

DECISION AND FINDINGS OF THE COMMISSIONER,  
ALASKA DEPARTMENT OF NATURAL RESOURCES

THIRD EXPANSION OF THE DUCK ISLAND UNIT  
FIRST CONTRACTION OF THE PRUDHOE BAY UNIT

FEBRUARY 21, 1985

AGO 1363937

DUCK ISLAND UNIT EXPANSION/PRUDHOE BAY UNIT CONTRACTION

DECISION AND FINDINGS OF THE COMMISSIONER  
OF THE DEPARTMENT OF NATURAL RESOURCES

SUMMARY OF DECISION: The expansion of the Duck Island Unit to include additional lands overlying the Endicott reservoir, and the simultaneous contraction of the Prudhoe Bay Unit to exclude certain of those lands is determined to be in the interest of the State of Alaska, and is hereby approved subject to certain conditions. A major condition of approval of this expansion and simultaneous contraction is the restriction of the expansion of the Duck Island Unit to include only those lands known or believed to overlie the Endicott Reservoir. This approval is restricted to the expansion of the Duck Island Unit and concurrent contraction of the Prudhoe Bay Unit. Other actions requested in the application (approval of the Endicott Participating Area, approval of Production and Cost Allocations for the Endicott Participating Area, approval of amendments to the Duck Island Unit Agreement, and approval of a change in the Unit Operatorship of the Duck Island Unit) will be considered separately.

I. INTRODUCTION AND BACKGROUND

On November 9, 1984, the Department of Natural Resources received an application to expand the present unit boundary of the Duck Island Unit and simultaneously contract the present unit boundary of the Prudhoe Bay Unit. The purpose of the application is to amend the boundaries of the two units so that the Endicott Reservoir underlies a single unit, the Duck Island Unit. Lands overlying the Endicott Reservoir which are currently within the Prudhoe Bay Unit are to be excluded from that unit and included within the Duck Island Unit. In addition, certain currently nonunitized lands are to be added to the Duck Island Unit.

The separate Duck Island and Prudhoe Bay Unit Agreements conform and modify individual oil and gas leases so that exploration and production activities can be conducted on a unit-wide basis rather than on a lease-by-lease basis. Approval of the expanded Duck Island Unit would extend the joint, cooperative development of the unit area in accordance with an approved unit plan of development and operations to lands included within the expanded Duck Island Unit. Current plans for exploitation of the Endicott reservoir call for immediate development of the area, culminating in the commencement of production from the reservoir in 1988.

The application for expansion/contraction was submitted to the Department of Natural Resources in conjunction with requests for several other unit actions relating to these two units. The other actions requested were (1) a change in unit operatorship of the Duck Island Unit, (2) the formation of the Endicott

Participating Area within the Duck Island Unit; (3) approval of tract production and cost allocations within the Endicott Participating Area; (4) settlement of cleaning, dehydration, and transportation charges applicable to royalty hydrocarbon liquids taken from the Endicott Participating Area; and (5) determination of certain accounting procedures for the net profit share leases to be included within the Duck Island Unit. Although these actions were all requested jointly, they will be approved or disapproved separately. This Decision and Findings will be restricted solely to the consideration of the expansion of the Duck Island Unit boundary, and the concomitant contraction of the Prudhoe Bay Unit boundary. Approval or disapproval of the other requests enumerated above will be issued separately.

The Prudhoe Bay Unit was approved by the State on November 18, 1977, and was retroactively effective to April 1, 1977. At the time of this application, the unit contained all or portions of 120 State of Alaska oil and gas leases, comprising approximately 251,527 acres. The Duck Island Unit, approved by the State on August 21, 1978, contained 11 State of Alaska leases totalling approximately 26,640 acres at the time of this application. The application proposed to contract all of three leases located in the northeast corner of the Prudhoe Bay Unit on the Prudhoe Bay Unit/Duck Island Unit boundary out of the Prudhoe Bay Unit and to include them within the Duck Island Unit. In addition, two currently nonunitized leases lying to the north of the current Duck Island Unit were proposed to be added to the Duck Island Unit.

The application was made jointly by ARCO, Alaska, Inc. and Sohio Alaska Petroleum Company, the joint operators of the Prudhoe Bay Unit, Sohio Alaska Petroleum Company as the proposed Unit Operator of the Duck Island Unit after the expansion/contraction, and Exxon Company, U.S.A, the current operator of the Duck Island Unit.

Public notice for the proposed expansion/contraction was published in the Anchorage Daily News on November 19 and 21, 1984, and in the Tundra Times on December 3 and 10, 1984, and copies of the proposed unit application were provided to all affected parties as set out in 11 AAC 83.311, as well as to the Alaska Department of Fish and Game, the Department of Environmental Conservation, and the Alaska Oil and Gas Conservation Commission. The Alaska Oil and Gas Conservation Commission submitted the only comments received by the Department.

## II. DETERMINATION OF PROPER UNIT BOUNDARIES

In the comments made to the Department of Natural Resources, the Alaska Oil and Gas Conservation Commission noted that the operators of the Prudhoe Bay Unit were concurrently petitioning the Commission to establish Field Rules for the Lisburne reservoir. The Public Hearing for the Lisburne Oil Pool Field Rules was held on November 29, 1984, and the Rules were subsequently adopted on January 10, 1985. As a result of the review of the testimony on the adoption of the Rules and a review of the geotechnical data from the Prudhoe Bay Unit Area, it became apparent that there existed a probability of the Lisburne reservoir extending to the northeast up to the Mikkelsen Bay Fault, which is postulated to be the southwest boundary of the Endicott Reservoir.

Therefore, the Alaska Oil and Gas Conservation Commission, in adopting the new Field Rules for the Lisburne Oil Pool (Conservation Order No. 207) found in part as follows:

26. It appears that most if not all of the Lisburne Oil Pool lies within the current boundary of the Prudhoe Bay Unit. However, it is possible that the pool limits may extend beyond the Prudhoe Bay Unit boundary.
27. Terms of the Prudhoe Bay Unit Agreement provide for the expansion of the Prudhoe Bay Unit and for the establishment and expansion of an initial participating area for the Lisburne Oil Pool.
28. Management of the Lisburne Oil Pool under terms of the Prudhoe Bay Unit Agreement will effectively protect correlative rights, prevent waste and insure the maximum hydrocarbon recovery.

As a result of these findings, the Commission ordered the following Field Rule for the Lisburne Oil Pool:

Rule 11. UNITIZATION. To ensure the protection of correlative rights and to prevent waste, the Lisburne Oil Pool shall be administered in accordance with the Prudhoe Bay Unit Agreement.

To assure that the Lisburne reservoir is contained within the confines of the Prudhoe Bay Unit to the maximum extent possible, the Commission requested that the Department of Natural Resources modify the application for the Duck Island Unit Expansion/Prudhoe Bay Unit Contraction to make the Mikkelsen Bay Fault the effective boundary between the two units. They proposed that the boundary be stepped off from the fault to the southwest in 40-acre increments, thereby minimizing the inclusion of those lands within the Duck Island Unit Area which overlie the Lisburne Reservoir. To accomplish this boundary alteration, the Commission proposed that the lands to be excluded from the Prudhoe Bay Unit and included within the Duck Island Unit be modified to the following:

T12N, R16E, U.M.: Sections 25, and 26, All; Section 27, NW/4, E/2, E/2 SW/4, NW/4 SW/4; and Section 34, NE/4 NW/4, NE/4, N/2 SE/4, SE/4 SE/4.  
T11N, R16E, U.M.: Section 1, NW/4, NE/4, SE/4, N/2 SW/4, SE/4 SW/4; Section 2, N/2 NW/4, SE/4 NW/4, NE/4, NE/4 SE/4; and Section 12, NE/4 NE/4.

After consultation with both the Alaska Oil and Gas Conservation Commission and the proposed Duck Island Unit Operator, the Department of Natural Resources determined that the best interest of the State would be served by approving the application for Duck Island Unit expansion/Prudhoe Bay Unit contraction as submitted, but conditioning the approval on the subsequent amendment of the unit boundaries to be consistent with the above modification.

### III. GEOLOGICAL CONSIDERATIONS.

The applicants presented extensive geological, geophysical, and engineering data to the Department to justify the expansion of the Duck Island Unit and contraction of the Prudhoe Bay Unit. The information was presented to the

Department in a series of technical working sessions between the applicants and Division of Oil and Gas personnel. Data presented included well logs and core data, seismic interpretations, reservoir stratigraphy, structure, and other characteristics, and engineering and production estimates.

#### IV. DISCUSSION OF CRITERIA AND CONTRIBUTING FACTORS

According to 11 AAC 83.303, the State will approve a proposed unit agreement for State oil and gas leases if such an agreement is found to be necessary to protect the public interest considering the provisions of AS 38.05.180(p) and the regulations governing unitization (11 AAC 83.301 -- 11 AAC 83.395). Such an agreement must promote the conservation of all natural resources, including all or part of an oil or gas pool, field, or like area, promote the prevention of economic and physical waste, and provide for the protection of all parties of interest, including the State. In evaluating these criteria, the State must take into consideration several factors including environmental and economic costs and benefits of unitization, prior exploration activities in the proposed unit area, the applicant's plans for development of the unit area, and the geological and engineering characteristics of the potential hydrocarbon accumulation or reservoirs proposed for unitization. These decision criteria and contributing factors are considered below.

##### Criteria for Decision:

A. The Conservation of All Natural Resources. Historically, the development and production of hydrocarbon resources has been directed by the so-called "Rule of Capture," the convention that allowed for an owner of lands overlying oil and gas reserves to essentially deplete the reserves at will without consideration of the volumetric percentage of the hydrocarbon reservoir directly underlying the lands relative to adjacent lands. Adjacent landowners, if they did not promptly protect their reserves by offset drilling or other means of prevention of hydrocarbon drainage, would often find that they had lost the possession of their hydrocarbon mineral estate through the migration of the oil and gas to the producing tract of land.

To combat the undesirable effects of the Rule of Capture, the principle of "correlative rights" became established in this country. This principle set forth the concept that the "ownership" of the mineral estate underlying a given tract of land was restricted to the mineral estate originally in place under the land, without regard to the subsequent movement of migratory resources from one area to another. The adoption of this principle allowed the mineral estate to be developed in a manner that maximized the ultimate production from the hydrocarbon reservoir, and minimized the physical and economic waste that results from the drilling of unnecessary wells.

Unitized development and operation of hydrocarbon reservoirs is a well accepted means of hydrocarbon conservation. Unitization acts to permit the entire oil or gas field (or a very substantial portion of it) to be operated as a single entity, regardless of the surface boundary lines or the diverse ownership of separate tracts within the field. By unitization of the separate

tracts that overlie a hydrocarbon reservoir, the development operations necessary to produce the resource most efficiently can be carried out by a single operator acting to exploit the field in a considered and integrated manner.

Unitization allocates the resources underlying each separately-owned tract of land to each affected party on an equity basis. Under this arrangement, each party is indifferent to the activity of the adjacent landholders, as an agreed allocation of the recoverable hydrocarbons is assigned to each tract regardless of the actual production mechanism or location of the producing wells.

Without unitization, the process of unregulated development often has the effect of competition for possession of the available hydrocarbons without consideration of the interests of the diverse ownership of the reservoir. The results often included overly dense drilling, especially along property lines, rapid dissipation of reservoir pressure, and irregular advance of displacing fluids, frequently culminating in a significant loss of ultimate hydrocarbon recovery. The increased surface activity and the haste to get the hydrocarbons to the surface also increased the likelihood of damage external to the reservoir, especially oil spills and related negative surface impacts. While Conservation Orders and Field Rules issued by the Alaska Oil and Gas Conservation Commission act to mitigate some of the above identified impacts, unitization and unitized operations provide the only practical method for achieving the twin objectives of maximum hydrocarbon recovery and minimum negative impact on other resources.

The objective of the proposed expansion of the Duck Island Unit and simultaneous contraction of the Prudhoe Bay Unit is to include the entire Endicott Reservoir within a single unit, thereby alleviating any problems that might arise in allocation of hydrocarbons across lease or unit boundaries. As such, it meets the criterion of conservation of all natural resources. The separate unit agreements provide for the conservation of both surface and subsurface resources through the applicable plans of Development and Operations as well as through the unitized operation of their respective reservoirs.

B. The Prevention of Economic and Physical Waste. The actual process of unitization to a large extent acts to mitigate the resource conservation problem, however economic and physical waste could still occur in the absence of a equitable cost-sharing formula and a well-defined development plan. To be complete, a Unit Agreement must provide for the division of costs, as well as the division of production (benefits), and set forth a plan for the integrated development of the reservoir which will result in the maximization of the physical and economic recovery from the resource. While the assignment of hydrocarbon equity prevents overly hasty or excessive development, the absence of a cost-sharing agreement severely inhibits the development of common surface facilities and operating strategies. A cost-sharing agreement, as well as the selection of a single unit operator to develop the field, enables the resource to be developed in an orderly and rational manner, with well spacing, reinjection strategy, and other development and operation decisions to be considered on the basis of the best interests of all of the

affected parties. Unitization prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and avoiding loss of ultimate recovery through a unified management strategy.

The benefits of unitization are particularly important when the fields to be developed contain economically marginal reservoirs. In such areas, added reserves are often obtained by virtue of the efficiencies of unitized operations. Capital savings as a result of minimal duplication of facilities and integrated reservoir management allow less profitable areas of a reservoir to be developed and produced. The current uncertainty regarding the magnitude of the return on the investment necessary to develop a field adds to the reluctance of lessees to enter into a costly development project by themselves.

The Endicott Reservoir is considered to be a somewhat marginally economic hydrocarbon accumulation. The benefits attributable to unitization are a significant impetus to the development of the field as a whole; without unitization the probability of production from the area would be significantly diminished.

Considering the above, the expansion of the Duck Island Unit to contain the entire Endicott Reservoir contributes to the prevention of economic and physical waste. A single operator will produce and develop the Endicott reservoir, and the Duck Island Unit Agreement sets forth a comprehensive Plan of Development. Divisions of interest allocating hydrocarbon production and development and operational costs are included as a part of the Unit Agreement as Exhibit C.

C. The Protection of All Parties of Interest, Including the State. As stated above, the principal aim of unitization is the protection of all parties having an economic interest in a common resource. Unitization acts to protect the various interests of all of the affected parties by eliminating the competition of divergent interests in operating a common reservoir, while retaining separate allocations for the equitable division of costs and benefits based on original ownership of the resource. By committing their interests to the Unit Agreement, all parties are assured an allocation of costs and benefits commensurate with the value of each interest.

The proposed expansion of the Duck Island Unit protects the State's economic interest by maximizing the physical recovery of the hydrocarbons in the Endicott reservoir and thereby maximizing the revenue attributable to the production from that reservoir. At the same time, through the State approval of the Plans of Development and Operations that are an integral part of the Duck Island Unit Agreement, any impacts to the region's cultural, biological, and environmental resources may be mitigated and minimized. The Duck Island Unit Agreement contains equitable provisions for reporting and maintaining records, provides for State approval of operating procedures, and provides acceptable procedures for royalty settlement, in-kind oil taking, and emergency storage of oil. The Duck Island Unit Agreement is also amended to contain a provision for settlement of cleaning, dehydration, and transportation charges for royalty hydrocarbons derived from the Endicott reservoir, thereby reducing the chance of any further controversy or litigation attributable to that cause for the reservoir.

The State's interest is protected by the consideration and approval rights over the allocation formulas for production and costs for the Endicott reservoir, and the Plan of Development and Operations for the Duck Island Unit as a whole. The interests of the various leaseholders are protected by their commitment to an agreement preserving correlative rights and maximizing economic recovery from the reservoir. The interests of all affected parties are, therefore, protected by the proposed expansion of the Duck Island Unit and simultaneous contraction of the Prudhoe Bay Unit.

In consideration of the above criteria, the following factors were considered:

1. The Environmental Costs and Benefits of Unitized Development. As discussed in the consideration of Criteria A and B above, the environmental consequences of lease-by-lease drilling and exploitation of a reservoir are generally undesirable. Such a program leads to development of an area based on individual interests rather than on an integrated basis, and contributes to significant duplication of surface activities and impacts.

The leases proposed to be added to the Duck Island Unit are adjacent to an environmentally sensitive marine area known as the "Boulder Patch." In addition, the Unit Area includes a substantial portion of the Sag River Delta. Although numerous leasing and permitting restrictions exist to protect the environment and habitat of the area, unitized development as part of the Duck Island Unit will further contribute to the maintenance of the environmental integrity of the area. The benefits of unitized development of the area are many; no environmental costs of unitization relative to lease-by-lease development are apparent.

2. The Geological and Engineering Characteristics of the Reservoir Proposed for Unitization. At this time, the principal objective of the development of the Duck Island Unit is production from the Endicott Reservoir, underlying the Lisburne Group below approximately minus 10,440 feet below sea level. The trapping mechanism is postulated to consist of a combination of various faulting elements to the north and west, and truncation to the east.

The final expansion of the Duck Island Unit and contraction of the Prudhoe Bay Unit will place separation of the two units approximately at the location of the Mikkelsen Bay Fault at the depth of the Endicott Reservoir. Since it is thought that the Lisburne Reservoir is also bounded by the Mikkelsen Bay Fault to the northeast, the use of this fault as the boundary between the two units will hopefully act to place each of the two reservoirs within separate units.

3. Prior Exploration Activities in the Area. Considerable exploration activities have been pursued in the area proposed to be added to the Duck Island Unit. Sohio has drilled three wells, Sag Delta Wells No. 7, 9, and 10 since early 1981. Before 1981, Sohio had also drilled 10 other wells in the general vicinity, and Exxon had drilled three wells.

4. The Applicant's Plans for Development of the Unit Area. In the several technical meetings held between the applicants and the State, the applicants indicated that development of the Endicott reservoir was being pursued with the intention to commence production in 1988. Initial development plans call for between 40 and 60 directional wells to be drilled from two gravel islands constructed immediately offshore. Hydrocarbon reinjection for reservoir pressure support will be implemented from the onset to maximize total recovery of hydrocarbons. Producing wells will tie into a centralized production facility, which will process the hydrocarbons to meet pipeline specifications. The conditioned liquid hydrocarbons will then be transported by pipeline and introduced into the Trans Alaska Pipeline System (TAPS) at Pump Station No. 1. A portion of the associated gas will be conditioned, compressed, and processed through a natural gas liquids recovery facility; the remainder of the associated gas will be reinjected into the gas cap or sold.

5. Economic Costs and Benefits to the State. It is to the State's advantage to encourage early development of the Endicott reservoir as the commencement of production from the reservoir will begin at approximately the time that the State will be beginning to feel the effects of the decline of production from the Sadlerochit Reservoir within Prudhoe Bay Unit. Two of the tracts proposed to be added to the Duck Island Unit are net profit share leases with provisions for up to 79.59% of the net profit from the production attributable to those leases to be payable to the State. As a result of the development and production of the Endicott reservoir, the State's long-term royalty and tax revenues are enhanced and private development capital is available for alternative oil and gas activities elsewhere in the State. Also, by having a single operator, the administrative burden to the State is significantly reduced.

Both the statutes and the lease forms provide for the alteration of certain rental, royalty, drilling, and producing terms of the leases as a condition of their commitment to the Duck Island Unit. In the case of the Duck Island Unit Agreement, the State has specifically conditioned the inclusion of certain leases on their amendment to be consistent with the terms of the Unit Agreement. In particular, the commitment of the new leases to the Duck Island Unit is tied to the lessees acceptance of negotiated terms for cleaning, dehydration, and transportation deductions attributable to those leases. The settlement of these terms for the entire Endicott Reservoir provides the State with a certain revenue base for these leases, and reduces the possibility of prolonged litigation over the responsibility of the lessees to pay these costs.

## V. DECISION AND FINDINGS

Considering the facts discussed in this document and the administrative record, I hereby find as follows:

1. Based on the available geologic and engineering data submitted to the State, and on the several technical presentations made to the State by the applicants, the expansion of the Duck Island Unit to include all of leases ADLs 312828 and 312834 is proper and justified.

2. Based on the available geologic and engineering data submitted to the State, and on the several technical presentations made to the State by the applicants, both the expansion of the Duck Island Unit to include all of ADL 34633, and the contraction of the Prudhoe Bay Unit to exclude ADL 34633 are proper and justified. The Duck Island and Prudhoe Bay Unit Agreements provide for further expansions or contractions of the respective Unit Areas as warranted by additional information.
3. Based on the available geologic and engineering data submitted to the State, on comments on the application provided by other State agencies, and on the several technical presentations made to the State by the applicants, the expansion of the Duck Island Unit to include portions of ADLs 34634 and 34636, and the contraction of the Prudhoe Bay Unit to exclude those portions of ADLs 34634 and 34636 are proper and justified. Considering the data provided to date, however, the portions of ADLs 34634 and 34636 to be included in the Duck Island Unit and contracted out of the Prudhoe Bay Unit are not the same as the portions proposed in the application. The amended Unit Areas are at this time approved as submitted by the applicants; however, this approval of the expansion of the Duck Island Unit and contraction of the Prudhoe Bay Unit is conditioned on the Duck Island Unit and Prudhoe Bay Unit Working Interest Owners submitting a further application to expand the Prudhoe Bay Unit and contract the Duck Island Unit to set the boundary between the two units to follow the the Mikkelsen Bay Fault at approximately the depth of the Endicott Reservoir. Such further Prudhoe Bay Unit expansion and simultaneous Duck Island Unit contraction must be submitted to the Department of Natural Resources for approval within one year of the effective date of this Decision and Findings, and must contract the following lands out of the Duck Island Unit and recommit them to the Prudhoe Bay Unit:

T12N, R16E, U.M.: Section 21, SW/4 SW/4; Section 28, all; Section 33, all; and Section 34, NW/4 NW/4, S/2 NW/4, SW/4, SW/4 SE/4.

T11N, R16E, U.M.: Section 1, SW/4 SW/4; Section 2, SW/4 NW/4, SW/4, W/2 SE/4, SE/4 SE/4; Section 11, all; and Section 12, NW/4, NW/4 NE/4, S/2 NE/4, S/2.

4. Approval of this expansion of the Duck Island Unit and contraction of the Prudhoe Bay Unit is necessary and advisable to protect the public interest. Lessees' ratification of the appropriate Unit Agreement will insure a fair and equitable return to the State from any production of hydrocarbons from the final approved unit areas.
5. Diligent exploration and delineation of the reservoirs underlying the final Duck Island and Prudhoe Bay Unit Areas will continue to be conducted by the Unit Operators under the Plans of Development and Operations for the two units as approved by the State.
6. The economic benefits to the State in expanding the Duck Island Unit Area to include the Endicott reservoir and contracting the Prudhoe Bay Unit to exclude the Endicott reservoir outweigh the economic costs to the State to do so.

7. Expansion of the Duck Island Unit Area to include all lands overlying the Endicott reservoir and contraction of the Prudhoe Bay Unit to exclude all lands overlying the Endicott reservoir will provide for the increased conservation of all natural resources including hydrocarbons, gravel, sand, water, wetland, and other valuable habitat.
8. Expansion of the Duck Island Unit Area to include all lands overlying the Endicott reservoir and contraction of the Prudhoe Bay Unit to exclude all lands overlying the Endicott reservoir will reduce the amount of surface lands and fish and wildlife habitat that would otherwise be used if the area were to be explored and developed on a lease-by-lease basis. This reduction in the impact on the environment is in the public interest.
9. Expansion of the Duck Island Unit Area to include all lands overlying the Endicott reservoir and contraction of the Prudhoe Bay Unit to exclude all lands overlying the Endicott reservoir will not limit or diminish access to public or navigable waters beyond any limitations already contained in the oil and gas leases within the two Unit Areas, or in the currently nonunitized leases proposed to be added to the Duck Island Unit Area.
10. The action is consistent with the Alaska Coastal Management Program.
11. This expansion of the Duck Island Unit Area and simultaneous contraction of the Prudhoe Bay Unit Area will be effective as of 12:01 a.m. on the day following approval of the expansion/contraction by the Commissioner.

For these reasons, and subject to the conditions noted, I hereby approve the expansion of the Duck Island Unit and contraction of the Prudhoe Bay Unit.

Kay Brown  
 Kay Brown, Director  
 Division of Oil and Gas

2/21/85  
 Date

Attest: James E. Eason  
 James E. Eason, Deputy Director  
 Division of Oil and Gas

2/21/85  
 Date

Attest: Catherine S. Fortney  
 Catherine S. Fortney, Unit Manager

2-21-85  
 Date

For: Esther C. Wunnicke, Commissioner  
 Alaska Department of Natural Resources

Attachment: Delegation of Authority from Commissioner, Department of Natural Resources, to Director, Division of Oil and Gas

DELEGATION OF AUTHORITY FOR OIL AND GAS LEASE UNITIZATION ACTIONS

| <u>Regulatory Citation</u> | <u>Purpose or Action</u>   | <u>Authority Vested In</u> | <u>Authority Delegated To</u>  |
|----------------------------|--|----------------------------|--------------------------------|
| 11 AAC 82.605              | Approve/deny assignments of oil and gas leases   | Commissioner               | Director, Div. Oil & Gas (DOG) |
| 11 AAC 82.610              | Segregate leases   | Commissioner               | Director, DOG                  |
| 11 AAC 83.158              | Approve/deny lease plan of operations  | Commissioner               | Director, DOG                  |
| 11 AAC 83.306              | Accept application for unit agreement approval   | Commissioner               | Director, DOG                  |
| 11 AAC 83.311              | Publish public notice of unit agreement application  | Commissioner               | Director, DOG                  |
| 11 AAC 83.316              | Approve/deny unit agreement  | Commissioner               | No delegation                  |
| 11 AAC 83.326              | Require or accept nonstandard unit agreement language  | Commissioner               | No delegation                  |
| 11 AAC 83.328              | Mandate unitization (Involuntary Unitization)  | Commissioner               | No delegation                  |
| 11 AAC 83.331              | Approve/deny change in unit operator   | Commissioner               | Director, DOG                  |
| 11 AAC 83.336              | Grant extension of unit term; grant suspension of operations (force majeure); terminate unit | Commissioner               | No delegation                  |
| 11 AAC 83.341              | Approve/deny plan of exploration   | Commissioner               | Director, DOG                  |
| 11 AAC 83.343              | Approve/deny plan of development   | Commissioner               | Director, DOG                  |
| 11 AAC 83.346              | Approve/deny plan of operations  | Commissioner               | Director, DOG                  |
| 11 AAC 83.351              | Approve/deny participating area  | Commissioner               | Director, DOG                  |
| 11 AAC 83.356              | Expand/contract unit area  | Commissioner               | Director, DOG                  |
| 11 AAC 83.361              | Certify wells as capable of production in paying quantities                                  | Commissioner               | Director, DOG                  |
| 11 AAC 83.371              | Approve/deny allocation of cost and production formulas                                      | Commissioner               | Director, DOG                  |
| 11 AAC 83.373              | Sever leases   | Commissioner               | Director, DOG                  |
| 11 AAC 83.374              | Declare unit in default  | Commissioner               | No delegation                  |
| 11 AAC 83.383              | Notation of approval on joinder  | Commissioner               | Director, DOG                  |
| 11 AAC 83.385              | Modification of unit agreement   | Commissioner               | Director, DOG                  |
| 11 AAC 83.393              | Approval of federal or private party unit agreements   | Commissioner               | No delegation                  |

I hereby delegate the authority vested in me through AS 38.05.180 to the Director of the Division of Oil and Gas as noted above. This delegation of authority is effective until revoked by me.

*Esther C. Wunnicke*  
 Esther C. Wunnicke, Commissioner  
 Alaska Department of Natural Resources

*Feb 22, 1984*  
 Date