

SLUGGER UNIT AGREEMENT

FINDINGS AND DECISION OF THE COMMISSIONER

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

March 30, 2001

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## **I. INTRODUCTION AND BACKGROUND**

On February 15, 2001, BP Exploration (Alaska) Inc. (“BP”) on behalf of itself, Chevron U.S.A. Inc. (“Chevron”), and Phillips Alaska Inc. (“PAI”) as the working interest owners in the proposed Slugger Unit applied for approval of the proposed Slugger Unit Agreement (“Agreement”). The proposed Slugger Unit is on the North Slope of Alaska, east of the confluence of the Kavik and Shaviovik Rivers, and southwest of the Pt. Thomson Unit. The proposed unit area covers approximately 79,508 acres within fourteen individual State of Alaska oil and gas leases. BP submitted the Slugger Unit application for approval by the State of Alaska, Department of Natural Resources (“DNR”). Approval of the Agreement would conform and modify the lease contracts.

Eight of the leases in the proposed unit area were offered in State of Alaska Lease Sale 70A, held on January 29, 1991. DNR issued oil and gas leases ADL 375033, ADL 375034, ADL 375036, ADL 375052, ADL 375053, ADL 375054, ADL 375055, and ADL 375059 effective April 1, 1991, on State of Alaska lease form number DNR 10-4037 (revised 9/90). The ten-year primary lease term of these eight leases expires on March 31, 2001. Two of the leases in the proposed unit area were offered in State of Alaska Lease Sale 70-AW, held on May 25, 1993. DNR issued ADL 382035 and ADL 382056 effective August 1, 1993, on State of Alaska lease form number DOG 9208, which provides for a ten-year primary term. Three of the leases in the proposed unit area were offered in State of Alaska Lease Sale 80, held on December 5, 1995. DNR issued ADL 385126, ADL 385129, and ADL 385144 effective February 1, 1996, on State of Alaska lease form number DOG 9208, which provides for a seven-year primary term. The final lease in the proposed unit area was offered in State of Alaska Areawide NS 2000 Lease Sale, held November 15, 2000. This lease, ADL 389656, has yet to be issued, but if issued it will be on State of Alaska lease form number DOG 9609, which carries a primary term of seven-years. All fourteen leases retain a 12.5 percent royalty to the State of Alaska.

Arco (Alaska) Inc., BP, Chevron, and Amerada Hess Corporation all had initial ownership in the leases. Amerada Hess Corporation sold all of its working interest in the leases between 1994 and 1999, and Arco (Alaska) Inc. changed its name to PAI effective April 27, 2000. Ownership varies between the individual leases, but on average BP, the proposed unit operator owns 42%; Chevron owns 33%; and PAI owns 25% of the working interest in the proposed unit area. The Agreement, if approved, will extend the term of the leases for as long as they are subject to the Agreement. 11 AAC 83.190.

## **II. APPLICATION FOR THE FORMATION OF THE SLUGGER UNIT**

A.S. 38.05.180(p) gives DNR the authority to form an oil and gas unit. BP submitted the Slugger Unit application (Application) on February 15, 2001, and simultaneously paid the \$5,000.00 unit application filing fee, in accordance with 11 AAC 83.306 and 11 AAC 05.010 (a)(10)(D), respectively. The Application includes the Agreement with Exhibit A describing the proposed unit area, Exhibit B depicting the proposed unit boundary, and Exhibit G the proposed Plan of Exploration (“BP’s proposed POE”). The application also included the Slugger Unit Operating Agreement; technical data in support

of the Application; and an affidavit that all proper parties were invited to join the Agreement. The Agreement is based on DNR's State Only Royalty Owner model unit form dated December 2000 (Model Form).

The proposed Agreement requires the Unit Operator to file unit plans describing the activities within the proposed unit area. The Unit Operator must consider how it can best develop the resource underlying the entire unit area, without regard to internal lease boundaries. BP filed a proposed two-year POE. BP's proposed POE identified one prospect in the Kemik formation within the unit area. BP's proposed POE includes a commitment to complete reprocessing of seismic data covering the prospect by June 1, 2001 and then commit to drill a well—referred to herein as “Slugger #1 Well”—by June 15, 2001. Under BP's proposed POE, failure to commit to drill Slugger #1 Well by June 15, 2001 would result in immediate termination of the Slugger Unit. If the lessees commit by June 15, 2001 to drill the Slugger #1 Well they must complete, suspend or abandon the well by June 15, 2003. BP's proposed POE is not in the state's best interests, and is unacceptable because it does not include a commitment to evaluate the entire area proposed for inclusion in the unit. In order to justify including of all the acreage in the unit area, both Area A and Area B, described in Attachment 3, must be drilled under an initial POE. Therefore, DNR proposes its own POE (DNR's proposed POE). DNR's proposed POE is discussed further in Section III (b) 4.

DNR determined that the Slugger Unit application was complete and published a public notice in the “*Anchorage Daily News*” on Sunday, February 18, 2001, and in the “*Arctic Sounder*” on Thursday, March 1, 2001, pursuant to 11 AAC 83.311. DNR provided copies of the public notice to the North Slope Borough (“NSB”), the City of Barrow, the City of Kaktovik, Arctic Slope Regional Corporation, Kaktovik Inupiat Corporation and other interested parties in conformance with 11 AAC 83.311. DNR also provided public notice to the Alaska Department of Environmental Conservation (“ADEC”), Alaska Department of Fish and Game (“ADF&G”), and the Alaska Oil and Gas Conservation Commission (“AOGCC”). The public notice invited interested parties and members of the public to submit comments by March 26, 2001. DNR extended the public notice period to March 30, 2001, to allow 30 days from the “*Arctic Sounder*” publication date. The Division received no comments in response to the public notice.

The proposed Agreement defines the relationship between the unit operator, the working interest owners, and the royalty owners. It describes the rights and responsibilities, in addition to those imposed by state law and the leases, of the unit operator, working interest owners and royalty owners for exploration of the unit area. It protects the interests of the state and the lessees. It defines the parties' rights and responsibilities in the event of successful or unsuccessful exploration results. DNR may approve the proposed Agreement if the available data suggests that the unit area covers one or more geologic formations that should be developed under a consistent plan, and the proposed unit meets the other statutory and regulatory criteria.

### **III. DISCUSSION OF DECISION CRITERIA AND FACTORS CONSIDERED**

The Commissioner of DNR (Commissioner) reviews unit applications under AS 38.05.180(p) and 11 AAC 83.301. By memorandum dated September 30, 1999, the Commissioner approved a revision of Department Order 003 that delegated this authority to the Director of the Division of Oil and Gas (Director).

#### **a.) Decision Criteria**

The Director may approve the proposed Agreement upon a written finding that it 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. 11 AAC 83.303(a). The following evaluates the proposed Slugger Unit under these criteria.

#### **1. The Conservation of All Natural Resources**

DNR recognizes unitization of the leases overlying a reservoir as a prudent conservation mechanism. Without unitization, the unregulated development of reservoirs can become a race for possession by competitive operators. The results can be: 1) unnecessarily dense drilling, especially along property lines; 2) rapid dissipation of reservoir pressure; and 3) irregular advancement of displaced fluids, all of which 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. Lessee compliance with conservation orders and field pool rules issued by the AOGCC would mitigate some of these impacts without an agreement to unitize operations. However, unitization is the most efficient method for maximizing oil and gas recovery, while minimizing negative impacts on other resources. Formation of the unit will provide the state with a comprehensive plan for exploring and developing the entire unit area. Formation of the Slugger Unit and implementation of DNR's proposed POE will ensure that BP prudently explores the prospect identified in the plan.

The Agreement will promote the conservation of both surface and subsurface resources through unitized (rather than lease-by-lease) development. Unitization allows the unit operator to explore the area as if it were one lease. Without the Agreement the lessees would be compelled to seek permits to drill wells on each individual lease in order to extend the leases beyond their primary term. Unitization reduces both the number of facilities required to develop reserves that may be discovered and the area of land required to accommodate those facilities. Review and approval of exploration and development permits under a unit agreement will also assure that rational surface-use decisions are made without consideration of individual lease ownership or expense. After unitization, facilities can be designed and located to maximize recovery and to minimize environmental impact, without regard to lease ownership. Although BP has not determined the extent of any oil and gas contained in the prospective reservoir, the

Agreement will ensure exploration and maximize recovery from the leases if BP discovers a commercial hydrocarbon accumulation.

## **2. The Prevention of Economic and Physical Waste**

Formation of the unit will prevent economic and physical waste because the unit operator must have a cost sharing agreement and a coordinated exploration plan. A cost-sharing agreement promotes efficient development of common surface facilities and operating strategies. With an approved unit operator and cost-sharing agreement in place, the working interest owners in the unit can rationally decide well spacing requirements, injection plans, 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 improve development of reservoirs beneath leases that may have variable or unknown productivity. Marginally economic reserves, which otherwise would not be produced on a lease-by-lease basis, can be produced through unitized operations in combination with more productive leases. Facility consolidation lowers capital costs and promotes optimal reservoir management for all working interest owners. Pressure maintenance and secondary recovery procedures are easier to design and achieve 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 total cost of exploring and developing the Slugger Unit leases would be higher on a lease-by-lease basis than it would be under unitization terms. Drilling and facility investment costs will be minimized as a consequence of eliminating a need for numerous sites within the unit area. The unit operator will select locations for individual wells and surface facilities that optimize ultimate oil and gas recovery, while minimizing or avoiding adverse impacts to the environment.

Reducing costs and environmental impacts through unitized operations will expedite development of any reserves discovered and will promote greater ultimate recovery of any oil and gas from the unit area. This will increase and extend the state's income stream from production taxes and royalties. The revenues to the lessees and unit operator may be reinvested in new exploration and development in the state. Unitization means reduced costs and increased benefits to all interested parties. It benefits the local and state economy, and provides revenues to the state's general, school, constitutional budget reserve, and permanent funds.

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

The proposed formation of the Slugger Unit seeks to protect the economic interests of the working interest owners as well as royalty owners. Combining interests, and operating under the terms of the

Agreement and Slugger Unit Operating Agreement, assures each individual working interest owner an acceptable allocation of costs and revenues.

The proposed Agreement in combination with DNR's proposed POE promotes the state's economic interests because exploration will likely occur earlier than without unitization. Diligent exploration under a single approved unit plan without the complications of competing operators is certainly in the state's best interest. It advances evaluation of the state's petroleum resources, while minimizing impacts to the region's cultural, biological, and environmental resources. If BP makes a commercial discovery it will stimulate the state's economy with production-based revenue, oil and gas related jobs, and service industry activity.

The Agreement provides for accurate reporting and record keeping, state approval of plans of exploration and development and operating procedures, royalty settlement, in-kind taking, and emergency storage of oil and gas, all of which will further the state's interest. The protection of the state's interest is discussed further in III.b.4 and 5, below.

## **b.) Factors Considered**

State regulations require the Commissioner to consider the following six factors in evaluating a unit application: (1) the environmental costs and benefits of unitized exploration or development; (2) the geological and engineering characteristics of the potential hydrocarbon accumulation or reservoir proposed for unitization; (3) prior exploration activities in the proposed unit area; (4) the applicant's plans for exploration or development of the unit area; (5) the economic costs and benefits to the state; and (6) any other relevant factors, including measures to mitigate impacts identified above, the Commissioner determines necessary or advisable to protect the public interest. 11 AAC 83.303(b). A discussion of each factor, as it applies to the proposed Agreement, is provided below.

### **1. The Environmental Costs and Benefits of Unitized Exploration or Development**

DNR develops 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. Alaska Statutes require DNR to give public notice and issue a written finding prior to the disposal of the state's oil and gas resources. Environmental protection measures attached to these leases have been developed over decades of lease offerings and today represent protection equal to or beyond what is required by existing law. These measures were developed after considering terms imposed in previous North Slope oil and gas lease sales, and after considering fish and wildlife resource and harvest data submitted by ADF&G. Also considered were environmental data relating to air and water quality, solid and liquid waste disposal, and oil spill prevention information submitted by ADEC, as well as comments submitted by the public, local governments, environmental organizations, and other federal, state, and local agencies. Additional project-specific mitigation measures will be imposed if and when oil and gas lessees or the unit operator submit proposed plans of operation. In addition to compliance with these mitigation measures, lessees must comply with all applicable local, state and

federal codes, statutes and regulations, and any subsequent amendments. AS 38.05.035(e), AS 38.05.945, and 11 AAC 82.415.

Mitigation measures address the protection of resources and values including protection of waterfowl habitat, access to subsistence resources, protection of archaeological resources, site restoration and rehabilitation, proper construction of pipelines and roads, and avoidance of geophysical hazards.

Leases in the proposed unit area were offered in State of Alaska Lease Sales 70A, 70AW, 80, and most recently Areawide Lease Sale NS 2000 (NS 2000). The mitigation measures for the most recent lease in the proposed unit will be applied unit-wide. NS 2000 mitigation measures are hereby incorporated in the individual lease contracts as amended by this Findings and Decision. The Final Finding of the Director for North Slope Areawide Sale 87, held November 15, 2000, authorized NS 2000 under AS 38.05.035. This Decision and Finding of the Commissioner incorporates by reference the Final Finding of the Director for North Slope Areawide Oil and Gas Lease Sale 87, dated Tuesday, March 17, 1998.

State regulation 11 AAC 83.303 (b)(1) requires that the Commissioner assess the environmental costs and benefits of the proposed Slugger Unit. DNR's proposed POE describes two exploratory wells. The unit operator must obtain DNR's approval of a unit plan of operations and permits from various state and federal agencies before beginning operations within the unit area. For example, state unitization regulations require the Commissioner's approval of a unit plan of operations before the unit operator performs any field operations. 11 AAC 83.346. A unit plan of operations provides a more detailed plan for surface activities incident to exploration of the unit area than does a unit plan of exploration. DNR considered environmental issues in the lease sale process and will review them again during the unit plan of operations approval process.

There are forty-two mitigation measures and twelve lessee advisories attached to the leases in the proposed Slugger Unit area. The Agreement does not supercede the mitigation measures imposed as lease terms, except to the extent that the NS 2000 mitigation measures heighten lessee obligations. DNR will review the lease stipulations with respect to any proposed unit plan of operations and ensure that they mitigate adverse environmental impacts to Slugger Unit area resources and values. In addition to protection measures adopted for the lease sale, the Commissioner may impose additional conditions or limitations beyond those imposed by law. AS 38.05.035(e). If the Slugger Unit is expanded to include newer state leases, the mitigation measures attached to those newer leases may be extended to activities on any state lease in the unit area.

When BP begins the permitting process to commence operations under a unit plan of exploration, it must submit a Coastal Project Questionnaire, permit applications, and supporting information to DGC. Consistency with the Alaska Coastal Management Program (ACMP) is determined by the Division of Governmental Coordination (DGC), state resource agencies (ADNR, ADEC, ADFG) and affected local governments (North Slope Borough, City of Kaktovik). The DGC conditions the proposed activity to ensure consistency with the ACMP and NSB Coastal District Plan (NSBCDP). Submittal of these documents to the state initiates an intensive public and agency review process. DGC organizes an inter-agency review, determines which permits are required, and publishes a public notice soliciting

comments from federal, state and local agencies, and the public. DGC designates a 50-day review schedule starting with the public notice. State and federal agencies are asked to review the application, request any additional information and submit comments. After reviewing the comments, DGC crafts additional mitigation measures as necessary to ensure the project is consistent with the ACMP and NSBCMP. DGC then issues a Proposed Consistency Determination for public comment. After the public comment period, a Final Consistency Determination is issued for a project.

When reviewing a proposed unit plan of operations, the Division considers the unit operator's ability to compensate the surface owner for damage sustained to the surface estate and plans for rehabilitation of the unit area. In addition, DNR, DEC, and AOGCC have bonding and financial responsibility requirements to ensure performance by the operator and reclamation of the area. 11 AAC 96.060, 20 AAC 25.025, and 18 AAC 75.

Any new exploration activity that may occur following unitization, unless categorically approved under the ACMP ABC (General Concurrence) list, is subject to an ACMP consistency determination, and must comply with both the state and NSB coastal zone management plans. Ongoing activities such as development drilling, snow plowing, road grading and material storage at an approved site are not subject to the coastal zone management review process. In addition to the state review process, all development activities must comply with local ordinance; specifically Title 19 of NSB Land Management Regulations.

The proposed Slugger Unit area is habitat for a variety of mammals, waterfowl and fish. Area residents may use this area for subsistence hunting and fishing. Oil and gas activity in the proposed unit area may affect some wildlife habitat and some subsistence activity. Mitigation measures including seasonal restrictions on specific activities reduce the impact on fish and wildlife populations. Mitigation measures also address potential impacts to subsistence access and harvesting.

Unitization and approval of a plan of exploration does not authorize any physical activity. It is merely one necessary step before an application for approval of a unit plan of operations can be accepted by the department. Unitized exploration, development and production minimize surface impacts by consolidating facilities and reducing activity in the field, as discussed more fully in III.a.1 and 2, above. The Commissioner's approval of a unit agreement is an administrative action, which by itself does not convey any authority to conduct any operations on the leases within the unit. Unitization does not waive or reduce the effectiveness of the mitigating measures that condition the lessee's right to conduct operations on these leases.

## **2. Prior Exploration Activities in the Slugger Unit Area**

The proposed Slugger Unit is located on the North Slope approximately 4 miles southwest of the Point Thomson Unit and approximately 2 miles south of the Badami Unit. Within the Point Thomson Unit, discoveries have been made in both lower Tertiary turbidite sands (Exxon Alaska State A-1, 1975 and BP Sourdough #2, 1994) and the lower Cretaceous Point Thomson Sands (Exxon Point Thomson #1, 1977). The Point Thomson Unit, to date, has not been developed. The Badami Field was discovered in 1990 and commenced production in August of 1998. The Badami Field produces from lower

Tertiary turbidite sands. The Union Leffingwell No. 1 well, situated approximately 3 miles east of the proposed Slugger Unit, was completed on August 8, 1984. The well targeted the Lower Mississippian Kekiktuk Formation which proved non-productive.

### **3. The Geological and Engineering Characteristics of the Reservoir**

The Alaska Administrative Code necessitates that a unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or potential hydrocarbon accumulations. 11 AAC 83.356(a). DNR technical staff evaluated all data provided by the unit operator to determine if the proposed unit area met those criteria. The data provided by BP included structure and isopach maps, interpreted seismic data and other geologic displays. The data are confidential and therefore are not discussed in detail here.

The State's evaluation of the subsurface geology supports the configuration of the unit area as proposed. DNR's review of the geologic information supports the inclusion of all leases identified in the unit application within the proposed unit area.

### **4. The Applicant's Plans for Exploration and Development of the Proposed Slugger Unit Area**

In the application to form the Slugger Unit, BP proposed a two-year unit plan of exploration. BP's proposed POE included plans to drill a single exploration well in the Kemik formation. BP's proposed POE is not in the best interest of the state and is unacceptable for a number of reasons. Specifically, the level of exploration proposed does not justify including all the acreage in the unit. Completion of a well on one lease can not hold 79,000 acres or an additional thirteen leases beyond their primary terms. In order to justify inclusion of the acreage proposed for inclusion in the unit, at least one well must be drilled in both Area A and Area B, as described in Attachment 3. BP's proposed POE only describes one well that may be drilled, and does not specify where such well would be drilled. BP proposed that if they drilled and completed, suspended, or abandoned the first well by June 15, 2003, the entire unit would remain in effect, and then BP would submit a second plan of exploration or a first plan of development. BP's proposal simply extends the primary terms of unexplored acreage in the unit area an additional two-years without benefit to the state. Therefore, DNR has proposed an alternative POE that meets the requirements of 11 AAC 83.303.

DNR proposes a three-year plan of exploration for the Slugger Unit. The lessees, referred to as Working Interest Owners, will proceed with the exploration activities described below within the Slugger Unit Area; otherwise, the unit and unit agreement are not approved and eight leases terminate on March 31, 2001.

1. The Working Interest Owners will reprocess and interpret a portion of the existing W. Thomson 3-D Seismic Survey covering the proposed Slugger Unit. The Working Interest Owners are undertaking this effort in order to mature the Slugger Unit to a drillable prospect. This work commitment is currently underway and will be completed by June 1,

2001. The Working Interest Owners will by June 15, 2001, present their consensus interpretation of the 3-D Seismic Survey covering the Slugger Unit area to DNR.
2. The Working Interest Owners will commit by June 15, 2001 to a Drill/No Drill decision for an initial exploration well (Slugger #1 Well).
    - a. If the Working Interest Owners decide not to drill the Slugger #1 Well, the Working Interest Owners shall notify the DNR in writing of their No Drill decision by June 15, 2001. Failure to commit to drill the Slugger #1 Well on or before June 15, 2001, will result in the automatic termination of the Slugger Unit effective June 15, 2001.
    - b. If the Working Interest Owners decide to drill Slugger #1 Well, the Working Interest Owners shall, by June 15, 2001, commit in writing to drill an exploratory well within the Slugger Unit Area.
    - c. If the Working Interest Owners decide to drill Slugger #1 Well, the Working Interest Owners must drill through the Kemik interval and complete, suspend or abandon the Slugger #1 Well by May 15, 2003. Failure to drill through the Kemik interval or failure to complete, suspend or abandon the Slugger #1 Well by May 15, 2003, will result in the automatic termination of the Slugger Unit effective May 15, 2003. In addition, if the Working Interest Owners fail to drill through the Kemik interval or fail to complete, suspend or abandon the Slugger #1 Well by May 15, 2003, the Working Interest Owners will pay the State of Alaska \$430,000 on or before June 1, 2003, and no further payment will be due the State of Alaska for failure to drill this or any other well in the Slugger Unit.
  3. The Working Interest Owners will commit to a Drill/No Drill decision for a second well by June 15, 2003 (Slugger #2 Well).
    - a. If the Working Interest Owners decide not to drill the Slugger #2 Well, the Working Interest Owners shall notify the DNR in writing of their No Drill decision by June 15, 2003. Failure to commit to drill the Slugger #2 Well on or before June 15, 2003, will result in the automatic termination of the Slugger Unit effective June 15, 2003.
    - b. If the Working Interest Owners decide to drill Slugger #2 Well, the Working Interest Owners shall, by June 15, 2003, commit in writing to drill this additional well within the Slugger Unit Area.
    - c. If the Working Interest Owners decide to drill Slugger #2 Well, the Working Interest Owners must drill through the Kemik interval and complete, suspend or abandon the Slugger #2 Well by May 15, 2004. Failure to drill through the Kemik interval or failure to complete, suspend or abandon the Slugger #2 Well by May 15, 2004 will result in the automatic termination of the Slugger Unit effective May 15, 2004. In addition, if the Working Interest Owners fail to drill through the Kemik interval or fail to complete,

suspend or abandon the Slugger #2 Well by May 15, 2004, the Working Interest Owners will pay the State of Alaska \$370,000 on or before June 1, 2004.

4. The second well, Slugger #2, may be sidetracked from an earlier wellbore. However, to fulfill the drilling commitment above, a sidetrack must be at least 1500 feet from the initial wellbore, with the 1500-foot distance measured horizontally from the point of penetration of the top of the Kemik interval in the initial wellbore to the point of penetration of the top of the Kemik interval in the sidetrack.
5. Further, by May 15, 2004, the Working Interest Owners must complete drilling of at least two wells through the Kemik interval, with a minimum of one well in Area A and one well in Area B. Failure to complete drilling in each area by May 15, 2004 will result in automatic contraction of the Slugger Unit effective May 15, 2004, and payment of either \$360,000 or \$380,000, as discussed below.
  - a. If the only wells drilled within the Slugger Unit area as of May 15, 2004, are in Area A, the Area B acreage described in Attachment 3 will automatically contract out of the Slugger Unit area effective May 15, 2004.

In addition, the Working Interest Owners will pay the State of Alaska \$380,000 on or before June 1, 2004.

- b. If the only wells drilled within the Slugger Unit area as of May 15, 2004, are in Area B, the Area A acreage described in Attachment 3 will automatically contract out of the Slugger Unit area effective May 15, 2004.

In addition, the Working Interest Owners will pay the State of Alaska \$360,000 on or before June 1, 2004.

- c. The unitized and non-unitized portions of the leases will be severed and the Working Interest Owners will automatically surrender all acreage contracted out of the Slugger Unit effective June 1, 2004. A lease having a well certified as capable of production in paying quantities before May 15, 2004 will not be severed. The Working Interest Owners must waive the extension provision of 11 AAC 83.140 and the notice and hearing provisions of 11 AAC 83.374 applicable to default and/or termination of the Slugger Unit, or pay proportionately higher charges to reflect a one-year delay in the state's ability to release the acreage contracted out of the Slugger Unit.
6. This plan of exploration expires on June 30, 2004.
7. Failure to timely apply for and obtain approval of a second plan of exploration or first plan of development will result in immediate and automatic expiration of the Slugger Unit.

Completion of these exploration activities as scheduled will satisfy the performance standards and diligence requirements that the state and BP must agree to as a condition for approval of the unit and Agreement.

Unitization requires a comprehensive plan for exploration of the entire unit area. DNR's proposed POE advances exploration and evaluation of the prospect in the area sooner than would occur under any individual lease exploration effort.

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

Approval of the Agreement in combination with DNR's proposed POE will result in both short term and long term economic benefits to the State. The assessment of the hydrocarbon potential of the subject leases will create jobs in the short term. If BP makes a commercial discovery, the state will earn royalty and tax revenues over the long term life of the field.

The primary terms of eight leases in the proposed unit area will expire on March 31, 2001, unless extended by unitization. If the leases expire, the leasehold interest will return to the state. The earliest that DNR could reoffer the land, under the current Five-Year Oil and Gas Lease Sale Schedule, is November 2001. If DNR leased the expired lands in 2001, the state could receive bonus payments and rentals for the primary term of the new leases. However, it could be years before the new lessees would propose exploration of the area and even longer before the state receives royalties and taxes on any commercial production.

If after committing to drill the first Slugger Unit well, BP fails to drill the well to completion by May 15, 2003, the entire unit acreage will then be available for reoffer in the North Slope 2003 Areawide Lease Sale, however, the state will have lost the opportunity to receive bonus bids on the acreage in the two previous sales (NS 2001 and NS 2002). Therefore, the Initial POE imposes a \$430,000 charge if BP fails to drill the Slugger Unit #1 well after committing to do so. BP agreed in concept to compensate the state for extending the lease terms through unitization and foregoing the bonus bids and interest the state could have earned if the acreage was offered in the NS 2001 or NS 2002 Areawide lease sales. Imposing this charge protects the state from the loss of revenue due to withholding the acreage from leasing for two years.

If BP commits to and does not drill Slugger #2 well by May 15, 2004, then the entire unit will terminate, and BP will pay a charge of \$370,000 to compensate the state for extending the lease terms through unitization and foregoing the bonus bids and interest the state could have earned if the acreage was offered in the NS 2001, NS 2002 and NS 2003 Areawide lease sales.

If both wells are drilled in the same area, acreage will contract out of the Slugger Unit, and BP will pay a charge to compensate the state for extending the lease terms through unitization and foregoing the bonus bids and interest the state could have earned in the ensuing lease sales. Imposing this charge protects the state from the loss of interest payments due to withholding the acreage from leasing for three years.

If BP commits to drill the Slugger Unit #1 and #2 wells, successfully completes them as scheduled by their scheduled dates, and evaluates both Area A and Area B, no financial charge will be due.

The working interest owners have 30-days from this date, March 30, 2001, to agree in writing to the terms of this Decision. If they choose not to agree, DNR's approval of the unit is rescinded and the primary terms of the leases will expire as originally scheduled, making eight of the leases available for lease in the next lease sale.

If BP does not continue to explore and develop the unit area in accordance with DNR's proposed POE, the unit will terminate and the leasehold interests will return to the state. The potential long-term economic benefit of exploration and earlier development of the Slugger Unit area outweighs the short-term loss of potential bonus payments. The state receives a 12.5% royalty share from leases in the unit area.

#### **IV. AMENDMENTS TO THE MODEL UNIT FORM**

The proposed Slugger Unit Agreement is based on the State Only Royalty Owner Unit Agreement, revised December 2000 (Model Form). BP made one minor change to the Model Form by combining Articles 3.1 and 3.2 into a single article. The proposed change to the Model Form is acceptable to the state. Since the date of application for formation of the Slugger unit, the Division has discovered an inadvertent error in its Model Form. The final sentence of Article 15.3 should read: "Subject to the above conditions, the Unit Operator shall deliver up the Unit Area in good condition." To correct for this error, the Unit Operator shall submit a fully executed amendment to the Slugger Unit Agreement reflecting this change in the Unit Agreement, and henceforth the Unit Agreement shall be construed as if the final sentence of Article 15.3 read: "Subject to the above conditions, the Unit Operator shall deliver up the Unit Area in good condition."

#### **V. FINDINGS AND DECISION**

##### **a.) The Conservation of All Natural Resources.**

1. The Agreement will conserve all natural resources, including hydrocarbons, gravel, sand, water, wetlands, and other valuable habitat.
2. The unitized development and operation of the leases in this proposed 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 preservation of subsistence access is in the public interest.
3. If the exploration activities in the initial unit plan result in the discovery of a commercially producible reservoir, then there will be environmental impacts associated with the reservoir development. All unit development must proceed according to an approved plan of

development. Additionally, before undertaking any specific operations, the unit operator must submit a unit plan of operations to the Division and other appropriate state and local agencies for review and approval. The lessees may not commence drilling or development operations until all agencies have granted the required permits. DNR may condition its approval of a unit plan of operations and other permits on performance of mitigating measures in addition to those in the leases and the Agreement if necessary or appropriate. Requiring strict adherence to the mitigating measures will minimize adverse environmental impacts.

**b.) The Prevention of Economic and Physical Waste.**

1. BP submitted geological and engineering data to DNR in support of the unit application. Division technical staff determined that the Slugger Unit area encompasses all or part of one or more potential hydrocarbon accumulations. The available geologic and engineering data justify including the proposed lands, described in Exhibit A, in the Slugger Unit.
2. DNR's proposed POE meets the requirements of 11 AAC 83.303 and 11 AAC 83.341. The unit operator must conduct the proposed exploration activities in accordance with the timelines specified in the plan. DNR's proposed POE describes the performance standards and diligence requirements that the state requires. If the working interest owners fail to perform any of the exploration activities outlined in DNR's proposed POE as scheduled, the plan will be in default and the unit will terminate or contract.
3. BP must submit an annual update to the initial unit plan to DNR for approval. 11 AAC 83.341. The annual update must describe the status of projects undertaken and the work completed, as well as any proposed changes to the plan. Any changes to the initial unit plan, in order to be approved by the state, must comply with Article 8 of the Agreement. BP must submit an application for approval of a second plan of exploration 60 days before the initial plan expires, or, if appropriate, an application for approval of a first plan of development 90 days before the initial plan expires.
4. DNR's proposed POE provides for the rational exploration of potential hydrocarbon accumulations in the unit area. If BP discovers oil or gas in commercial quantities, the Agreement will prevent the waste of oil and gas, and increase the probability of recovering more hydrocarbons from the unit area. DNR must approve a plan of development before BP produces any hydrocarbons in commercial quantities.
5. The Slugger Unit will expedite exploration and potential development of the unit area. With the formation of the Slugger Unit, economic benefits to the state outweigh the economic costs of extending the primary term of the state leases committed to the unit.

**c.) The Protection of All Parties in Interest, Including the State.**

1. The Agreement, conditioned upon the performance of its initial unit plan, adequately and equitably protects the public interest, and is in the state's best interest. Approval of the Agreement is conditioned on acceptance of DNR's proposed POE described herein by all Working Interest Owners within thirty days of the date of this Findings and Decision.
2. The Agreement meets the requirements of AS 38.05.180(p) and 11 AAC 83.303.
3. DNR complied with the public notice requirements of 11 AAC 83.311.
4. The Agreement will not diminish access to public and navigable waters beyond those limitations (if any) imposed by law or already contained in the oil and gas leases covered by this Agreement.
5. The Agreement provides for expansions and contractions of the unit area in the future, as warranted by data obtained by exploration or otherwise. The Agreement thereby protects the public interest, the rights of the parties, and the correlative rights of adjacent landowners.
6. If the Working Interest Owners do not agree to DNR's proposed POE, the application for approval of the Slugger Unit is denied because it is contrary to the state's best interest.

For the reasons discussed in this Findings and Decision, I hereby approve the Slugger Unit Agreement subject to the conditions specified herein. Under Article 14.1 of the Agreement, it shall become binding upon each party as of the date each party signs the instrument by which it becomes a party. The Agreement shall become effective as of 12:01 a.m. on the day following approval by the Director, but shall be rescinded if DNR's proposed POE is not accepted in writing by all Working Interest Owners within thirty days of the date of this Findings and Decision, by April 30, 2001.

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 by fax 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.

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Mark D. Myers, Director  
Division of Oil and Gas

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Date

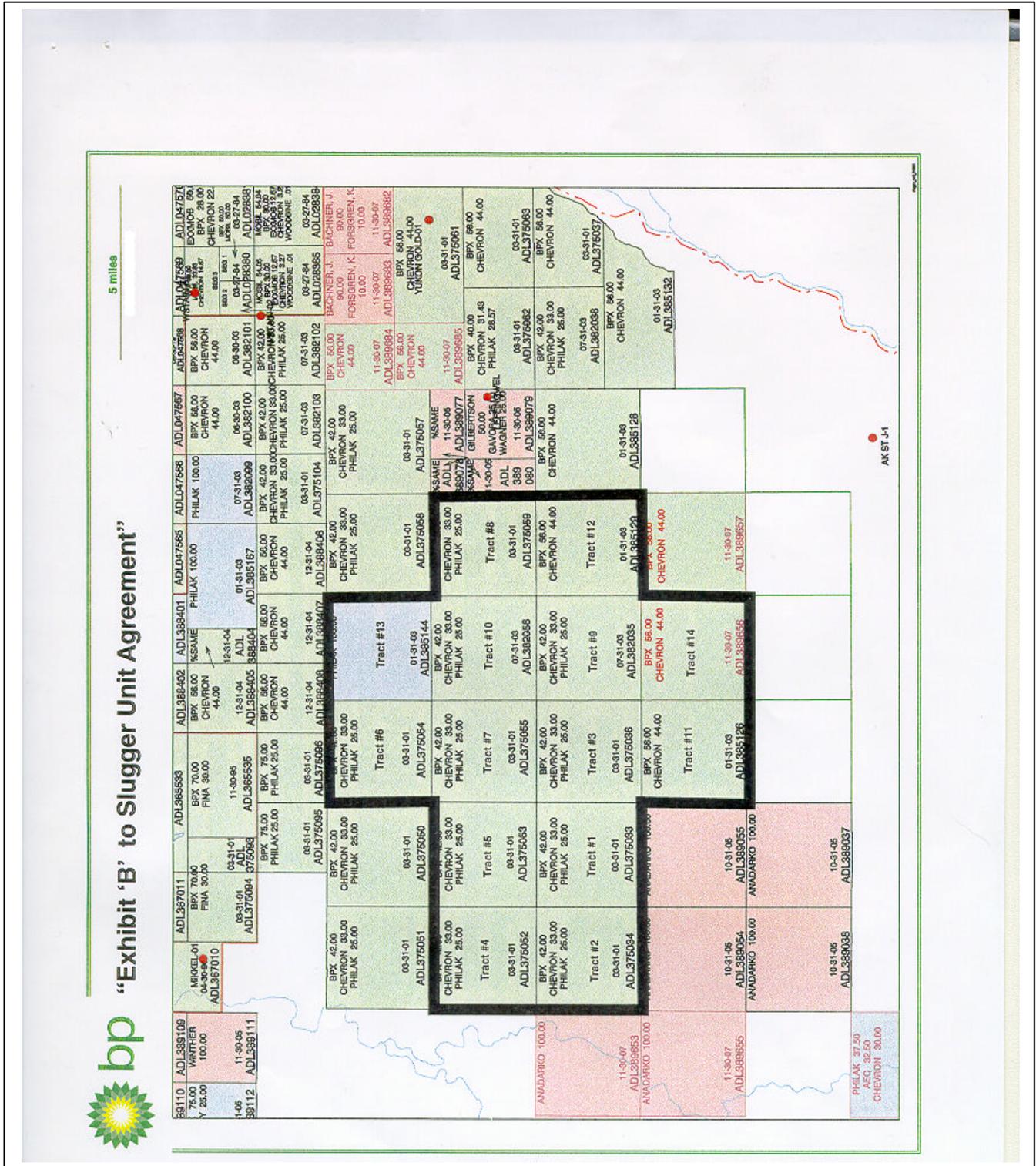
## VI. ATTACHMENTS

### Attachment 1. Exhibit A, Slugger Unit Tract Schedule

<b>ADL/Tract No.</b>	<b>Legal Description</b>	<b>WI Owners</b>		<b>Burdens</b>
ADL-375033 Tract 1	Tract 70A-033 T7N-R20E, U.M.  Sec. 1, 2, 3, 10, 11, 12, 13, 14 & 15 Containing a total of 5,760.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375034 Tract 2	Tract 70A-034 T7N-R20E, U.M.  Sec. 4, 5, 6, 7, 8, 9, 16, 17 & 18 Containing a total of 5760.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375036 Tract 3	Tract 70A-036 T7N-R20E, U.M.  Sec. 4, 5, 6, 7, 8, 9, 16, 17 & 18 Containing a total of 5,630.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375052 Tract 4	Tract 70A-052 T8N-R20E, U.M.  Sec. 19, 20, 21, 28, 29, 30, 31, 32 & 33 Containing a total of 5607.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375053 Tract 5	Tract 70A-053 T8N-R20E, U.M.  Sec. 22, 23, 24, 25, 26, 27, 34, 35 & 36 Containing a total of 5,760.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375054 Tract 6	Tract 70A-054 T8N-R21E, U.M.  Sec. 4, 5, 6, 7, 8, 9, 16, 17 & 18 Containing a total of 5,583.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375055 Tract 7	Tract 70A-055 T8N-R21E, U.M.  Sec. 19, 20, 21, 28, 29, 30, 31, 32 & 33 Containing a total of 5,607.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-375059 Tract 8	Tract 70A-059 T8N-R22E, U.M.  Sec. 19, 20, 21, 28, 29, 30, 31, 32 & 33 Containing a total of 5,607.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%

ADL-382035 Tract 9	Tract 70A-W-035 T7N-R21E, U.M.  Sec. 1, 2, 3, 10, 11, 12, 13, 14 & 15 Containing a total of 5,760.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-382056 Tract 10	Tract 70A-W-056 T8N-R21E, U.M.  Sec. 22, 23, 24, 25, 26, 27, 34, 35 & 36 Containing a total of 5,760.00 acres.	PAI BPX Chevron	25.00% 42.00% 33.00%	State 12.5%
ADL-385126 Tract 11	Tract 80-126 T7N-R21E, U.M. Sec. 19, 20, 21, 28, 29, 30, 31, 32 & 33 Containing a total of 5,654.00 acres.	BPX Chevron	56.00% 44.00%	State 12.5%
ADL-385129 Tract 12	Tract 80-129 T7N-R22E, U.M. Sec. 4, 5, 6, 7, 8, 9, 16, 17 & 18 Containing a total of 5,630.00 acres.	BPX Chevron	56.00% 44.00%	State 12.5%
ADL-385144 Tract 13	Tract 80-144 T8N-R21E, U.M. Sec. 1, 2, 3, 10, 11, 12, 13, 14 & 15 Containing a total of 5,760.00 acres.	PAI	100.00%	State 12.5%
ADL-389656 Tract No. 14	Tract 00-597 T7N-R21E, U.M. Sec. 22, 23, 24, 25, 26, 27, 34, 35 & 36 Containing a total of 5,760.00 acres.	BP Chevron	56.00% 44.00%	

Attachment 2. Exhibit B, Map of the Slugger Unit Boundary



**Attachment 3. Slugger Unit Areas A and B**

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#### **Attachment 4. NS 2000 Mitigation Measures**

AS 38.05.035(e) and the departmental delegation of authority provide the director, Division of Oil and Gas (DO&G), with the authority to impose conditions or limitations, in addition to those imposed by statute, to ensure that a resource disposal is in the state's best interests. Consequently, to mitigate the potential adverse social and environmental effects of specific selected lease related activities, DO&G has developed mitigation measures and will condition post-sale plans of operation, exploration, or development, and other permits based on these mitigation measures.

Under AS 38.05.035(e), DNR has authority to apply the following mitigation measures for Oil and Gas Lease Sale 87, North Slope Areawide, to all oil and gas activities performed to access the state's leased mineral interest, regardless of the ownership status of the land from which the lessee seeks access.

Lessees must obtain approval of a detailed plan of operations from the Director before conducting exploratory or development activities (11 AAC 83.158). An approved plan of operations is the authorization by which DO&G regulates exploration, development, and production activities.

A plan of operations must identify the specific measures, design criteria, and construction methods and standards to be employed to comply with the restrictions listed below. It must also address any potential geohazards that may exist at the site. Plans of operation must comply with coastal zone consistency review standards and procedures established under 6 AAC 50 and 80 including coastal district plans. Applications for required state or federal agency authorizations or permits must be submitted with the plan of operations. DO&G will require, as a condition of consistency approval, such modification or mitigation measures as may be necessary to ensure consistency with the ACMP standards.

These measures were developed after considering stipulations and terms imposed in other North Slope oil and gas lease sales; fish and wildlife resource and harvest data submitted by ADF&G; and environmental data relating to air and water quality, solid and liquid waste disposal, and oil spills submitted by ADEC. Measures were also developed or modified after considering comments submitted by the public, industry, federal and state agencies, and local government. Additional project-specific mitigation measures will be imposed if and when oil and gas lessees submit plans of exploration, operation, or development.

In addition to compliance with these mitigation measures, lessees must comply with all applicable local, state and federal codes, statutes and regulations, and any subsequent amendments. Federal, state and local government powers to regulate the oil and gas industry are discussed in the "Governmental Powers to Regulate Oil and Gas Exploration, Development, Production, and Transportation" in Chapter One of this finding. Additionally, some applicable federal and state statutes and regulations are presented in Appendix B.

Information to lessees relevant to Sale 87 is also presented in the “Lessee Advisories,” section C of this Chapter. This section contains important information to lessees and operators regarding the Sale 87 area. It also includes precautions, which may apply to post-lease sale activities, and reflect existing local, state, and federal law or policy at the time of the sale.

The following abbreviations are used in these mitigation measures: Alaska Coastal Management Program (ACMP), Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (ADNR), Division of Land (DL), Division of Governmental Coordination (DGC), Division of Mining and Water Management (DMWM), Director, Division of Oil and Gas (Director), Division of Parks and Outdoor Recreation (DPOR), National Pollutant Discharge Elimination System (NPDES), North Slope Borough (NSB), North Slope Borough Municipal Code (NSBMC), North Slope Borough Coastal Management Plan (NSBCMP), State Historic Preservation Officer (SHPO), Spill Prevention Control and Countermeasure (SPCC), and the U.S. Fish and Wildlife Service (USF&WS).

Except as indicated, the restrictions listed below do not apply to geophysical exploration on state lands; geophysical exploration activities are governed by 11 AAC 96. See lessee advisory four, Section C of this Chapter.

The following mitigation measures and advisories will be imposed on oil and gas activities in or on all Sale 87 leased lands and waterbodies as a condition of the approval of plans of operation:

### **General Measures**

1. a. Explosives must not be detonated within, beneath, or in close proximity to fishbearing waters if the detonation of the explosive produces a pressure rise in the waterbody greater than 2.5 pounds per square inch (psi) unless the waterbody, including its substrate, is solidly frozen. Explosives must not produce a peak particle velocity greater than 0.5 inches per second (ips) in a spawning bed during the early stages of egg incubation. The minimum acceptable offset from fishbearing streams and lakes for various size buried charges is:

1 pound charge	37 feet
2 pound charge	52 feet
5 pound charge	82 feet
10 pound charge	116 feet
25 pound charge	184 feet)
100 pound charge	368 feet

Specific information on the location of fishbearing waterbodies may be obtained by contacting ADF&G.

- b. The lessee will consult with the NSB prior to proposing the use of explosives for seismic surveys. The director may approve the use of explosives for seismic surveys after consultation with the NSB.

2. Except for approved off-road travel, exploration activities must be supported only by ice roads, winter trails, existing road systems or air service. Wintertime off-road travel across tundra and wetlands may be approved in areas where snow and frost depth are sufficient to protect the ground surface. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DL. Exceptions may be granted by the director, DL, and the Director, if an emergency condition exists or if it is determined, after consulting ADF&G, that travel can be accomplished without damaging vegetation or the ground surface.
3.
  - a. Removal of water from fishbearing rivers, streams, and natural lakes shall be subject to prior written approval by DMWM and ADF&G.
  - b. Removal of snow cover from fishbearing rivers, streams, and natural lakes shall be subject to prior written approval by ADF&G. Compaction of snow cover overlying fishbearing waterbodies will be prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice and/or snow bridges may be required.
4. Water intake pipes used to remove water from fishbearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement. Screen mesh size shall not exceed 0.04 inches unless another size has been approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 foot per second.

### **Facilities and Structures**

5. Lessees must minimize the impact of industrial development on key wetlands. Key wetlands are those wetlands that are important to fish, waterfowl, and shorebirds because of their high value or scarcity in the region. Lessees must identify on a map or aerial photograph the largest surface area, including future expansion areas, within which a facility is to be sited or an activity is to occur. The map or photograph must accompany the plan of operations. DO&G will consult with ADF&G to identify the least sensitive areas within the area of interest. To minimize impacts, the lessee must avoid siting facilities in the identified sensitive habitat areas, unless no feasible and prudent alternative exists.
6. Exploration facilities, with the exception of artificial gravel islands, must be temporary and must be constructed of ice unless the Director determines that no feasible and prudent alternative exists. Re-use of abandoned gravel structures may be permitted on a case-by-case basis by the Director, after consultation with the director, DL, and ADF&G. Approval for use of abandoned structures will depend on the extent and method of restoration needed to return these structures to a usable condition.
7.
  - a. Pipelines must be located so as to facilitate the containment and cleanup of spilled hydrocarbons. Where feasible and prudent, onshore pipelines must be located on the upslope side of roadways and construction pads unless the director, DL, determines that an alternative

site is environmentally acceptable. Wherever possible, onshore pipelines must utilize existing transportation corridors and be buried where soil and geophysical conditions permit.

- b. All pipelines, including flow and gathering lines, must be designed and constructed to provide adequate protection from water currents, storm and ice scouring, subfreezing conditions, and other hazards as determined on a case-by-case basis.
8. Pipelines shall be designed and constructed to avoid significant alteration of caribou and other large ungulate movement and migration patterns. At a minimum, above ground pipelines shall be elevated five feet, as measured from the ground to the bottom of the pipe, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage. ADNR may, after consultation with ADF&G, require additional measures to mitigate impacts to wildlife movement and migration.

### **Gravel mining and use**

9. Gravel mining sites required for exploration and development activities will be restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage. Where feasible and prudent, gravel sites must be designed and constructed to function as water reservoirs for future use. Gravel mine sites required for exploration activities must not be located within an active floodplain of a watercourse unless the director, DL, after consultation with ADF&G, determines that there is no feasible and prudent alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed.

Mine site development and rehabilitation within floodplains must follow the procedures outlined in McLean, R. F. 1993, *North Slope Gravel Pit Performance Guidelines*, ADF&G Habitat and Restoration Division Technical Report 93-9.

10. a. The state of Alaska discourages the use of continuous-fill causeways. Environmentally preferred alternatives for field development include use of buried pipelines, onshore directional drilling, or elevated structures. Approved causeways must be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics (e.g., salinity, temperature, suspended sediments) that result in exceedances of water quality criteria, and must maintain free passage of marine and anadromous fish.
- b. Causeways and docks shall not be located in river mouths or deltas. Artificial gravel islands and bottom founded structures shall not be located in river mouths or active stream channels on river deltas, except as provided for in (c).
- c. Each proposed structure will be reviewed on a case-by-case basis. Causeways, docks, artificial gravel islands and bottom founded structures may be permitted if the Director, in consultation with ADF&G, ADEC, and the NSB determines that a causeway or other structures are necessary for field development and that no feasible and prudent alternatives exist. A monitoring program may be required to address the objectives of water quality and free

passage of fish, and mitigation shall be required where significant deviation from objectives occurs.

### **Prehistoric, Historic, and Archeological Sites**

11. Prior to any ground disturbing activity resulting from exploration, development or production activities, the lessee must conduct an inventory of prehistoric, historic and archeological sites within the area affected by activity. The inventory must include consideration of literature provided by the NSB and local residents, documentation of oral history regarding historic and prehistoric uses of such sites, evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places, and site surveys.

The inventory must also include a detailed analysis of the potential effects that might result from the activity. The inventory must be submitted to the Director for distribution to DPOR and the NSB for review and comment. In the event that an archeological, prehistoric or historical site or area may be adversely affected by an activity, the Director, after consulting DPOR, and the NSB, will direct the lessee as to what course of action will be necessary to avoid or minimize the adverse effect.

Discovery of prehistoric, historic, or archaeological objects: In the event any site, structure, or object of prehistoric, historic, or archaeological significance is discovered during leasehold operations, the lessee must immediately report such findings to the Director and the lessee must make every reasonable effort to preserve and protect such site, structure, or object from damage until the Director, after consulting the SHPO, has given directions as to its preservation.

### **Training**

12. The lessee must include in any plan of exploration or plan of development a training program for all personnel, including contractors and subcontractors, involved in any activity. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns which relate to the individual's job.

The program must employ effective methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological and biological resources. In addition, the program must also be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating. The program must include an explanation of the applicable laws protecting cultural and historic resources. The program shall address the importance of not disturbing archeological, cultural and historic resources and provide guidance on how to avoid disturbance.

### **Local Hire**

13. To the extent they are available and qualified, the lessee is encouraged to employ local and Alaska residents and contractors for work performed on the leased area. Lessees shall submit, as part of the plan of operations, a proposal detailing the means by which the lessee will comply with the

measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit and hire local and Alaska residents and contractors. The lessee is encouraged, in formulating this proposal, to coordinate with employment services offered by the state of Alaska and local communities and to recruit employees from local communities.

### **Subsistence Harvest Protection**

14. a. Exploration, development or production operations shall be conducted in a manner that prevents unreasonable conflicts between lease related activities and subsistence activities. In enforcing this mitigation measure the division, during review of plans of operation, will work with other agencies and the public to assure that potential conflicts are identified and avoided to the fullest extent possible. Available options include alternative site selection, requiring directional drilling, seismic and threshold depth restrictions, subsea completion techniques, seasonal drilling restrictions, and the use of other technologies deemed appropriate by the Director.
  - b. Prior to submitting a plan of operations for both onshore and offshore activities which have the potential to disrupt subsistence activities, the lessee shall consult with the potentially affected subsistence communities and the North Slope Borough (NSB) (collectively "parties) to discuss potential conflicts with the siting, timing, and methods of proposed operations and safeguards or mitigating measures which could be implemented by the operator to prevent unreasonable conflicts. The parties shall also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee shall make reasonable efforts to assure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable interference with subsistence harvests.
  - c. A discussion of resolutions reached or not reached during the consultation process and plans for continued consultation shall be included in the plan of operations. The lessee shall identify who participated in the consultation and send copies of the plan to participating communities and the NSB when it is submitted to the division.
  - d. If the parties cannot agree, then any of them may request the Commission of DNR or his designee to assemble the parties. The commissioner may assemble the parties or take other measures to resolve conflicts among the parties.
  - e. The lessee shall notify the director of all concerns expressed by subsistence hunters during operations and of steps taken to address such concerns.
  - f. Lease-related use will be restricted when the Director determines it is necessary to prevent unreasonable conflicts with subsistence harvests.
15. No restriction of public access to, or use of, the lease area will be permitted as a consequence of oil and gas activities except in the immediate vicinity of drill sites, buildings and other related facilities.

Areas of restricted access must be identified and a rationale justifying the area restriction must be included in the plan of operations.

## **Title 16 Streams**

16. Under Title 16 of the Alaska statutes, the measures listed below will be imposed by ADF&G below the ordinary high water mark in designated anadromous streams and fishbearing streams for activities that could block fish passage. Exceptions to these requirements, including exceptions for the use of spill containment and recovery equipment, may be allowed on a case-by-case basis. Specific information on the location of anadromous waterbodies in and near the area may be obtained from ADF&G.
- a. Alteration of river banks, except for approved permanent crossings, will be prohibited.
  - b. Except for approved stream crossings, equipment must not be operated within willow stands (*Salix* spp.).
  - c. The operation of equipment, excluding boats, in open water areas of rivers and streams will be prohibited.
  - d. Bridges are the preferred watercourse crossings in fish spawning and important rearing habitats. In areas where culverts are used, they must be designed, installed, and maintained to provide efficient passage of fish.

## **Waste Disposal**

### 17. Solid Waste Disposal

- a. Garbage and domestic combustible refuse must be incinerated. Nonburnables must be disposed of at an approved upland site.
- b. The preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Injection of non-hazardous oil field wastes generated during development is regulated by AOGCC through its Underground Injection Control (UIC) Program for oil and gas wells. Annular disposal of muds and cuttings associated with drilling an exploratory well is permitted by ADEC. Surface discharge of drilling muds and cuttings into lakes, streams, rivers, and high value wetlands is prohibited. Surface discharge of drilling muds and cuttings into reserve pits shall be allowed only when the Director, in consultation with ADEC, determines that alternative disposal methods are not feasible and prudent. If use of a reserve pit is proposed, the operator must demonstrate the advantages of a reserve pit over other disposal methods, and describe methods to be employed to reduce the disposed volume. Onpad temporary cuttings storage will be allowed as necessary to facilitate annular injection and/or backhaul operations.

- c. Proper disposal of garbage and putrescible waste is essential to minimize attraction to wildlife. The lessee must use the most appropriate and efficient method to achieve this goal. The primary method of garbage and putrescible waste disposal is prompt, on-site incineration in compliance with state of Alaska air quality regulations in 18 AAC 50. The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is on-site non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste only must be achieved unless safety considerations prevent this.

18. Wastewater disposal:

- a. Unless authorized by NPDES or state permit, disposal of wastewater into freshwater bodies, including Class III, IV, VI, and VIII wetlands, is prohibited.
- b. Surface discharge of reserve pit fluids will be prohibited unless authorized by ADEC permit and approved by DL.
- c. Disposal of produced waters in upland areas, including wetlands, will be by subsurface disposal techniques. ADEC may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not feasible or prudent.
- d. Discharge of produced waters into open or ice-covered marine waters of less than 10 meters (33 feet) in depth is prohibited. The commissioner, ADEC may approve discharges into waters greater than 10 meters in depth based on a case-by-case review of environmental factors and consistency with the conditions of a state certified development and production phase NPDES permit issued for the sale area.

**Specific Measures**

19. Birds: Permanent, staffed facilities must be sited to the extent feasible and prudent outside identified brant, white-fronted goose, snow goose, tundra swan, king eider, common eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas.

20. Bears:

- a. Exploration and production activities must not be conducted within one-half mile of occupied grizzly bear dens, unless alternative mitigative measures are approved by ADF&G. Known den sites shall be obtained from the Division of Wildlife Conservation, ADF&G, phone 459-7213, prior to commencement of any activities. Occupied dens encountered in the field must be reported to the above, and subsequently avoided by one-half mile.
- b. Operations must avoid known polar bear dens by one mile. Known den locations shall be obtained from the US Fish & Wildlife Service (907-786-3800) prior to starting operations. New dens encountered in the field must be reported to the above, and subsequently avoided by

one mile. If a polar bear should den within an existing development, off-site activities shall be restricted to minimize disturbance.

- c. For projects in close proximity to areas frequented by bears, lessees will be encouraged to prepare and implement bear interaction plans to minimize conflicts between bears and humans. These plans could include measures to (a) minimize attraction of bears to the drillsites; (b) organize layout of buildings and work areas to minimize human/bear interactions; (c) warn personnel of bears near or on drillsites and the proper procedures to take; (d) if authorized, deter bears from the drillsite; (e) provide contingencies in the event bears do not leave the site or cannot be deterred by authorized personnel; (f) discuss proper storage and disposal of materials that may be toxic to bears; and (g) provide a systematic record of bears on the site and in the immediate area. The ADF&G has offered to assist lessees in developing educational programs and camp layout and management plans as lessees prepare their lease operations plans.

## 21. Waterbody Buffers:

- a. To the extent feasible and prudent, onshore facilities other docks, or road and pipeline crossings, will not be sited within 500 feet of fishbearing streams. Additionally, to the extent feasible and prudent, facilities will not be sited within one-half mile of the banks of the main channel of the Colville, Canning and Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers. Facilities will not be sited within 500 feet of all other fishbearing waterbodies. Essential facility siting will be allowed in buffer areas in those instances where no other suitable sites are available. Facilities will not be sited within buffers unless the Director, after consulting ADF&G, determines that such facility restrictions are not feasible or prudent. Road and pipeline crossings must be aligned perpendicular or near perpendicular to watercourses.
- b. No facilities will be sited within one-half mile of identified Dolly Varden both overwintering/spawning areas on the Kavik, Canning and Shaviovik Rivers. Road and pipeline crossings will not be sited within these buffers unless the Director, after consulting ADF&G, determines that such facility restrictions are not feasible or prudent. \* Exception – ADF&G.

## Lessee Advisories

### 1. Local Ordinance

Lessees are advised that the NSB Assembly has adopted a comprehensive plan and land management regulations under Title 29 of the Alaska Statutes (AS 29.40.020-040). The NSB regulations require borough approval for all proposed uses, development and master plans. The NSBCMP policies are included as part of the NSB zoning regulations (19.70.060) and all NSB permit approvals will require the proposal to be substantially consistent with these policies. The NSB likely will aggressively assert its land management powers to the fullest extent permissible

under law to address any outstanding concerns regarding impacts to the area's fish and wildlife species and to habitat and subsistence activities.

Restricting access to and use of fish camps and other subsistence use areas defined in the NSB Traditional Land Use Inventory, may violate NSBCMP and NSBMC subsistence harvest protection and land use regulations. Lessees are advised to consult with the NSB Planning Department and local communities during planning of operations.

To comply with NSB Policy regarding the mining of beaches, barrier islands, or offshore shoals, in those circumstances where no feasible and prudent alternatives exist, substantial alteration of shoreline dynamics is prohibited.

## 2. Community Participation in Operations Planning

Lessees are encouraged to bring one or more residents of communities in the area of operations into their planning process. Local communities have a unique understanding of their environment and community activities. Involving local community residents in the earliest stages of the planning process for oil and gas activities can be beneficial to the industry and to the community. Community representation on management teams developing plans of operation, oil spill contingency plans, and other permit applications can help communities understand permitting obligations and help industry to understand community values and expectations for oil and gas operations being conducted in and around their area.

## 3. Wetlands Identification

The wetlands referred to in Mitigation Measures 5, and 19 are based on a classification system developed by Bergman et al (USF&WS Resource Publication 129, 1977 Waterbirds and Their Wetland Resources in Relation to Oil Development at Storkersen Point, Alaska). Lessees are advised that the state may adopt or approve the use of an alternative wetlands classification system in the future, however, the protective nature of the wetlands mitigation measures developed for this and other oil and gas lease sales will remain consistent regardless of the wetlands classification ultimately selected.

## 4. Geophysical Activity

Except as indicated, the mitigation measures listed above do not apply to geophysical exploration on state lands; geophysical exploration activities are governed by 11 AAC 96. In conducting offshore geophysical surveys, neither the lessees or their agents will use explosives in open water areas.

Lessees may or may not propose operations which include seismic surveys in the Sale 87 lease area, and may not therefore have any control over those activities. However, if they are post-lease seismic surveys conducted by or contracted by the lessee, they may be considered lease-related activities. Consequently, restrictions on geophysical exploration permits, whether lease related or

not, will depend on the size, scope, duration, and intensity of the project. They will also depend on the extent of effects on important species, specifically marine mammals.

Copies of the non-proprietary portions of all Geophysical Exploration permit applications will be made available to the NSB, AEW, and potentially affected subsistence communities for comment.

## 5. Bird, Fish, and Marine Mammal Protection

- a. Lessees shall comply with the Recommended Protection Measures for Spectacled Eiders developed by the USF&WS to ensure adequate protection of spectacled eiders during the nesting and brood rearing periods. Lessees shall comply with the Recommended Protection Measures for Steller's eider once they are developed by the USFWS.
- b. Peregrine falcon nesting sites are known to occur in the Sale 87 area. Lessees are advised that disturbing a peregrine falcon nest violates federal law. Lessees are required to comply with the federal resource recovery plan for the arctic peregrine falcon.
- c. To minimize impacts on Dolly Varden (arctic char) overwintering areas, permanent, staffed facilities must be sited to the extent feasible and prudent outside identified Dolly Varden (arctic char) overwintering areas.
- d. Lessees are advised that they must comply with the provisions of the Marine Mammal Protection Act of 1972 as amended.

## 6. Aircraft Restrictions:

In order to protect species that are sensitive to noise or movement, horizontal and vertical buffers will be required, consistent with aircraft, vehicle and vessel operations regulated by NSB Code §19.70.050(I)(1) which codifies NSBCMP policy 2.4.4.(a). Lessees are encouraged to apply the following provisions governing aircraft operations in and near the sale area:

- a. From June 1 to August 31, aircraft overflights must avoid identified brant, white-fronted goose, tundra swan, king eider, common eider, and yellow-billed loon nesting and brood rearing habitat, and from August 15 to September 15, the fall staging areas for geese, tundra swans, and shorebirds, by an altitude of 1,500 feet, or a lateral distance of one mile.
- b. To the extent feasible and prudent, all aircraft should maintain an altitude of greater than 1,500 feet or a lateral distance of one mile, excluding takeoffs and landings, from caribou and muskoxen concentrations. A concentration means numbers of animals in excess of the general density of those animals found in the area.
- c. Human safety will take precedence over flight restrictions.

## 7. Oil Discharge Prevention and Contingency Plans (C-Plans)

Oil and hazardous substance pollution control: In addition to addressing the prevention, detection, and cleanup of releases of oil, contingency plans (C-Plans) for oil and gas extraction operations should include, but not be limited to;

- a. methods for detecting, responding to, and controlling blowouts;
  - b. the location and identification of oil spill cleanup equipment;
  - c. the location and availability of suitable alternative drilling equipment;
  - d. a plan of operations to mobilize and drill a relief well;
8. a. To conform with ADEC requirements, impermeable lining and diking, or equivalent measures such as double-walled tanks, will be required for onshore oil storage facilities (with a total above ground storage capacity greater than 1,320 gallons, provided no single tank capacity exceeds 660 gal) and for sewage ponds. Additional site-specific measures may be required as determined by ADNRC, with the concurrence of ADEC, and will be addressed in the existing review of project permits or Oil Discharge Prevention and Contingency Plans (C-Plans).
- b. Buffer zones of not less than 500 feet will be required to separate onshore oil storage facilities (with a capacity greater than 660 gallons) and sewage ponds from freshwater supplies, streams, and lakes and key wetlands unless the Director after consultation with ADEC, determines that such a requirement is not feasible or prudent. Reserve pits, if used must be impermeable and otherwise fully contained through diking or other means. \* Exception – ADEC.

## 9. Sensitive Areas

Lessees are advised that certain areas are especially valuable for their concentrations of marine birds, marine mammals, fishes, or other biological resources; cultural resources; and for their importance to subsistence harvest activities. The following areas must be considered when developing plans of operation. Identified areas and time periods of special biological and cultural sensitivity include:

- a. the Canning River Delta, January-December;
  - b. the Colville River Delta, January-December;
  - c. the Sagavanirktok River delta, January-December.
10. Lessees are encouraged in planning and design activities to consider the recommendations for oil field design and operations contained in the final report to the Alaska Caribou Steering Committee: Cronin, M. et al, 1994. "Mitigation of the Effects of Oil Field Development and Transportation Corridors on Caribou." LGL Alaska Research Associates, Inc., July.

## 11. Access

No lease facilities or operations may be located so as to block access to, or along, navigable and public waters as defined by AS 38.05.965(13) and (17).

## 12. Hydrocarbon Emissions

- a. Because of the state's interest in encouraging clean air, lessees are encouraged to adopt conservation measures to reduce hydrocarbon emissions.
- b. The state recognizes that in the long run sources of energy other than oil and gas will be needed. Lessee participation in conducting research on alternative energy sources is appreciated.