PRUDHOE BAY UNIT

APPLICATION FOR
THE FORMATION OF THE BOREALIS PARTICIPATING AREA

FINDINGS AND DECISION OF THE DIRECTOR,
DIVISION OF OIL AND GAS UNDETR DELEGATION OF AUTHORITY
FROM THE COMMISSIONER,
DEPARTMENT OF NATURAL RESOURCES, STATE OF ALASKA

August 30, 2002

TABLE OF CONTENTS

PRUDHOE BAY UNIT

FORMATION OF THE BOREALIS PARTICIPATING AREA

I. INTRODUCTION, BACKGROUND AND CONCLUSION

By letter dated March 9, 2001, BP Exploration (Alaska) Inc. (BP), as a Working Interest Owner and Unit Operator of the Prudhoe Bay Unit and on behalf of ExxonMobil Corporation (ExxonMobil), Forest Oil Corporation (Forest), Mobil Alaska E&P Inc. (Mobil) and Phillips Alaska, Inc. (Phillips), applied to form the Borealis Participating Area (BPA) within the Prudhoe Bay Unit (PBU) area (Application). The initially proposed BPA included portions of four leases for a total of approximately 6,320 acres. On October 15, 2001, BP, on behalf of itself and Chevron U.S.A. Inc. (Chevron), ExxonMobil Alaska Production Inc. (ExxonMobil Alaska), Forest, and Phillips, submitted revisions to the initial Application (Revised Application). Chevron is now a party to the proposed BPA, and the revised proposed BPA includes portions of five leases for a total of approximately 7,760 acres.

The proposed BPA surrounds approximately eighteen wells drilled and completed in the Kuparuk Formation. As of June 2002, fourteen of the wells are operating and producing as a PBU Tract Operation (the Borealis Tract Operation) at a combined production rate of 29,800 barrels of oil per day. The geologic, well, and production data that BP submitted justifies the formation of the BPA. The data indicate that the Borealis Kuparuk hydrocarbon accumulation (the Borealis Reservoir) is capable of producing or contributing to the production of hydrocarbons in paying quantities.

The Department of Natural Resources (DNR), Division of Oil and Gas (Division), approves the formation of the BPA. The Division also approves the proposed tract allocation schedule for the BPA submitted on October 15, 2001. The effective date of the formation of the BPA and the BPA Tract Allocation Schedule is November 1, 2001.

II. APPLICATION FOR THE FORMATION OF THE BOREALIS PARTICIPATING AREA

On February 14, 2001, Division staff attended a BPA pre-application meeting with BP and the other PBU working interest owners. BP presented various aspects of the proposed BPA, including a technical analysis of the Borealis Reservoir, a proposed BPA boundary and tract production allocation factors, a plan of development, tract operations for wells outside of the proposed BPA, and a timetable for BPA activities. BP submitted Kuparuk Formation, Borealis Reservoir, geological, geophysical, and engineering data at this meeting in support of the proposed BPA. In a follow-up to the presentation and materials provided at the meeting, on February 23, 2001, the Division requested additional technical information to understand BP's interpretation of the Borealis Reservoir.

By letter dated March 9, 2001, BP submitted the Application to form the BPA within the PBU. The originally proposed 6,320 acre BPA was comprised of portions of four leases: ADL 28238 (Tract 19), ADL 28239 (Tract 18), ADL 28240 (Tract 50) and ADL 28241 (Tract 51). All four leases are owned 26.66467 percent BP, 36.49270 percent Phillips, 36.82263 percent ExxonMobil

Alaska, and 0.02000 percent Forest. All four leases were acquired in State Lease Sale Number 14 held on July 14, 1965. The state issued the leases on state lease form DL-1, revised October 1963, which provides for a ten-year primary term and 12.5 percent royalty to the state. ADL 28241 had an effective date of September 1, 1965 while the other three leases were effective October 1, 1965. The four leases are entirely within the PBU.

The Division determined that the Application was incomplete and by letter dated March 23, 2001, requested that BP complete the Application. Specifically, the Division requested that BP submit a Borealis Facility Sharing Agreement (Borealis FSA) and Borealis Special Supplemental Provisions to the PBU Operating Agreement (Borealis SSP). In addition, BP had to submit the additional technical data requested by the Division on February 23, 2001.

At this time, the Division was aware that Chevron might protest the Application because Chevron owns acreage to the northwest and southeast of the proposed BPA, which it claimed was within the boundaries of the Borealis Reservoir, but which was being excluded from the proposed BPA. PBU Operating Agreement procedures provide for notice to the working interest owners of the intent to form a participating area within the unit. On March 26, 2001, Chevron, in response to a notice regarding the formation of the BPA, notified BP that its acreage "has been excluded from the proposed Participating Area." Chevron further stated that it had provided its views to BP's technical representatives regarding the proposed BPA and that it would defer further discussion of its position pending receipt of a copy of BP's complete application to the Division and the opportunity to comment on the BPA application.

On April 10, 2001, BP submitted copies of the Borealis FSA and Borealis SSP, as well as supplemental confidential Borealis data in response to the Division's February 23, 2001 data request. With the submittal of the additional information, the Borealis Owners requested that the Division deem the Application complete.

By letter dated April 27, 2001, the Division determined that the Application was complete. That letter also requested that if Chevron planned to contest the Application, Chevron should submit any technical data and all legal arguments in support of its contest within thirty days of the date of the letter. Additionally, the Division provided that if BP wished to supplement the technical data submitted in support of the Application with legal arguments or further technical data, it should do so within thirty days of the date of the letter.

On May 29, 2001, BP and Chevron submitted technical data and legal arguments in response to the Division's April 27, 2001, letter. Briefly, Chevron opposed the proposed BPA "because it does not include that portion of the Northwest Eileen Kuparuk Reservoir underlying Chevron's leases to the North, East, and South of the proposed BPA." BP argued that the additional acreage [the Chevron acreage] should not be included within the Borealis Participating Area because that acreage was of questionable reservoir quality.

During this time, another PBU dispute was ongoing. BP applied to form the Polaris Participating Area (PPA) to encompass a portion of the Schrader Bluff Reservoir within the PBU. Chevron protested the PPA application, and the Division conducted a hearing to decide the issue of the appropriate configuration of the PPA. The Interim Decision of the Director of the Division of Oil and Gas on Application for the Formation of the Polaris Participating Area (Interim Decision) was issued on May 11, 2002. As a result of the Interim Decision, the Division was

asked to delay a hearing notice regarding the Application protest to provide an opportunity for the parties to resolve their dispute. Between May 29, 2001, and October 1, 2001, the PBU Owners attempted to resolve their differences with the Application.

On October 1, 2001, BP, on behalf of itself and the other Borealis Owners, Chevron, ExxonMobil Alaska, Forest, and Phillips, requested PBU Tract Operations approval for nine Borealis wells on L-pad and V-pad. The letter requested approval of the Borealis Tract Operations for the period from October 15, 2001 until approval of the BPA by the Division.

On October 15, 2001, BP, on behalf of itself and Chevron, ExxonMobil Alaska, Forest, and Phillips, submitted revisions to the Application (Revised Application). The revisions included revised Borealis Special Supplemental Provisions to the PBU Operating Agreement (Revised Borealis SSP), revised Borealis Facility Sharing Agreement (Revised Borealis FSA), boundary of the proposed BPA, description of the BPA Tracts and Tract Participations, Borealis Plan of Development (Revised Borealis POD), and Borealis Participations and Voting Interests.

The revised exhibits differ from the previously submitted exhibits in that the proposed BPA was expanded to the north and west, Chevron became a party to the proposed BPA with a 2 percent interest, and the Borealis POD was updated to reflect the status of activities. The Tract Participations and Borealis Participations exhibits were modified to reflect the ownership change resulting from the combination of the ExxonMobil and Mobil interests and the inclusion of Chevron in the proposed BPA.

On October 16, 2001, the Division received an e-mail message from Chevron indicating that the Revised Application filed by BP satisfied Chevron's concerns as set out in its May 29, 2001 letter to the Division regarding the Application. Chevron now supports the Revised Application, as well as the request for the Borealis Tract Operation, dated October 1, 2001.

After an evaluation of additional geological and engineering information provided by BP regarding the Borealis Tract Operation, and Chevron supporting the Revised Application and Borealis Tract Operation, the Division, on October 31, 2001, approved the Borealis Tract Operation. Production commenced from L-pad on November 6, 2001. As of December 2001, the Borealis Tract Operation was producing approximately 24,500 barrels of oil per day.

III. DISCUSSION OF DECISION CRITERIA

The Commissioner of the Department of Natural Resources (the Commissioner) reviews applications to form participating areas under AS 38.05.180(p) and 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 Director of the Division of Oil and Gas. The Division's review of the Revised Application is based on the criteria set out in 11 AAC 83.303 (a) and (b). A discussion of the subsection (b) criteria, as they apply to the Revised Application, is set out directly below, followed by a discussion of the subsection (a) criteria.

A. Decision Criteria Considered Under 11 AAC 83.303(b)

1. The environmental costs and benefits of unitized exploration and development

11 AAC 83.303(b)(1) requires the Commissioner to assess the environmental costs and benefits of the proposed BPA formation. DNR's approval of an initial plan of development for the participating area 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.

Prior to the implementation of the single operatorship at PBU in 2000, BP and Phillips managed the Prudhoe Bay West End Development Project, which includes the Borealis Reservoir, as two projects. The BP project, known as the Eileen West End (EWE) Flood Development Project, was planned to supply produced water and miscible injectant to W and Z-Pads via new pipelines originating from a Gathering Center 2 (GC-2), a production processing center. Phillips' project, the Western Region Development (WRD) Project, sometimes also referred to as the Northwest Eileen Development Project, was a multi-year plan to develop the Western Region of the PBU. Phillips presented its development plan to the agencies in 1999-2000, subsequently received the permits in March 2000, and constructed V and L-Pads.

BP, as sole operator of the PBU, combined the plans for the WRD and EWE Projects into the Prudhoe Bay West End (PBWE) Development Project in October 2000. The main scope of the PBWE was to install a total of five new pipelines throughout the western PBU area from GC-2 to the various West End PBU drillpads W, Z, V, and L-Pads. The project received DNR authorization and the necessary authorizations from other state and federal agencies in January 2001.

When the lessees propose further exploration and development of the Western PBU, 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. 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 within the PBU 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. Geological and engineering characteristics, and prior exploration activities of the proposed participating area

A participating area may include only land reasonably known to be underlain by hydrocarbons and known or reasonably estimated through 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 as a whole may ultimately result in a loss; quantities are insufficient to yield a return in excess of operating costs 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).

The proposed BPA lies entirely within the western part of the PBU and was formerly referred to as the Northwest Eileen area. The west end of the PBU has been known to contain hydrocarbons since the late 1960's when oil was encountered within the Kuparuk formation while drilling PBU Ivishak formation appraisal wells. The Kuparuk formation was not considered commercially viable until drilling infrastructure and pipeline facilities were in place and drilling and development methods became more economically efficient.

The type log that defines the stratigraphic interval for the Kuparuk section in the proposed BPA is the Mobil West Kuparuk State 3-11-11 well. The well was drilled in 1969 to the Lisburne formation at a depth of 11,532 feet. The top of the Kuparuk formation occurs at –6,467 tvdss (6,535' md) and the base of the Kuparuk interval occurs at –6,883' tvdss (6,952' md). The well tested 2,740 BOPD from the Sag/Ivishak interval, and 2,208 BOPD of 24.4 API oil from the upper part of the C-4 sandstone of the Kuparuk formation. Initially the well was temporarily suspended, but was later plugged and abandoned.

The BPA is part of a northwest-to-southeast trending anticlinal structure that is broken up by two major sets of fault: an older set of northwest-southeast trending faults that cut the entire stratigraphic section and a younger set of north-northeast trending faults. The oil accumulation is bounded by faults to the southwest and northwest. Fault throw is variable and divides the reservoir into isolated compartmentalized fault blocks with varying oil/water contacts. Major faults have throws that range between 150 to 350 feet. The throw on minor faults is on the order of 10 to 100 feet. Within the proposed BPA, the Kuparuk reservoir occurs between –6,200 to –6,900 feet tvdss. The deepest known oil-water contact in the Borealis area was encountered in the V-100 well at –6,725' tvdss. The West Sak #24 well, west of the proposed BPA, encountered an oil-water contact at –6,575 tvdss. Reservoir quality deteriorates to the northeast. The reservoir onlaps the regional Prudhoe High structure and is truncated by an intra-formational unconformity to the southeast.

The Kuparuk formation is early Cretaceous (120 – 145 million years old) in age, and is subdivided into four major informal members that are designated with letters A (oldest) through D (youngest). Each member is further subdivided into sub-members that are designated with numbers, such as C-1 and B-7 (with one being the oldest sub-member). The 'C' and 'B' members are separated by a major unconformity, the Lower Cretaceous Unconformity (LCU). The reservoir is composed of very fine to medium grained quartz-rich sandstone interbedded with siltstone and mudstone and is overlain by impermeable shales of the Kuparuk 'D' member, the Kalubik formation, and the HRZ. Shales and siltstones of the underlying Miluveach and Kingak formations confine the lower part of the Kuparuk reservoir.

During 1998, BP drilled three Northwest Eileen area appraisal wells in search of oil reservoirs within the Schrader Bluff and Kuparuk sands. Two of the three appraisal wells, NW Eileen 1-01A and NW Eileen 1-02, demonstrated the oil potential of the Kuparuk 'C' sandstone. The two wells encountered 60 – 65 feet of 24-26 degree API oil-bearing rock within the Kuparuk 'C-4' sandstone. The third appraisal well, NW Eileen 2-01, contained oil in the Sag River/Ivishak section, but the Kuparuk section was not considered economic. The NW Eileen 1-01A and NW Eileen 1-02 wells were recently renamed L-100 and L-101, respectively. These two wells along with L-107, L-110, L-114, and L-116 were placed on production in November 2001. Each of these six wells initially produced at a rate of approximately 5,000 BOPD from the Kuparuk 'C' sandstone and each well is currently producing between 1,500 and 3,000 BOPD. Three other wells were drilled during the fourth quarter of 2001: V-100, L-115, and L-117. During 2002, additional wells were drilled and are either producing or awaiting facility tie-ins to produce or water inject: L-102, L-103, L-104, L-105, L-106, L-108, L-109, L-111, L-119, L-120, V-101, V-102, V-103, V-104, V-105, and V-106. Production in June 2002 averaged approximately 29,888 bopd. As of August 2002 25 wells have been drilled from the L- and V-Pads within the proposed BPA.

BPA Kuparuk production is expected to be primarily from the Upper Kuparuk C-4 sandstone with minor contributions from the basal Kuparuk 'C' sandstone where rock quality is good and the sandstone lie above the oil-water contact. Based on log and seismic evidence, the division expects that the Kuparuk 'C' sandstone in the BPA will be similar to the Kuparuk 'C' sandstone reservoir in the PBU Aurora area. The most productive Kuparuk 'C' sandstone areas tend to be associated with thicker sand intervals deposited in paleo-topographic depressions on down-thrown fault blocks. Each fault block will likely contain different oil-water contacts. The quality of the reservoir is dependent upon variation in facies changes, and local thickening and

preservation of the sandstone reservoir into local accommodation spaces provided by localized faults and preferential subsidence. Both internal unconformities within the 'C-4' and the regional LCU influence sand preservation by differentially scouring, carving out, and eroding 'C' sandstone packages. Regionally, the LCU removed Kuparuk 'B' and 'A' sandstone intervals. There is upside potential for some hydrocarbon-bearing Kuparuk 'A' sandstones in the structurally higher areas of the proposed BPA.

Current well control and future drilling plans justify the size of the proposed BPA. BPXA provided adequate maps, cross sections, seismic lines, and well data in support of the proposed BPA application. Results from initial delineation wells in the area have defined a reasonable preliminary area that is capable of producing in paying quantities for the initial BPA. The Kuparuk formation averages around 150 to 200 feet thick in the Borealis area. Rock quality and lateral variations in sand quality, grain size and sandstone distribution within separate fault blocks are still somewhat uncertain based on the drilling data obtained to date. The Kuparuk basal 'C' and 'A5' sandstones have potential in crestal areas if they contain minor glauconitic and siderite above the oil-water contact. There is still some uncertainty with respect to the oil-water contact and individual fault blocks in the area. Further developmental drilling will determine the distribution of the oil-water contacts relative to the faulting pattern and individual fault blocks.

3. The applicant's plan for development of the borealis participating area

Development of the Borealis Reservoir will take place from two new drillsites (pads)—L-pad and V-pad—with production, water injection, and gas lift pipelines and telecommunications that connect into existing PBU infrastructure. L-pad provides drilling slots for northern and central Borealis development, and V-pad provides drilling slots for central and southern Borealis development. Some southern development wells may also be drilled from Z-pad. Borealis Reservoir pressure will be maintained through the early implementation of a waterflood. Enhanced recovery techniques such as miscible gas injection and water-alternating with miscible gas injection will be evaluated for the potential of increasing oil recovery from the reservoir.

The L-pad location was used to drill appraisal wells NWE 1-01A and NWE 1-02 in January 1998 which were renamed L-100 and L-101, respectively. Appraisal well Z-101 was drilled in December 2000 to evaluate acreage south of the proposed BPA, and appraisal well V-100 was drilled in 2001 to evaluate the reservoir potential in the eastern and south-central part of the proposed BPA.

As of August 2002, a total of 25 wells have been drilled within the proposed BPA. Currently, the Borealis area is producing approximately 28,620 barrels oil per day from 15 producing wells under a Division approved PBU Tract Operation. Borealis Reservoir waterflood operations commenced in June 2002, and cumulative water injection is approximately 450,000 barrels.

4. The economic costs and benefits to the state and other relevant factors

As discussed in section III (B) (3), other factors, in addition to increased production and revenues, must be considered to determine the state's best interest.

4.1 Facility sharing, production allocation and metering

BP represented to the Division that development of the Borealis Reservoir is possible because it will share the existing PBU facilities and infrastructure. Under the proposed plan of development, BPA production will be commingled with IPA production and with that from other reservoirs in the PBU production gathering system before any production passes through a custody transfer meter. BP initially proposed using the Prudhoe Bay Satellite Interim Production Metering Plan, dated June 9, 1998 (Interim Metering Plan), as the methodology for allocating production from the Borealis Reservoir through the shared IPA facilities. The Interim Metering Plan uses a fixed allocation factor of 1.0 and wellhead pressure and a deliverability curve to determine the daily oil production. A modified Interim Metering Plan provides for a minimum of two well tests per month with an allocation factor of 1.0 and daily production based on straight-line interpolations between valid well tests. The Borealis working interest owners in the Application and Revised Application requested approval of the modified Interim Metering Plan until a long-term production measurement plan is approved by the Division, the Alaska Oil and Gas Conservation Commission (AOGCC), and the Alaska Department of Revenue (DOR) and implemented by the Borealis operator, BP.

The Borealis working interest owners proposed a long-term production measurement plan, the PBU Western Satellite Metering Plan (WSMP), by letter dated April 23, 2002, and requested concurrence by the three state agencies with the plan. The WSMP is proposed for metering and allocation of production from the Aurora, Borealis, Polaris, and the Midnight Sun Participating Areas within the PBU. The key provisions of the WSMP are detailed in the letter, and the Application of BP for an order to establish pool rules for development of the Borealis Oil Pool, Prudhoe Bay Field, North Slope, Alaska, Conservation Order No. 471, dated May 29, 2002.

In support of the WSMP, BP committed to the state agencies to perform 6 action items: (1) provide a metering and allocation policy and procedures document by August 1, 2002; (2) conduct performance reviews at 4, 8, and 12 months after the plan is implemented; (3) improve Gathering Center (GC) bank meter accuracy by providing density measurement on appropriate bank meters; (4) provide for an inflow performance curve based process for produced fluid allocation of all gas lifted wells; (5) complete micromotion (mass flow) meter upgrades to GC-2 well test separators; and (6) provide for interim performance reviews and process assurance. BP represented to the Division, the AOGCC and DOR that the plan could be implemented within 3 months of approval of the BPA by the DNR, or by August 1, 2002.

By letter dated April 30, 2002, DOR conditionally endorsed approval of the WSMP on a tentative or interim basis, for up to one year. The AOGCC in Conservation Order 471 conditionally approved the WSMP for one-year beginning August 1, 2002. The AOGCC conditions for approval of the WSMP are specified in Rule 4 of Conservation Order 471. The Division coordinated its review of the proposed WSMP with the AOGCC, and agrees with the AOGCC conditional approval of the WSMP. The Division approves the WSMP, described in BP's April 23, 2002, letter for one year beginning August 1, 2002, subject to the same terms and conditions specified in AOGCC Conservation Order No. 471.

Finally, Section 17 of the Revised Borealis FSA, Effective Date and Term, causes the Division some concern. The provision states:

> Any time after September 1, 2002, any Borealis Owner may submit to the Borealis Owners and the IPA Owners a ballot for the continuation of this Agreement (which may contain revisions and amendments to this Agreement). In the event such ballot fails to receive a 90% Vote by the IPA Owners and greater than a 98% Vote by the Borealis Owners, this Agreement shall automatically terminate 120 days following the issuance of the ballot to continue.

While the Revised Borealis FSA authorizes the production of Borealis Reservoir fluids through the IPA facilities and infrastructure, the Division is unclear what would happen if a Borealis Owner decided to submit a ballot after September 1, 2002. It appears that a number of scenarios are possible if the FSA is terminated, including the shut-in of production from the BPA. The Division puts the Borealis Owners and the IPA Owners on notice that if the FSA were to automatically terminate under Section 17, and BPA production were to cease as a result, the Division may take action that includes, but is not limited to, convening a hearing to determine the appropriate facility sharing terms for the BPA. In any event, the Division retains jurisdiction over this matter during the life of the BPA.

4.2 Gas disposition

In their agreements, the Borealis working interest owners have agreed to consider all Borealis Reservoir gas delivered into IPA production facilities as having been used in operations as fuel flared or lost. However, we recognize that there may be more gas produced beyond that used as fuel, flared or lost. In the Borealis POD, the Borealis working interest owners state that Borealis Reservoir gas not used in operations as fuel, flared or lost, will be injected into the Prudhoe Bay (Permo-Triassic) reservoir. DNR acknowledges that for royalty reporting purposes, the natural gas liquids (NGLs) removed from BPA produced gas will be accounted for and reported as indigenous IPA fluids. Any residue gas from the BPA injected into the Prudhoe Bay (Permo-Triassic) reservoir will be treated as indigenous IPA natural gas for royalty reporting purposes. DNR will allow the Borealis working interest owners to give the BPA gas and NGLs to the IPA and the IPA working interest owners will be responsible for royalty payments when the gas is ultimately sold. DNR will allow this arrangement for the BPA because it would be burdensome for the Division and the Borealis working interest owners to track and report the relatively small amount of gas produced from the Borealis Reservoir, and because the royalty rates are the same for the various PBU participating areas. DNR will consider whether to require a gas disposition report for other participating areas on a case-by-case basis.

4.3 Tract allocation schedule

BP submitted a tract allocation schedule that prescribes how the Borealis working interest owners plan to allocate the production and costs between the leases in the BPA as required by 11 AAC 83.371 (Attachment 2 to this Findings and Decision). Under the proposed tract allocation schedule, BP owns 26.13138 percent, Chevron owns 2.00000 percent, ExxonMobil owns 36.08618 percent, Forest owns 0.01960 percent, and Phillips owns 35.76284 percent of the production from the proposed BPA. The proposed allocation schedule distributes working interest equity among the lease tracts based on the working interest owners' risk weighted assessment of the original oil in place. BP's proposed tract allocation schedule is acceptable for allocating production and costs among the leases within the BPA.

4.4 Field costs

Because the BPA approved by this Findings and Decision is within the original PBU boundary, the 1980 Prudhoe Bay Royalty Settlement Agreement governs the field cost allowance for the state's royalty share of production from the BPA.

B. Decision Criteria Considered Under 11 AAC 83.303(a)

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.

Formation of the proposed BPA will provide a comprehensive plan for developing the Borealis Reservoir within the existing PBU. The Borealis POD provides for an efficient, integrated approach to development of the Borealis Reservoir.

Further, formation of the BPA within the PBU 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. The formation of a participating area over the Borealis Reservoir will allow this area to be comprehensively and efficiently explored and developed. Adoption of the Borealis SSP, FSA and POD 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 Borealis Reservoir through the existing PBU production and processing facilities will reduce the incremental environmental impact of the additional production. The planned Borealis Reservoir development will use the existing PBU western operating area infrastructure of pipelines, roads, pads and processing facilities.

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 plans.

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 working interest owners in the proposed BPA have signed the PBU Agreement, the Borealis SSP, and the Borealis FSA agreeing to share the existing PBU production capacity and the PBU infrastructure. Using the PBU infrastructure and facilities eliminates the need to construct stand-alone facilities to process the recoverable hydrocarbons from the Borealis Reservoir. Facility consolidation will save capital and promote better reservoir management through pressure maintenance and enhanced recovery procedures. In combination, these factors allow the Borealis reservoir within the PBU to be developed and produced in the interest of all parties.

Forming a participating area over the Borealis Reservoir, and allowing this area to access existing unit facilities and infrastructure prevents economic and physical waste.

3. Protection of all parties

The proposed formation of the BPA seeks to protect the economic interests of the Borealis working interest owners as well as the royalty owner. Combining interests and operating under the terms of the PBU Agreement, the Borealis SSP, and the Borealis FSA assures each individual working interest owner an equitable allocation of costs and revenues commensurate with the value of its lease.

Because hydrocarbon recovery will be maximized and additional production-based revenue will be derived from the Borealis Reservoir, 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.

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 formation of the BPA is necessary and advisable to protect the public interest. AS 38.05.180(p) and 11 AAC 83.303.

2. The available geological and engineering data demonstrate that a paying quantities certification is appropriate for the tracts proposed for the BPA. 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 formation of the BPA within the PBU.

3. The available geological and engineering data justify the inclusion of the proposed tracts within the BPA. 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 of Alaska, the following lands are included in the BPA:

Tract 17, ADL 47449
T. 12N. R. 11E., Sec. 29: All, 640 acres;
Sec. 32: N1/2, 320 acres;
for a total of 960 acres.

Tract 18, ADL 28239
T. 12N. R. 11E., Sec. 27: All, 640 acres;
Sec. 28: All, 640 acres;
Sec. 33: All, 640 acres;
Sec. 34: All, 640 acres;
for a total of 2,560 acres.

Tract 19, ADL 28238
T. 12N. R. 11E., Sec. 26: S/2 NW/4, SW/4, 240 acres;
Sec. 35: All, 640 acres;
Sec. 36: S/2NW/4, SW/4, W/2SE/4, 320 acres;
for a total of 1200 acres.

Tract 50, ADL 28240
T. 11N. R. 11E., Sec. 1: W/2, W/2E/2, 480 acres;
Sec. 2: All, 640 acres;
Sec. 11: N/2, N/2S/2, 480 acres;
Sec. 12: NW/4, W/2NE/4, 240 acres;
for a total of 1,840 acres.

Tract 51, ADL 28241
T. 11N. R. 11E., Sec. 3: All, 640 acres;
Sec. 4: NE/4, N/2SE/4, 240 acres;
Sec. 10: N/2NW/4, NE/4, N/2SE/4, 320 acres
for a total of 1200 acres.

The total area within the BPA is approximately 7,760 acres.

4. The formation of the BPA divides costs and allocates produced hydrocarbons in a manner currently acceptable to all affected working interest owners, and sets forth a development plan designed to maximize physical and economic recovery from the Borealis Reservoir within the approved BPA.

5. 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 BPA under the terms and conditions of Section III (A)(4) of this Findings and Decision.

6. The production of BPA hydrocarbon liquids may be commingled with other PBU 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.

7. The proposed PBU Western Satellite Metering Plan, discussed in Section III (A)(4.1), is approved for one year beginning August 1, 2002. The Division reserves the right to review the well test allocations to ensure compliance with the methodology prescribed in this decision. The review may include, but is not limited to, inspection of facilities, equipment and well test data. In addition, the Division will retain jurisdiction over the Borealis FSA automatic termination provision.

8. BP shall provide the Division with monthly production allocation reports and well test data for the BPA 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.

9. The BPA is assigned account code "PBBR" for royalty accounting purposes. All operator reports and royalty reports must reference the new account code. From the production months of November 2001 through July 2002, ExxonMobil, Phillips, BP, and Forest have been allocated production for royalty reporting purposes from the Borealis Tract Operations (Accounting Units X009, X010, X011, and PB02). During this period, Chevron was not allocated any production for royalty reporting purposes, because it was not a leaseholder in the referenced Accounting Units. The BPA working interest owners have agreed to adjust the production allocation for royalty purposes for production that Chevron was entitled to receive in the past based upon the BPA ownership percentages. The

BPA working interest owners propose, and the Division approves, equalization of the BPA production over a six-month period from August 1, 2002, through January 31, 2003, as set out in the table attached to BP's letter dated August 16, 2002. Revised operator and royalty reports for account codes X009, X010, X011, and PB02 will not be required to zero out production from November 2001 forward. Effective August 1, 2002, BP, as PBU Operator, and the BPA working interest owners will use Accounting Unit PBBR to record all production.

10. Diligent exploration and delineation of the Borealis Reservoir underlying the approved BPA is to be conducted by BP, the PBU Operator, under the plans of development and operation approved by the state. Before undertaking any specific operations, the unit operator shall submit a plan of operations to the DNR and other appropriate state and local agencies for review and approval. All agencies must grant the required permits before drilling or development operations may commence. 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.

11. The Initial Plan of Development for the BPA meets the requirements of 11 AAC 83.303 and 11 AAC 83.343. However, BP did not specify a term or expiration date for the BPA initial plan of development. The plan is approved for the period from November 1, 2001 through December 31, 2002. The second plan of development for the BPA will be due 90 days before the initial plan expires. The second plan must describe the extent to which the requirements of the initial 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 second plan and long-range development plans for the BPA. 11 AAC 83.343.

Article 5.4 of the PBU Agreement provides that a participating area will be effective on the first day of the month following approval by DNR or any other date agreed to by DNR and the working interest owners. The common practice with respect to the PBU has been that the effective date for any participating area would be retroactive to the start of pilot test production from a Tract Operation. Pilot test production from the Borealis Tract Operations began on November 6, 2001. Consequently, approval of the formation of the BPA, and the BPA tract allocation schedule are effective November 1, 2001.

A 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 Pat Pourchot, 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@dnr.state.ak.us. This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31st day after issuance. 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.

Appeal Code:OGO083002PBUBOREALISAPPRV

_____ _____

Mark M. Myers, Director Date
Division of Oil and Gas

Attachments: 1) Map of the BPA
2) BPA Tract Allocation Schedule

Borealis_PA_final8.30.02