STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 13, 2001

Greg Mattson
BP Exploration (Alaska) Inc.
P.O. Box 196612
Anchorage, AK 99519-6612

RE: Northstar Unit Agreement
Findings and Decision of the Commissioner
Approving the First Expansion of the Northstar Unit

Dear Mr. Mattson,

On January 23, 1990, the Alaska Department of Natural Resources, Division of Oil and Gas (Division) approved the formation of the Northstar Unit. On April 2, 2001, BP Exploration (Alaska), Inc. (BP) filed an application on behalf of itself, Northstar Unit operator, and Murphy Exploration (Alaska), Inc. with the Division and the U.S. Department of Interior, Minerals Management Service (MMS) to expand the Northstar Unit and form the Northstar Participating Area (NPA) within the expanded unit area. The Northstar Unit Expansion Application (Application) requires approval of both the Division and MMS. The applicant proposed expanding the Northstar Unit to include federal oil and gas lease OCS-Y-1645, which is described as follows:

> That portion of Block 6510, OCS Official Protraction Diagram NR06-03, Beechey Point, approved February 1, 1996, shown as Federal 8(g) Area C on OCS Composite Block Diagram dated April 24, 1996. (1,185.584351 hectares)

These submerged lands comprise approximately 2,930 acres and their inclusion in the Northstar Unit would bring the total unit area to approximately 33,768-acres. Lease OCS-Y-1645 was sold to BP in

Federal OCS Lease Sale 144 on September 18, 1996 (effective December 1, 1996). It carries a minimum royalty of $13/hectare and a royalty of 12.5% with a ten-year term.[1]

Application

AS 38.05.180(p) gives the Division authority to form an oil and gas unit. State regulation 11 ACC 83.356 provides that a unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations. 11 AAC 83.306(4) states that an application for unit approval must include all pertinent geological, geophysical, engineering, and well data, and interpretation of those data, directly supporting the application. Data submitted with the Application pertain to the Ivishak formation, however the Northstar Unit encompasses all subsurface horizons.

The Application included an Exhibit "A" (Description of the Northstar Unit Leases and Ownership), and an Exhibit "B" (Map of Northstar Unit Leases) to the Northstar Unit Agreement (See Exhibits "A" and "B" attached to this Findings and Decision). The application also included a proposed Fourth Plan of Development (4th POD); proposed amendments to Articles 8 and 10 of the Northstar Unit Agreement; a proposed NPA and associated exhibits; all of which are currently under review by the Division and the MMS, and will be considered in a future findings and decision.

After reviewing the application and the attached exhibits, Division staff determined that the Application was complete and published a notice of the Application in the *Anchorage Daily News* on Sunday, April 8, 2001 and in the *Arctic Sounder* on Thursday, April 12, 2001. The public had until 4:30 pm, May 14, 2001 to comment on the Application. Comments submitted to the Division are discussed below in the Commissioner's Findings and Decision approving the unit expansion.

History

Creation of the Northstar Unit in 1990 renewed exploration of the Northstar Ivishak Reservoir under a five-year Plan of Development. The Division approved a three-year Second Plan Of Development for the Northstar Unit on June 2, 1995. BP completed a Final Project Description on December 20, 1996 and initiated an extensive environmental impact review process for the Northstar project. The Division received a proposed Third Plan of Development (3rd POD) on January 26, 1998 and approved it on February 20, 1998, for the period May 1, 1998 through April 30, 2001. BP amended the 3rd POD on April 23, and May 5, 1999, to explain the reasons for project delays and why certain milestones in the 3rd POD were not met. BP stated that the delays were due to federal agency concerns regarding a

[1] http://www.mms.gov/alaska/lease/hlease/leasestatus.htm

pipeline route and legal challenges by Greenpeace, Inc. (Greenpeace). The Division approved the Amended 3rd POD on May 11, 1999.

On September 3, 1999, the MMS approved BP's Development and Production Plan[2] for the Northstar Project under 30 CFR 250.204(l), subject to many stipulations on operations and facility design. These stipulations were designed to minimize environmental and human impacts associated with the project, in consideration of federal, state, and local government comments, and comments by the public and environmental groups, including Greenpeace. Greenpeace and others continued to challenge the Northstar project in several lawsuits filed in 1999 and 2000, which are still pending.

BP began drilling development wells in the Northstar Ivishak Reservoir following construction of a gravel island (Seal Island) and sub-sea pipeline during the 1999-2000 winter season under the 3rd POD. BP's proposed 4th POD calls for continued development drilling and completion of processing facilities. BP plans to drill and complete a total of up to 16 production wells and 5 gas injection wells with sustained commercial production by November 1, 2001, and possibly as early as September 15, 2001.

BP presented geological and geophysical data indicating that the Northstar Ivishak Reservoir extends onto additional acreage to the northwest and submitted the Application to expand the unit. In the NPA Application, BP proposed allocating .09% of the oil in place for the reservoir to the expansion area (approximately 2.3 mmbbl). Any reserves underlying the expansion area will be produced from Seal Island with no need for additional wells or surface facilities.

Decision

State regulations require that the commissioner consider the following six factors in evaluating a expansion of the unit area: (1) the environmental costs and benefits; (2) the geological and engineering characteristics of the hydrocarbon accumulation or reservoir; (3) prior exploration activities; (4) the applicant's plans for exploration or development; (5) the economic costs and benefits to the state; and (6) any other relevant factors (including mitigation measures) the commissioner determines necessary or advisable to protect the public interest. 11 AAC 83.303(b). The Division reviewed all of these factors in its approval of the formation of the Northstar Unit, and the Commissioner's January 23, 1990 Decision and Findings contains a discussion of each factor. The following is a discussion of the factors as they apply to the Application to expand the unit:

(1) **Environmental costs and benefits –** Northstar Unit facilities are located on a gravel island and all wells are directionally drilled from that location. The entire reservoir and the expansion lease will be drilled from a single surface location precluding the need for any additional islands, thereby benefiting the environment. Because wells are drilled directionally, there is

[2] Record of Decision of British Petroleum (Alaska) Inc.'s Northstar Development and Production Plan. MMS Alaska OCS Region, September 3, 1999.

little or no cost to the environment by expanding the unit. Research gained by BP's environmental and marine mammal monitoring programs may help biologists and resource managers in their efforts to maintain, protect, and conserve natural resources.

(2) **Geological and engineering characteristics of the potential hydrocarbon accumulation – ** the geological and geophysical information submitted to the DNR and MMS confirmed that the geologic structure of the Northstar Ivishak Reservoir supports the proposed expansion of the unit.

(3) **Prior exploration activities in the proposed unit area –** Northstar oil field was discovered by Shell Oil Company and partners Amerada Hess, Amoco, Texas Eastern and Murphy in 1982 upon drilling the Seal Island No. 1 (BF-47) well. The well was drilled from the artificial Seal Island on a state lease acquired in the December 1979 Joint Federal/State Beaufort Sea oil and gas lease sale. BF-47 discovered hydrocarbons in the Ivishak formation at a depth of approximately 11,000 feet. The Seal Island No. 2 and No. 3 confirmation wells drilled in 1984 and 1985 demonstrated the extent of the field. In 1986 Amerada-Hess drilled and successfully completed an additional confirmation well, Northstar No. 1 (BF-46).

(4) **The applicant's plans for exploration or development –** The applicant plans to continue its development well program to drain the reservoir in the most efficient manner possible. This program includes development of the resources underlying the expansion lease.

(5) **The economic costs and benefits to the state** – The expansion lease is in federal waters approximately four miles offshore of Long Island. Under Section 8(g) of the OCS Lands Act of 1953 as amended (43 U.S.C. et seq. (1994)), the state retains 27% of royalties derived from the federal lease.[3] The state will collect no severance tax from the expansion lease. Actual royalties obtained from the expansion lease cannot be estimated at this time because production must first be allocated to the leases under an approved participating area. Revenues to the state and federal government also depend on the price of oil. Because the production island lies within state waters, the North Slope Borough (NSB) may collect oil and gas property taxes from it. Including the lease in the unit is unlikely to affect the number of jobs or personal income generated by the Northstar project.

(6) **Any other relevant factors, including measures to mitigate impacts** – The Division received comments on the Application from James Taalak, Cultural Guardian, City of

[3] The 1978 Outer Continental Shelf (OCS) Lands Act Amendments provided for certain coastal states and the federal government to share revenues earned from OCS leases. These leases are generally three to six miles beyond the state's coastal boundary, three miles from shore. This three-mile wide area is known as the 8(g) zone. The 1986 amendments to the OCS Lands Act require that the affected coastal state will receive 27 percent of the revenues generated from the leasing and development of oil and natural gas resources located in the Federal 8(g) zone.

Nuiqsut, and Nancy S. Wainwright for Greenpeace. On April 25, 2001, Mr. Taalak, requested a copy of the non-confidential portions of the Application. Mr. Taalak expressed concern for the sensitive nature of this offshore area and of its importance to the people of Nuiqsut and its neighboring villages bordering the coastline, specifically its value as marine mammal habitat. The Division responded to Mr. Taalak's request, but received no comments on the Application from the City of Nuiqsut.

The Division recognizes the importance of all natural and cultural resources of the state. Residents of the NSB hunt, fish, gather, and recreate in this area. They hunt for ring and bearded seals, polar bears, and whales; and travel to and from summer fish camps and private lands along the shores and deltas of the Beaufort Sea. Mitigation measures, or stipulations, for the Northstar Development Project and for the Northstar leases were crafted in response to concerns of local residents as well as government agencies and the general public. They include a means of resolving conflict between subsistence users and lessees and advise lessees of federal, state, and borough regulations that prescribe responsible and established development practices.

The Division also received comments from Greenpeace on May 14, 2001. Greenpeace opposes the expansion on the same grounds that it opposed the state and federal approval of the Northstar project, and referred the Division to comments submitted to the state as part of the 1998-99 Alaska Coastal Management Program (ACMP) review for the project.[4] In addition to the objections Greenpeace made against the original Northstar Development Project, it objected to the Application on the following grounds: (a) the unit expansion will adversely affect subsistence, in that the area will be expanded by 10%,[5] thereby increasing the chances of oil spills and other adverse impacts; (b) the stipulations of the Northstar Unit lease, and subsequent ACMP stipulations are inadequate to protect the coastal and subsistence resources of the area; (c) the expansion will not conserve water, wetlands, and gravel; (d) there has been no Alaska Oil and Gas Conservation Commission (AOGCC) review of the unit expansion to ensure that aquifers in the region will be protected; and (e) the plan of operation for Northstar or the expansion area does not meet the requirements of 11 AAC 83.303 and 11 AAC 83.341, specifically factors in .303(b) have not been adequately considered.

The potential environment impacts of oil and gas development in the expansion area have been formally evaluated at least four times: first by MMS prior to offering the lease for sale, second by the Army Corps of Engineers (Corps), third by the state under the ACMP review of the Northstar Development Project, and by the Division through preparation of a best interest finding under AS 38.05.035 for state Beaufort Sea Areawide oil and gas lease sales.

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[4] Letter from Melanie Duchin, Greenpeace, Inc. to Mr. Gene Pavia, Division of Governmental Coordination, September 30, 1998.

[5] Actually, the expansion is 8.6%.

The MMS prepared an Environmental Impact Statement (EIS) before offering the expansion lease in OCS Sale 144. The May 1996 EIS for OCS Sale 144 contains a thorough resource inventory and analysis of oil and gas impacts, including a detailed assessment of oil spill risk and Biological Evaluation for Threatened and Endangered Species.[6] The Corps prepared a comprehensive analysis of the potential environmental impacts of the Northstar Development Project including the effects of oil on biological environments, effects of noise, and ocean discharge; and Northstar-specific lease stipulation summaries and applicable Alaska regulations.[7] The Corps issued a draft EIS for the Northstar Development Project on June 1, 1998, and the Final EIS in February 1999.

The state began its ACMP review of the Northstar Development Project on June 1, 1998, when the Corps issued the draft EIS. The state extended the comment period twice to ensure that the public had adequate time to review permit applications and supplemental information provided by BP in response to information requests. The Office of the Governor, State of Alaska, Division of Governmental Coordination (DGC) issued the *Final Consistency Determination (FCD) for the Northstar Development Project* on February 4, 1999. DGC found the project to be consistent with the enforceable policies of the ACMP and North Slope Borough (NSB) coastal district plan. [8]

The state's determination that the Northstar project was consistent with the ACMP was based, in part, on a review of the project by the Alaska Department of Environment Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Department of Natural Resources (DNR), and the NSB coastal district. State agency review included consideration of public comments, lease stipulations, mitigating measures, and project-specific stipulations in Attachments A and B of the FCD. ADEC responded to oil spill comments in Attachment C of the FCD.[9]

The Division developed lease stipulations, called mitigation measures, through the lease sale process to mitigate potential adverse environmental and social impacts of petroleum exploration, development, production, and transportation. The best interest finding for state

[6] See Beaufort Sea Planning Area Oil and Gas Lease Sale 144, Final Environmental Impact Statement, U.S. Department of Interior, Minerals Management Service, Alaska OCS Region, OCS EIS/EA MMS 96-0012, Volume I & II, May, 1996. The Oil spill ris k analysis is contained in Volume II, Appendix B; the Endangered Species Act and Consultation in Appendix F.
[7] Beaufort Sea Oil and Gas Development/Northstar Project, Final Environmental Impact Statement. US Army Engineer District, Alaska, February 1999. See Appendix D for lease stipulations and Appendix H for Ocean Discharge Criteria Evaluation.
[8] Office of the Governor, State of Alaska, Division of Governmental Coordination, STATE I.D. No. AK9806-01PA, February 4, 1999.
[9] ADEC, Division of Spill Prevention and Response. Response to Comments and Decision Document for BP Exploration's Northstar Development Project, January 7, 1999.

oil and gas lease sale Beaufort Sea Areawide describes the biological and human resources of the region and presents a thorough analysis of the effects of oil and gas activities on people and the environment. The best interest finding includes mitigation measures that protect resources mentioned above. The Division considered the *Final Finding of the Director for Beaufort Sea Areawide 1999* held November 15, 2000 in preparing this Findings and Decision.[10]

In addition, the Division, as part of this Application review, again considered Greenpeace's previous comments to DGC, most notably the threat of an oil spill in broken ice conditions, during sub-optimum cleanup conditions. Greenpeace raised concerns that the state and MMS did not address geophysical hazards such as ice gouge, strudel scour, ice ride-up, permafrost thawing, coastal erosion, extreme weather and ice events when they reviewed the Northstar Development Project. But both the state's FCD and the federal EIS for OCS Sale 144 addressed these concerns.

Regarding the likelihood of an oil spill impacting subsistence activities (issue (a) above), any increase in production volume from the expansion area can be handled within the design parameters of the facility. No additional facilities are proposed to produce hydrocarbons from the expansion lease. The ADEC calculated oil spill probabilities for the Northstar pipeline based on maximum throughput.[11] Even if a 1% increase in acreage equated to a 1% increase in production volume, the chances of a malfunction would not change. If there were additional reserves due to this expansion, daily volume through the pipeline would remain the same, but the unit would produce for a longer period.

DNR disagrees with Greenpeace's contention that the lease and ACMP stipulations are insufficient to protect subsistence habitat (issue (b) above). There are several hundred permit and lease stipulations designed to protect air, land, and water quality as well as the coastal and subsistence resources of the area. The federal stipulations and Information to Lessees (ITLs) contained in the EIS for OCS Sale 144 address the protection of resources and values including protection of fish and waterfowl habitat, prevention of oil spills and their damages, access to subsistence resources, protection of archaeological resources, and avoidance of geophysical hazards. Impacts are also addressed in the FCD, the MMS Development and Production Plan, Beaufort Sea NS 2000 mitigation measures, and on a constant basis by permit compliance inspectors as the project proceeds. In addition, BP recently announced that it would permanently restrict drilling to winter, thus reducing oil spill risk and any possible

[10] Final Finding of the Director for Beaufort Sea Areawide Oil and Gas Lease 1999, dated July 15, 1999. The sale was delayed until 2000, due to the pending BP-ARCO merger. The finding can be found on the Internet at http://www.dog.dnr.state.ak.us/oil/products/publications/beaufortsea/beaufortsea.htm#BSawide2001

[11] Personal communication from Tony Braden, Joint Pipeline Office to Brian Havelock, DO&G, July 9, 2001.

oiling of marine mammal habitat. The ADEC said the change "reduces the risk of a major blow out event during freeze-up, open water and break-up."[12]

Greenpeace also asserts that unit expansion will not conserve natural resources (issue (c) above), but there is no evidence to support this contention. Unitized development of oil and gas leases results in consolidation of facilities and a lesser impact on the environment and use of resources.

Regarding Greenpeace's concern with water aquifers (issue (d) above), the EPA determined [13] that there are no aquifers suitable for human consumption in the unit area.[14] AOGCC ensures protection of aquifers through its well surface casing, underground injection and annular disposal regulations.[15]

Regarding Greenpeace's contention that expansion does not meet the requirements of 11 AAC 83.341 or 11 AAC 83.303, there is no support for this contention in the record. All unit exploration activities are conducted under an approved plan of exploration in compliance with 11 AAC 83.341. Moreover, the requirements of 11 AAC 83.303(b) have been met as discussed earlier in this decision.

Greenpeace also objected to the expansion with a concern about greenhouse gas emissions from the project. There is no evidence, however, that expanding the unit to include this federal lease will contribute to green house gases.

All of the factors considered above support the Division's approval of the Application.

Conclusion

In 1990, the Division found that approval of the Northstar Unit Agreement would: 1) promote the conservation of all natural resources; 2) promote the prevention of economic and physical waste; and 3)

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[12] *BP Permanently restricts drilling at Northstar to winter season.* Kristen Nelson, Petroleum News Alaska, June 25-July 29, 2001, p. 1.

[13] See Fact Sheet, USEPA Region 10, Underground Injection Control Program, Proposed Issuance of UIC Area Permit AK-1I002-A, June 23, 2000. "Based upon all available information, EPA has determined that there are no USDWs beneath the Northstar area …"

[14] See letter from Cammy Taylor, AOGCC, to Carol Lee, DO&G, July 9, 2001.. Currently there are no wells in the expansion area. If injection is planned for the expansion area, BP may need to apply to modify the UIC permit, which requires well log data.

[15] 20AAC 25.030(c)(3) states that surface casing must be set below the base of all strata known or reasonably expected to serve as a source of drinking water for human consumption and at a depth sufficient to provide a competent anchor for blow out prevention equipment. 20 AAC 25.080, 252, 402, 412, 432, 440, 450, and 460.

provide for the protection of all parties of interest, including the state. The Application will also fulfill the criteria provided in 11 AAC 83.303(a) as follows:

1) **Promote the conservation of all natural resources –** The formation of oil and gas units and participating areas within units to develop hydrocarbon-bearing reservoirs promotes conservation of hydrocarbons. Unit expansion provides for efficient, integrated development of the Northstar Ivishak Reservoir.

2) **Promote the prevention of economic and physical waste –** Expanding the unit will maximize the physical and economic benefits that can be derived from the oil and gas-bearing reservoir. This unit expansion will prevent economic and physical waste by depleting the entire reservoir including the portion under the expansion lease. The oil and gas resources can be produced through a single facility and pipeline system. Facility consolidation saves capital and promotes better reservoir management for all working interest owners through pressure maintenance, and secondary and tertiary recovery procedures. In combination, these factors of production allow less profitable areas of a reservoir to be developed and produced while preventing economic and physical waste.

3) **Provide for the protection of all parties of interest, including the state –** Expansion of the Northstar Unit protects the economic interests of all working interest owners of the reservoir as well as the royalty owners.

This decision considers the facts and the administrative record including DNR's May 11, 1999 approval of the Amended 3rd POD, and the January 23, 1990 Commissioner's Decision and Findings approving the formation of the Northstar Unit. Under the authority vested in the Commissioner by Title 38 of the Alaska Statutes and the Alaska Administrative Code, and delegated to the Director of the Division of Oil and Gas by memorandum dated December 21, 1998, I hereby approve the proposed expansion of the Northstar Unit effective upon approval by the MMS. Additionally, I hereby concur with the MMS' June 8, 1998, approval of an extension of the federal Suspension of Production for the Northstar Unit through April 30, 2002.

A person adversely affected by this decision may appeal this decision, in accordance with 11 AAC 02, to Pat Pourchot, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501-3561. Any appeal must be received at the above address, or be faxed to 1-907-269-8918, within 30 calendar days after the date of "delivery" of this decision, as defined in 11 AAC 02.040. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

Sincerely,

Mark D. Myers, Director
Division of Oil and Gas

Attachments: Exhibit "A", Description of the Northstar Unit Leases and Ownership
Exhibit "B", Map of Northstar Unit Leases

cc: Pat Pourchot, Commissioner
Jeff Walker, MMS
Cammy Taylor, AOGCC
Richard Todd, Dept. of Law
Pete Flones, BP
Peter Zseleczky, BP
James Taalak, City of Nuiqsut
Nancy S. Wainwright, Greenpeace, Inc.

EXHIBIT A
NORTHSTAR UNIT AGREEEMENT
DESCRIPTION OF NORTHSTAR UNIT LEASES AND OWNERSHIP

(April 1, 2001)

Unit Tract No.	Lease No.	Sale Tract No. and Legal Description	Acreage	Royalty (%)	Net Profit Share	ORRI (%)	Working Interest & Percentage
TR-101	ADL 312798	**Tract C30-46 (BF-46)** T. 14 N., R. 13 E., Umiat Meridian, Alaska T. 13 N., R. 13 E., Umiat Meridian, Alaska Tract C30-46 (BF-46) is a portion of Blocks 470 and 514 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	4,392.82	20% + Supplemental Royalty	None	None	BPXA 100%
TR-102	ADL 312799	**Tract C30-47 (BF-47)** T. 14 N., R. 13 E., Umiat Meridian, Alaska T. 13 N., R. 13 E., Umiat Meridian, Alaska Tract C30-47 (BF-47) is a portion of Blocks 471 and 515 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	4,472.37	20% + Supplemental Royalty	None	None	BPXA 100%
TR-103	ADL 312808	**Tract C30-56 (BF-56)** T. 13 N., R. 13 E., Umiat Meridian, Alaska Tract C30-56 (BF-56) is a portion of Blocks 514, 515, 558 and 559 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	3,432.92	20% + Supplemental Royalty	None	None	BPXA 100%
TR-104	ADL 312809	**Tract C30-57 (BF-57)** T. 13 N., R. 13 E., Umiat Meridian, Alaska T. 13 N., R. 14 E., Umiat Meridian, Alaska Tract C30-57 (BF-57) is a portion of Blocks 516 and 560 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	5,301.38	20% + Supplemental Royalty	None	None	BPXA 100%
TR-105	ADL 355001	**Tract 39-01** T. 13 N., R. 13 E., Umiat Meridian, Alaska Section 17, Protracted, All, 640 acres; Section 18, Protracted, All, 631 acres; Section 19, Protracted, All, 633 acres; Section 20, Protracted, All, 640 acres; Section 25, Protracted, All, 640 acres; Section 26, Protracted, All, 640 acres; Section 27, Protracted, All, 640 acres; Section 28, Protracted, All, 640 acres;	5,744.00	20% + Supplemental Royalty	None	2%	BPXA 100%

EXHIBIT A
NORTHSTAR UNIT AGREEEMENT
DESCRIPTION OF NORTHSTAR UNIT LEASES AND OWNERSHIP

(April 1, 2001)

		Section 29, Protracted, All, 640 acres.					
		SUBTOTAL OF STATE ACREAGE	**23,343.49**				

Unit Tract No.	Lease No.	Legal Description	Acreage	Royalty (%)	Net Profit Share	ORRI (%)	Working Interest & Percentage
TR-1	OCS-Y-0179	That area of Block 470 lying east of the line marking the western boundary of Parcel "1", and between the two lines bisecting Block 470, identified as Parcel "1", containing approximately 94.30 hectares, and Parcel "2", containing approximately 15.27 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved 4/29/75; and That area lying between the two lines bisecting Block 471, containing approximately 611.95 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved 4/29/75; and That area lying northeasterly of the line bisecting Block 515, containing approximately 189.83 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved 4/29/75.	2,251.95	Fixed Sliding Scale (minimum of 16.66667%)	None	None	BPXA 100%
TR-2	OCS-Y-0181	That area lying northeasterly of the line bisecting Block 516, containing approximately 2076.98 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved 4/29/75; and That area lying northeasterly of the line bisecting Block 560, located in the northeast corner of Block 560, containing approximately 44.65 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 12/9/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved 4/29/75.	5,242.55	Fixed Sliding Scale (minimum of 16.66667%)	None	None	BPXA 90% Murphy 10%

EXHIBIT A
NORTHSTAR UNIT AGREEEMENT
DESCRIPTION OF NORTHSTAR UNIT LEASES AND OWNERSHIP

(April 1, 2001)

TR-3	OCS-Y-1645	That portion of Block 6510, OCS Official Protraction Diagram NR06-03, Beechey Point, approved February 1, 1996, shown as Federal 8(g) Area C on OCS Composite Block Diagram dated April 24, 1996. (1,185.584351 hectares)	2,929.64	12.5%	None	None	BPXA 100%
		SUBTOTAL OF FEDERAL ACREAGE	**10,424.14**				
		TOTAL UNIT ACREAGE	**33,767.63**				