

DUCK ISLAND UNIT
AND
PRUDHOE BAY UNIT

APPLICATION FOR
THE FOURTH EXPANSION OF THE DUCK ISLAND UNIT AREA AND FIRST
EXPANSION OF THE EIDER PARTICIPATING AREA

AND SIMULTANEOUS

THIRD CONTRACTION OF THE PRUDHOE BAY UNIT AREA AND FIRST
CONTRACTION OF THE NIAKUK AND LISBURNE PARTICIPATING AREAS

FINDINGS AND DECISION OF THE COMMISSIONER
ALASKA DEPARTMENT OF NATURAL RESOURCES

MAY 16, 2000

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I. INTRODUCTION AND BACKGROUND

On November 3, 1999, BP Exploration (Alaska), Inc. (BP), Duck Island Unit (DIU) operator and Prudhoe Bay Unit (PBU) operator, applied to enlarge the DIU area and the Eider Participating Area (Eider PA) while simultaneously contracting the PBU area, the Niakuk Participating Area (NPA) and the Lisburne Participating Area (LPA) (the Application). The purpose of the Application is to amend the boundaries of the two units so that the Eider reservoir will underlie a single unit, the DIU. BP proposed excluding lands overlying the Eider Field from the PBU and including them within the DIU. The proposed expansion/contraction area includes approximately 40 acres within one lease, ADL 34634. The total DIU area, after the expansion, would include all or part of 10 leases and be approximately 17,585.69 acres. The expanded Eider PA would include approximately 680 acres within ADL 34634. With approval of the Application, the PBU would contain approximately 245,637 acres with 79,999 acres within the LPA and 6,443.50 acres within the NPA.

The proposed expansion of the Eider PA surrounds two wells drilled and completed by BP in the Ivishak geologic formation (Eider Field) in 1998 and 1999. BP completed the E1-01 well on March 28, 1998 under an approved tract operation. On June 29, 1998 BP applied to form the Eider PA within the DIU based on the test production from the E1-01 well. DNR approved the formation of the Eider PA on September 28, 1998, retroactive to June 1, 1998, the start of test production. On December 3, 1998, BP proposed drilling a well from the DIU Main Production Island (MPI) across the DIU boundary and into the PBU to determine if the Eider Field extended farther to the west. DNR approved the PBU tract operation on December 24, 1998. BP completed the Eider 2 well on January 20, 1999, with test production starting on January 25, 1999. The geologic, well, and production data that BP submitted justifies the expansion of the Eider PA and the DIU and contraction of the NPA, LPA and PBU. The data indicate that the Eider Field is capable of producing or contributing to the production of hydrocarbons in paying quantities within the expansion area.

The Department of Natural Resources (DNR), Division of Oil and Gas (the Division), approves the expansion of the DIU and Eider PA and the simultaneous contraction of the LPA, NPA and PBU. The Division also approves the proposed tract allocation schedule for the Eider PA submitted with the Application. The effective date of the DIU expansion, expansion of the Eider PA, and contraction of the LPA, NPA and PBU is January 24, 1999.

II. THE APPLICATION

On November 3, 1999, the DIU operator submitted an application to simultaneously expand the DIU area and the Eider PA while contracting the PBU area, the NPA and the LPA. The expansion/contraction area is comprised of a portion of one lease, ADL 34634 (DIU Tract 12, PBU Tract 33). BP submitted the Application pursuant to 11 AAC 83.351, 11 AAC 83.371 and Articles 2 and 11 of the DIU Agreement and Articles 5 and 9 of the PBU Agreement. The acreage BP proposes including in the Eider PA overlies an oil reservoir known as the Eider Field. The Eider Field is reasonably estimated to be capable of producing or contributing to the production of hydrocarbons in paying quantities. 11 AAC 83.351(a). ADL 34634 is currently partially within the DIU and the PBU and the Application proposes contracting 40 acres out of

the PBU and adding it to the DIU. The DIU operator requested an effective date of January 24, 1999, for the DIU and Eider PA expansions and the PBU, NPA and LPA contractions.

The Application included ten attachments: 1) Ballot Agreement for Expansion of the DIU and Eider PA, 2) Ballot and Notice for Contraction of the PBU, LPA and NPA, 3) Eider Plan of Development, 4) Map of the Proposed Enlarged Eider PA and DIU, 5) Eider Reservoir Type Log, 6) Top Reservoir Structure Map, 7) Type Cross-section, 8) Eider Special Supplemental Provision to the DIU Operating Agreement, 9) Tract Participation Within the Eider PA, and 10) Waiver Letter from Owner of PBU Tract 33 (ADL 34634).

DNR issued ADL 34634 effective April 1, 1967. The entire lease, 2,560 acres, was committed to the PBU effective April 1, 1977. On November 9, 1984, DNR received an application to expand the DIU, form the Endicott Participating Area (Endicott PA) within the expanded DIU, and simultaneously contract the PBU so that the Endicott reservoir would be entirely under the DIU. Effective February 22, 1985, DNR conditionally approved the realignment of the unit boundaries which had the following consequences: 1)ADL 34634 was eliminated from the PBU, 2) ADL 34634 was committed in its entirety as Tract 12 of the DIU (DIU Tract 12), and 3) half of ADL 34634, 1,280 acres, was included in the initial Endicott PA within the DIU. DNR required the DIU and PBU working interest owners to file a subsequent application within one year, so that the boundary between the two units would follow the trend of the Mikkelsen Bay Fault. On November 21, 1985, the unit operators submitted an application to expand the PBU and simultaneously contract the DIU pursuant to DNR's February 22, 1985 decision. Effective February 1, 1986, DNR approved the simultaneous contraction of the DIU and expansion of the PBU. The portion of ADL 34634 within the Endicott PA and the DIU contracted down to include only 1,000 acres. And the remaining 1,560 acres within ADL 34634 were contracted out of the DIU and committed to the PBU (PBU Tract 33). All of PBU Tract 33 is within the LPA and 640 acres of it are in the NPA. On September 28, 1998, DNR approved the formation of the Eider PA within the DIU to encompass 640 acres within DIU Tract 12. BP is now proposing to expand the Eider PA and the DIU to include an additional 40 acres in ADL 34634 that is currently committed to the PBU, NPA and LPA. ADL 34634 reserves a 12.5% royalty share to the State of Alaska (State). BP owns 100% of the working interest in the lease. All hydrocarbon production and costs for the Eider PA will be allocated to ADL 34634.

The Division determined that the Application was incomplete and requested supplemental information to justify contraction of the NPA and LPA. Representatives from BP presented their current interpretation of the reservoirs underlying the NPA and LPA within the contraction area to Division staff on January 20, 2000.

The Division determined that the Application was complete and published notices in the *Anchorage Daily News* on February 13, 2000, and in the *Arctic Sounder* on February 17, 2000, as required by 11 AAC 83.311. Copies of the public notice were provided to interested parties in conformance with 11 AAC 83.311. These parties included the North Slope Borough; Arctic Slope Regional Corporation; the Alaska Department of Environmental Conservation; the Alaska Department of Fish and Game; the Alaska Department of Natural Resources, Division of Land; and the Alaska Oil and Gas Conservation Commission (AOGCC). The public notices invited interested parties and members of the public to submit comments by March 18, 2000. The Division did not receive any comments on the Application.

On April 3, 2000, BP submitted the Third Plan of Development for the Eider PA (3rd POD) to supplement/update the plan of development submitted with the Application. On April 10, 2000, the Division approved the 3rd POD for the period June 30, 2000 through June 30, 2001.

III. DISCUSSION OF DECISION CRITERIA AND FACTORS CONSIDERED

The Commissioner of the Department of Natural Resources (the Commissioner) reviews applications to expand or contract units and to revise participating areas under AS 38.05.180(p) and 11 AAC 83.303 et. seq. By memorandum dated September 30, 1999, the Commissioner approved a revision of Department Order 003 and delegated this authority to the Director of the Division of Oil and Gas. The Director will approve the proposed Fourth Expansion of the DIU area and First Expansion of the Eider PA and simultaneous Third Contraction of the PBU area and First Contraction of the Niakuk and Lisburne PAs if he finds that they will conserve the natural resources of an oil or gas reservoir and are necessary or advisable to protect the public interest.

A participating area may include only land reasonably known to be underlain by hydrocarbons and known or reasonably estimated through the use of geological, geophysical, or engineering data to be capable of producing or contributing to the production of hydrocarbons in paying quantities. 11 AAC 83.351(a).

“Paying quantities” means quantities sufficient to yield a return in excess of operating costs, even if drilling and equipment costs may never be repaid and the undertaking considered as a whole may ultimately result in a loss; quantities are insufficient to yield a return in excess of operating cost unless those quantities, not considering the costs of transportation and marketing, will produce sufficient revenue to induce a prudent operator to produce those quantities.

11 AAC 83.395(4). A participating area application must be evaluated under these standards, as well as those of 11 AAC 83.303.

(a) Decision Criteria

The Commissioner will approve a proposed unit expansion/contraction and revisions of participating areas upon a written finding that they will: 1) promote the conservation of all natural resources; 2) promote the prevention of economic and physical waste; and 3) provide for the protection of all parties of interest, including the State. The following evaluates the Application under these criteria.

1. Promote the Conservation of All Natural Resources

The unitization of oil and gas reservoirs and the formation of participating areas within unit areas to develop hydrocarbon-bearing reservoirs are well-accepted means of hydrocarbon conservation. Without unitization, the unregulated development of reservoirs tends to be a race for possession by competing operators. The results can be 1) overly dense drilling, especially

along property lines; 2) rapid dissipation of reservoir pressure; and 3) irregular advancement of displacing fluids. These all contribute to the loss of ultimate recovery or economic waste. The proliferation of surface activity; duplication of production, gathering, and processing facilities; and haste to get oil to the surface also increase the likelihood of environmental damage. Requiring lessees to comply with conservation orders and field rules issued by the AOGCC would mitigate some of these impacts without an agreement to unitize operation. Unitization, however, provides a practical and efficient method for maximizing oil and gas recovery, and minimizes negative impacts on other resources.

The proposed expansion of the DIU and Eider PA along with contraction of the PBU, NPA and LPA will provide a comprehensive plan for developing the Eider Field and exploring all reservoirs within the expanded DIU. The proposed plan of development for the Eider PA provides for an efficient, integrated approach to development of the Eider Field.

Expansion of the DIU will promote the conservation of both surface and subsurface resources through the unitized (rather than lease-by-lease) development. Unitization allows the unit operators to explore the area as if it were one lease. Expansion of the DIU and expansion of the Eider PA over the Eider Field will allow this area to be comprehensively and efficiently explored and developed. Adoption of the Special Supplemental Provisions, the Eider Facility Sharing Agreement and a plan of development governing production will help avoid unnecessary duplication of development efforts on and beneath the surface. Facilities can be located to maximize recovery and to minimize environmental impacts, without regard for individual lease ownership.

Producing hydrocarbon liquids from the Eider Field through the existing DIU production and processing facilities will reduce the incremental environmental impact of the additional production. The planned Eider Field development will use the existing DIU infrastructure of pipelines, roads, pads and processing facilities. Initial development of the Eider Field is from the DIU MPI.

2. The Prevention of Economic and Physical Waste

Traditionally, under unitized operations, the assignment of undivided equity interests in the oil and gas reservoirs to each lease largely resolves the tension between lessees to compete for their share of production. Economic and physical waste, however, still could occur without an equitable cost sharing formula, as well as a well-designed and coordinated development plan. Consequently, unitization must equitably divide costs and production, and maximize physical and economic recovery from any reservoir. It must also treat the royalty owner fairly.

An equitable allocation of hydrocarbon shares among the working interest owners discourages hasty or unnecessary surface development. Similarly, an equitable cost-sharing agreement promotes efficient development of reservoirs and common surface facilities and encompasses rational operating strategies. Such an agreement further allows the working interest owners to decide well spacing requirements; scheduling, reinjection and reservoir management strategies; and the proper joint-use of surface facilities. Unitization prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and by avoiding loss of ultimate recovery by adopting a unified reservoir management plan.

Unitized operations greatly improve development of reservoirs beneath leases that may have variable productivity. Marginally economic reserves, which otherwise would not be produced on a lease-by-lease basis, often can be produced through unitized operations in combination with more productive leases. Facility consolidation saves capital and promotes better reservoir management by all working interest owners. Pressure maintenance and secondary recovery procedures are much more predictable and attainable through joint, unitized efforts than would otherwise be possible. In combination, these factors allow less profitable areas of a reservoir to be developed and produced in the interest of all parties, including the State.

The lessees in the proposed unit expansion area and Eider PA have signed the DIU Agreement, the Special Supplemental Provisions, and the Eider Facility Sharing Agreement agreeing to share the existing DIU production capacity and the DIU infrastructure. Using the DIU infrastructure and facilities eliminates the need to construct stand-alone facilities to process the recoverable hydrocarbons from the Eider Field. Facility consolidation will save capital and promote better reservoir management through pressure maintenance and enhanced recovery procedures. In combination, these factors allow the Eider Field within the DIU to be developed and produced in the interest of all parties.

Expanding the DIU and the Eider PA within the expanded DIU, and allowing this area to access existing unit facilities and infrastructure, prevents economic and physical waste.

3. Protection of All Parties

The proposed fourth expansion of the DIU and first expansion of the Eider PA seek to protect the economic interests of the Eider Field working interest owners as well as the royalty owner. Combining interests and operating under the terms of the DIU Agreement, the Special Supplemental Provisions, and the Eider Facility Sharing Agreement assures each individual working interest owner an equitable allocation of costs and revenues commensurate with the value of its lease(s).

Because hydrocarbon recovery will be maximized and additional production-based revenue will be derived from the Eider Field, one aspect of the State's economic interest is promoted. Diligent development and exploration under a single approved unit plan without the complications of competing leasehold interests is certainly in the State's interest. It promotes efficient evaluation and development of the State's resources, yet minimizes impacts to the area's cultural, biological, and environmental resources.

The technical information submitted by BP in support of the Application indicates that the Eider Field is larger than the proposed expansion area. The additional acreage is south of the expansion area and within the PBU area. BP, as the owner of the area potentially drained by the Eider PA development, submitted a letter of non-objection with the Application. In addition, a ballot agreement on the PBU, NPA and LPA contractions was circulated and approved by the PBU owners.

(b) Factors Considered

The Division considered the following factors when reviewing the above criteria:

1. The Environmental Costs and Benefits of Unitized Exploration and Development

State regulation 11 AAC 83.303(b)(1) requires the Commissioner to assess the environmental costs and benefits of the proposed DIU and Eider PA expansion. DNR's approval of the Eider plan of development is only one step in the process of obtaining permission to drill a well or wells or develop the known reservoirs within the unit area. The unit operator also must obtain permits from various agencies before drilling a well or wells or initiating development activities to produce known reservoirs within the unit area. And the operator must obtain DNR's approval of a plan of operations.

State unitization regulations require the Commissioner's approval of a plan of operations before the unit operator performs any field operations. 11 AAC 83.346. A proposed plan of operations must describe the operating procedures designed to prevent or minimize adverse effects on natural resources. When reviewing a proposed plan of operations, the Division will consider the unit operator's ability to compensate the surface owner for damage sustained to the surface estate and the plans for rehabilitation of the unit area.

When the lessees propose further exploration and development of the expansion area, DNR will ensure that an updated unit plan of operations complies with the lease stipulations and lessee advisories developed for the most recent North Slope Areawide lease sale. DNR develops lease stipulations through the lease sale process to mitigate the potential environmental impacts from oil and gas activity. These mitigation measures address such issues as the protection of primary waterfowl areas, site restoration, construction of pipelines, seasonal restrictions on operations, public access to, or use of, the leased lands, and avoidance of seismic hazards. Additionally, lease operations may be subject to a coastal zone consistency determination and must comply with the terms of both the State and North Slope Borough coastal zone management plans as appropriate for the proposed activity.

Ongoing mitigation measures such as seasonal restrictions on specific activities in certain areas can reduce the impact on bird, fish and mammal populations. Designating primary waterfowl areas is one method of protecting the bird habitat. Regulating waste disposal is another way to limit environmental impacts. DNR also requires consolidation of facilities to minimize surface disturbances. With these mitigating measures, the anticipated exploration and development-related activity is not likely to significantly impact bird, fish, and mammal populations.

Area residents use the proposed expansion area for subsistence hunting and fishing. Expanding the DIU to including additional acreage within ADL 34634 will not result in additional restrictions or limitations on access to lands or public and navigable waters used for subsistence purposes. Oil and gas activity may impact some wildlife habitat and some subsistence activity. The environmental impact will depend on the level of development activity, the effectiveness of mitigation measures, and the availability of alternative habitat and subsistence areas. In any case, the anticipated activity under the expanded DIU will impact habitat and subsistence activity less than if the lessees

developed the leases individually. Unitized exploration, development and production will minimize surface impact.

2. The Geological and Engineering Characteristics of the Proposed Duck Island Unit Expansion Area and Expanded Eider Participating Area

The Eider PA is surrounded by producing fields and known oil accumulations. Exploratory drilling in the area began when BP drilled the Sag Delta No. 1 well in 1976, about one mile southwest of the proposed Eider PA. This was a test of the Lisburne Group in direct contact with the Lower Cretaceous Unconformity (LCU). This formation tested a maximum rate of 7,877 barrels of oil per day after acid stimulation at a depth of about 9,200 feet. DNR approved the formation of the Lisburne PA in the PBU effective December 1, 1986. This portion of the Lisburne Oil Pool is being developed from the Niakuk facilities at Heald Point. The Ivishak Formation, the reservoir rock at Eider, is absent because of erosion by the LCU.

In 1978 BP drilled the Sag Delta No. 4 well about three miles to the east of the Sag Delta No. 1 well. This well discovered oil in the Mississippian Kekiktuk Conglomerate, lying just below the LCU, at about -9,800 feet. DNR approved the formation of the Endicott PA in the DIU effective February 22, 1985, and production began in 1987. The Endicott PA has produced over 350 million barrels of oil so far and is currently producing approximately 55,000 barrels of oil per day from about 50 wells. The Endicott Field is defined on three sides by major normal faults, thus setting the stage for satellite accumulations like Eider and Sag Delta North.

In 1981/82, BP ventured north of the Niakuk fault with the Sag Delta No. 8 and No. 9 wells. The Niakuk fault is a down-to-the-north, normal fault that marks the northern boundary of the Endicott Field. Both wells found oil accumulations but in different formations. The Sag Delta No. 9 well encountered Sadlerochit and Lisburne Group rocks saturated with oil. The Sag Delta No. 9 well started production in 1989 under an approved tract operation. Several Sag Delta wells were drilled in 1990 to further deplete the reservoir. DNR approved the formation of the Sag Delta North PA (SDNPA) effective August 12, 1991. As it turned out, the Lisburne Group contributed little to production, possibly because of reservoir continuity problems. Most of the seven million barrels of oil produced from four wells in the SDNPA was from the Ivishak Formation (Sadlerochit Group).

The bottom-hole location of the Sag Delta No. 8 well is only a few hundred feet from the north line of the Duck Island Unit and the existing Eider PA. The well found thick, oil saturated Kuparuk sands at -9,600 feet with an oil-water contact no lower than -9,681 feet. Kuparuk sands of this type are generally deposited on the down-thrown side of faults active in middle Neocomian time, about 120 million years ago. A test in this interval produced 1,846 barrels of oil per day with a water cut of about 15%. The Sag River Sandstone was encountered just beneath the Kuparuk sands at -9,865 feet and flowed 351 barrels of oil per day with less than 1% water. The Ivishak Formation and Lisburne Group tested only water in this well. These oil accumulations have not been developed; however, BP recently drilled two wells into this area from Heald Point.

The last development activity in the vicinity was in the Niakuk Field (Kuparuk Sands) in the PBU. In 1994 two producing wells were drilled from Heald Point to bottom-hole locations about

one mile to the west of the DIU. The Kuparuk Sands in these wells were deposited on the down-thrown side of the Niakuk fault and are probably contemporaneous with Kuparuk Sands deposition in the Sag Delta No. 8 well. However, these two reservoirs have different oil-water contacts and, therefore, are not in communication.

Both Lisburne carbonate and Kuparuk River sandstone reservoir intervals may be present in the 40-acre expansion/contraction area. However, neither is likely to be contributing to production from the LPA or NPA and the prospectivity of each in the 40-acre expansion/contraction parcel is considered to be low-to-moderate.

The Lisburne Group, produced from the LPA immediately southwest of the Eider PA, is composed of two formations, the Wahoo and the Alapah. Within the expansion/contraction area the uppermost formation, the Wahoo, is quite thin due to erosion at the Lower Cretaceous Unconformity (LCU). The best reservoir intervals of the Wahoo are missing, having been totally eroded by the LCU some distance southwest of the expansion/contraction area. The best reservoir zones of the Alapah Formation, within the mid-Alapah dolomite interval, are probably present within the expansion/contraction area and, due to oil-charging by overlying shale, may contain oil. However, given the characteristically erratic porosity and permeability development and highly fractured nature of the Lisburne carbonates, the likelihood of encountering and developing hydrocarbons from the Lisburne Group within the 40-acre parcel is very small.

The Kuparuk River Formation that produces in the bordering NPA might be preserved in a complex of down-to-the-north normal faults beneath the northern one-third of the 40-acre expansion/contraction parcel. The presence there of the productive sand facies is problematic, however, as structural and stratigraphic complexities preclude a definitive interpretation from the available data. Furthermore, the interval is substantially downdip from the productive area of the Niakuk field to the west and, if present, is likely to be thin and very localized. The few wells that penetrated the Kuparuk sands in this region are either wet or partially oil-charged through the Kuparuk interval. Oil/water contacts, when encountered, are variable, indicating that Kuparuk reservoirs are probably small, discontinuous and localized. Wells drilled a short distance to the east of the parcel and seismic data indicate that the Kuparuk Formation is absent in the southern two-thirds of the parcel, probably due to non-deposition on the Eider structure. Consequently the Kuparuk River Formation sands, if and where present beneath the expansion/contraction parcel, are not expected to contain producible quantities of oil.

3. Prior Exploration Activities

3.1. Drilling History

On February 17, 1998, BP submitted an application for approval of a tract operation within the DIU (Eider Tract Operation). The Eider oil and gas accumulation lies adjacent to the Endicott Field in the northeast corner of the Duck Island Unit. The geology for the Eider oil and gas accumulation is similar to that of the Sag Delta North accumulation to the east and can be considered a satellite accumulation to the Endicott field. The Eider pool is situated in the Triassic Ivishak Formation, which was saved from erosion during lower Cretaceous time in a down-thrown fault block north of the Niakuk fault. The primary and secondary objectives of the Eider Tract Operation were to test the Ivishak and Lisburne formations. BP planned to drill the

2-56/BG-01 well from the MPI to a bottom-hole location on ADL 34634. The well name was later changed to BP DIU 2-56/Eider.

DNR conditionally approved BP's plans for the Eider Tract Operation on March 9, 1998. The approval was for 120 on-line days of testing, evaluation, and pilot production. DNR allowed BP to commingle Eider production fluids with other DIU fluids through the Endicott facilities during the test period. DNR requested a copy of the ballot agreement that allowed the Eider Tract Operation to use Endicott facilities, a status report by the 90th day of testing, and monthly well test data. As a final condition for approval of the tract operation, the working interest owners were not allowed to deduct any field costs from the State's royalty share of production associated with testing the Eider Tract Operation.

BP drilled a pilot hole and three sidetracks under the approved tract operation. The first well, No. 2-56/Eider, was completed on March 20, 1998, to a total depth of 10,027 feet true vertical depth. This well was plugged and abandoned. BP completed a sidetrack of the No. 2-56/Eider well on May 28, 1998, to a total depth of 10,006 feet true vertical depth. AOGCC classified one zone in this well as an oil well.

On June 29, 1998, BP submitted the Eider PA application, encompassing all of Section 27 within T. 12N., R. 16E., Umiat Meridian, 640 acres. DNR approved the formation of the Eider PA and the Initial Plan of Development (Initial POD) for the Eider Field on September 28, 1998. During the one-year term of the Initial POD, June 1, 1998 through June 1, 1999, BP planned to monitor production from the Eider 1 well, determine if it was feasible to drill additional wells in the field, and develop a long-range plan.

BP spudded an extended reach well, 2-30A/EI-02 (Eider 2), from the MPI on October 26, 1998. Representatives from BP met with Division staff on November 24, 1999, to discuss extending the Eider 2 wellbore beyond the DIU boundary and into the PBU to delineate the western extent of the Eider Field. On December 10, 1999, BP submitted an application for the Eider Tract Operation on Tract 33 of the PBU. BP requested approval to conduct testing, evaluation and pilot production from the portion of the well located in PBU Tract 33 for a period of 120 days. DNR approved the PBU Eider Tract Operation on December 24, 1998. BP completed drilling the Eider 2 well on January 20, 1999, with a bottom hole location 750 feet into the PBU. BP perforated two intervals in the Eider 2 well, one within the DIU and the other in the PBU, both in the lower sand of the Eider reservoir. In the March 3, 1999 Status Update on the PBU Eider Tract Operation, BP stated that production started on January 25, 1999, and the well was capable of sustained commercial production.

3.2. Production History

Test production from the 2-56A/EI-01 (Eider 1) well began on June 1, 1998. The Eider 1 well produced 394,886 barrels of oil, 2,121,524 mmcf of gas, and 16,231 barrels of water in 1998 and 226,642 barrels of oil, 2,818,953 mmcf of gas, and 6,858 barrels of water in 1999. Total cumulative production from the Eider 1 well was 621,528 barrels of oil, 4,940,477 mmcf of gas, and 23,089 barrels of water before it was shut-in on September 30, 1999. The Eider 2 well produced a total of 378,062 barrels of oil, 2,060,110 mmcf of gas, and 13,877 barrels of water in 1999. BP shut-in the Eider 2 well at the end of the 120-day test period, on March 24, 1999.

Cumulative production from the Eider reservoir from June 1998 through September 1999 was 999,590 barrels of oil, 7,000,587 mmmcf of gas, and 36,996 mmstb of water.

4. The Applicant's Plan for Development of the Eider Participating Area

The DIU operator submitted a plan of development for the Eider Field with the Application, on November 3, 1999. On January 27, 2000, BP petitioned AOGCC to hold a public hearing to establish pool rules and approve an Area Injection Order for the Eider Pool. AOGCC scheduled the hearing for April 6, 2000. On April 3, 2000, BP submitted the Third Plan of Development for the Eider PA (3rd POD) to supplement/update the plan of development submitted with the Application. The 3rd POD includes BP's plans for development of the entire Eider reservoir, including the area within the current boundaries of the Eider PA and the proposed expansion area. BP plans to initiate a waterflood program to maintain the Eider reservoir pressure. BP is negotiating with the Endicott PA owners to obtain source water for injection into the Eider PA. The 3rd POD includes plans to convert the Eider 1 well to an injector and to produce from the Eider 2 well. If the Endicott owners agree to supply water and AOGCC approves Pool Rules and an Area Injection Order for the Eider Pool before DNR issues this Findings and Decision, BP will request the Division's approval to begin production under a tract operation. On April 4, 2000, the Division approved the 3rd POD for the period June 30, 2000 through June 30, 2001. Production from the Eider 2 well will be commingled with Endicott and Sag Delta North production on the MPI and processed through the DIU production facilities. BP does not plan to drill any peripheral or in-field wells in the Eider PA.

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

Increased production and revenues, in and of themselves and without consideration of other relevant factors, may not always be in the State's best interest. Here, however, the gains in economic benefits outweigh any perceived costs to the State. The State's economy will benefit from the production-based revenue, oil and gas related jobs, and service industry activity.

As required by 11 AAC 83.371, BP submitted a schedule for allocating production and costs to the lease in the proposed Eider PA (Attachment 9 to the Application). All Eider PA production and costs are allocated 100% to Tract 12, ADL 34634.

5.1. Royalty Payments

BP as owner of 100% working interest in the lease will be responsible for the payment of royalties to the State on Eider PA production. BP's royalty payments are subject to the State of Alaska/BPXA 1991 ANS Royalty Litigation Settlement Agreement (oil valuation) and the 1995 ANS Royalty Settlement Agreement (gas valuation), as amended.

5.2. Field Costs

DNR approved Exhibit G to the DIU Agreement, *Settlement of Cleaning, Dehydration and Transportation Charges Applicable to Royalty Hydrocarbon Liquids Taken from the Endicott Participating Area, Duck Island Unit*, as applicable to the Endicott and Sag Delta North

Participating Areas. It is not appropriate for Exhibit G to apply to the Eider PA. As provided by the lease provisions in ADL 34634, no field cost deductions will be allowed from the State's royalty share, for hydrocarbons produced from the Eider PA.

5.3. Gas Disposition and Gas Reserve Debit Report

AOGCC has authorized the flare of a specific amount of gas for safety purposes. Royalty is due to the State for any flare gas above the amount authorized by AOGCC. Gas that is flared for any reason other than safety purposes as directed by the AOGCC is not considered to be unavoidably lost for royalty accounting purposes.

The use of royalty free gas for DIU operations (fuel and flare) must be apportioned between the three participating areas within the unit. The basis of proportionality for the fuel gas used in unit operations during a month shall be each PA's fraction of the total hydrocarbon liquids produced through the Endicott Production Facilities that month. The basis of proportionality for flare gas in any month shall be each participating area's fraction of the total produced gas processed through the Endicott Production Facilities that month.

Under the Endicott Facility Sharing Agreement, "Any Tract Gas not consumed as Tract fuel gas, flared gas, lost gas or reduced through shrinkage, taken in kind or reinjected into the Tract Reservoir shall be disposed of by the Endicott Owners at no additional cost to the Tract Owner. Any Tract Gas injected into the Endicott Reservoir shall be considered indigenous to the Endicott Reservoir and, when produced, will be allocated to Endicott Owners in accordance with their respective Area Participations." BP must submit a monthly gas disposition and gas reserve debit report to properly account for the gas disposition between the Endicott, Sag Delta North and Eider PA.

5.4. Deviation From Article 5.3 of the PBU Agreement

Article 5.3 of the PBU Agreement describes the lands to be included in a PBU participating area. Article 5.3 reads in part:

The lands to be included shall be based on such subdivisions of the public land surveys as may be approved by the Director, but not less that the area approved by the well-spacing order affecting such lands for such Reservoir.

The well spacing order for the Lisburne Oil Pool, approved by AOGCC in Conservation Order No. 207 dated January 10, 1985, allows for one producing well per governmental quarter section (160 acres) where no wellbore open to the Lisburne Oil Pool is within 500 feet of the external boundary of the affected area nor within 1000 feet of another well capable of producing from the same pool. The well spacing order for the Niakuk oil pool as expressed in AOGCC Conservation Order No. 329A, dated June 4, 1996, is similar to the Lisburne Oil Pool well spacing order.

Since Article 5.3 of the PBU Agreement describes the lands to be included in a participating area, it conversely provides the methodology to describe the lands to be contracted from a PBU participating area. Any contraction of a PBU participating area should follow the prescribed well spacing order affecting such lands. However, DNR and the PBU working interest owners

agreed to contract the NPA and the LPA by 40 acres, recognizing that it is not consistent with the pool rules and the provisions of Article 5.3 of the PBU Agreement. This deviation from of Article 5.3 of the PBU Agreement shall not set a precedent for future PBU participating area boundaries.

IV. FINDINGS AND DECISION

Considering the facts discussed in this document and the administrative record, I hereby make findings and impose conditions as follows:

1. The expansion of the DIU and of the Eider PA, with the simultaneous contraction of the PBU, NPA and LPA, are necessary and advisable to protect the public interest. AS 38.05.180(p) and 11 AAC 83.303.
2. The available geologic data, production well data and development plans justify contracting the proposed lands out of the PBU and including them within the DIU. Under the regulations governing formation and operation of oil and gas units (11 AAC 83.301 - 11 AAC 83.395) and the terms and conditions under which these lands were leased from the State, the following lands are contracted out of the PBU and added to and included in the DIU area:

PBU Tract 33 and DIU Tract 12, ADL 34634 ~~23~~
T. 12N., R. 16E., Umiat Meridian, Section ~~27~~ NE¹/₄SE¹/₄, 40 acres.

3. The unitized development and operation of the leases in this unit 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 interference with subsistence activity is in the public interest.
4. Expansion of the DIU 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 in the expansion area.
5. The available geological and engineering data demonstrate that a paying quantities certification is appropriate for the tracts proposed for the Eider PA. The data also indicates that the acreage is underlain by hydrocarbons and known and reasonably estimated to be capable of production or contributing to production in sufficient quantities to justify the expansion of the Eider PA within the DIU. The technical data also justifies contracting 40 acres out of the NPA and the LPA within the PBU.
6. The available geological and engineering data justify the inclusion of the proposed acreage within the Eider PA. Under the regulations governing formation and operation of oil and gas units (11 AAC 83.301 - 11 AAC 83.395) and the terms and conditions under which these lands were leased from the State, the following lands are included in the Eider PA:

DIU Tract 12, ADL 34634

T. 12N., R. 16E., Umiat Meridian, Section ²⁶~~27~~ NE $\frac{1}{4}$ SE $\frac{1}{4}$, 40 acres.

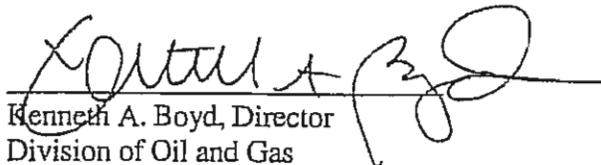
The total area within the Eider PA will be approximately 680 acres.

7. The formation of the Eider PA equitably divides costs and allocates produced hydrocarbons, and sets forth a development plan designed to maximize physical and economic recovery from the Eider reservoir within the approved Eider PA.
8. No field cost deductions will be allowed from the State's royalty share for hydrocarbons produced from the Eider PA.
9. Pursuant to 11 AAC 83.351(a) and 11 AAC 83.371(a), the Division approves the allocations of production and costs for the tracts within the Eider PA under the terms and conditions of Section III (b)(5) of this Findings and Decision.
10. The production of Eider PA hydrocarbon liquids may be commingled with other DIU production in surface facilities before custody transfer. Facility sharing reduces the environmental impact of the additional production. Utilization of existing facilities will avoid unnecessary duplication of development efforts on and beneath the surface.
11. The Division reserves the right to review the well test allocations to insure compliance with the methodology prescribed in this decision. Such review may include, but is not limited to, inspection of facilities, equipment and well test data.
12. The Eider PA operator shall provide the Division with monthly production allocation reports and well test data for the Eider PA wells by the 20th of the following month. The reports shall include a summary of the production allocated to each well for the month and specific well test data for all tests conducted during the month. The Division reserves the right to request any information it deems pertinent to the review of those reports. Moreover, this approval of the allocation methodology is conditioned upon the operator's agreement to reply promptly and fully to any such requests.
13. BP must reference account code DIEI on all Eider PA operator reports and royalty reports for royalty accounting purposes.
14. Diligent exploration and delineation of the Eider reservoir underlying the approved Eider PA is to be conducted by the Eider PA operator under the plans of development and operation approved by the State. Before undertaking any specific operations the unit operator must submit a plan of operations to the DNR and other appropriate state and local agencies for review and approval. Neither drilling nor development operations may commence until the operator obtains all necessary permits and approvals. DNR may condition its approval of a unit plan of operations and other permits on performance of mitigating measures in addition to those in the leases if necessary or appropriate. Requiring strict adherence to the mitigating measures will minimize adverse environmental impacts.
15. The 3rd Plan of Development for the Eider PA meets the requirements of 11 AAC 83.303 and 11 AAC 83.343. On April 10, 2000, DNR approved the 3rd POD for a

one-year period from June 30, 2000 through June 30, 2001. The Fourth Plan of Development for the Eider PA will be due on April 2, 2001, 90 days before the 3rd POD expires. The fourth plan must describe the extent to which the requirements of the 3rd plan were achieved and, if actual operations deviated from or did not comply with the previously approved plan, an explanation of the deviation or noncompliance must be included. It must also provide detailed plans for the term of the fourth plan and long range development plans for the Eider PA. 11 AAC 83.343.

Article 11 of the DIU Agreement provides that an expansion of a participating area will be effective on the first day of the month "in which is obtained the knowledge or information on which such revision is predicted, provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by the director." In the Application, the DIU operator requested an effective date of January 24, 1999, for the DIU and Eider PA expansions and the PBU, NPA and LPA contractions. Pilot test production from the PBU Tract Operation began on January 25, 1999. Approval of the fourth expansion of the DIU, first expansion of the Eider PA, third contraction of the PBU, and the first contraction of the Niakuk and Lisburne participating areas are effective January 24, 1999.

A person adversely affected by this decision may appeal this decision, in accordance with 11 AAC 02, to John Shively, Commissioner, Department of Natural Resources, 550 W. Seventh Avenue, Suite 1400, Anchorage, AK 99501. Please include the appeal code number provided below. Any appeal must be received at the above address, or received by being faxed to 1 (907) 562-4871, within 30 calendar days after the date of "delivery" of the decision, as defined in 11 AAC 02.040.


Kenneth A. Boyd, Director
Division of Oil and Gas

16MAY00
Date

Appeal Code: OG051600DIUEiderPA

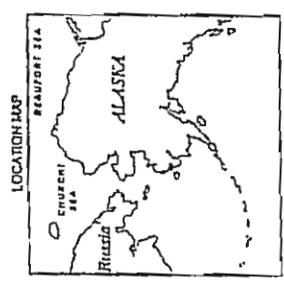
Attachments: 1) Map of the Eider PA
2) Eider PA Tract Allocation Schedule

Eider DIU Expansion PBU Contraction. Final F&D. 5.16.00.CL.doc

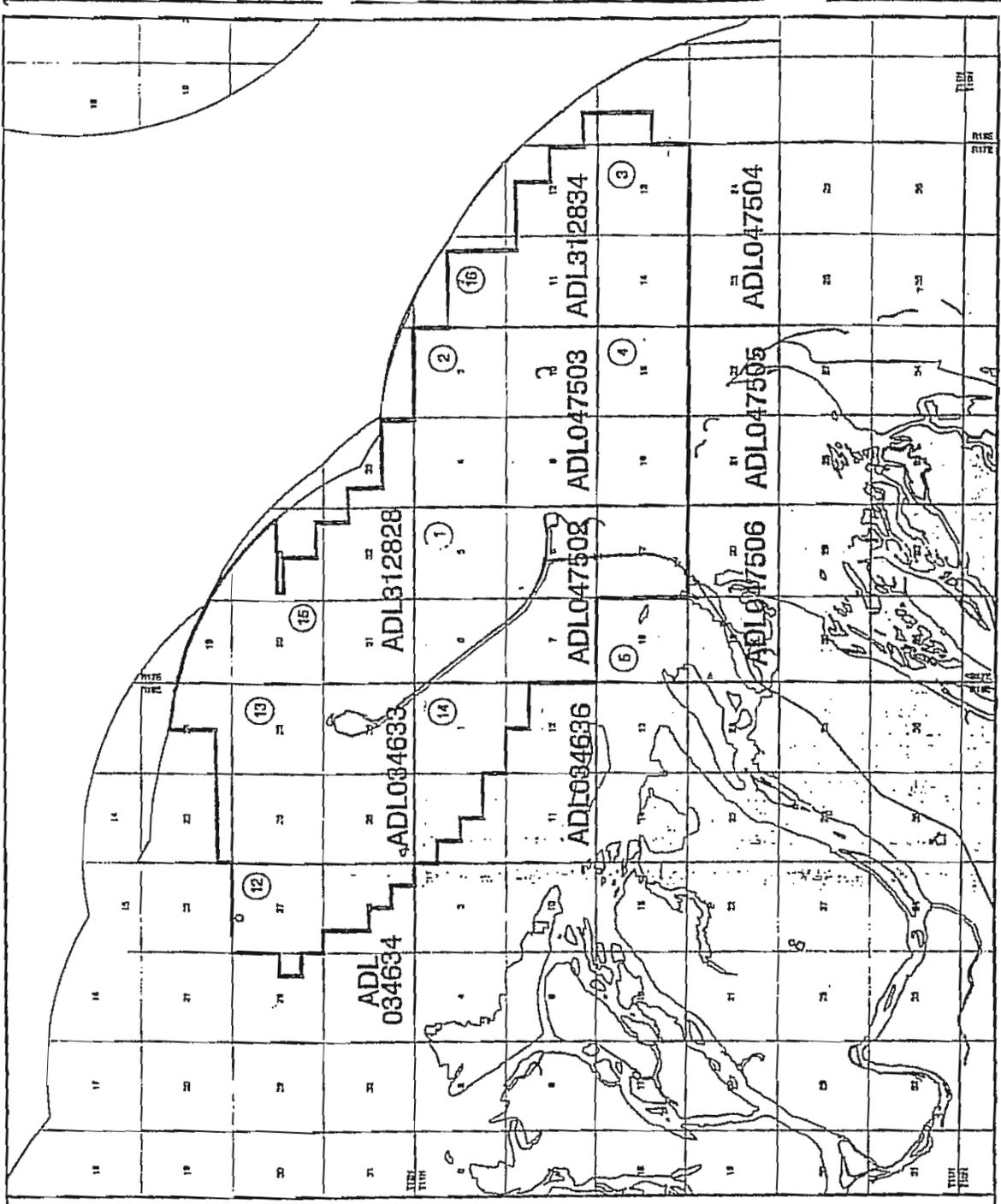
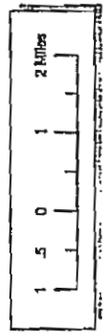


DUCK ISLAND UNIT

DUCK ISLAND UNIT



— Duck Island Unit Boundary
 (16) Tract Number



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EXHIBIT B
DUCK ISLAND UNIT AGREEMENT and
DUCK ISLAND UNIT OPERATING AGREEMENT

SCHEDULE OF OWNERSHIP OF OIL & GAS INTERESTS
 (Revised 8/1/99)

| Unit Tract No. | Lease No. | Legal Description | Unit Tract Acreage | Endicott PA Acreage | Sag Delta PA Acreage | Elder PA Acreage | Royalty (%) | Net Profit Share | ORRI (%) | Working Interest Owner & Percentage |
|----------------|-----------|--|--------------------|---------------------|----------------------|------------------|-------------|------------------|----------|--|
| 1 | 047502 | T. 11 N., R. 17 E., U.M. Section 5: All Section 6: All Section 7: All Section 8: All | 2469 | 2469 | 0 | 0 | 12.5 | None | None | Amoco 25.00 Exxon 50.00 Unocal 25.00 |
| 2 | 047503 | T. 11 N., R. 17 E., U.M. Section 3: All Section 4: All Section 9: All Section 10: All | 2560 | 2560 | 0 | 0 | 12.5 | None | None | Amoco 25.00 Exxon 50.00 Unocal 25.00 |
| 3 | 047504 | T. 11 N., R. 17 E., U.M. Section 13: All Section 14: All | 1280 | 1280 | 0 | 0 | 12.5 | None | None | Exxon 100.00 |
| 4 | 047505 | T. 11 N., R. 17 E., U.M. Section 15: All Section 16: All | 1280 | 1280 | 0 | 0 | 12.5 | None | None | Exxon 100.00 |
| 5 | 047506 | T. 11 N., R. 17 E., U.M. Section 17: All | 640 | 640 | 0 | 0 | 12.5 | None | None | Amoco 50.00 Unocal 50.00 |
| 12 | 034634 | T. 12 N., R. 16 E., U.M. Section 27: All Section 28: NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 34: NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ | 1040 | 1000 | 0 | 680 | 12.5 | None | None | Amoco 50.00 Unocal 50.00 BPXA 100.00 |
| 13 | 034633 | T. 12 N., R. 16 E., U.M. Section 25: All Section 26: All Section 35: All Section 36: All | 2560 | 2560 | 160.00 | 0 | 12.5 | None | None | BPXA 100.00 |
| 14 | 034636 | T. 11 N., R. 16 E., U.M. Section 1: All Section 2: NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ Section 12: N $\frac{1}{2}$ NE $\frac{1}{4}$ | 1080 | 1080 | 0 | 0 | 12.5 | None | None | BPXA 100.00 |

BPXA owns an overriding royalty interest equal to 75% of all net profits from production between certain minimum and maximum levels of daily production from various leases in the Puchos Bay Area. At this time, the overriding royalty interest has not been merged with the underlying working interest.

EXHIBIT B
DUCK ISLAND UNIT AGREEMENT and
DUCK ISLAND UNIT OPERATING AGREEMENT

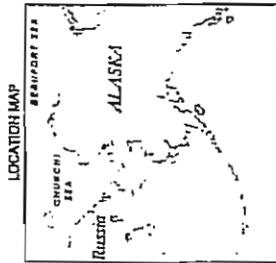
SCHEDULE OF OWNERSHIP OF OIL & GAS INTERESTS
(Revised 8/1/99)

| Unit Tract No. | Lease No. | Legal Description | Unit Tract Acreage | Endicott PA Acreage | Sag Delta PA Acreage | Elder PA Acreage | Royalty (%) | Net Profit Share | ORRI (%) | Working Interest & Percentage |
|----------------|-----------|---|--------------------|---------------------|----------------------|------------------|-------------|------------------|----------|---|
| 15 | 312828 | (General Location) T. 12 N., R. 16 E., U.M. Sections 23 and 24 T. 12 N., R. 17 E., U.M. Sections 19, 20, 29, 30, 31, 32 and 33 | 3067.49 | 2482.87 | 989.47 | 0 | 20.0 | 79.59350 | None | BPXA .98.00 Davyon .50 NANA 1.50 |
| 16 | 312834 | Those portions of T. 12 N., R. 16 E., U.M, Sections 23 and 24, and T. 12 N., R. 17 E., U.M., Sections 19, 20, 29, 30, 31, 32 and 33 within the Endicott and Sag Delta North Participating Areas as shown on the BP Exploration (Alaska) Inc. Survey Plat titled "Duck Island Unit (11-1-82)." (General Location) T. 12 N., R. 17 E., U.M., Section 35 T. 11 N., R. 17 E., U.M., Sections 2, 11, 12, 13 and 14 T. 11 N., R. 16 E., U.M., Sections 7 and 18 | 1609.20 | 1609.20 | 0 | 0 | 20.00 | 48.87031 | None | ARCO 33.33 Exxon 33.33 Unocal 33.33 |
| | | TOTAL ACREAGE | 17585.69 | 16951.07 | 1149.47 | 680.00 | | | | |



Proposed Expanded Eiler Participating Area

Attachment 4



- Existing Duck Island Unit Boundary
- Proposed Duck Island Unit Boundary Expansion
- : 15 : Tract Number
- Existing Elder PA
- Proposed Elder PA Expansion

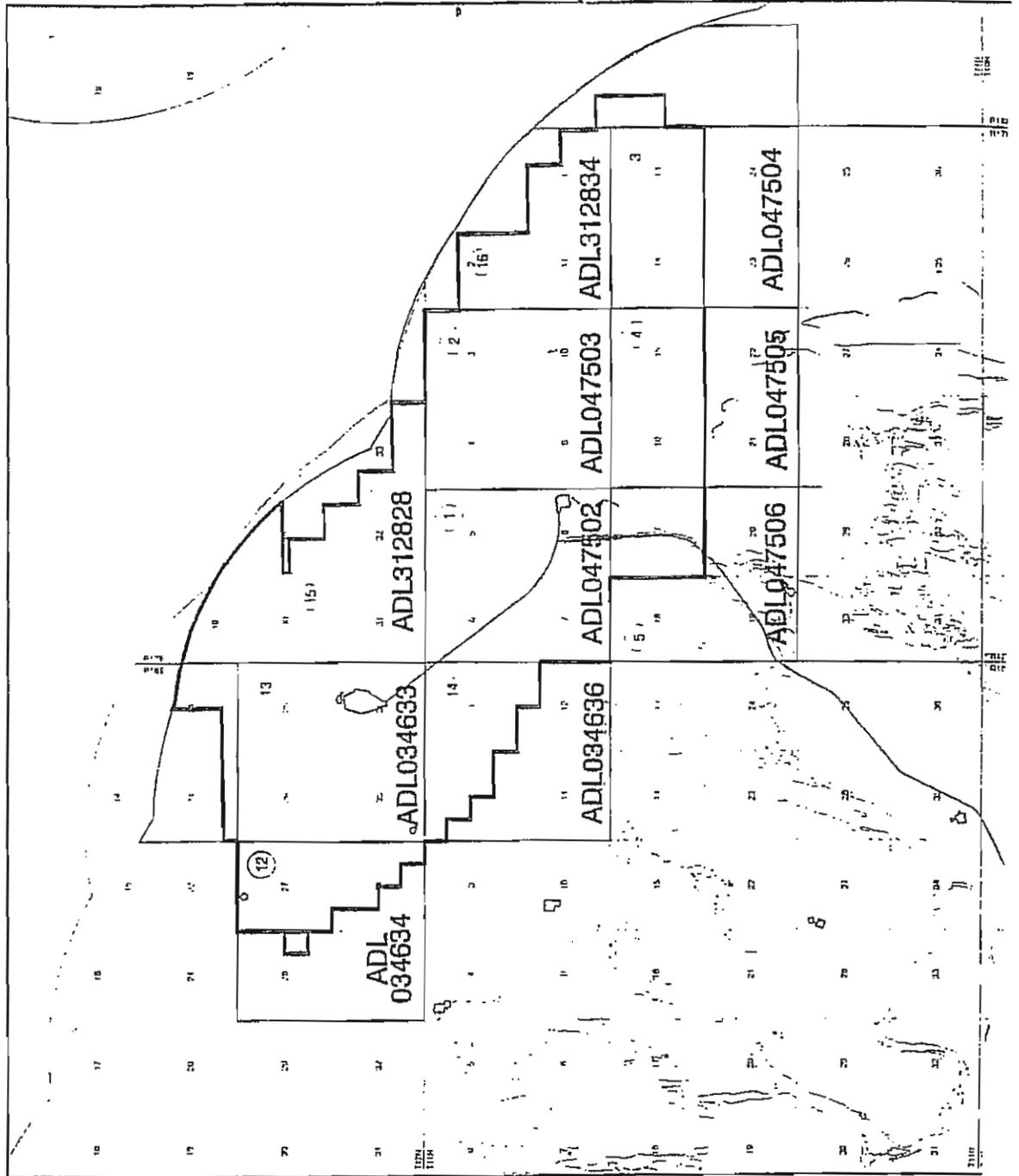


Exhibit 40-B
to
Eider Special Provisions
State of Alaska
(revised 8/1/99)

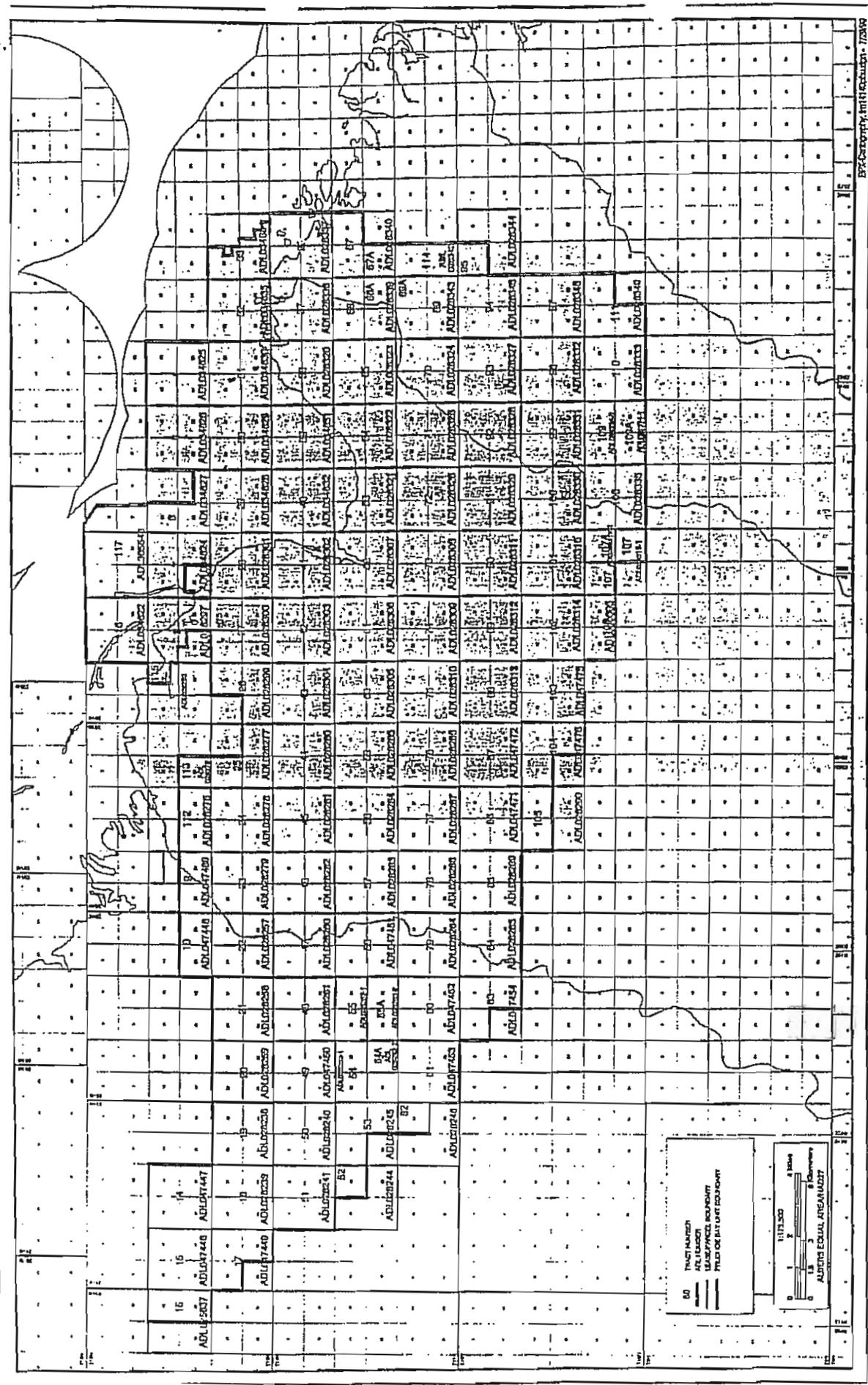
Tract, Area and Voting Interest Participations
for the Eider Participating Area

| Tract No. | ADL. No. | Description of Tract within PA | Tract Acreage within PA | Tract, Area and Voting Interest Participation |
|-----------|----------|---|-------------------------|---|
| 12 | 034634 | T.12N., R16E, U.M. Section 27: All Section 28: NE¼SE¼ | <u>680.00</u> | <u>100.00</u> |
| | | | 680.00 | 100.00 |



PRUDHOE BAY UNIT

PBU Agreement Exhibit B-1



BY ORDER OF THE BOARD OF SUPERVISORS

EXHIBIT A-1
PRUDHOE BAY UNIT AGREEMENT
AUGUST 1, 1999

| Tract No. | Lease No. | Description (Umiat Meridian, Alaska) | Acres | Base Royalty | Lessee of Record | O.R.R. Interest | Working Interest Ownership |
|-----------|------------|---|----------|--------------|-----------------------|-----------------|-----------------------------------|
| 4 | ADL 034625 | T12N-R15E, Secs. 13,14,23,34 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 5 | ADL 034626 | T12N-R15E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 6 | ADL 034627 | T12N-R15E, Secs. 18,19,20: S/2 | 1,488.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 7 | ADL 034624 | T12N-R14E, Secs. 13,14,23: N/2N/2, SWNW Sec. 24 | 2,120.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 8 | ADL 028297 | T12N-R14E, Secs. 15,15, 21: N/2NE/4 Sec. 22 | 2,000.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 9 | ADL 047469 | T12N-R13E, Secs. 19,20 | 1,225.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 10 | ADL 047448 | T12N-R12E, Secs. 23,24 | 1,280.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-66-2/3% Phillips-33-1/3% |
| 14 | ADL 047447 | T12N-R11E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | Mobil & Chevron | 0.00 | Mobil-50% Chevron-50% |
| 15 | ADL 047446 | T12N-R11E, Secs. 17,18,19,20 | 2,448.00 | 12.50% | Mobil & Chevron | 0.00 | Mobil-50% Chevron-50% |
| 16 | ADL 025637 | T12N-R10E, Secs. 13,24 | 1,280.00 | 12.50% | ARCO & BP Exploration | 0.00 | ARCO-50% BP Exploration-50% |
| 17 | ADL 047449 | T12N-R11E, Secs. 29,30,32 | 1,868.00 | 12.50% | Mobil & Chevron | 0.00 | Mobil-50% Chevron-50% |
| 18 | ADL 028239 | T12N-R11E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 19 | ADL 028238 | T12N-R11E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 20 | ADL 028259 | T12N-R12E, Secs. 29,30,31,32 | 2,459.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 21 | ADL 028258 | T12N-R12E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 22 | ADL 028257 | T12N-R12E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 23 | ADL 028279 | T12N-R13E, Secs. 29,30,31,32 | 2,459.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 24 | ADL 028278 | T12N-R13E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 25 | ADL 028277 | T12N-R13E, Secs. 26,35,36 | 1,920.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 26 | ADL 028299 | T12N-R14E, Secs. 29,31,32 | 1,871.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 27 | ADL 028300 | T12N-R14E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 28 | ADL 028301 | T12N-R14E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 29 | ADL 034628 | T12N-R15E, Secs. 29,30,31,32 | 2,459.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 30 | ADL 034629 | T12N-R15E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 31 | ADL 034630 | T12N-R15E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 32 | ADL 034635 | T12N-R16E, Secs. 29,30,31,32 | 2,459.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 33 | ADL 034634 | T12N-R16E, Sec. 28: W/2, NE/4, NW/4SE/4, S/2SE/4 Secs. 33, 34: SW/4, W/2NW/4, SW/4SE/4 | 1,520.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 36 | ADL 028337 | T11N-R16E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 37 | ADL 028336 | T11N-R16E, Secs. 5,6,7,8 | 2,469.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 38 | ADL 028320 | T11N-R15E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |

EXHIBIT A-1
PRUDHOE BAY UNIT AGREEMENT
AUGUST 1, 1999

| Tract No. | Lease No. | Description (Umiat Meridian, Alaska) | Acres | Base Royalty | Lessee of Record | O.R.R. Interest | Working Interest Ownership |
|-----------|------------|---|----------|--------------|-----------------------------|-----------------|--|
| 39 | ADL 034631 | T11N-R15E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 40 | ADL 034632 | T11N-R15E, Secs. 5,6,7,8 | 2,469.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 41 | ADL 028302 | T11N-R14E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 42 | ADL 028303 | T11N-R14E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 43 | ADL 028304 | T11N-R14E, Secs. 5,6,7,8 | 2,469.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 44 | ADL 028280 | T11N-R13E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 45 | ADL 028281 | T11N-R13E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 46 | ADL 028282 | T11N-R13E, Secs. 5,6,7,8 | 2,469.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 47 | ADL 028260 | T11N-R12E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 48 | ADL 028261 | T11N-R12E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 49 | ADL 047450 | T11N-R12E, Secs. 5,6,7,8 | 2,469.00 | 12.50% | Mobil, Phillips Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 50 | ADL 028240 | T11N-R11E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 51 | ADL 028241 | T11N-R11E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 52 | ADL 028244 | T11N-R11E, Sec. 15 | 640.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 53 | ADL 028245 | T11N-R11E, Secs. 13,14,24 | 1,920.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 54 | ADL 028262 | T11N-R12E, Secs. 17,18,19 | 1,840.00 | 12.50% | Chevron | 0.00 | Chevron-100% |
| 54A | ADL 028262 | T11N-R12E, Sec. 20 | 640.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 55 | ADL 028263 | T11N-R12E, Secs. 15,16 | 1,280.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 55A | ADL 028263 | T11N-R12E, Secs. 21,22 | 1,280.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 66 | ADL 047451 | T11N-R12E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 57 | ADL 028283 | T11N-R13E, Secs. 17,18,19,20 | 2,480.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 58 | ADL 028284 | T11N-R13E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 59 | ADL 028285 | T11N-R13E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 60 | ADL 028305 | T11N-R14E, Secs. 17,18,19,20 | 2,480.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 61 | ADL 028306 | T11N-R14E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 62 | ADL 028307 | T11N-R14E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 63 | ADL 028321 | T11N-R15E, Secs. 17,18,19,20 | 2,480.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 64 | ADL 028322 | T11N-R15E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 65 | ADL 028323 | T11N-R15E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 66 | ADL 028339 | T11N-R18E, Secs. 17,18,19 | 1,840.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 66A | ADL 028339 | T11N-R16E, Sec. 20 | 640.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 67 | ADL 028340 | T11N-R16E, Secs. 15,16 | 1,280.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 67A | ADL 028340 | T11N-R16E, Sec. 21 | 640.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 69 | ADL 028343 | T11N-R16E, Secs. 30,31,32 | 1,851.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |

EXHIBIT A-1
PRUDHOE BAY UNIT AGREEMENT
AUGUST 1, 1999

| Tract No. | Lease No. | Description (Umlat Meridian, Alaska) | Acres | Base Royalty | Lessee of Record | O.R.R. Interest | Working Interest Ownership |
|-----------|------------|---|----------|--------------|---|-----------------|---|
| 69A | ADL 028343 | T11N-R16E, Sec. 29 | 640.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 70 | ADL 028324 | T11N-R15E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 71 | ADL 028325 | T11N-R15E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 72 | ADL 028328 | T11N-R16E, Secs. 29,30,31,32 | 2,491.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 73 | ADL 028308 | T11N-R14E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 74 | ADL 028309 | T11N-R14E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 75 | ADL 028310 | T11N-R14E, Secs. 29,30,31,32 | 2,491.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 76 | ADL 028286 | T11N-R13E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 77 | ADL 028287 | T11N-R13E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 78 | ADL 028288 | T11N-R13E, Secs. 29,30,31,32 | 2,491.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 79 | ADL 028264 | T11N-R12E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 80 | ADL 047452 | T11N-R12E, Secs. 27,28,33,34 | 2,560.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 81 | ADL 047453 | T11N-R12E, Secs. 29,30,31,32 | 2,491.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 82 | ADL 028246 | T11N-R11E, Sec. 25 | 640.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 83 | ADL 047454 | T10N-R12E, Secs. 3,4,10 | 1,920.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33-1/3% Phillips-33-1/3% Chevron-33-1/3% |
| 84 | ADL 028265 | T10N-R12E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 85 | ADL 028289 | T10N-R13E, Secs. 5,6,7,8 | 2,501.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 86 | ADL 047471 | T10N-R13E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | ARCO BP Exploration Exxon Texaco | 0.00 | ARCO-21.25% BP Exploration-27% Exxon-21.25% Texaco-30.5% |
| 87 | ADL 047472 | T10N-R13E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | BP Exploration Texaco | 0.00 | BP Exploration-50% Texaco-50% |
| 88 | ADL 028313 | T10N-R14E, Secs. 5,6,7,8 | 2,501.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 89 | ADL 028312 | T10N-R14E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 90 | ADL 028311 | T10N-R14E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 91 | ADL 028329 | T10N-R16E, Secs. 5,6,7,8 | 2,501.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 92 | ADL 028328 | T10N-R15E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 93 | ADL 028327 | T10N-R15E, Secs. 1,2,11,12 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 94 | ADL 028345 | T10N-R16E, Secs. 5,6,7,8 | 2,501.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 95 | ADL 028344 | T10N-R16E, Sec. 4 | 640.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 97 | ADL 028346 | T10N-R16E, Secs. 17,18,19,20 | 2,512.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% |

EXHIBIT A-1
PRUDHOE BAY UNIT AGREEMENT
AUGUST 1, 1999

| Tract No. | Lease No. | Description (Umlat Meridian, Alaska) | Acres | Base Royalty | Lessee of Record | O.R.R. Interest | Working Interest Ownership |
|----------------------------|------------|--|------------|--------------|--------------------------|-----------------|---|
| 98 | ADL 028332 | T10N-R15E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | ARCO & Exxon | 0.00 | Exxon-60% ARCO-50% |
| 99 | ADL 028331 | T10N-R15E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | BP Exploration | 0.00 | Exxon-50% BP Exploration-100% |
| 100 | ADL 028330 | T10N-R15E, Secs. 17,18,19,20 | 2,512.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 101 | ADL 028315 | T10N-R14E, Secs. 13,14,23,24 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 102 | ADL 028314 | T10N-R14E, Secs. 15,16,21,22 | 2,560.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 103 | ADL 047475 | T10N-R14E, Secs. 17,18,19,20 | 2,512.00 | 12.50% | ARCO & BP Exploration | 0.00 | ARCO-12.5% BP Exploration-25% Exxon-12.5% Forcenergy-25% Texaco-25% |
| 104 | ADL 047476 | T10N-R13E, Secs. 13,14,24 | 1,920.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 105 | ADL 028290 | T10N-R13E, Secs. 15,16 | 1,280.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 106 | ADL 080595 | T10N-R14E, Secs. 27,28 | 1,280.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 107 | ADL 028316 | T10N-R14E, Secs. 26,36 | 1,280.00 | 12.50% | Chevron | 0.00 | Chevron-100% |
| 107A | ADL 028316 | T10N-R14E, Sec. 25 | 640.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33 1/3% Phillips-33 1/3% Chevron-33 1/3% |
| 108 | ADL 028335 | T10N-R15E, Secs. 29,30,31,32 | 2,523.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 109 | ADL 028334 | T10N-R15E, Secs. 33,34 | 1,280.00 | 12.50% | Mobil & Phillips | 0.00 | Mobil-50% Phillips-50% |
| 109A | ADL 028334 | T10N-R15E, Secs. 27,28 | 1,280.00 | 12.50% | Mobil, Phillips, Chevron | 0.00 | Mobil-33 1/3% Phillips-33 1/3% Chevron-33 1/3% |
| 110 | ADL 028333 | T10N-R15E, Secs. 25,26,35,36 | 2,560.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 111 | ADL 028349 | T10N-R16E, Secs. 29,30,31 | 1,883.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 112 | ADL 028275 | T12N-R13E, Secs. 21,22 | 1,280.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-60% Exxon-50% |
| 113 | ADL 028276 | T12N-R13E, Sec. 23 | 640.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 114 | ADL 028342 | T11N-R16E, Secs. 28,33 | 1,280.00 | 12.50% | BP Exploration | 0.00 | BP Exploration-100% |
| 115 | ADL 028298 | T12N-R14E, Secs. 17: N/2,N/2SE/4, NE/4SW/4, excluding USS 4044 | 312.00 | 12.50% | ARCO & Exxon | 0.00 | ARCO-50% Exxon-50% |
| 116 | ADL 034622 | T12N-R14E, Secs. 3,4,9,10 | 2,560.00 | 12.50% | Exxon | 0.00 | Exxon-100% |
| 117 | ADL 365548 | T12N-R14E, Secs. 1,2,11,12 T12N-R15E, Secs. 6,7 within 3 mile limit | 3,601.00 | 16.67% | BP Exploration | 0.00 | BP Exploration -100% |
| Total PBU Utilized Acreage | | | 244,875.00 | | | | |

LEGEND:

ARCO - ARCO Alaska, Inc.

BP Exploration - BP Exploration (Alaska) Inc.

Chevron - Chevron U.S.A., Inc.

Exxon - Exxon Corporation

Forcenergy-Forcenergy inc.

Mobil - Mobil Alaska E&P Inc.

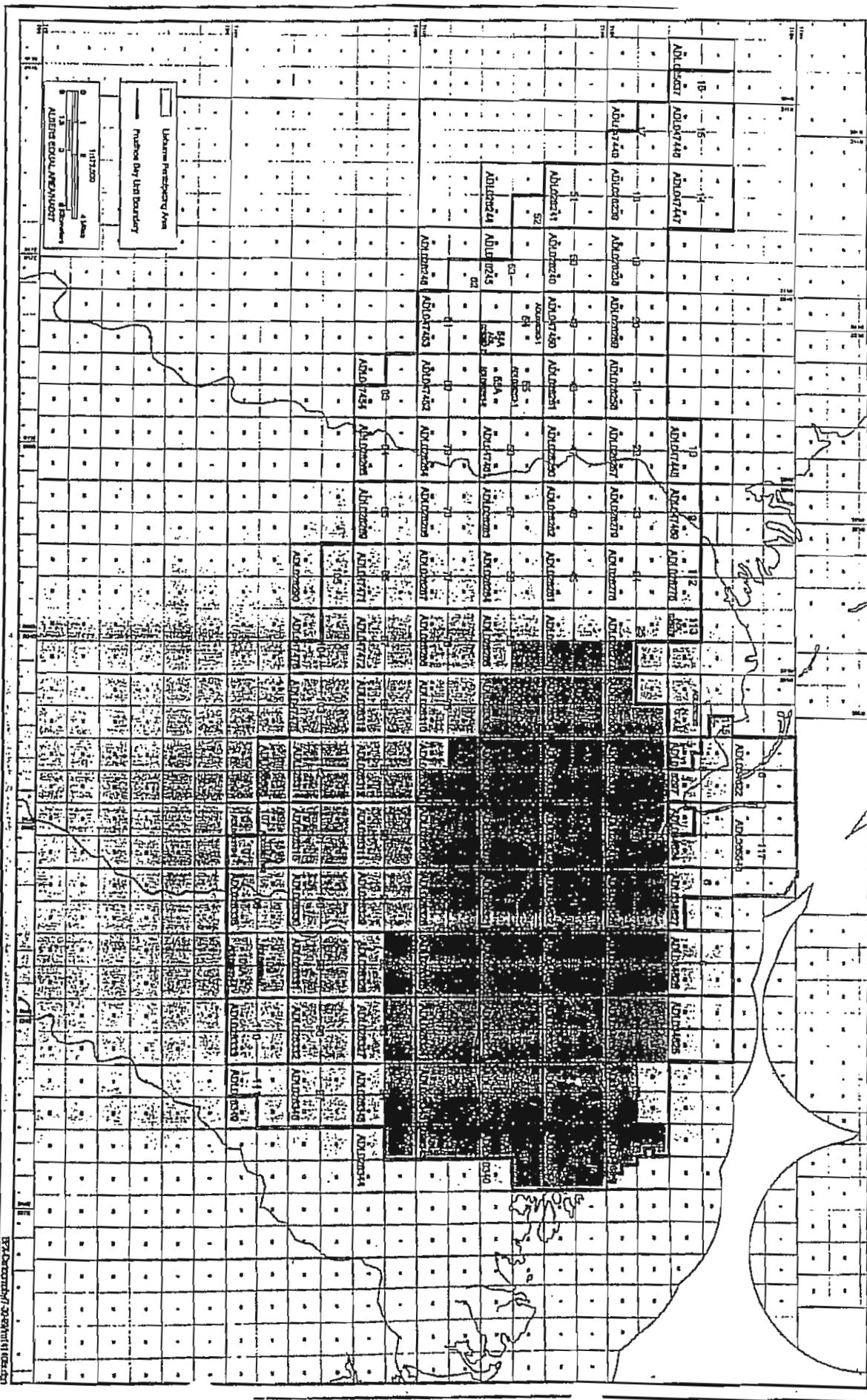
Phillips - Phillips Petroleum Company

Texaco - Texaco Exploration & Production Inc.



PRUDHOE BAY UNIT - LISBURNE PARTICIPATING AREA

PBU Agreement Exhibit 45-A



Lisburne Provisions (August 1, 1999)

EXHIBIT 45-B TRACTS WITHIN THE LISBURNE PARTICIPATING AREA AND LISBURNE TRACT PARTICIPATIONS

| Tract Number | Description | No. of Acres | ADL Serial Number | Basic Royalty | Lessee Of Record | Working Interest Ownership | Lisburne Tract Participation % |
|--------------|--|--------------|-------------------|---------------|------------------|----------------------------|--------------------------------|
| 25 | T12N-R13E, Sec: 36 | 640 | 28277 | 1/8 | BP Exploration | BP Exploration-100% | .017 |
| 26 | T12N-R14E, Secs. 29, 31, 32 | 1,871 | 28299 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .187 |
| 27 | T12N-R14E, Secs. 27, 28, 33, 34 | 2,560 | 28300 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 1.717 |
| 28 | T12N-R14E, Secs. 25, 26, 35, 36 | 2,560 | 28301 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 2.444 |
| 29 | T12N-R16E, Secs. 29, 30, 31, 32 | 2,459 | 34628 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 3.330 |
| 30 | T12N-R16E, Secs. 27, 28, 33, 34 | 2,560 | 34629 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 3.526 |
| 31 | T12N-R16E, Secs. 25, 26, 35, 36 | 2,560 | 34630 | 1/8 | BP Exploration | BP Exploration-100% | 1.377 |
| 32 | T12N-R16E, Secs. 31, 32 | 1,231 | 34635 | 1/8 | BP Exploration | BP Exploration-100% | .815 |
| 33 | T12N-R16E, Secs. 28: W/2, NE/4, NW/4 SE/4, S/2 SE/4 Secs: 33, 34: SW/4, W/2 NW/4, SW/4 SE/4 | 1,520 | 34634 | 1/8 | BP Exploration | BP Exploration-100% | .649 |
| 36 | T11N-R16E, Secs. 3, 4, 9, 10 | 2,560 | 28337 | 1/8 | BP Exploration | BP Exploration-100% | .659 |
| 37 | T11N-R16E, Secs. 5, 6, 7, 8 | 2,469 | 28338 | 1/8 | BP Exploration | BP Exploration-100% | .896 |
| 38 | T11N-R15E, Secs. 1, 2, 11, 12 | 2,560 | 28320 | 1/8 | BP Exploration | BP Exploration-100% | 6.719 |
| 39 | T11N-R16E, Secs. 3, 4, 9, 10 | 2,560 | 34631 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 8.610 |
| 40 | T11N-R15E, Secs. 5, 6, 7, 8 | 2,469 | 34632 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 7.342 |
| 41 | T11N-R14E, Secs. 1, 2, 11, 12 | 2,560 | 28302 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 6.418 |
| 42 | T11N-R14E, Secs. 3, 4, 9, 10 | 2,560 | 28303 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | 2.249 |
| 43 | T11N-R14E, Secs. 5, 6, 7, 8 | 2,469 | 28304 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .538 |
| 44 | T11N-R13E, Secs. 1, 12, | 1,280 | 28280 | 1/8 | BP Exploration | BP Exploration-100% | .038 |
| 59 | T11N-R13E, Sec. 13, | 640 | 28285 | 1/8 | BP Exploration | BP Exploration-100% | .030 |
| 60 | T11N-R14E, Secs. 17, 18, 19, 20 | 2,480 | 28305 | 1/8 | BP Exploration | BP Exploration-100% | .145 |
| 61 | T11N-R14E, Secs. 15, 16, 21, 22 | 2,560 | 28306 | 1/8 | ARCO & Exxon | ARCO50% Exxon-50% | .919 |
| 62 | T11N-R14E, Secs. 13, 14, 23, 24 | 2,560 | 28307 | 1/8 | ARCO & Exxon | ARCO50% Exxon-50% | 3.527 |
| 63 | T11N-R15E, Secs. 17, 18, 19, 20 | 2,480 | 28321 | 1/8 | ARCO & Exxon | ARCO50% Exxon-50% | 8.554 |
| 64 | T11N-R15E, Secs. 15, 16, 21, 22 | 2,560 | 28322 | 1/8 | ARCO & Exxon | ARCO50% Exxon-50% | 10.068 |
| 65 | T11N-R15E, Secs. 13, 14, 23, 24 | 2,560 | 28323 | 1/8 | ARCO & Exxon | ARCO50% Exxon-50% | 11.080 |

Lisburne Provisions (August 1, 1999)

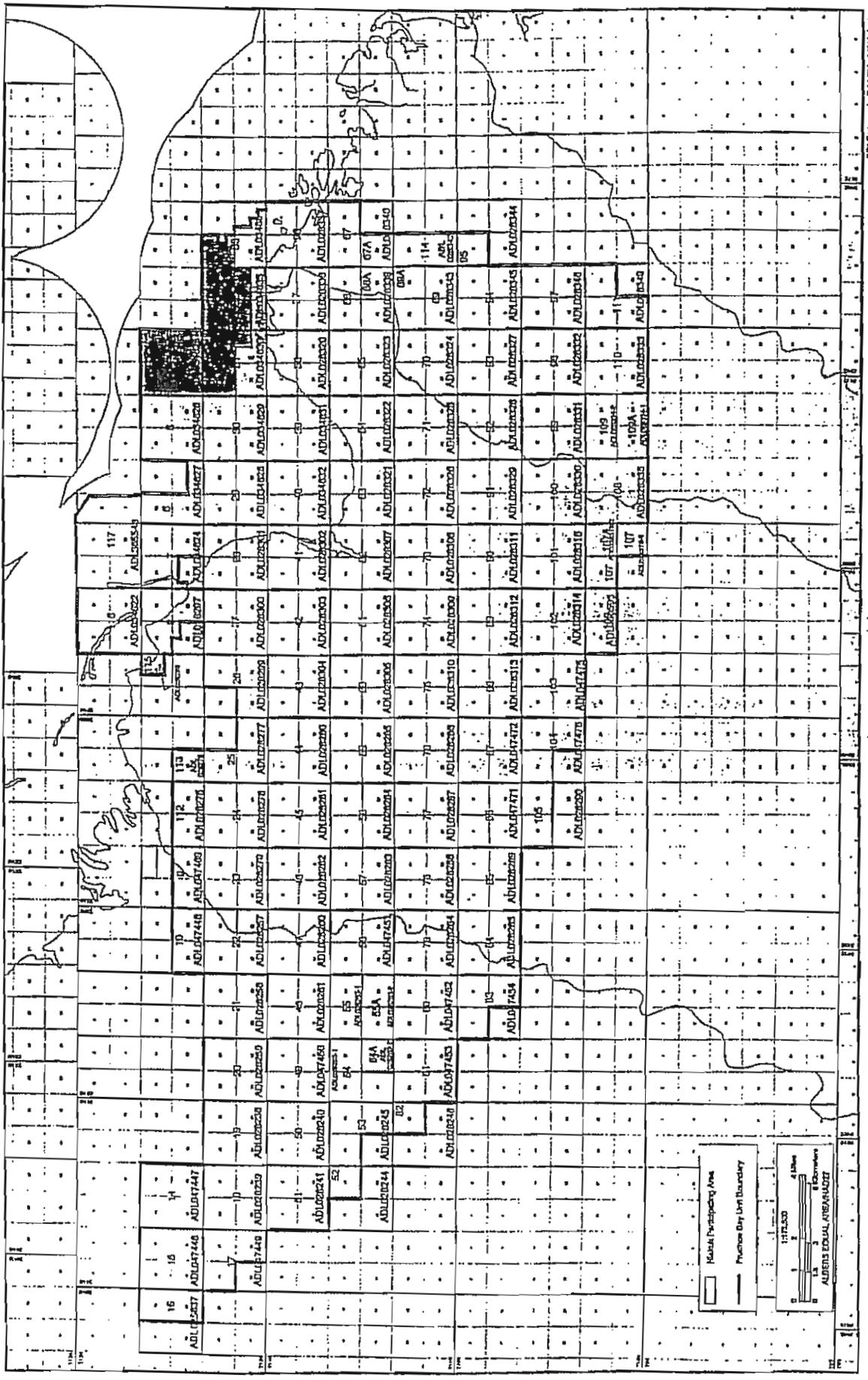
| Tract Number | Description | No. of Acres | ADL Serial Number | Basic Royalty | Lessee Of Record | Working Interest Ownership | Lisburne Tract Participation % |
|--------------|---------------------------------|--------------|-------------------|---------------|------------------|----------------------------|--------------------------------|
| 66 | T11N-R16E, Secs. 17, 18, 19 | 1,840 | 28339 | 1/8 | BP Exploration | BP Exploration-100% | .3155 |
| 66A | T11N-R16E, Sec. 20 | 640 | 28339 | 1/8 | BP Exploration | BP Exploration-100% | .1083 |
| 67 | T11N-R16E, Secs. 15, 16 | 1,280 | 28340 | 1/8 | BP Exploration | BP Exploration-100% | .030 |
| 67A | T11N-R16E, Sec. 21 | 640 | 28340 | 1/8 | BP Exploration | BP Exploration-100% | .200 |
| 69 | T11N-R16E, Secs. 30, 31, 32 | 1,951 | 28343 | 1/8 | BP Exploration | BP Exploration-100% | .2413 |
| 69A | T11N-R16E, Sec. 29 | 640 | 28343 | 1/8 | BP Exploration | BP Exploration-100% | .1116 |
| 70 | T11N-R15E, Secs. 25, 26, 35, 36 | 2,660 | 28324 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .4325 |
| 71 | T11N-R15E, Secs. 27, 28, 33, 34 | 2,660 | 28325 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .3718 |
| 72 | T11N-R15E, Secs. 29, 30, 31, 32 | 2,491 | 28326 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .1894 |
| 73 | T11N-R14E, Secs. 25, 26, 35, 36 | 2,560 | 28308 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .246 |
| 74 | T11N-R14E, Secs. 27, 28, 34, | 1,920 | 28309 | 1/8 | BP Exploration | BP Exploration-100% | .089 |
| 92 | T10N-R15E, Secs. 3, 4, | 1,280 | 28328 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .026 |
| 93 | T10N-R15E, Secs. 1, 2 | 1,280 | 28327 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .040 |
| 94 | T10N-R16E, Secs. 5, 6, | 1,248 | 28346 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .117 |
| 95 | T10N-R16E, Sec. 4 | 640 | 28344 | 1/8 | ARCO & Exxon | ARCO-50% Exxon-50% | .025 |
| 114 | T11N-R16E, Secs. 28, 33 | <u>1,280</u> | 28342 | 1/8 | BP Exploration | BP Exploration-100% | <u>.568</u> |
| | | 79,999 | | | | | 100.00 |

All tracts are within the Umat Meridian



PRUDHOE BAY UNIT - NIAKUK PARTICIPATING AREA

PBU Agreement Exhibit 91-A



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Tracts within the Niakuk Participating Area and Niakuk Tract Participations

| ADL No. | Unit Tract No. | Section Description | No. of Acres | Lessee of Record | Working Interest Ownership | Tract Participation |
|---------------------------------|----------------|--|--------------|------------------|----------------------------|---------------------|
| 34625 | 4 | T12N, R15E UM | | | | |
| | | Sec. 13 | 640 | BP Exploration | 100% | 35.65% |
| | | Sec. 14 | 640 | BP Exploration | 100% | |
| | | Sec. 23 | 640 | BP Exploration | 100% | |
| Sec. 24 | 640 | BP Exploration | 100% | | | |
| 34630 | 31 | Sec. 25 | 640 | BP Exploration | 100% | 29.02% |
| | | Sec. 26 | 640 | BP Exploration | 100% | |
| | | Sec. 36 NE/4 | 160 | BP Exploration | 100% | |
| | | | | | | |
| 34635 | 32 | T12N, R16E UM | | | | |
| | | Sec. 29 | 640 | BP Exploration | 100% | 32.01% |
| | | Sec. 30 | 588 | BP Exploration | 100% | |
| | | Sec. 31 N/2 | 295.5 | BP Exploration | 100% | |
| Sec. 32 N/2 | 320 | BP Exploration | 100% | | | |
| 34634 | 33 | Sec. 28 W/2, NE/4 NW/4 SE/4, S/2 SE/4 | 600 | BP Exploration | 100% | 3.32% |
| TOTAL NIAKUK PARTICIPATING AREA | | | 6443.5 | | | 100% |