, reinjection, or cycling operations.” 11 AAC 83.356(b).

The Division finds that the expansion of the MPU, promotes conservation of all natural resources, promotes the prevention of economic and physical waste and provides for the protection of all parties of interest, including the State. AS 38.05.180(p); 11 AAC 83.303. I approve the Application effective May 1, 2016.

II. APPLICATION AND LEASE SUMMARY

The MPU is an onshore North Slope oil and gas development comprised of 24 State of Alaska oil and gas leases. The MPU was approved effective September 28, 1979, and it was originally operated by Conoco, Inc. of Texas. In early 1994, BP Exploration Alaska (BPXA) assumed operatorship from Conoco, Inc. BPXA served as unit operator until 2014 when Hilcorp purchased 50% of BPXA’s working interest in the MPU and was approved as Unit Operator effective November 13, 2014. BPXA retained 50% working interest in the MPU.

On January 27, 2000, the Division received an application from the unit operator, BPXA, to contract the MPU. The Division had previously deferred mandatory unit contraction of the MPU until December 31, 1999. Pursuant to 11 AAC 83.356, BP requested the MPU boundary to be contracted to only the land included in an approved participating area. The Division approved the contraction of the MPU to the boundary of the Schrader Bluff Participating Area (SBPA) on May 4, 2000.

As a result of the contraction, only a portion, Section 7: SW1/4 SW1/4, of state oil and gas lease ADL 47432 (37 acres) remained in the MPU. Sections 7 and 8 of ADL 47432 remained in full force and effect and the lease was not severed because a portion of lease remained committed to the SBPA. On November 17, 2005, BP requested Section 7: SW1/4 SW1/4 of ADL 47432 be contracted from the SBPA. BP requested the contraction due to the results of their latest mapping of the oil-water contact in the Schrader Bluff reservoir which placed no oil in the lease. The Division approved the SBPA and unit contraction by letter dated November 23, 2005.

This decision left ADL 47432 completely outside the MPU and SBPA and the lease expired effective December 1, 2005. Prior to the expiration of the lease, BPXA drilled and completed the MPB-50 Class I disposal well into ADL 47432 in March 2005. The disposal well has been continuously operating since the expiration of ADL 47432. The wellbore also passes through a non-unitized portion of ADL 47438; this acreage was also contracted as part of the mandatory unit contraction in May 2000. BPXA had also drilled the MPB-24 well in 1996 and suspended the well. Hilcorp has recently transitioned the MPB-24 well to a Class I disposal well.

Upon expiration of ADL 47432, the lease area was included in North Slope Areawide lease sales where the area was bid upon twice. On August 1, 2008, the Division issued lease ADL 391292 to lessee Andrew Bachner and the lease was relinquished and terminated effective August 1, 2010. During the 2011 North Slope Areawide lease sale, the lease area again received a bid but the bidder did not accept the lease. In the 2015 North Slope Areawide lease sale, Hilcorp was the successful bidder on the lease area formerly designated as ADL 47432. On May 1, 2015, the Division issued ADL 392703 (2,533 acres) to Hilcorp for a ten-year primary term. Effective October 1, 2015, the Division approved the assignment of 50% working interest in the lease to BPXA.

The information on the lease area proposed for the expanded unit is summarized in the table below.

| Tract No. | Lease No. | Lease Date | Acres | Royalty | WIO | Description |
|------------------|------------------|-------------------|--------------|----------------|-----------------------------|---|
| 1 | 392703 | 5/1/2015 | 948.0 | 16.66667% | Hilcorp - 50% BPXA - 50% | T. 13 N., R. 11 E., UM, AK Sec. 7; All. Sec. 8, W1/2 |
| 6 | 47438 | 10/1/1969 | 320.0 | 20% | Hilcorp - 50% BPXA - 50% | T. 13 N., R. 11 E., UM, AK Sec. 17, N1/2NW1/4, SW1/4NW1/4; Sec. 18, E1/2NE1/4, SW1/4NE1/4, SE1/4NW1/4, and NE1/4SE1/4. |

Hilcorp submitted the Application on February 12, 2016, and simultaneously paid the \$500.00 unit expansion application filing fee, in accordance with 11 AAC 83.306 and 11 AAC 05.010(a)(10)(D), respectively. The Application included: Exhibit A (Attachment 2), a map of the proposed expanded unit the MPU; updated Exhibit B (Attachment 3), legally describing the proposed expanded unit area, its leases, and ownership interests; Ratification and Joinder Agreement for the lease tracts in the MPU expansion request; and a current version of the Milne Point Unit Operating Agreement. The Division notified Hilcorp by email dated February 25, 2016, that the Application was complete.

The Division published a public notice in the *Alaska Dispatch News* and in the *Arctic Sounder* on March 4, 2016, under 11 AAC 83.311. Copies of the Application and the public notice were provided to interested parties. The Division provided public notice to, among others, the Alaska Departments of Environmental Conservation and Fish and Game, the North Slope Borough, the City of Barrow, the City of Nuiqsut, the Kuukpik Corporation, Arctic Slope Regional

Corporation, the Barrow and Nuiqsut Postmasters, and the radio station KBRW in Barrow. The notice was also published on the State of Alaska Public Notice website and the Division's website. The public notices invited interested parties and members of the public to submit comments by April 3, 2016.

The Division received one comment from the North Slope Borough (Borough). The letter from the Borough serves to inform the operator to comply with federal, state, and local laws for new disposal wells. The letter expresses understanding of the operator's reasoning for expanding the MPU.

III. DISCUSSION OF DECISION CRITERIA

The DNR Commissioner (Commissioner) reviews applications related to units under 11 AAC 83.303 – 11 AAC 83.395. By memorandum dated September 30, 1999, the Commissioner approved a revision of Department Order 003 and delegated this authority to the Division Director.

When considering a unit expansion, the Division must consider the criteria in 11 AAC 83.303(a) and (b). Accordingly, the Division considered the public interest, conservation of natural resources, prevention of economic and physical waste, protection of all interested parties including the state, environmental costs and benefits, geological and engineering characteristics or reservoirs or potential hydrocarbon accumulations, prior exploration activities, plans for exploration or development, economic costs and benefits to the state, and any other relevant factors, including mitigation measures. 11 AAC 83.303(a)–(b).

A unit area must encompass the minimum area required to include all or part of one or more oil and gas reservoirs, or all or part of one or more hydrocarbon accumulations. After 10 years from the beginning of sustained production, the unit area must be contracted to include only those lands then included in an approved participating area and lands that facilitate production including the immediately adjacent lands necessary for secondary or tertiary recovery, pressure maintenance, reinjection, or cycling operations. 11 AAC 83.356 (a)–(b).

A. Decision Criteria considered under 11 AAC 83.303(b)

1. Environmental Costs and Benefits

The expansion area is habitat for various mammals, waterfowl, and fish species. Area residents may use this area for subsistence hunting and fishing. Oil and gas activity in the proposed unit area may affect some wildlife habitat and some subsistence activity. DNR develops lease stipulations through the lease sale process to mitigate the potential environmental impacts from oil and gas activity.

DNR also considers environmental issues during the lease sale process, and the unit Plan of Operations approval process. Alaska statutes require DNR to give public notice and issue a written finding before disposal of the state's oil and gas resources. AS 38.05.035(e); AS 38.05.945; 11 AAC 82.415. In the written best interest finding, the Commissioner may impose additional conditions or limitations beyond those imposed by law. AS 38.05.035(e).

Approval of the MPU expansion has no direct environmental impact. This decision is an administrative action and does not authorize any on-the-ground activity. The unit expansion does not entail any environmental costs in addition to those that may occur when permits to conduct lease-by-lease exploration or development are issued. The Unit Operator must obtain approval of a plan of operations from the State and permits from various agencies on State leases before drilling a well or wells or initiating development activities to produce from reservoirs within the unit area. 11 AAC 83.346. Potential effects on the environment are analyzed when permits to conduct exploration or development in the unit area are reviewed. Hilcorp is operating under an approved plan of operations and plan of development.

2. Geological and Engineering Characteristics

The MPU currently produces, as of February 2016, a total of approximately 19,500 barrels of oil per day (BOPD) from three defined oil pools. In stratigraphic order from oldest (deepest) to youngest, these pools are in the Upper Triassic to Lower Jurassic Sag River Formation, the Lower Cretaceous Kuparuk River Formation, and the Upper Cretaceous Schrader Bluff Formation. Since beginning production in 1985, the MPU has produced a cumulative volume of approximately 330 million barrels of oil.

Two wells have been drilled to date within the requested expansion area. In 1996, the MPU B-24 was directionally drilled to a bottom hole location (BHL) location of 1783' FSL, 1151' FWL, Sec. 8, T13N, R11E, UM. The well was drilled to a measured depth (MD) of 12,584' (7,888' subsea true vertical depth (SSTVD)). The well penetrated and evaluated the Schrader Bluff Formation and the deeper Kuparuk River Formation, both of which were non-hydrocarbon bearing due to being below the oil water contact (OWC). The well was then plugged and suspended per AOGCC regulations. In 2005 BP directionally drilled the MPU B-50 well to a BHL of 3169' FSL, 889' FEL, Sec. 7, T13N, R11E, UM. This well reached a depth of 11,370' MD (5004' SSTVD), where drilling ended after the operator determined the Schrader Bluff Formation was also below the OWC in this location.

In 2005 BPXA filed for and was granted an Underground Injection Control (UIC) permit from the Environmental Protection Agency (EPA) to use MPU B-50 as an injection well to dispose of non-hazardous industrial waste into the non-hydrocarbon bearing Schrader Bluff and Ugnu (Prince Creek) Formations as correlated between 9020–11,172' MD (4022–4865' SSTVD). The MPU B-50 well has been employed as a Class 1 waste disposal well since 2005.

In 2015, Hilcorp recompleted the MPU B-24 well as a waste disposal well to support their planned “grind and inject” facility at Drillsite B. MPU B-24 was perforated between 8260–8280' MD (4608–4614' SSTVD) and the deeper portion of the existing wellbore was plugged at 10,060' MD (5632' SSTVD).

The MPU B-50 and MPU B-24 wells penetrated and evaluated the strata in the expansion area down through the Kuparuk River Formation and found the prospective zones to be below the OWC and non-hydrocarbon bearing. No additional drilling targeting oil or gas production is expected within the expansion acreage. Both existing wells have been approved by the EPA as Class 1 waste disposal wells (UIC permit AK 11005B) and MPU B-50 has operated as a waste disposal well since 2005 in accordance with AOGCC regulations 20 AAC 25.412 and 20 AAC

25.252. The current UIC permit is valid through November 2, 2024. Inclusion of the requested expansion acreage into the unit will ensure the continued use of the existing disposal wells in support of field operations and oil production at MPU.

3. Plans of Development

The Division approved an amendment to the Thirty-fourth MPU Plan of Development (34th POD), by letter dated June 18, 2015, for the period January 1, 2015 through July 31, 2016. The Thirty-fifth MPU POD is due to the Division by May 2, 2016.

The amended 34th POD states that Hilcorp is now under contract for the Nordic 3 rig and the rig is currently working in the unit. Hilcorp still anticipates drilling up to six new wells targeting the Schrader Bluff, Kugaruk, and Sag River reservoirs during the 34th POD period. The amended POD lists plans to conduct 21 rig workovers, 17 well workovers, and 5–10 matrix bypass event treatments. Hilcorp also plans to initiate construction of a Grind and Inject (G & I) facility at B Pad. The project will require installation of new surface piping to connect the facility to an injection well, water source, and Central Facilities pad. Projected completion date is October 2017. The work proposed at B-Pad will facilitate operations for the MPU B-50 and MPU B-24 disposal wells.

4. The Economic Costs and Benefits to the State and Other Relevant Factors

During the unit contraction process, BPXA and the Division failed to recognize the critical operational importance of this lease to the MPU. The B-50 well averaged an injection rate of approximately 30,000–35,000 barrels of water per day. The B-24 well is permitted to handle muds and cuttings, and it will provide a back-up waste water disposal capacity for the B-50. Cost-effective, efficient injection and disposal is critical for keeping wells online and increasing oil production in the future. In the absence of sufficient water disposal at the MPU, Hilcorp estimates upwards of 5,000–8,000 BOPD may be shut-in, somewhere between 25–40% of the field's current overall production. Furthermore, as well work and future exploration and development activities increase, additional waste water disposal wells and facilities may be required.

The Division's decision to approve BP's requests to contract the MPU and the subsequent expiration of ADL 47432 did not account for how the contracting area facilitates unit production. Hilcorp's proposed expansion of the MPU returns to the unit the area previously within the MPU. The proposed expansion area was facilitating production when the MPU was contracted to the Schrader Bluff PA boundary in 2005. The disposal well has been continuously operating since the unit contraction and expiration of ADL 47432. The utilization of the B-50 disposal well has allowed unit operations and oil production to continue without disturbances due to disposal issues. Thus, the proposed unit expansion area has facilitated unit operation and production. Hilcorp has requested the MPU expansion only include the portion of ADL 392703 facilitating production.

B. Decision Criteria considered under 11 AAC 83.303(a)

1. Promote the Conservation of All Natural Resources

A unit may be formed under AS 38.05.180(p) “[t]o conserve the natural resources of all or a part of an oil or gas pool, field, or like area.” Conservation of the natural resources of all or part of an oil or gas pool, field or like area means “maximizing the efficient recovery of oil and gas and minimizing the adverse impacts on the surface and other resources.” 11 AAC 83.395(9). The unitization of oil and gas reservoirs or accumulations and the formation and expansion of unit areas to develop hydrocarbon-bearing reservoirs or accumulations are well-accepted means of hydrocarbon conservation. Unitization, with development occurring under the terms of a unit agreement, can promote efficient evaluation and development of the State’s resources, and minimize impacts to the area’s cultural, biological, and environmental resources.

Expansion of an existing unit, with development occurring under the terms of a unit agreement, promotes efficient evaluation and development of the State’s resources, and minimizes impacts to the area’s cultural, biological, and environmental resources.

2. The Prevention of Economic and Physical Waste

Unitization, as opposed to activity on a lease-by-lease basis, may prevent economic and physical waste. Economic waste is often referred to as the drilling of wells in excess of the number necessary for the efficient recovery of the oil and gas in place. Physical waste, among other things, includes the inefficient, excessive, or improper use of, or unnecessary dissipation of, reservoir energy.

Unitization may also prevent economic and physical waste by eliminating redundant expenditures for a given level of production, or by increasing ultimate recovery with the adoption of a unified reservoir management plan. Annual approval of the MPU development activities as described in the future plans of development must also provide for the prevention of economic and physical waste. The proposed expansion area would bring two injection wellbores and the respective reservoir injection zones into the MPU. The injection wells operational availability facilitates oil production throughout the MPU. Continuing operations of water disposal at MPU’s B-Pad affords Hilcorp future opportunities to expand oil development activities throughout the unit.

3. The Protection of All Parties of Interest, Including the State

The people of Alaska have an interest in the development of the State’s oil and gas resources to maximize the economic and physical recovery of the resources, AS 38.05.180(a). Approval of the expansion under future annually approved plans of development will provide for continued review and approval of Hilcorp’s plans to develop the MPU in a manner that will maximize economic and physical recovery. Combining interests and operating under the terms of the MPU Agreement and MPU Operating Agreement ensures an equitable allocation of costs and revenues commensurate with the resources.

The MPU expansion protects the economic interests of Hilcorp and the State. The expansion promotes the State’s economic interests because hydrocarbon recovery will be maximized and

additional production-based revenue will be derived from the increased production. Diligent exploration and development under a single approved unit plan promotes the State's interest. Operating under the MPU Agreement provides for accurate reporting and record keeping, State approval of plans of exploration and development and operating procedures, royalty settlement, in-kind taking, and emergency storage of oil and gas, all of which will further the State's interest.

IV. FINDINGS AND DECISION

A. The Conservation of All Natural Resources

1. Expansion of the MPU will provide for continued development of the expansion area under the MPU Agreement and will maximize the efficient recovery of oil and gas and minimize the adverse impacts on the surface and other resources, including hydrocarbons, gravel, sand, water, wetlands, and valuable habitat.
2. The unitized development and operation of the expansion leases will reduce the amount of land and fish and wildlife habitat that would otherwise be disrupted by individual lease development. This reduction in environmental impacts and preservation of subsistence access is in the public interest.
3. There is potential for environmental impacts associated with development. All unit development must proceed according to an approved plan of development. Additionally, before undertaking any specific operations, the Unit Operator must submit a unit Plan of Operations to the Division and other appropriate state and local agencies for review and approval. The lessees may not commence any drilling or development operations until all agencies have granted the required permits. DNR may condition its approval of a unit Plan of Operations and other permits on performance of mitigation measures in addition to those in the modified leases and the Agreement, if necessary or appropriate. Compliance with mitigation measures will minimize, reduce or completely avoid adverse environmental impacts.

B. The Prevention of Economic and Physical Waste

1. Division technical staff determined that the expanded MPU acreage encompasses an area which includes lands that facilitate production such as reinjection and secondary or tertiary recovery.
2. The available geological, geophysical and engineering data justify including the proposed lands, as described in Section III(A)(2) of this decision.
3. The production of hydrocarbons through the existing production and processing facilities reduces the environmental impact of the additional production. Using existing facilities will avoid unnecessary duplication of development efforts on and beneath the surface.

C. The Protection of All Parties in Interest, Including the State

1. The unit expansion as approved protects all parties' interests including the people of

Alaska who have an interest in the development of the State’s oil and gas resources to maximize the economic and physical recovery of the resources.

2. The economic, geological, geophysical, and engineering data that Hilcorp has provided reasonably justify the inclusion of the MPU expansion acreage under the terms of the applicable regulations governing formation, expansion, and operation of oil and gas units and participating areas (11 AAC 83.301–11 AAC 83.395) and the terms and conditions under which these lands were leased from the State.
3. Hilcorp holds sufficient interest in the unit area to give reasonably effective control of operations.
4. The unit expansion meets the requirements of 11 AAC 83.303.
5. It is in the public interest and consistent with 11 AAC 83.356 to expand the unit area to include lands that facilitate production such as reinjection and secondary or tertiary recovery
6. The Division complied with the public notice requirements of 11 AAC 83.311.
7. The unit expansion will not diminish access to public and navigable waters beyond those limitations (if any) imposed by law or already contained in the oil and gas leases covered by this decision.
8. The MPU Agreement provides for additional expansions and contractions of the unit area in the future, as warranted by data obtained by exploration or otherwise. The MPU Agreement thereby protects the public interest, the rights of the parties, and the correlative rights of adjacent landowners.
9. The approved expanded unit is effective May 12, 2016.
10. The leases approved for inclusion in the expanded Milne Point Unit are as follows:

| Tract No. | Lease No. | Lease Date | Acres | Royalty | WIO | Description |
|------------------|------------------|-------------------|--------------|----------------|-----------------------------|---|
| 1 | 392703 | 5/1/2015 | 948.0 | 16.66667% | Hilcorp - 50% BPXA - 50% | T. 13 N., R. 11 E., UM, AK Sec. 7; All. Sec. 8, W1/2 |
| 6 | 47438 | 10/1/1969 | 320.0 | 20.0% | Hilcorp - 50% BPXA - 50% | T. 13 N., R. 11 E., UM, AK Sec. 17, N1/2NW1/4, SW1/4NW1/4; Sec. 18, E1/2NE1/4, SW1/4NE1/4, SE1/4NW1/4, and NE1/4SE1/4. |

11. ADL 392703 will be segregated and the non-unitized portion of the lease will be assigned ADL 393174 with legal description Umiat Meridian, Township 13 North, Range 11 East; Section 5 – All, Section 6 – All, Section 8 E1/2.

12. Hilcorp shall submit revised MPUA exhibits to include revised Exhibits A and B within sixty (60) days of the issuance of this decision, on or before July 11, 2016.

For the reasons discussed in this Findings and Decision, I hereby approve the MPU 5th Unit Expansion.

An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received 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 Marty Rutherford, 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. This decision takes effect immediately. An eligible person must first appeal 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.



Corri A. Feige
Director
Division of Oil and Gas



Date

V. Attachments

1. Milne Point Unit Expansion Application
2. Proposed Exhibit A – Map of Milne Point Unit Expansion Area
3. Proposed Exhibit B – Milne Point Unit Expansion Area

**Attachment 1:
Milne Point Unit Expansion Application**



Hilcorp Alaska, LLC

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February 12, 2016

via: Email and USPS

Ms. Corrie Feige, Director
Alaska Department of Natural Resources
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550 West 7th Avenue, Suite 1100
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RECEIVED

FEB 17 2016

**DIVISION OF
OIL AND GAS**

NORTH SLOPE, STATE OF ALASKA

Milne Point Unit

Application to expand the Milne Point Unit

Dear Ms. Feige:

On May 1, 2015, Oil and Gas Lease ADL-392703 was issued to Hilcorp Alaska, LLC (“Hilcorp Alaska”) by the Department of Natural Resources, Division of Oil and Gas (“DOG”). Effective October 1, 2015, DOG approved the assignment of fifty percent (50%) working interest ownership in ADL 392703 from Hilcorp Alaska to BP Exploration (Alaska) Inc. (“BP”).

ADL 392703 is located adjacent to the Milne Point Unit (“MPU”) and at one time was incorporated in the Unit as Tract 1 (ADL 47432). Through subsequent administrative action, the land encompassed by now ADL 392703 contracted out of the MPU in 2005.

During the contraction process, all parties failed to recognize the critical operational importance of this lease to the MPU. Well MP B-50 PTD 204-252 (B-50) has a surface location within the contracted MPU boundary and a bottom hole location outside the now contracted MPU boundary. This well is the only operational waste water disposal well in the MPU and the MPU depends on said disposal well for all its waste water disposal needs. Located on the same drillsite as B-50, there exists another wellbore MP B-24 PTD 196-009 (B-24) permitted to handle muds and cuttings. It too has a bottom hole location outside of the MPU boundary and is a likely candidate for additional waste generation disposal. As operational insurance, B-24 will provide redundancy and back up waste water disposal capacity to B-50. As well work and future exploration and development activities increase, additional waste water disposal wells and facilities may be required.

After contraction, the land covered by ADL 47432 was subsequently leased by parties not affiliated with the MPU and for an extended period of time, the MPU working interest owners and DOG sought resolution of this unintended consequence and conflict created by the contraction. With the October 1, 2015 assignment approval above, the MPU working interest owners have reconsolidated the previously contracted leasehold and desire to incorporate same into the MPU.

Therefore, pursuant to 11 AAC 83.356 and Article 2(a) of the Milne Point Unit Agreement, Hilcorp Alaska, as Operator of the MPU, on behalf of itself and the other MPU working interest owner, hereby requests the DOG expand the Milne Point Unit by the incorporation of 1,268.00 acres to include portions of ADL 392703 and ADL 47438. The 1,268.00 acres represents the expansion area outside of the existing MPU necessary to incorporate well paths, areal injection, and bottom hole locations of B-50, B-24, and acreage to accommodate a possible future third waste water disposal well as follows:

ADL 392703 (Tract 1)

T13N-R11E, Section 7, UM containing 628.00 Acres

T13N-R11E, W1/2 Section 8, UM containing 320.00 Acres

Total: 948.00 Acres

ADL 47438 (Tract 6)

T13N-R11E, N1/2 NW1/4, SW1/4NW1/4 Section 17, UM containing 120.00 Acres

T13N-R11E, E1/2NE1/4, SW1/4NE1/4, SE1/4NW1/4, and NE1/4SE1/4 Section 18, UM containing 200.00 Acres

Total: 320.00 Acres

Simultaneous with DOG approval of the 1,268.00 acre expanded area, Hilcorp Alaska requests relinquishment and severance of the balance of acreage contained in ADL-392703 lying outside of the newly expanded MPU area. No relinquishment or severance of ADL-47438 is requested.

Incorporated as part and in support of this MPU expansion application letter, please find the following enclosures:

- WIO Ratification and Joinder (ADL 392703, portion of ADL 47438) to the MPU
- Revised Exhibits A and B to the MPU Agreement
- Copy of the current Joint Operating Agreement to the MPU
- Application Fee pursuant to 11 AAC 05.010 (a) (10) (E) (receipt)

The proposed unit expansion meets the criteria of 11 AAC 83.303(a) (public interest criteria), as it will:

- (1) Promote the conservation of all natural resources, including all or part of any oil pools common to the MPU,
- (2) Promote the prevention of economic and physical waste by providing for the only means of MPU waste water disposal through existing waste disposal facilities designed, drilled and developed for MPU.
- (3) Provide for the protection of all parties of interest, in particular the State of Alaska, as the Working Interest Owners are aligned so there are no other correlative rights at issue.

Incorporation of the above listed leases into the expanded unit will maximize administrative and operational efficiencies for both the State of Alaska and Hilcorp Alaska. This conclusion is apparent when considering all factors otherwise required by 11 AAC 83.303(b), including:

(1) Environmental Costs and Benefits:

The proposed expansion of the unit has a direct positive environmental impact. The requested approval incorporates a vital necessary component (waste water disposal) for oil production within the confines of the MPU boundary which will be incorporated and administered within the Plan of Development.

Additional benefit to the environment is achieved through reduced risk on transportation of waste to unaffiliated third party disposal facilities.

Expansion of the MPU incorporating existing waste disposal well(s) provides for operational efficiency and will reduce overall operational expense.

(2) - (4) Geologic and Engineering Characteristics; Prior and Current Exploration and Development Plans:

On January 26, 2016, Hilcorp Alaska submitted a detailed geologic and engineering presentation to DNR. This presentation included an in-depth review of prior exploration and development and Hilcorp Alaska's current plan for exploration and re-development of the field.

(5) Economic Costs and Benefits to the State: DNR has an obligation to protect the public's interest in maximizing the economic and physical recovery from the State's oil and gas resources. Hilcorp Alaska's proposal is designed to promote cost efficient operational enhancements to the proposed expansion MPU.

Other relevant factors: As detailed above, Hilcorp Alaska's proposal will provide for waste disposal facilities incorporated and contained within the newly expanded MPU area. The incorporation of acreage and critical waste disposal facilities in the MPU will facilitate and maximize oil recovery enhancement while minimizing impacts of ongoing and future exploration, development, production and transportation activities.

To underscore the critical operational and economic importance of waste water disposal to production at the MPU, a couple of points need to be made. Over last year alone, B-50 has been averaging an injection rate around 30,000 – 35,000 bwpd. Without cost effective and efficient

injection and disposal of such a large volume of waste, the oil wells associated with same would need to be shut in. The volume of MPU production impacted by such a shut in equates to approximately 5,000–8000 bopd; in other words, somewhere between 25 – 40% of the field’s overall production.

Furthermore, without B-50, MPU will require a method of disposal for camp wastes. This would entail additional field costs not limited to pump truck rentals, associated truck travel expenses, increased spill and risk liability and require payment to a third party disposer (Prudhoe Bay (Pad 3). Additionally, without B-24, significant expense, risk and liability would occur with transportation/disposal of drilling muds and cuttings.

CONCLUSION

DNR’s approval of the proposed unit expansion will promote efficient exploration and re-development of the MPU by securing critically needed waste water disposal facilities within the Unit boundary.

The acreage and facilities identified above contribute to and are critical components of MPU production and therefore must be unitized.

Hilcorp Alaska’s proposal will not impact royalties that otherwise would be paid to the State of Alaska. The State is the sole affected landowner.

No changes to the current MPU Agreement are required to act on Hilcorp Alaska’s Unit expansion proposal. *See* 11 AAC 83.306(1). Hilcorp Alaska will apply the current MPU operating agreement with no changes. *See* 11 AAC 83.306(2). An updated copy of same is included as part of this submittal.

Should you have any questions regarding the merits of this proposal, please do not hesitate to contact me directly at (907)777-8379.

Sincerely,



Kevin A. Tabler
Land Manager

Enclosures

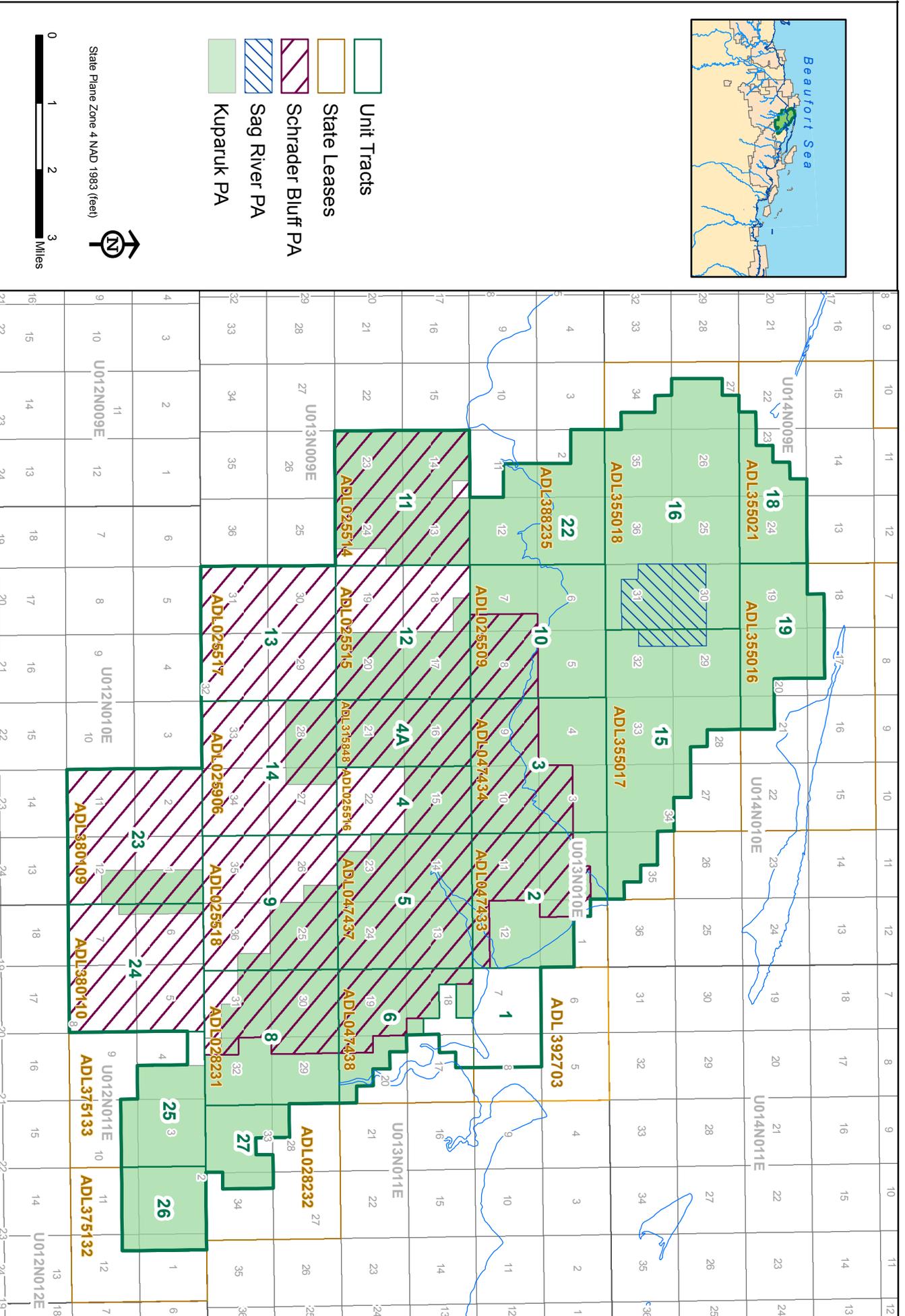
cc: Chairman/AOGCC
Temple Davidson/DNR

**Attachment 2:
Proposed Exhibit A – Map of Milne Point Unit Expansion**



Hilcorp Alaska, LLC

Milne Point Unit and Participating Areas Exhibit A



**Attachment 3:
Proposed Exhibit B – Milne Point Unit Expansion Area**

| ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) |
|---------------|---|-----------------|-------------|----------|--|---|
| 1 | 392703 T13N,R11E | | | | | |
| | Sec. 7: All tide and submerged Land | 566.52 | 16.67 | | BPXA Hilcorp | 50.00000 50.00000 |
| | Sec. 8: W½ | 231.48 | | | Total WI | 100.00000 |
| | T13N,R11E Tract B | | | | | |
| | Sec. 7: All including US Survey 8959 | 61.48 | | | | |
| | Sec. 8: All | 88.52 | | | | |
| | Total | 948.00 | | | | |
| 2 | 047433 T13N,R10E | | | | | |
| | Sec. 1: S½, SW¼,NW¼ | 360.00 | 20.00 | 0.00 | BPXA Hilcorp | 50.00000 50.00000 |
| | Sec. 2: All | 640.00 | | | Total WI | 100.00000 |
| | Sec. 11: All | 640.00 | | | | |
| | Sec. 12: All | 640.00 | | | | |
| | Total | 2,280.00 | | | | Ashland Black Stone Matagorda Total ORRI 0.2500000 1.2735000 0.0765000 1.6000000 |
| 3 | 047434 T13N,R10E | | | | | |
| | Sec. 3: All | 640.00 | 20.00 | 0.00 | BPXA Hilcorp | 50.00000 50.00000 |
| | Sec. 4: All | 640.00 | | | Total WI | 100.00000 |
| | Sec. 9: All | 640.00 | | | | |
| | Sec. 10: All | 640.00 | | | | |
| | Total | 2,560.00 | | | | None |
| 4 | 025516 T13N,R10E | | | | | |
| | Sec. 15: All | 640.00 | 12.50 | 0.00 | BPXA Hilcorp | 50.00000 50.00000 |
| | Sec. 22: All | 640.00 | | | Total WI | 100.00000 |
| | | 1,280.00 | | | | None |
| 4a | 315848 T13N,R10E | | | | | |
| | Sec. 16: All | 640.00 | 12.50 | 0.00 | BPXA Hilcorp | 50.00000 50.00000 |
| | Sec. 21: All | 640.00 | | | Total WI | 100.00000 |
| | | 1,280.00 | | | | None |

| ADL Lease No. | Tract Legal Description (Umiat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) | |
|---------------|--|--|-----------------|----------|--|--|--|
| 5 | 047437 | T13N,R10E | | | | | |
| | Sec. 13: | All | 640.00 | 20.00 | 0.00 | BPXA 50.000000 Hilcorp 50.000000 Total WI 100.000000 | Black Stone 1.2735000 Matagorda 0.0765000 Total ORRI 1.3500000 |
| | Sec. 14: | All | 640.00 | | | | |
| | Sec. 23: | All | 640.00 | | | | |
| | Sec. 24: | All | 640.00 | | | | |
| | | | <u>2,560.00</u> | | | | |
| 6 | 047438 | T13N,R11E | | | | | |
| | Sec. 17: | N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ | 120.00 | 20.00 | 0.00 | BPXA 50.000000 Hilcorp 50.000000 | Black Stone 2.5470000 Matagorda 0.1530000 |
| | Sec. 18: | All | 631.00 | | | Total WI 100.000000 | Total ORRI 2.7000000 |
| | Sec. 19: | All | 633.00 | | | | |
| | Sec. 20: | W $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$ | 400.00 | | | | |
| | | | <u>1,784.00</u> | | | | |
| 8 | 028231 | T13N,R11E | | | | | |
| | Sec. 29: | All | 640.00 | 12.50 | 0.00 | BPXA 50.000000 Hilcorp 50.000000 Total WI 100.000000 | None |
| | Sec. 30: | All | 636.00 | | | | |
| | Sec. 31: | All | 639.00 | | | | |
| | Sec. 32: | All | 640.00 | | | | |
| | | | <u>2,555.00</u> | | | | |
| 9 | 025518 | T13N,R10E | | | | | |
| | Sec. 25: | All | 640.00 | 12.50 | 0.00 | BPXA 50.000000 Hilcorp 50.000000 Total WI 100.000000 | None |
| | Sec. 26: | All | 640.00 | | | | |
| | Sec. 35: | All | 640.00 | | | | |
| | Sec. 36: | All | 640.00 | | | | |
| | | | <u>2,560.00</u> | | | | |

| Tract No. | ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) |
|-----------|---------------|--|-----------------|-------------|----------|---|--|
| 10 | 025509 | T13N,R10E | | | | | |
| | | Sec. 5: All | 640.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | None |
| | | Sec. 6: All | 625.00 | | | Total WI 100.00000 | |
| | | Sec. 7: All | 628.00 | | | | |
| | | Sec. 8: All | 640.00 | | | | |
| | | | 2,533.00 | | | | |
| 11 | 025514 | T13N,R9E | | | | | |
| | | Sec. 13: All | 640.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | None |
| | | Sec. 14: All | 640.00 | | | Total WI 100.00000 | |
| | | Sec. 23: All | 640.00 | | | | |
| | | Sec. 24: All | 640.00 | | | | |
| | | | 2,560.00 | | | | |
| 12 | 025515 | T13N,R10E | | | | | |
| | | Sec. 17: All | 640.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | None |
| | | Sec. 18: All | 631.00 | | | Total WI 100.00000 | |
| | | Sec. 19: All | 633.00 | | | | |
| | | Sec. 20: All | 640.00 | | | | |
| | | | 2,544.00 | | | | |
| 13 | 025517 | T13N,R10E | | | | | |
| | | Sec. 29: All | 640.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | None |
| | | Sec. 30: All | 636.00 | | | Total WI 100.00000 | |
| | | Sec. 31: All | 639.00 | | | | |
| | | Sec. 32: All | 640.00 | | | | |
| | | | 2,555.00 | | | | |
| 14 | 025906 | T13N,R10E | | | | | |
| | | Sec. 27: All | 640.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | None |
| | | Sec. 28: All | 640.00 | | | Total WI 100.00000 | |
| | | Sec. 33: All | 640.00 | | | | |
| | | Sec. 34: All | 640.00 | | | | |
| | | | 2,560.00 | | | | |

| Tract No. | ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) |
|-----------------------------------|---------------|--|---------------|-----------------|----------|---|--|
| 15 | 355017 | T14N, R10E | | | | | |
| | | Sec. 27: S½SW¼ | 80.00 | 12.50 | 40.00 | BPXA Hilcorp 50.00000 | None |
| | | Sec. 28: W½SE¼, SE¼SE¼, W½ | 440.00 | | | Total WI 100.00000 | |
| | | Sec. 29: All | 640.00 | | | | |
| | | Sec. 32: All | 640.00 | | | | |
| | | Sec. 33: All | 640.00 | | | | |
| | | Sec. 34: All | 640.00 | | | | |
| | | Sec. 35: SW¼, S½NW¼, W½SE¼, SE¼SE¼ | 360.00 | | | | |
| | | | | | | | |
| | | | | 3,440.00 | | | |
| 16 | 355018 | T14N, R10E | | | | | |
| | | Sec. 30: All | 620.00 | 12.50 | 30.00 | BPXA Hilcorp 50.00000 | None |
| | | Sec. 31: All | 623.00 | | | Total WI 100.00000 | |
| | | T14N, R9E | | | | | |
| | | Sec. 25: All | 640.00 | | | | |
| | | Sec. 26: All | 640.00 | | | | |
| | | Sec. 27: E½, E½SW¼, SE¼NW¼ | 440.00 | | | | |
| Sec. 34: NE¼SE¼, E½NE¼, NW¼NE¼ | 160.00 | | | | | | |
| Sec. 35: All | 640.00 | | | | | | |
| Sec. 36: All | 640.00 | | | | | | |
| | | 4,403.00 | | | | | |

| Tract No. | ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) |
|-----------------------------|---------------|--|-----------------|-------------|----------------------|--|---|
| 18 ^(a) Seg. 1 | 355021 | T14N, R9E | | 12.50 | 30.00 | BPXA 50.000000 | D. Herbaly 1.6875000 |
| | | Sec. 22: SE $\frac{1}{4}$ SE $\frac{1}{4}$ | 40.00 | | Hilcorp 50.000000 | E. Herbaly 1.6875000 | |
| | | Sec. 23: SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, | 400.00 | | Total WI 100.000000 | Joyce 0.3750000 | |
| | | Sec. 24: All | 640.00 | | Total ORRI 3.7500000 | | |
| | | | 1,080.00 | | | | |
| 18 ^(b) Seg. A | | Same as above (deeper stratigraphic level) | | | | BPXA 100.000000 | BPXA 1.2500000 |
| | | | | | | Hilcorp 1.2500000 | Hilcorp 1.2500000 |
| 18 ^(c) Seg. B | | Same as above (deeper stratigraphic level) | | | | ENI 50.000000 | BPXA 1.2500000 |
| | | | | | | Herbaly 45.000000 | Hilcorp 1.2500000 |
| | | | | | Joyce 5.000000 | Armstrong (etal) 0.3750000 | |
| | | | | | Total WI 100.000000 | Total ORRI 2.8750000 | |
| 19 ^(a) Seg. 1 | 355016 | T14N, R10E | | 12.50 | 40.00 | BPXA 50.000000 | Bachner 0.6000000 |
| | | Sec. 17: SW $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$ | 120.00 | | Hilcorp 50.000000 | Dieringer 0.3000000 | |
| | | Sec. 18: S $\frac{1}{2}$ SE $\frac{1}{4}$ | 80.00 | | Total WI 100.000000 | Herbaly, D 1.2375000 | |
| | | Sec. 19: All | 617.00 | | | Herbaly, E 1.2375000 | |
| | | Sec. 20: S $\frac{1}{2}$, NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ | 560.00 | | | HVA 0.2445900 | |
| | | Sec. 21: SW $\frac{1}{4}$ | 160.00 | | | Joyce 0.2750000 | |
| | | | 1,537.00 | | | Strocker 0.4500000 | |
| | | | | | | Wagner 0.4054100 | |
| | | | | | | Total ORRI 4.7500000 | |
| 19 ^(b) Seg. A | | Same as above (deeper stratigraphic level) | | | | BPXA 25.000000 | Bachner 0.6000000 |
| | | | | | | Hilcorp 25.000000 | Dieringer 0.3000000 |
| | | | | | Herbaly 45.000000 | HVA 0.2445900 | |
| | | | | | Joyce 5.000000 | Strocker 0.4500000 | |
| | | | | | Total WI 100.000000 | Wagner 0.4054100 | |
| | | | | | | Total ORRI 2.0000000 | |

| Tract No. | ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSSL (%) | Working Interest | | Overriding Royalty Interest Owner and Ownership (%) | |
|-------------------|---------------|--|-----------------|-------------|-----------|-----------------------------|-----------------------------------|--|------------------------|
| | | | | | | Owner and Ownership (%) | | | |
| 22 ^(e) | 388235 | T13N,R9E All Sec. 1: N½, SE½ Sec. 11: NE¼ Sec. 12: All | 640.00 | 12.50 | 30.00 | BPXA Hilcorp Total WI | 50.00000 50.00000 100.00000 | CPAI Total ORRI | 6.2500000 6.2500000 |
| | | | 480.00 | | | | | | |
| | | | 160.00 | | | | | | |
| | | | 640.00 | | | | | | |
| 1,920.00 | | | | | | | | | |
| 23 | 380109 | T12N,R10E All Sec. 1: All Sec. 2: All Sec. 11: All Sec. 12: All | 640.00 | 12.50 | 0.00 | BPXA Hilcorp Total WI | 50.00000 50.00000 100.00000 | None | |
| | | | 640.00 | | | | | | |
| | | | 640.00 | | | | | | |
| | | | 640.00 | | | | | | |
| 2,560.00 | | | | | | | | | |
| 24 | 380110 | T12N,R11E All Sec. 5: All Sec. 6: All Sec. 7: All Sec. 8: All | 640.00 | 12.50 | 0.00 | BPXA Hilcorp Total WI | 50.00000 50.00000 100.00000 | None | |
| | | | 577.00 | | | | | | |
| | | | 580.00 | | | | | | |
| | | | 640.00 | | | | | | |
| 2,437.00 | | | | | | | | | |
| 25 ^(e) | 375133 | T12N,R11E All Sec. 3: All Sec. 4: E½ Sec. 10: N½N½ | 640.00 | 12.50 | 0.00 | BPXA Hilcorp Total WI | 50.00000 50.00000 100.00000 | CPAI Total ORRI | 2.3750000 2.3750000 |
| | | | 320.00 | | | | | | |
| | | | 160.00 | | | | | | |
| | | | 1,120.00 | | | | | | |
| 26 ^(e) | 375132 | T12N,R11E W½NW¼, W½SW¼ Sec. 2: All Sec. 11: N½N½ Sec. 12: NW¼NW¼ | 160.00 | 12.50 | 0.00 | BPXA Hilcorp Total WI | 50.00000 50.00000 100.00000 | CPAI Total ORRI | 2.3750000 2.3750000 |
| | | | 640.00 | | | | | | |
| | | | 160.00 | | | | | | |
| | | | 40.00 | | | | | | |
| 1,000.00 | | | | | | | | | |

| ADL Lease No. | Tract Legal Description (Umat Meridian, Alaska) | Tract Acreage | Royalty (%) | NPSL (%) | Working Interest Owner and Ownership (%) | Overriding Royalty Interest Owner and Ownership (%) |
|-------------------|---|------------------|-------------|----------|--|---|
| 27 ^(e) | T13N, R11E | | | | | |
| | Sec. 28: S½SW¼ | 80.00 | 12.50 | 0.00 | BPXA 50.00000 Hilcorp 50.00000 | CPAI Total ORRI |
| | Sec. 33: W½, SE¼, S½NE¼, NE¼NE¼ | 600.00 | | | Total WI 100.00000 | 2.3750000 2.3750000 |
| | Sec. 34: W½NW¼, NW¼SW¼ | 120.00 | | | | |
| | | <u>800.00</u> | | | | |
| | TOTAL UNIT ACREAGE | 50,856.00 | | | | |

WIO and ORRI Owners

| | | | |
|-------------|------------------------------------|-------------|-----------------------------------|
| Armstrong | Armstrong Alaska, Inc. | Herbaly, E. | Elmer L. & Lorna M. Herbaly Trust |
| Ashland | Ashland Exploration, Inc. | Hilcorp | Hilcorp Alaska, LLC |
| Bachner | J. Andrew Bachner | HVA | HVA Royalties, Inc. |
| Black Stone | Black Stone Minerals Company, L.P. | Joyce | George Alan Joyce, Jr. |
| BPXA | BP Exploration (Alaska) Inc. | Matagorda | Matagorda B1, LP |
| CPAI | ConocoPhillips Alaska, Inc. | RTC | Royalty Trust Corporation |
| Dieringer | James F. Dieringer, Jr. | Stroecker | W.G. Stroecker Estate |
| Herbaly | Herbaly Exploration LLC | Wagner | Richard E. Wagner |
| Herbaly, D. | David L. Herbaly Revocable Trust | | |

Notes concerning unique interests to individual tracts:

- (a) Limited to the interval from the surface down to the stratigraphic equivalent depth of 100 ft. below 7,426 ft. TVD as measured in the Conoco NW Milne # 1 well (API # 50-029-22231).
- (b) Limited to the interval lying beneath 100 ft. below the stratigraphic equivalent of 7,426 ft. TVD as measured in the Conoco NW Milne #1 well (API # 50-029-22231) to the stratigraphic equivalent of 100' below 9,507' TVD as drilled in the Nikatchug 2 Well (AP #50-629-23199-00)
- (c) Limited to the interval lying below the stratigraphic equivalent of 100' below 9,507' TVD as drilled in the Nikatchug 2 Well (AP #50-629-23199-00) to the center of the earth
- (d) CPAI ORRI limited to hydrocarbon producing horizons deeper than the stratigraphic equivalent of the top of the Kuparuk Reservoir which is defined to be 6,881' true vertical depth subsea as shown in the GR/EWR log in the MPL-13 Well, located in Sec. 8, T13N, R10E, U.M., Alaska (surface) and Sec. 6, T13N, R10E, U.M. Alaska (bottomhole).
- (e) CPAI ORRI limited to hydrocarbon producing horizons deeper than the stratigraphic equivalent of the top of the Kuparuk Reservoir which is defined to be 6,830' true vertical depth subsea as shown in the DIL log in the Cascade #1 Well, located in Sec. 3, T12N, R11E, U.M., Alaska.