

POINT THOMSON UNIT

Application for the Second Expansion  
and  
Third Contraction of the Unit Area

May 24, 2002

Findings and Decision of the Director, Division of Oil and Gas  
Under Delegation of Authority from the  
Commissioner, Department of Natural Resources, State Of Alaska

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## I. SUMMARY OF DECISION

On February 2, 2001, ExxonMobil Corporation (ExxonMobil), Unit Operator, applied to simultaneously expand and contract the Point Thomson Unit (PTU) boundary (the February 2001 Application). ExxonMobil submitted the February 2001 Application on behalf of itself, BP Exploration (Alaska), Inc., and Chevron U.S.A. Inc. (the Applicants). The February 2001 Application proposed adding all or portions of 16 state oil and gas leases to the PTU while contracting out all or portions of four other leases, for a revised unit area of approximately 134,000 acres within 48 leases, an increase of 59.85%. Figure 2 contains a graphic depiction of the February 2001 Application.

Over 25-years ago, lessees discovered an important gas reservoir underlying the PTU that has never been developed or put into production, the Thomson Sand Reservoir. The PTU also contains significant gas condensate and black oil resources. The Applicants have not yet determined whether PTU production would be commercially viable, and the February 2001 Application made no commitment to produce PTU oil, gas, or gas condensate. Therefore, granting the February 2001 Application as originally submitted would have simply extended the primary term of the expansion leases with no assurance of exploration or development of the expansion acreage, which would be contrary to the purpose of the PTU Agreement (the Unit Agreement) or unitization generally. In reaching this conclusion, the Department of Natural Resources, Division of Oil and Gas (DNR or Division as appropriate) reviewed the statutes, oil and gas unitization regulations, the Unit Agreement, materials supplied by the Applicants in support of the February 2001 Application, and comments received during the thirty-day public comment period.

Subsequent to the March 19, 2001 close of the public comment period and pursuant to regulation, DNR made a proposal to the Applicants under which it would grant expansion/contraction of the PTU, but on different terms than those proposed in the February 2001 Application (DNR's Initial Proposal). DNR intended that the conditions would protect the public interest, in part, by ensuring adequate exploration of the expansion areas and commencement of production within a reasonable time and modifying the royalty rate on the more prospective leases. If the Applicants failed to explore or bring the expansion areas into production within a reasonable time, DNR's Initial Proposal required contraction of the expansion areas out of the unit and payments to the State for the lost opportunity to re-offer the acreage.

DNR's Initial Proposal led to further discussion, and a series of counter proposals. Through these negotiations, DNR and the Applicants were able to reach agreement on unit expansion terms that were acceptable to both parties and that benefit the public interest.

On July 31, 2001, the Division issued a Conditional Decision approving the February 2001 Application on condition that all of the working interest owners of the expansion and contraction leases accepted the expansion terms agreed to by the Division and the Applicants in writing by August 15, 2001. These terms were set out in Attachment 1 to the Conditional Decision, which was entitled the "*Agreement Resolving All Pending Point Thomson Unit Expansion/Contraction Matters and Proceedings*" (the Agreement).

The Agreement proposed adding approximately 40,353 acres within 12 leases to the PTU, while contracting the unit boundary to exclude all or portions of 4 leases, containing approximately

7,572 acres. The revised unit area would encompass approximately 116,607 acres within 46 leases, increasing the total unit area by 39%. The Agreement identified seven Expansion Areas and one Work Commitment Area outside of the current PTU (All together referred to as "Expansion Acreage"),<sup>1</sup> and contained specific commitments that the PTU owners must fulfill to retain the Expansion Acreage within the unit including:

- drilling an exploration well to evaluate the western extent of the Thomson Sand Reservoir by June 15, 2003;
- commencement of development drilling in the PTU by June 15, 2006;
- completion of seven development wells within the PTU by June 15, 2008; and
- the Expansion Acreage must be allocated production within a participating area approved by DNR by date certain. The participating area commitment date is June 15, 2008, for Expansion Acreage primarily underlain by the Thomson Sand Reservoir; and June 15, 2010, for Expansion Acreage primarily underlain by a Brookian prospect.

In addition, the Agreement imposed contraction provisions and charges of up to \$27,500,000 if the PTU owners failed to meet the drilling commitments. The Agreement also increased royalty rates on eight of the twelve expansion leases; from 12.5% to 16.66667% on one lease, and from 16.66667% to 20% on the other seven leases.

All of the working interest owners of the expansion and contraction area leases, except Murphy Exploration and Production Company (Murphy), submitted timely written acceptance of the Agreement to the Division. This constituted acceptance of the Agreement by 97.63% of the working interest owners of the expansion and contraction leases and 100% of the working interests in the leases whose royalty rates were increased in the Agreement. The written acceptance of the Agreement effected an amendment of the February 2001 Application to conform to the terms of the Agreement (the Amended Application).

On August 29, 2001, the Division issued a second decision (Interim Decision), which removed the requirement for unanimous consent to the Agreement, which was in the Conditional Decision. The Interim Decision approved the Amended Application, effective July 31, 2001, with retroactive effective dates of November 30, 1998 as it applies to ADL 372256 and March 31, 2001 as it applies to ADL 375064. The Division considered the criteria provided in the Unit Agreement, statutes, and regulations; and its evaluation of the Amended Application is set out in this Findings and Decision.

## **II. BACKGROUND**

Ongoing negotiations between DNR and the PTU working interest owners, to redefine the unit boundary, began with Exxon's submittal of an expansion application in 1998 and continued for

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<sup>1</sup> See Figure 3, PTU Boundary by Agreement dated July 31, 2001.

nearly three years, culminating in the Interim Decision issued by the Division on August 29, 2001. This Section II Background includes four subsections. Subsection A provides a history of the PTU from its effective date in 1977, through the first unit expansion and the first and second unit contractions, through the Division's denial of Exxon's 1998 unit expansion application, and the Division's approval of the Seventeenth PTU Plan of Development. Subsection B describes the February 2001 Application, and Subsection C discusses the comments that DNR received on that application during the 30-day public comment period. Subsection D briefly discusses the subsequent negotiations and presents the terms and conditions contained in the Amended Application. DNR's evaluation of the Amended Application follows in Section III.

### **A. Unit History**

The PTU is located on the North Slope of Alaska. The western unit boundary is approximately 3 miles east of the Badami Unit and 30 miles east of the Prudhoe Bay Unit. The eastern unit boundary abuts the Arctic National Wildlife Refuge at the Staines River. The southern boundary of the PTU is on-shore, and the northern boundary is offshore in the Beaufort Sea, adjacent to or near the three-mile territorial sea boundary that separates state from federal Outer Continental Shelf (OCS) lands. The state owns the entire surface estate of the unit area.

DNR approved the Unit Agreement effective August 1, 1977, with a five-year Initial Plan of Exploration. The original unit area included 18 state oil and gas leases comprising approximately 40,768 acres. On November 4, 1977, the Division certified the Point Thomson Unit #1 well (PTU1) capable of producing in paying quantities. The Division approved the PTU First Plan of Development on May 28, 1978, and drilling continued with favorable results. DNR certified seven wells on seven leases in the PTU as capable of producing in paying quantities under 11 AAC 83.361, which indefinitely extends the terms of oil and gas leases in accordance with 11 AAC 83.135.

On January 13, 1984, Exxon applied to expand the PTU area (1<sup>st</sup> Expansion). The Division was concerned that the supporting geologic data was insufficient to justify expanding the PTU to include the area proposed in the 1<sup>st</sup> Expansion Application. Recognizing the paucity of available data and information, DNR sought drilling commitments to obtain additional well data and protect the state's interests. On March 26, 1984, DNR conditionally approved the 1st Expansion Application subject to the lessees' commitments to drill two wells, amend the economic terms in five of the expansion leases, and amend certain provisions in the Unit Agreement. The PTU Working Interest Owners (Owners) committed to drill two wells to delineate the reservoir underlying the expansion areas with contraction provisions if they failed to meet those commitments.

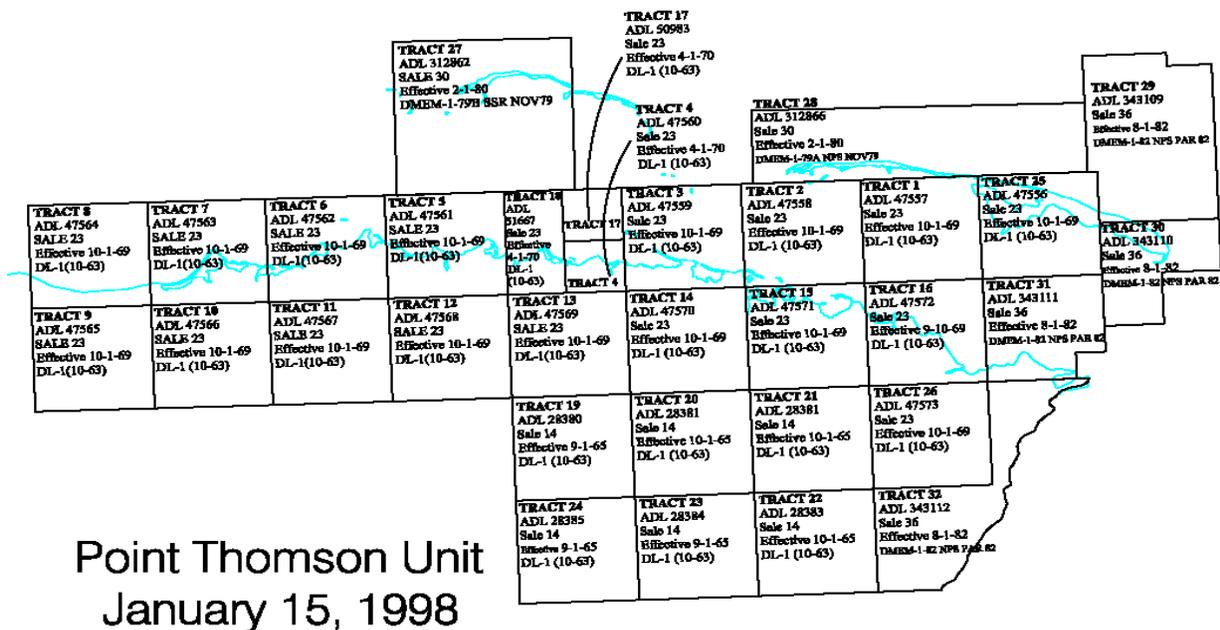
The Owners agreed to drill a well on one of the two southern expansion leases by March 31, 1985, or those two leases would contract out of the PTU (1<sup>st</sup> Drilling Commitment). They also committed to drill a well on one of the ten northern expansion leases by February 1, 1990, or those leases would also contract out of the unit (2<sup>nd</sup> Drilling Commitment). DNR's approval of the 1st Expansion added approximately 94,152 acres within 25 leases, more than doubling the total unit area to include approximately 134,920 acres within 43 leases.

The Owners failed to meet both the 1<sup>st</sup> and 2<sup>nd</sup> Drilling Commitments; therefore, the two southern leases contracted out of the PTU, effective April 1, 1985 (1<sup>st</sup> Contraction), and nine of

the northern expansion leases contracted out of the PTU, effective February 1, 1990 (2<sup>nd</sup> Contraction). The tenth lease, ADL 312862, remained committed to the PTU because in 1982 DNR certified the Exxon Alaska State F1 well, located on that lease, as capable of producing in paying quantities.

As of April 1, 1985, the PTU included 32 state oil and gas leases encompassing approximately 83,825 acres. Notwithstanding the express primary term included in those leases, commitment to the PTU extends the lease terms indefinitely. DNR issued six of the PTU leases in 1965, seventeen in 1969, three in 1970, two in 1980, and the last four leases in 1982. (See lease details in Figure 1 below.) All of the PTU leases are well beyond their 10-year primary term, but under 11 AAC 83.361 they will not expire so long as they are committed to the unit and there is no violation of the Unit Agreement or applicable law. Although some of the leases are more than 30 years old, the Unit Operator has not yet determined if production from the PTU is economic.

**Figure 1: Map of the Pt Thomson Unit January 15, 1998**



On August 18, 1998, Exxon applied to expand the PTU area to include one additional lease, ADL 372256, which was due to expire on November 30, 1998 (the 1998 Application). Exxon submitted the 1998 Application as the owner of 100% of the working interest in that lease because a ballot of the Owners did not receive enough support for Exxon to apply as the Unit Operator. The 1998 Application indicated a lack of cooperation among the PTU Owners. The Division denied the 1998 Application because Exxon did not commit to explore the proposed expansion area or develop the oil and gas reserves underlying the PTU. In addition, DNR requested that any expansion of the PTU be comprehensive and consistent with the current well and geophysical data, which indicated that much of the PTU and adjacent acreage is underlain, or potentially so, by a combination of natural gas, gas condensate, and oil deposits. The data also

indicated that part of the unit area is not underlain by hydrocarbons, and therefore, that acreage is not justified to remain within the PTU. DNR wanted the working interest owners to propose a modification of the unit area, which would expand it to include more of the leases underlain by hydrocarbons and contract it to exclude areas which were not underlain by hydrocarbons.

Exxon appealed the Division's decision to the DNR Commissioner. DNR proposed offering the acreage previously within ADL 372256 in the Beaufort Sea 1999 Areawide Lease Sale (BS1999). Exxon requested reconsideration of the BS1999 sale notice. DNR postponed BS1999 and withheld the acreage from the state's Beaufort Sea 2000 lease sale due to the pending appeal.

On July 30, 1999, Exxon submitted the PTU Sixteenth Plan of Development (16<sup>th</sup> POD), which included the working interest owners' commitment to diligently advance conforming the PTU boundaries to the consensus maps of the potential reservoirs. During the term of the 16<sup>th</sup> POD the Owners developed consensus structure and isochore maps of the Thomson Sand Reservoir and five potential Brookian accumulations; and initiated unit expansion discussions with adjacent leaseholders. The Owners also committed to submit a proposal to redefine the PTU boundaries in the next unit plan of development.

The Division's August 17, 2000 approval of the PTU Seventeenth Plan of Development (17<sup>th</sup> POD) stated in part, "The new unit configuration may involve a combination of expansion and contraction. The Owners should be prepared to discuss work commitments in conjunction with any proposed unit expansion." The February 2001 Application's proposed redefinition of the PTU boundaries fulfilled the commitment in the 17<sup>th</sup> POD, and including the acreage previously within ADL 372256 in the expanded PTU area, resolved Exxon's pending appeal of the Division's denial of the 1998 Application as well as the subsequent request for reconsideration of DNR's sale notice for BS1999.

## **B. The February 2001 Application**

On February 2, 2001, ExxonMobil, as the PTU operator, submitted the February 2001 Application pursuant to 11 AAC 83.306, 11 AAC 83.356 and Article 2 of the Unit Agreement. The February 2001 Application included the following attachments: 1) Exhibit A, a Map of the proposed PTU Expansion/Contraction with Work Commitment Areas; 2) Exhibit B1, a Map of the proposed PTU Unit Area (PTU Exhibit A) (See Figure 2); 3) Exhibit B2, schedule of tract ownership and legal descriptions (PTU Exhibit B); 4) Notice and Invitation to Join Proposed Expansion/Contraction; 5) Affidavit that all Proper Parties had been invited to join the February 2001 Application; and 6) the \$500.00 application filing fee. The Unit Operator also submitted pertinent geological, geophysical, and well data, in support of the February 2001 Application as required by 11 AAC 83.356. DNR will keep all technical data submitted in support of the February 2001 Application confidential in accordance with 11 AAC 82.810. DNR received additional information to supplement the February 2001 Application on February 7 and 9, 2001.

The Applicants proposed that the February 2001 Application be approved effective February 1, 2001, except they requested a retroactive effective date of November 1, 1998, as it applied to the acreage previously within ADL 372256.

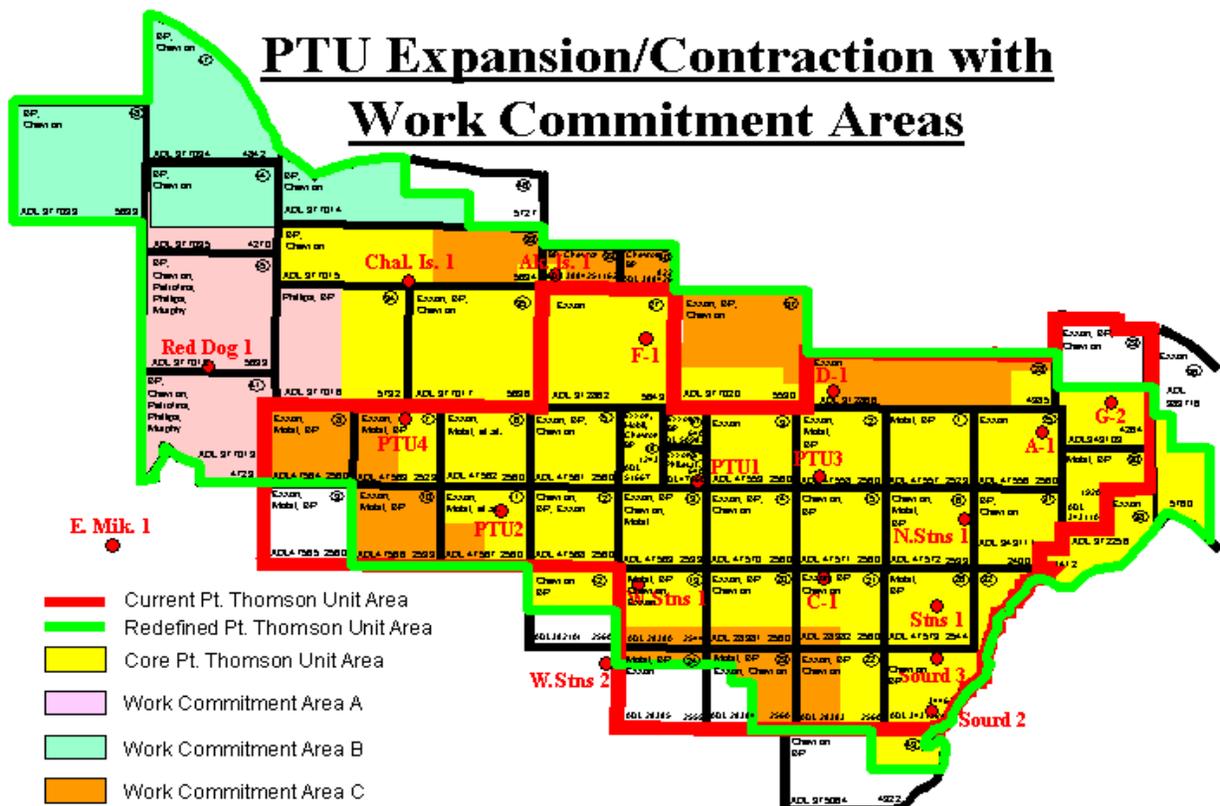
The February 2001 Application proposed to redefine the PTU area to encompass portions of the Thomson Sand and Brookian Reservoirs by expanding the PTU boundary to the north, south,

east and northwest while simultaneously contracting acreage in the south and northeast out of the unit area. The majority of the acreage proposed for inclusion was committed to the PTU in the 1st Expansion, and subsequently contracted out when the working interest owners failed to fulfill the drilling commitments.

If DNR had approved the February 2001 Application as submitted, it would have added acreage within sixteen leases to the PTU. The primary term of all except one of the proposed expansion leases<sup>2</sup>, were due to expire on or before December 31, 2004. The primary term of one of the proposed expansion leases expired in 1998<sup>3</sup>; and ten others would expire by July 31, 2001<sup>4</sup>.

The February 2001 Application described five groups of leases: the Core PTU Area, Work Commitment Area A (WCA A), Work Commitment Area B (WCA B), Work Commitment Area C (WCA C), and the Contraction Area. These areas are depicted on Exhibit A to the February 2001 Application set out in Figure 2 below, which shows that many of the leases straddle more than one area.

**Figure 2: PTU Expansion/Contraction Application Map with Work Commitment Areas**



<sup>2</sup> DNR issued ADL 389716 effective June 1, 2001. With 7-year primary terms, the expiration dates are as follows: ADL 389716 May 31, 2008, ADL 382101 June 30, 2003; and ADL 388425, ADL 388426, and ADL 377013 December 31, 2004.

<sup>3</sup> ADL 372256 expired on November 30, 1998, and was the subject of an appeal to the DNR Commissioner.

<sup>4</sup> ADL 375064 expired March 31, 2001. The expiration date for ADL 377012, ADL 377014, ADL 377015, ADL 377016, ADL 377017, ADL 377020, ADL 377033 ADL 377034, and ADL 377035 was July 31, 2001.

### C. Comments from the Public and Other Working Interest Owners

DNR published notice of the February 2001 Application in the *Anchorage Daily News* on Sunday, February 11, 2001, and in the *Arctic Sounder* on Thursday, February 15, 2001, pursuant to 11 AAC 83.311. The Division also provided copies of the public notice to interested parties in conformance with 11 AAC 83.311<sup>5</sup>. The notice invited the public to submit comments on the February 2001 Application by Monday, March 19, 2001.

DNR received several written responses to the public notice. Most comments received from minority working interest owners supported approval of the February 2001 Application<sup>6</sup> while others entered their non-objection.<sup>7</sup> One member of the public objected to the inclusion of ADL 372256 in the expansion because the lease had expired in 1998.<sup>8</sup>

ATOFINA Petrochemicals, Inc. (API) objected to the February 2001 Application because the Applicants failed to include six leases that API holds to the north of the existing PTU (API Leases).<sup>9</sup> Although previous draft applications included portions of three API Leases, they were not included in the February 2001 Application, because the Applicants held no interest in the API Leases and would not commit to do work on them or pay charges if the work commitments were not carried out.<sup>10</sup> On March 6, 2001, API sent a *Notice of Proposed Expansion* to the PTU working interest owners and interested parties. “API’s proposed expanded unit outline conforms to ExxonMobil’s recently filed Expansion/Contraction of the PTU except for the inclusion of API’s six (6) leases north of ExxonMobil’s proposed expanded/contracted unit boundary.”<sup>11</sup> However, on May 10, 2001, API notified the PTU working interest owners and Interested Parties that it would not be submitting an application for expansion of the PTU after all.

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<sup>5</sup> 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”).

<sup>6</sup> In a letter dated February 12, 2001, Kingdon Hughes wrote “I support ExxonMobil’s Application for the expansion of the PTU. ... To deny their Application could deny the current owners the ability to commercialize the Unit leases. Chaparral Royalty Company provided its support in a letter dated February 13, 2001, as follow: “As an owner in the current Point Thomson Unit (PTU), I want you to know that I support ExxonMobil’s Application for the expansion of the PTU, and further consider it to be in my best interest, as well as the interest of the State of Alaska, as proposed.” DNR received comments from Leede & Pine and Edward H. Leede, working interest owners, on February 14, 2001, supporting the Application.

<sup>7</sup> In a letter dated March 9, 2001, Donnell O. Wells wrote that he had “no objection to the proposal.”

<sup>8</sup> Richard E. Wagner, Fairbanks, objected to the February 2001 Application contending that inclusion of an expired lease (ADL 372256) violated 11 AAC 83.306. This lease was the subject of the Division’s denial of the 1998 Application, which Exxon appealed to the Commissioner of DNR.

<sup>9</sup> ATOFINA owns an interest in six leases north of the PTU: ADL’s 377018, 388427, 388429, 388430, 388461, and 388462. DNR received a comment from ATOFINA on March 13, 2001, “We respect ExxonMobil’s desire to efficiently develop the Point Thomson Unit, but must object to the exclusion of our northern leases from the expanded/contracted unit. Consequently, API is preparing an application to file with the ADNR to expand the Point Thomson Unit to include all of its northern leases.”

<sup>10</sup> Application at Page 2 “The proposed Expansion Outline in Exhibit “A” does not include any portion of ADLs 377018, 388427, and 388430. The Owners have no working interest in these leases and cannot commit to the drilling of two (2) wells on them, or to the payment of a penalty if the wells are not drilled, as suggested by the ADNR in its letter of December 12, 2000.”

<sup>11</sup> Notice of Proposed Expansion of the Point Thomson Unit letter to ExxonMobil, unit operator and interested parties, March 6, 2001, p.1.

API and Murphy<sup>12</sup> also expressed concern that the February 2001 Application did not address the determination of unit equities and participating areas. The Applicants responded that it was not an appropriate time to work out equity shares and participating areas. The objections of API and Murphy regarding participating areas, equity shares and cost allocation, do not preclude granting the February 2001 Application at this time because formation of a participating area and allocation of production can only occur after delineation of a producing area. When there is an application to form a participating area, DNR will review the supporting information regarding equity and cost sharing and approve an appropriate allocation of production.<sup>13</sup> 11 AAC 83. 351 and 371.

API and Murphy also expressed concern about the Applicants' terms for access to the PTU Common Database of geological and geophysical information. The Applicants represented that they were willing to include the API Leases in the PTU provided that API assumed responsibility for any associated work commitments and monetary charges.<sup>14</sup>

#### **D. The Amended Application**

After the public comment period closed on March 19, 2001, the Division considered the standards and criteria for unitization set out in the statutes and regulations, and determined that the February 2001 Application did not meet the criteria in 11 AAC 83.303.

If the commissioner determines that the provisions of 11 AAC 83.303 are not met, the commissioner will, in his discretion, propose modifications which, if accepted by the parties to the proposed unit agreement, would qualify the agreement for approval. 11 AAC 83.316(b).

The commissioner may, with the consent of the holders of leases involved, establish, change, or revoke drilling, producing, and royalty requirements of the leases . . . in connection with the institution and operation of a cooperative or unit plan as the commissioner determines necessary or proper to secure the proper protection of the public interest. AS 38.05.180(p).

DNR's Initial Proposal, dated May 2, 2001, presented terms and conditions that would make expansion/contraction of the PTU acceptable to the state. The Applicants rejection of DNR's Initial Proposal led to further discussion and a series of counter proposals. On July 6, 2001, the Applicants proposed revised work commitments for the PTU expansion areas. By letter dated July 19, 2001, the Applicants reduced the proposed area within WCA A, and deleted WCA B

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<sup>12</sup> Murphy had no objection to expanding the PTU to include two leases (ADL's 377035 and 377016) in which it holds an interest.

<sup>13</sup> A participating area may include only land reasonably known to be underlain by hydrocarbons and known or reasonably estimated through the use of geological, geophysical, or engineering data to be capable of producing or contributing to the production of hydrocarbons in paying quantities. 11 AAC 83.351(a).

<sup>14</sup> February 20, 2001 letter from ExxonMobil to DNR states, "As was shown in our initial Draft application, ExxonMobil supports including ATOFINA's three (3) northern leases (ADLs 377018, 388427, and 388430) in the Expanded PTU Outline. This has also been communicated to ATOFINA. However, as we also indicated in our application, when the ADNR suggested drilling two (2) wells in this area, or paying a non-performance penalty, the "Owners" (BP, Chevron and ExxonMobil) could not support this obligation, and since we owned no interest in these leases, we could not commit to it. Thus, these tracts were removed from the application."

from the February 2001 Application. By July 31, 2001, the Applicants and the Division had agreed to terms and conditions under which expansion/contraction of the PTU would be granted.

DNR regulations require a written decision approving or disapproving a unit expansion or contraction application within 60 days after the close of the public comment period, which would have been by May 18, 2001 (11 AAC 83.316(a)). However, on May 10, 2001, the Applicants agreed to extend the decision due date to June 15, 2001, and on May 30, 2001, the Applicants agreed to a further extension to July 31, 2001. Therefore, DNR was to consider the provisions of 11 AAC 83.303 and state the basis for its decision by July 31, 2001, the date many of the proposed expansion leases were due to expire absent unitization.

Negotiations between the Division and the Applicants continued up to the July 31, 2001 deadline. Therefore, on July 31, 2001, the Division issued the Conditional Decision approving the February 2001 Application and extending those lease terms under unitization provided that the working interest owners' accepted the terms and conditions set out in an attached agreement (the Agreement) as follows:

Approval of the Application under the terms set forth in the Agreement is expressly conditioned on uniform written acceptance of the attached terms and conditions by all working interest owners in the expansion and contraction area leases within fifteen days of issuance of this decision. If all working interest owners in the expansion and contraction acreage do not unequivocally manifest their written agreement to those terms by August 15, 2001, the Application is denied, and the terms set forth in the Agreement are withdrawn and may not later be accepted.

The Division planned to issue the Commissioner's Findings and Decision after August 15, 2001, as the Division's evaluation would depend on whether the working interest owners had accepted the Agreement by that date.

On August 13, 2001, the Division granted Murphy's request to extend the deadline for its written acceptance of the Agreement until August 30, 2001. The Division received written acceptance of the Agreement from all of the other working interest owners in the expansion/contraction leases on August 15, 2001, thereby amending the February 2001 Application (Amended Application). In addition to accepting the Agreement, all of the other working interest owners in the expansion/contraction leases agreed to continue to be bound by the terms and conditions in the Amended Application even if Murphy did not accept the Agreement by August 30, 2001. For the subsequent discussion in this decision, "the Applicants" refers to all of the working interest owners in the expansion/contraction leases except Murphy.

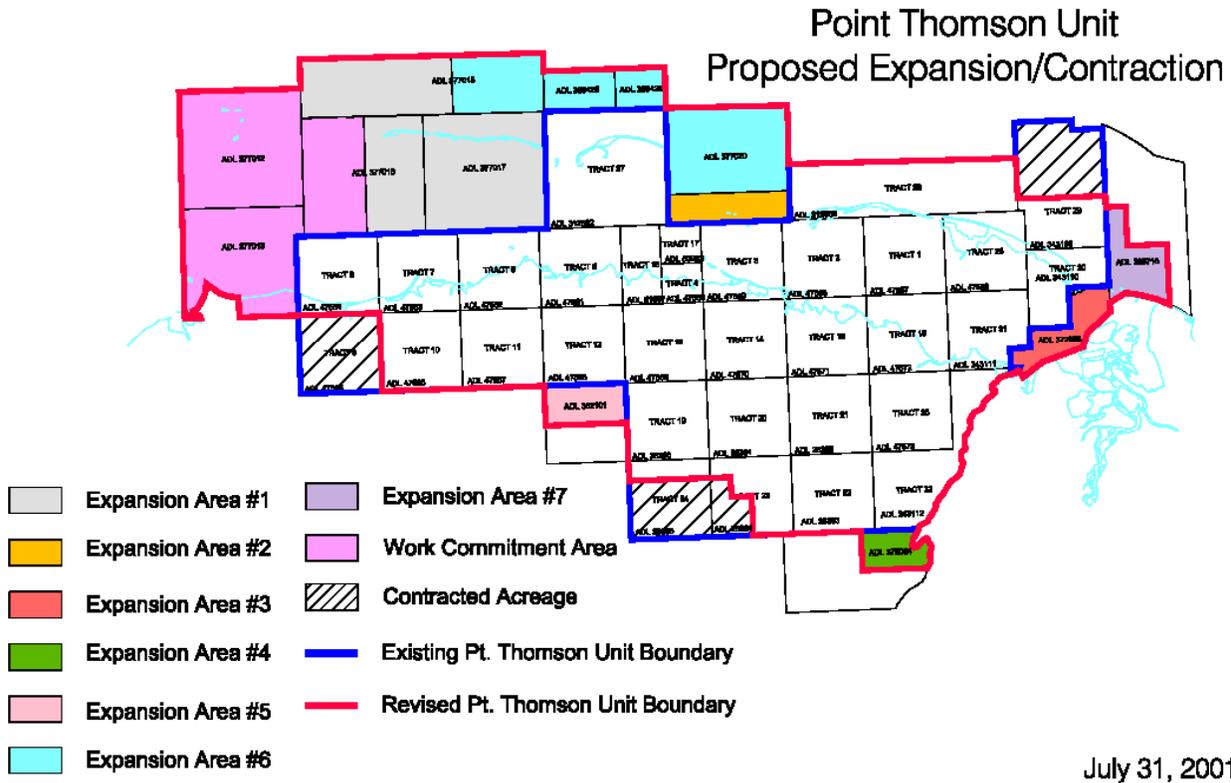
On August 29, 2001, the Division issued an Interim Decision that amended the Conditional Decision by removing the unanimity requirement, and approved the Amended Application as follows:

The Division may approve the Application without unanimous acceptance of the Agreement by all of the working interest owners in the expansion and contraction leases. The working interest owners who have accepted the terms set forth in the Agreement have sufficient interest in the expansion leases to have reasonably

effective control of unit operations. In addition, all of the working interest owners who have an interest in expansion leases with revised royalty rates have accepted the amended lease terms in the Agreement. Therefore, the Division approves the Application pursuant to the terms and conditions in the Agreement.

The Amended Application identified seven Expansion Areas and one Work Commitment Area outside of the current PTU, as well as contracting all or portions of four leases out of the PTU.

**Figure 3: Amended Application, Map of the PTU Boundary**



There is a high probability that the Expansion Areas contain hydrocarbon resources, but there is a lesser probability that the Work Commitment Area is also underlain by oil and gas. Therefore, the Amended Application does not contain site-specific drilling commitments for the individual Expansion Areas, but the Applicants committed to drill a delineation well in the Work Commitment Area and seven development wells within the revised unit area. The Amended Application includes commitments made by the Applicants to justify including the Expansion Acreage in the PTU, which are summarized as follows:

1. On or before June 15, 2003, the Applicants may elect to contract all of the Expansion Acreage out of the PTU, pay the State of Alaska \$8,000,000 to compensate for the unrealized bonus payments during the period that the acreage was withheld from leasing (Extension Charge), and be released from the remaining obligations in the Amended Application. If they elect to contract the Expansion Acreage out of the PTU by June 15, 2003, the Extension Charge will be due on July 1, 2003.

2. The Applicants must complete drilling a well through the Thomson Sand interval within the Work Commitment Area by June 15, 2003, or the Work Commitment Area acreage will automatically contract out the PTU on that date. Drilling a new well or deepening the Red Dog #1 well will fulfill the drilling commitment for the Work Commitment Area.
3. If the Applicants fail to complete drilling a well within the Work Commitment Area by June 15, 2003, the acreage will automatically contract out of the PTU, as specified in Paragraph #2 above, and the Applicants will pay the State of Alaska an amount to compensate for the unrealized bonus payments during the period that the acreage was withheld from leasing (Drilling Extension Charge). The Drilling Extension Charge in the amount of \$940,000 will be due on July 1, 2003.
4. Development drilling in the PTU must begin by June 15, 2006, or all of the Expansion Acreage will automatically contract out of the unit effective that date, and the Applicants will pay the State of Alaska \$20,000,000 by July 1, 2006, to compensate for the unrealized bonus payments during the period that the Expansion Acreage was withheld from leasing.
5. The Applicants must complete drilling seven development wells in the PTU by June 15, 2008, or all of the Expansion Acreage will automatically contract out of the unit effective that date, and the Applicants will pay the State of Alaska \$27,500,000 by July 1, 2008, to compensate for the unrealized bonus payments during the period that the Expansion Acreage was withheld from leasing.
6. A development well is defined as either a producer or injector, drilled from a permanent drill site structure after the effective date of this decision that penetrates the Thomson Sand interval, and excludes the Work Commitment Area delineation well.

Table 1 below summarizes the extension provisions, charges, commitment dates, and payment due dates discussed in Paragraphs 1 – 6 above.

**Table 1: Extension Provisions, Charges, and Commitment Dates**

<b>Expansion Area</b>	<b>Extension Provision</b>	<b>Extension Charge</b>	<b>Commitment Date</b>	<b>Payment Due Date</b>
All including WCA	Elect Contraction	\$8,000,000.00	June 15, 2003	July 1, 2003
Work Commitment Area	Drilling Extension	\$940,000.00	June 15, 2003	July 1, 2003
All including WCA	Development Drilling	\$20,000,000.00	June 15, 2006	July 1, 2006
All including WCA	7 Development Wells	\$27,500,000.00	June 15, 2008	July 1, 2008

7. Production allocation factors must be assigned to leases in each Expansion Area and the Work Commitment Area under a participating area approved by DNR, by the date specified for each area in Paragraph #10 below, or the acreage in that Expansion Area or Work Commitment Area will automatically contract out of the PTU effective that date. If any portion of an expansion lease is included in an approved participating area, by the date specified, the entire lease will remain within the PTU. However, if no portion of an

expansion lease is included in an approved participating area by the date specified, the entire lease will contract out of the PTU effective on such date.

8. Any Expansion Area or Work Commitment Area lease not having a portion of the lease included in an approved participating area by the date specified in Paragraph 10 below, contracts out the PTU, and the Applicants will pay the State of Alaska an amount to compensate for the unrealized bonus payments during the period that the acreage was withheld from leasing (PA Extension Charge). The PA Extension Charge will be due on the first day of the month following the date that the acreage contracts out of the PTU. If only a portion of an Expansion Area or a portion of the Work Commitment Area is contracted out of the PTU, the Applicants will pay the State a prorated share of the PA Extension Charge based on the number of acres within the contracted area.
9. If following the drilling of a well in the Work Commitment Area, but prior to any automatic contraction, the Applicants contract and relinquish all or a portion of the Work Commitment Area by December 1, 2003, it will not be necessary to include the relinquished acreage in a participating area or pay the PA Extension Charge for that acreage in 2008.
10. If the Expansion Acreage were available for leasing in the next Areawide Lease Sale, DNR would impose a higher royalty rate on some of the acreage. Therefore, the Applicants agreed to increase the royalty rates in the leases in Expansion Areas 1, 2, 3, 4, and 6.

Table 2 below summarizes the participating area commitments and revised royalty rates specific to Expansion Areas #1 through #7 and the WCA:

**Table 2: PA Extension Charges and Revised Royalty Rates**

<b>Expansion Area</b>	<b>PA Date</b>	<b>PA Extension Charge</b>	<b>Current Royalty Rate</b>	<b>Revised Royalty Rate</b>
#1, Challenge Island	June 15, 2008	\$17,031,000	16.66667%	20%
#2, North of PTU	June 15, 2008	\$1,452,000	16.66667%	20%
#3, East of PTU	June 15, 2008	\$484,000	16.66667%	20%
#4, Sourdough Prospect	June 15, 2010	\$275,000	12.5%	16.66667%
#5, Lynx Prospect	June 15, 2010	\$28,000	12.5%	Unchanged
#6, North of #1 and #2	June 15, 2008	\$3,735,000	16.66667%	20%
#7, ADL 389716	June 15, 2008	None	16.66667%	Unchanged
Work Commitment Area	June 15, 2008	\$4,495,000	16.66667%	Unchanged
Total PA Extension Charge		\$27,500,000		

11. The Amended Application contracts all of ADL 47565 and portions of ADL 28384, ADL 28385, and ADL 343109 from the PTU, effective July 31, 2001. The Applicants waived the 11 AAC 83.140 extension provision, acknowledged that the notice and hearing provisions of 11 AAC 83.374 shall not be applicable to leases contracted out of the PTU Area beyond their primary term, and automatically surrendered the contracted

leases effective July 31, 2001. The Applicants further agreed that they would not apply for consideration under 11 AAC 83.374 in this matter.

12. The Amended Application added portions, but not all of, the following leases to the PTU: ADL 375064, ADL 382101, and ADL 389716. When a unit expands to include a portion of a lease, but not the whole lease, it constitutes a severance of the lease. The non-unitized portion of the lease will be treated as a separate and distinct lease having the same effective date and term as the original lease and may be maintained thereafter only in accordance with the terms and conditions of the original lease, statutes, and regulations. 11 AAC 83.373. The unitized portions of the segregated leases retain their original ADL numbers, and the Division assigned new ADL numbers to the non-unitized leases. Article 18(e) of the PTU Agreement will not apply to the non-unitized portions of the leases.
13. Additionally, the Applicants agreed to sever the following leases upon unitization: ADL 377015 (Expansion Areas 1 and 6), ADL 377016 (Expansion Area 1 and the Work Commitment Area), and ADL 377020 (Expansion Areas 2 and 6). The Division assigned new ADL numbers to portions of the severed leases.
14. The Applicants agreed that the terms set forth in the Amended Application supersede any inconsistent provisions in the leases or the PTU Agreement for said Expansion Area or Work Commitment Area leases. The Applicants waived the benefit of any inconsistent provisions of the applicable leases, Unit Agreement, and regulations.
15. The Applicants may request and DNR may agree to extend any deadline provided herein. If DNR does not agree to extend a deadline, the deadline shall not be extended.
16. The Amended Application fully resolved Exxon's January 4, 1999, appeal to the DNR Commissioner of the Director's decision denying the 1998 Application (Appeal Code OG113098) and Exxon's July 16, 1999, Request for Reconsideration of the Beaufort Sea 1999 Areawide Lease Sale Notice (Appeal Code CO071699BS 1999.035) to the satisfaction of all parties to the Amended Application and proceedings. The Applicants agreed not to appeal any aspect of the expansion requested in the February 2001 Application but not included in the Amended Application. The Applicants agreed that the 1999 expansion appeal and motion for reconsideration are closed. The Applicants also agreed not to challenge or appeal any term of the Amended Application.

On October 4, 2001, Murphy appealed the Director's Interim Decision to the DNR Commissioner. Murphy submitted supplemental material in support of its appeal on October 24, November 13, and again on December 21, 2001. The Commissioner has not yet issued a decision on Murphy's appeal.

The Division's Interim Decision approved the Amended Application but it did not include a discussion of the basis for the decision. The Division presents its evaluation of the Amended Application under the criteria provided in the Unit Agreement, statute and regulations in Section III below.

### III. ANALYSIS OF THE AMENDED APPLICATION

#### A. Unit Agreement Standard for Expansion and Contraction

The Unit Agreement provides for expansion or contraction of the unit area:

Expansion/Contraction – [The] unit area shall, when practical, be expanded to include therein any additional tracts regarded as reasonably necessary or advisable for the purposes of this agreement, or shall be contracted to exclude lands not within any participating area whenever such expansion or contraction is necessary or advisable to conform to the purposes of this agreement. Expansion or contraction shall be affected in the following manner: . . .<sup>15</sup>

The stated purpose of the PTU Agreement is:

to conserve natural resources, prevent waste, and secure other benefits obtainable through development and operation of the area subject to this agreement under the terms, conditions and limitations set forth. . . .<sup>16</sup>

The expansion/contraction provision of the unit agreement supports approval of the Amended Application, which includes definite commitments to explore and develop the revised unit area.

#### B. DNR Regulations and Statute

State statute and DNR regulations set out the standards and criteria for unitization. Pursuant to AS 38.05.180(p)<sup>17</sup>, the DNR Commissioner or his designee may approve a unit expansion or contraction if he determines it is necessary or advisable in the public interest.<sup>18</sup> DNR approved the Amended Application upon finding that it would: 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)<sup>19</sup>. Subsection 303(b) sets out six factors that the Division considered in evaluating the Amended Application.

##### 1. Economic Costs and Benefits

The cost to the state and the public of expanding the PTU as proposed is that the Expansion Acreage will not be available for releasing. Approval of the Amended Application extended twelve leases beyond their primary term by adding them to the PTU. The expansion will deprive

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<sup>15</sup> PTU Agreement page 3, para. 2.

<sup>16</sup> PTU Agreement Page 1.

<sup>17</sup> This statute provides, in part, that the proposed unit action must be necessary or advisable in the public interest: “To conserve the natural resources of all or part of an oil or gas pool, field, or like area, the lessees and their representatives may unite with each other, or jointly or separately with others, in collectively adopting or operating under a cooperative or unit plan of development or operation of the pool, field, or like area, or part of it, when determined and certified by the commissioner to be necessary or advisable in the public interest.”

<sup>18</sup> 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.

<sup>19</sup> Applicants rely on this regulation, and the unit agreement is not inconsistent with this regulation: “Lands Act AS 38.05.005 – 370 and all existing or hereafter issued regulations governing drilling or producing operations not inconsistent with the terms hereof or Alaska law are made part of this agreement.” PTU Agreement Page 2.

the state of bid bonuses, potentially higher royalties, new lessees who may approach development in a manner different than the Applicants, and the opportunity to impose new lease work requirements. These costs can not be easily quantified, but overall, there is a cost to the State in adding additional acreage to the PTU.

If DNR had re-offered the Expansion Acreage for lease, it could have attracted bid bonuses significantly in excess of \$9,000,000, based on the historical bid bonuses received on the expansion leases adjusted to 2001 dollars. The lessees acquired additional technical information over the unit area, including 3-D seismic data that provides a better understanding of the amount and nature of the probable hydrocarbon accumulations underlying the PTU and surrounding area, than was available the last time that DNR offered the Expansion Acreage for bid. Based on the information and data submitted by the Applicants, DNR estimated the volume and value of oil, gas, and gas condensate reserves in the Thomson Sand Reservoir and Brookian formations underlying the proposed Expansion Acreage. DNR also considered rising demand for domestic oil and gas, and the positive impact construction of a North Slope gas pipeline would have on bid bonuses if DNR re-offered the Expansion Acreage in the near future.

The State and the public's primary interest in oil and gas leases is in potential production. The Amended Application includes commitments to begin development drilling in the PTU by June 15, 2006, and complete seven development wells in the PTU by June 15, 2008. The working interest owners also committed to allocate production under an approved participating area by June 15, 2008, for Expansion Areas 1, 2, 3, 6, 7, and the WCA; and by June 15, 2010, for Expansion Areas 4 and 5.

Another benefit the state could realize by re-offering the Expansion Acreage is the potential for increased royalty rates. If DNR allowed the expansion leases to expire, and re-offered the acreage in Expansion Areas 1 through 4, it would likely impose higher royalty rates, increasing them from 16.66667% to 20% on Expansion Areas 1 through 3, and from 12.5% to 16.66667% on Expansion Area 4. When DNR proposed offering the acreage previously under ADL 372256 in the 2000 Beaufort Sea Areawide Lease Sale it was subject to a 20% royalty provision. The royalty rates in Expansion Area 5 and the WCA would probably remain the same due to likely smaller reserves or higher production costs. The Applicants agreed to revise the royalty provisions for the more prospective leases in the Expansion Areas, ensuring that the State will receive the benefit of higher royalties on production from the existing leases without releasing the acreage.

The field cost issue has been a subject of much debate between the State and working interest owners in other units. The working interest owners do not have the right to deduct field costs from the state's royalty share of oil and gas produced from the leases within the Expansion Acreage. Provisions in the Expansion Acreage leases resolve the field cost issue to the benefit of the State and protect the State's interest.

Re-offering the Expansion Acreage might attract new lessees who may bring new ideas and energy as well as new geologic interpretations, engineering and marketing perspectives to develop the leases. In addition, if DNR re-offered the Expansion Acreage, it would also have the

opportunity to impose work commitments in the new leases.<sup>20</sup> The Amended Application includes significant exploration and development commitments that are similar to or greater than the State would have imposed if it re-offered the Expansion Acreage in a competitive lease sale.

In summary, the economic benefits of including the Expansion Acreage in the PTU outweigh the costs of not having the acreage available for re-offer in the state's competitive leasing program. The Applicants made meaningful commitments to explore and develop the Expansion Acreage by drilling adequate exploration and development wells by dates certain, and agreed to increased royalty rates for some of the Expansion Areas to compensate the state for lost opportunities to re-lease the acreage. If the Applicants fail to follow through with these commitments, the Expansion Acreage automatically contracts out of the unit, and the Applicants must compensate the State for the lost opportunity to receive bonus payments in past lease sales. Therefore, DNR's evaluation of the economic criteria in section 11 AAC 83.303(b)(5) supports approval of the Amended Application.

## 2. Prior Exploration Activities and Geological and Engineering Characteristics of the Proposed Expansion and Contraction Acreage

The Thomson Sand Reservoir is the primary reservoir in the PTU, consisting of the Lower Cretaceous Thomson Sand interval trending generally west-northwest across the unit, and between approximately -12,780' and -13,128' tvdss<sup>21</sup> in PTU1. The PTU also contains other potential reservoirs including Lower Tertiary turbidite sands within the Brookian sequence above the Thomson Sand Reservoir, and what are informally referred to as the "pre-Mississippian" carbonates that lie below the Thomson Sand Reservoir. All three horizons are over-pressured throughout much of the PTU.

The working interest owners drilled 18 wells in and around the unit area between 1970 and 1999: 14 within the current unit boundary, 4 within the Expansion Acreage, and 1 just outside of the revised unit boundary.<sup>22</sup> They began exploration drilling in the area in 1970, completing the following three wells before applying to form the PTU: West Staines State #1 in 1970, West Staines State #2 in 1971, and Alaska State A-1 in 1975. Exxon completed Alaska State A-1 on September 6, 1975, and DNR certified the well as capable of production in paying quantities based on test rates from approximately 120 feet of a Lower Tertiary sandstone reservoir.

DNR approved the formation of the PTU effective August 1, 1977, and AOGCC classified the PTU1, which Exxon completed on December 8, 1977, as the discovery well for the Thomson Sand Reservoir. The working interest owners drilled another fourteen wells within and around the area after unitization including: Alaska Island #1, Alaska State C-1, Alaska State D-1, Alaska State F-1, Alaska State G-2, Challenge Island #1, Staines River State #1, North Staines River #1, Point Thomson Unit #2 (PTU2), Point Thomson Unit #3 (PTU3), Point Thomson Unit #4 (PTU4), Sourdough #2, Sourdough #3, and Red Dog #1. DNR certified seven of the fourteen

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<sup>20</sup> "The Commissioner may include terms in any oil and gas lease imposing minimum work commitment on the lessee. These terms shall be made public before the sale, and may include appropriate penalty provisions to take effect in the event the lessee does not fulfill the minimum work commitment." AS 38.05.180 (h).

<sup>21</sup> Total vertical depth subsurface (below sea level).

<sup>22</sup> Attachment 1 depicts the locations of wells drilled in the PTU. Attachment 2 lists the wells and identifies those that DNR certified as capable of production in paying quantities or granted extended confidentiality.

wells in the PTU as capable of production in paying quantities under 11 AAC 83.361, and granted extended confidentiality to five of the wells under 20 AAC 25.537(d).

The Applicants also acquired extensive seismic data over the unit and the proposed Expansion Acreage. They merged and began prestack depth migration processing of four 3D seismic surveys, which cover essentially all the redefined unit area: the Point Thomson Unit, Flaxman Lagoon, Island Corridor West, and Challenge Island surveys. Merging the seismic data sets produced a more refined interpretation of the extent of the Thomson Sand over the greater unit area. The well and geophysical data indicate that much of the PTU and adjacent acreage is underlain or is potentially underlain by natural gas and gas condensate deposits in the Thomson Sand Reservoir, and by Brookian oil deposits. There also appears to be a thin discontinuous oil leg at the bottom of the Thomson Sand Reservoir. The Applicants incorporated the well and seismic data into the PTU Common Database, which is the basis for the Owners' Thomson Sand Reservoir Simulation Model. Interpretation of the model outputs supports including the Expansion Acreage in the PTU while contracting out acreage with no potential for hydrocarbon production.

The available well and seismic data provides the following description of the Thomson Sand Reservoir. Very fine-grained sand along the southern margin of the unit coarsens northward to a conglomeratic facies, exhibiting an average porosity of about 16%. Permeability within the Thomson Sand Reservoir varies from 10 millidarcies (md) to more than 1,000 md. ExxonMobil estimates that the Thomson Sand Reservoir contains approximately 8 trillion cubic feet (TCF) of gas and over 200 million barrels (MMB) of recoverable gas condensate with a discontinuous heavy-oil rim. The reservoir pressure is extremely high, around 13,000 pounds per square inch (psi).

A discussion of prior exploration activity and the geological and geophysical characteristics of each expansion and contraction area follow, starting with Expansion Area #1 in the northwest and continuing clockwise around the unit ending with the Work Commitment Area (See Attachment 1).

**a. Expansion Area #1**

Expansion Area #1 in the northwest contains approximately 12,030 acres including the western portion of ADL 377015, the eastern portion of ADL 377016, and all of ADL 377017. Interpretation of the available data supports the Applicants' proposal to divide ADL 377015 between Expansion Area #1 and Expansion Area #6; and ADL 377016 between Expansion Area #1 and the Work Commitment Area. The Applicants agreed to sever both ADL 377015 and ADL 377016. The western portion of ADL 377015, in Expansion Area #1, retains the original lease number; and DNR assigned a new lease number, ADL 389727, to the eastern portion of ADL 377015, which lies within Expansion Area #6. This reflects the different geologic characteristics of the Thomson Sand beneath the original ADL 377015. The eastern portion of ADL 377016, in Expansion Area #1, retains the original lease number; and DNR assigned a new lease number, ADL 389728, to the western portion of ADL 377016, which lies within the Work Commitment Area.

Three wells provide information relative to Expansion Area #1: PTU4, Challenge Island #1, and Alaska Island #1. Exxon completed PTU4 on December 20, 1980. Located across the southern boundary of Expansion Area #1, within PTU Tract 7, PTU4 encountered approximately 185 feet of poor reservoir quality rock and tested wet. PTU4 appears to have tested shaled out strata south of the depositional thick centered over the southwestern portion of Expansion Area #1. On February 11, 1981, Sohio drilled Challenge Island #1 on ADL 312847<sup>23</sup> (now ADL 377015), to a total depth of 13,587' MD (13,094' TVD), and encountered approximately 64 feet of gross Thomson Sand, but lost circulation in the pre-Mississippian interval and could not effectively log or test the well. On April 22, 1982, Sohio drilled Alaska Island #1 on ADL 388425, east of Expansion Area #1, and within Expansion Area #6. Drilled to a total depth of 15,222' MD (13,093' TVD), Alaska Island #1 encountered a very thin section, approximately 6 feet, of Thomson Sand, which appeared to be in the gas column. The existence of Thomson Sand in these wells and the available seismic data indicate the main Thomson Sand Reservoir probably continues northwesterly beneath Expansion Area #1.

**b. Expansion Areas #6 and #2**

Expansion Area #6, abutting the eastern boundary of Expansion Area #1 and northwest of the PTU area, is comprised of the eastern portion of ADL 377015, the northern portion of ADL 377020, and all of ADLs 388425 and 388426, for a total of approximately 7,812 acres. Interpretation of the available data supports the Applicants' proposal to divide ADL 377015 between Expansion Area #1 and Expansion Area #6, and ADL 377020 between Expansion Areas #2 and #6. The Applicants agreed to sever ADL 377015, as described in section a. above, and ADL 377020. DNR assigned a new lease number, ADL 389730, to the northern portion of ADL 377020, which lies within Expansion Area #6, while the southern portion of ADL 377020, within Expansion Area #2, retains the original lease number. Expansion Area #2 is comprised of approximately 1,910.00 acres remaining in ADL 377020.

Dividing ADL 377020 into two geologically distinct areas, Expansion Areas #6 and #2 is appropriate. Expansion Area #6 encompasses the northern flank of a ridge-like structural feature constraining the Thomson Sand accumulation in the PTU area. While Thomson Sand thickness is uncertain in Expansion Area #6, seismic and well data indicate the probability that the Thomson Sand Reservoir is present on the north flank of the feature and will contribute to production when drilled and developed. Drilling results from two wells, Alaska Island #1, discussed above, and Alaska State F-1 contribute to DNR's evaluation of Expansion Area #6. Expansion Area #6 abuts the northern and eastern boundaries of ADL 312862 (PTU Tract 27). Alaska State F-1, located on ADL 312862, encountered approximately 47 feet of Thomson Sand that flowed gas and gas condensate, which is what we would likely expect to encounter drilling in Expansion Area #6. Seismic interpretation indicates the 100-foot Thomson

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<sup>23</sup> On March 26, 1984, DNR approved the First Expansion, which included oil and gas lease ADL 312847 in the PTU, but it and eight other leases contracted out of the unit and expired effective February 1, 1990, because the working interest owners failed to fulfill the 2<sup>nd</sup> Drilling Commitment. DNR re-leased the acreage previously under ADL 312847 in 1991 and Chal. Is. 1 is now located on ADL 377015.

Sand isochore roughly parallels the southern boundary of ADL 377020 thinning to 25 feet or less at the northern edge of Expansion Area #2.

**c. PTU Tract 29 Contraction**

Interpretation of the available data supports the Applicants' proposal to contract the northeastern unit boundary to exclude approximately 2,294 acres from PTU Tract 29, with approximately 1970 acres remaining in ADL 343109. The lease is beyond its primary term, and the lessees agreed to surrender the non-unitized acreage. Exxon completed the Alaska State G-2 well in Tract 29 on August 19, 1983. DNR granted the Alaska State G-2 well extended confidentiality in accordance with 20 AAC 25.537(d), and cannot discuss the well results herein.

**d. Expansion Areas #3 and #7**

Expansion Areas #3 and #7 flank the eastern edge of the known Thomson Sand Reservoir. Expansion Area #3 includes all 1,412 acres within ADL 372256, which DNR issued effective December 1, 1988, and was the subject of the 1998 Application and subsequent appeal. The Applicants proposed expanding the PTU to include approximately 1,474 acres within the southwestern portion of ADL 389716, designated Expansion Area #7. Issued effective June 1, 2001, DNR severed ADL 389716, in accordance with 11 AAC 83.373, and assigned ADL 389729 to the 3,426.78 non-unitized acres. Since ADL 389729 is within its primary term, it will continue in accordance with the terms and conditions of the original lease, statutes and regulations.

Additional 3D seismic data, which the Applicants acquired over the area between 1997 and 1999, indicates the Thomson Sand Reservoir extends beyond the eastern unit boundary, and supports including all of ADL 372256 and a portion of ADL 389716 in the PTU, Expansion Areas #3 and #7 respectively.

**e. Expansion Area #4**

The Applicants proposed including the northeastern portion of ADL 375064 in the PTU. Expansion Area #4, south of the current unit boundary, includes approximately 1,062 acres in ADL 375064. DNR severed ADL 375064 in accordance with 11 AAC 83.373, and the lessees agreed to surrender the 3,260 non-unitized acres that was beyond its primary term.

Well data and seismic interpretations support a southern expansion of the unit to include Expansion Area #4. Sourdough #2 and #3 wells are both located on PTU Tract 32, ADL 343112, which abuts the northern boundary of Expansion Area #4. BP drilled Sourdough #2 to a total depth of 12,600' MD (12,562' TVD) on March 25, 1994, and Sourdough #3 to a total depth of 12,436' MD (12,425' TVD) on March 15, 1996. DNR granted both wells extended confidentiality in accordance with 20 AAC 25.537(d), and cannot discuss the well results herein.

**f. PTU Tracts 23 and 24 Contraction**

Interpretation of the available data supports the Applicants' proposal to contract the southern unit boundary to exclude approximately 800 acres from ADL 28384, PTU Tract 23 and approximately 1,918 acres from ADL 28385, PTU Tract 24; with approximately 1,760 acres and 637 acres remaining in each tract respectively. Both leases are beyond their primary term, and the lessees agreed to surrender the non-unitized acreage. The results from two wells drilled adjacent to PTU Tract 24 helped determine the revised unit boundary within ADL 28384 and ADL 28385.

West Staines #1 well, located on ADL 28380 (PTU Tract 19) is approximately two miles north of PTU Tract 24. On July 16, 1970, Mobil completed West Staines #1 to a total depth of 13,329' MD (13,266' TVD), and encountered approximately 124 feet of gross Thomson Sand interval that proved to be of non-reservoir quality. However, West Staines #1 also encountered approximately four thin lower Tertiary (Brookian) sand intervals that appeared to be oil-bearing. On May 21, 1971, Mobil completed West Staines #2 on ADL 28377 (Now ADL 382102), outside of the PTU, and west of PTU Tract 24. West Staines #2, which attained a total depth of 13,171' MD (13,169' TVD), encountered approximately 58 feet of silted out, non-reservoir Thomson Sand interval. Mobil did not encounter any productive lower Tertiary (Brookian) sands in West Staines #2.

**g. Expansion Area #5**

The Applicants proposed including the northern portion of ADL 382101 in the PTU. Expansion Area #5, southwest of the current unit boundary, includes approximately 1,280 acres in ADL 382101. DNR severed ADL 382101, in accordance with 11 AAC 83.373, and assigned the non-unitized acreage a new lease number, ADL 389731. Since ADL 389731 is within its primary term, it will continue in accordance with the terms and conditions of the original lease, statutes and regulations.

Interpretation of the available data supports expansion of the PTU to include Expansion Area #5. West Staines #1 and West Staines #2 are located east and south of ADL 382101 respectively. Results from the two wells, discussed above, helped determine the revised unit boundary within ADL 382101.

**h. PTU Tract 9 Contraction**

Interpretation of the available data supports the Applicants proposal to contract the western unit boundary to exclude approximately 2,560 acres in PTU Tract 9, ADL 47565 in its entirety. The lease is beyond its primary term, and the lessees agreed to surrender the non-unitized acreage.

**i. Work Commitment Area**

The Work Commitment Area contains approximately 13,375 acres within three leases including: all of ADL 377012 and ADL 377013, and the western half of ADL 377016. The Applicants proposed dividing ADL 377016 between Expansion Area #1

and the Work Commitment Area, and agreed to sever the lease. The eastern portion of ADL 377016 (approximately 2,780 acres) within Expansion Area #1 retained the original lease number, and DNR assigned a new lease number, ADL 389728, to the western portion of ADL 377016 (approximately 2,953 acres), which lies within the Work Commitment Area.

On March 26, 1999, BP drilled the Red Dog #1 well on ADL 377013, reaching a total depth of 19,400' MD (12,379' TVD) in the Upper Cretaceous Hue Shale/Shale Wall interval. The Lower Cretaceous Point Thomson interval was not penetrated nor was it an objective in the original well plan. Although the Point Thomson interval was not penetrated, the depth to key stratigraphic horizons in the Red Dog #1 well helps refine seismic projections for the actual depth of the top Point Thomson horizon. The primary objective of the well was a series of deep water deposits contained within the Upper Cretaceous Canning Formation. BP encountered a series of very fine to fine-grained, thin bedded sandstones between 16,845'-18,885' MD (10,190-11,888' TVD) that demonstrate good gas and oil shows on mudlog recordings. Overall, reservoir quality of these sands appears poor to fair. Some well and seismic information is available, but additional delineation drilling is necessary to justify expanding the PTU to include the WCA. DNR agreed to this westward expansion of the PTU on condition that the Applicants either deepen Red Dog #1 or drill a new well to evaluate the western extent of the Thomson Sand Reservoir.

To be included in a unit, property must include part of one or more oil or gas reservoirs, or potential hydrocarbon accumulations. 11 AAC 83.356(a). The well and geophysical data provided with the Amended Application, and otherwise available to DNR, indicate that the Expansion Acreage contains sufficient actual or potential hydrocarbons to qualify for inclusion in a unit, and that unitized development and production of the underlying oil, gas, and gas condensate reservoirs is appropriate. However, the data also indicates that the proposed contraction areas are probably not underlain by one or more potential hydrocarbon accumulations and therefore do not qualify for inclusion in the unit. Therefore, the Applicants' prior exploration activities and the geological and engineering characteristics of the Expansion Acreage fulfill the criteria in 11 AAC 83.303(b)(2) and .303(b)(3), and support approval of the Amended Application.

### 3. Plans for Exploration or Development of the Expansion Acreage

The Unit Operator must provide exploration or development plans that justify including the Expansion Acreage in the unit area. 11 AAC 83.306(1). A plan of development must include a description of proposed development activities and plans for exploration or delineation of land in the unit not included in a participating area. 11 AAC 83.343(a). The Amended Application contains plans to delineate the western extent of the Thomson Sand Reservoir by drilling a well in the Work Commitment Area by June 15, 2003, begin development drilling within the expanded unit area by June 15, 2006, and complete seven development wells in the PTU by June 15, 2008.

On August 31, 2001, ExxonMobil submitted the Eighteenth Plan of Development for the PTU (18<sup>th</sup> POD), which included the drilling commitments discussed above and described in more detail the activities proposed during the one-year term of the 18<sup>th</sup> POD. ExxonMobil plans to

select a location within the Work Commitment Area for a delineation well and contract for a rig by June 15, 2002. Additional activities in the 18<sup>th</sup> POD include plans to file applications for necessary permits, continue environmental studies, initiate preliminary engineering, and complete reservoir simulation modeling. The Division considered the criteria in 11 AAC 83.303, found that the 18<sup>th</sup> POD protects the public interest, and on September 14, 2001, approved the plan for the period September 31, 2001 through September 30, 2002.

The Amended Application, along with the approved 18<sup>th</sup> POD, contains sufficient plans and commitments to explore and develop the Expansion Acreage to support unit expansion. It protect the interests of the public and the State by committing the Applicants to drill delineation and production wells to the primary hydrocarbon deposit in the unit, the Thomson Sand Reservoir, by dates certain. These commitments assure that there will be adequate exploration of the Expansion Acreage and commencement of development within a specified time with monetary charges and contraction provisions if the Applicants fail to meet those commitments. Therefore, the Agreement coupled with the Applicants' plans for exploration and development of the proposed unit area justify approval of the Amended Application under the criteria in section 11 AAC 83.303(b)(4).

#### 4. Environmental Costs and Benefits of Unitized Exploration and Development

The Expansion Acreage is habitat for a variety of land and marine mammals, waterfowl and fish. Area residents may use this area for subsistence hunting and fishing. Oil and gas activity in the proposed expansion area may affect some wildlife habitat and some subsistence activity. DNR considered environmental issues during the lease sale process, and attached mitigation measures to the leases. Mitigation measures, including seasonal restrictions on specific activities, reduce the impact of oil and gas development on fish, wildlife, and human populations. Mitigation measures specifically address potential impacts to subsistence access and harvesting. This decision considers the environmental impact of unit expansion, and DNR will review the environmental issues again before approving unit plans of operations for each specific activity within the unit area.

DNR agrees with the Applicants that the proposed expansion and contraction of the PTU would optimize drilling operations thereby minimizing surface impacts by consolidating facilities and reducing activity in the field<sup>24</sup>. Unitization allows the unit operator to explore for and develop the resources under a single unit plan rather than on a lease-by-lease basis. Without unitization, the lease provisions would compel the lessees to seek permits to explore and develop each individual lease. The proliferation of surface activity and the duplication of production, gathering, and processing facilities would increase the potential for environmental damage. Unitization reduces both the number of facilities required to develop reserves and the aerial extent of land required to accommodate those facilities.

Lessees' compliance with conservation orders and field pool rules issued by the AOGCC would mitigate some of the surface impacts without an agreement to unitize operations. Still, unitization is the most efficient method for maximizing oil and gas recovery, while minimizing negative impacts on other resources. After unitization, the unit operator can design and locate facilities to maximize recovery and to minimize environmental impacts, without regard to lease

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<sup>24</sup> Application at 5.

boundaries. Review and approval of exploration and development plans under a unit agreement will also assure that rational surface-use decisions are made without regard for individual lease ownership or expense. The Commissioner's approval of a unit expansion is an administrative action, which by itself does not convey any authority to conduct operations on 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 the leases.

All exploration or development activity in the PTU is subject to an Alaska Coastal Management Program (ACMP) consistency determination, unless categorically approved under the ACMP ABC (General Concurrence) list, and must comply with both the State and the North Slope Borough (NSB) Coastal Zone Management plans. The unit operator must submit a Coastal Project Questionnaire, permit applications, and supporting information to the Alaska Division of Governmental Coordination (DGC), which will begin the permitting process to obtain approval for operations under the unit plan of development. DGC will coordinate a public and agency review process, determine which permits are required, and publish a public notice soliciting comments from federal, state, and local agencies; and the public. DGC, state resource agencies (DNR, DEC, ADF&G) and affected local governments including the NSB must determine if the proposed activity is consistent with the ACMP. After reviewing the agencies' comments, DGC may draft additional mitigation measures before issuing a Proposed Consistency Determination for public comment. In response to comments from the public, DGC may impose additional stipulations in the Final Consistency Determination.

The unit operator must also 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. 11 AAC 83.346. Plans for surface activities incident to exploration and development of the unit area are more detailed in a unit plan of operations than in a unit plan of exploration or development. When reviewing a proposed unit plan of operations, the Division also considers the unit operator's ability to compensate the surface owner for any damage sustained to the surface estate and the unit operator's plans for restoration and 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; 18 AAC 75. After DGC issues the Final Consistency Determination, the resource agencies may also impose conditions in the individual permit approvals to ensure the proposed activity is consistent with the ACMP and NSB Coastal District Plan. In addition, all exploration and development activities must comply with local ordinances, specifically Title 19 of the NSB Land Management Regulations.

Unitization of the Expansion Acreage minimizes the environmental impacts and costs of exploration and development of the unit area, which meets the section 11 AAC 83.303(b)(1) criteria and supports approval of the Amended Application.

#### 5. Other Relevant Factors to Protect the Public Interest

DNR must also consider if the parties to the unit agreement hold a sufficient interest in the unit area to have reasonably effective control of operations. 11 AAC 83.316(c). The Applicants have approximately 97.9% working interest ownership in the revised unit area, 96.8% working interest ownership in the proposed Expansion Acreage, and 90.2% working interest ownership in the Work Commitment Area. The remaining 2.1% working interest in the revised unit area is held

by Murphy and approximately 20 other entities and individuals. Murphy holds 12.5% working interest in ADL 377012 and ADL 377013, which equals 9.8% of the Work Commitment Area, 3.2% of the Expansion Acreage, and 1.1% of the revised unit area.

Murphy is the only working interest owner in the Expansion Acreage leases that declined to accept the terms contained in the Agreement. When Murphy indicated that it would not accept the terms and conditions agreed to by the Division and the other working interest owners, the Division issued the Interim Decision, which removed the unanimity requirement and approved the Amended Application. It was not necessary for Murphy to commit its interest in the Work Commitment Area to the Unit Agreement for the Division to approve the Amended Application because the majority of the working interest owners accepted the terms for commitment and were willing to be responsible for all of the obligations in the Agreement.

The Applicants have effective control of operations within the Work Commitment Area, the Expansion Acreage, and the revised unit area as a whole; and they agreed to be bound by the commitments in the Amended Application absent Murphy's participation. This factor meets the criteria in 11 AAC 83.303(b)(6), and supports approval of the Amended Application.

#### **IV. FINDINGS**

The Amended Application, meets the criteria in 11 AAC 83.303(a) as follows:

##### **A. Promote the Conservation of All Natural Resources.**

The Amended Application will conserve all natural resources, including hydrocarbons, gravel, sand, water, wetlands, and other valuable habitat. The unitized exploration and development of the Expansion Acreage will reduce the disruption of land and fish and wildlife habitat that would occur under individual lease development. This reduction in environmental impacts and preservation of subsistence access is in the public interest.

If exploration activities result in the discovery of a commercially producible reservoir, then there will be environmental impacts associated with 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, and the lessees may not commence exploration 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 mitigation measures in addition to those in the leases, if necessary or appropriate. Compliance with the mitigation measures will minimize, reduce or completely avoid adverse environmental impacts.

##### **B. Promote the Prevention of Economic and Physical Waste.**

ExxonMobil submitted geological, geophysical, and engineering data supporting the Amended Application. The available data indicates the Expansion Acreage encompasses all or part of one or more potential hydrocarbon accumulations and justifies including the proposed lands in the PTU.

The exploration and development commitments in the Amended Application along with the 18<sup>th</sup> POD meet the requirements of 11 AAC 83.303 and .343. The unit operator must conduct the proposed activities in accordance with the specified timelines. The Amended Application describes the performance standards and diligence requirements, and the consequences of failure to perform any of the exploration or development activities as scheduled. The 18<sup>th</sup> POD provides details of the activities planned during the one-year term beginning September 31, 2001.

The Amended Application provides for the reasonable exploration of potential hydrocarbon accumulations in the Expansion Acreage. If the Applicants discover oil or gas in commercial quantities, the Unit Agreement will prevent the waste of oil and gas, and increase the probability of recovering more hydrocarbons from the unit area. The Unit Operator must apply for and receive DNR's approval of a participating area before commencing sustained production of hydrocarbons in commercial quantities.

### **C. Provide for the Protection of All Parties of Interest, Including the State**

The Amended Application will expedite exploration and development of the unit area. With the conditions contained in the Amended Application, economic benefits to the state outweigh the economic costs of extending the primary terms of the leases committed to the unit.

If the Division had continued to require unanimous consent for approval of the expansion/contraction of the PTU, and Murphy declined to accept the conditions in the Amended Application, the unit area would be unchanged, and most of the Expansion Acreage, including both of Murphy's leases, would have expired. In addition, neither Murphy nor the public would benefit from the working interest owners' commitment to explore the Expansion Acreage and develop the unit area within a specified period under increased royalty rates. The Amended Application preserves Murphy's interest in the Work Commitment Area Leases.

DNR complied with the public notice requirements of 11 AAC 83.311, and the Amended Application adequately and equitably protects the public interest. The Amended Application is in the State's best interest, and it protects the State's interests thru increased royalty rates, and reasonable assurance that the lessees will develop and produce the hydrocarbons underlying the unit area in the near future. The Amended Application meets the requirements of AS 38.05.180(p) and 11 AAC 83.303.

Approval of the PTU expansion 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.

The Unit Agreement provides for expansions and contractions of the unit area in the future, as warranted by data obtained by exploration or otherwise. The Unit Agreement thereby protects the public interest, the rights of the parties, and the correlative rights of adjacent landowners.

## V. DECISION

This Findings and Decision supplements the Interim Decision by providing the Division's evaluation of the Amended Application under the criteria provided in 11 AAC 83.303. The Interim Decision approved the Amended Application, effective as of 12:01 a.m. July 31, 2001, with retroactive effective dates of November 30, 1998 as it applies to ADL 372256, and March 31, 2001 as it applies to ADL 375064. The PTU Expansion Acreage encompasses approximately 40,354 acres within twelve leases, while approximately 7,572 acres within all or portions of four leases contracted out of the PTU. The revised unit area contains approximately 116,607 acres within 46 leases. The unit exhibits submitted on October 15, 2001 contain some incorrect legal descriptions. The Unit Operator shall submit revised Exhibits A and B to the Unit Agreement within 30 days of this decision that accurately reflect the approved unit area.

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of "issuance" of this decision, as defined in 11 AAC 02.040 (c) and (d), and may be mailed or delivered to Pat Pourchot, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to [dnr\\_appeals@dnr.state.ak.us](mailto:dnr_appeals@dnr.state.ak.us). This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31<sup>st</sup> day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

*Original signed by Mark D. Myers, Director*

*May 24, 2002*

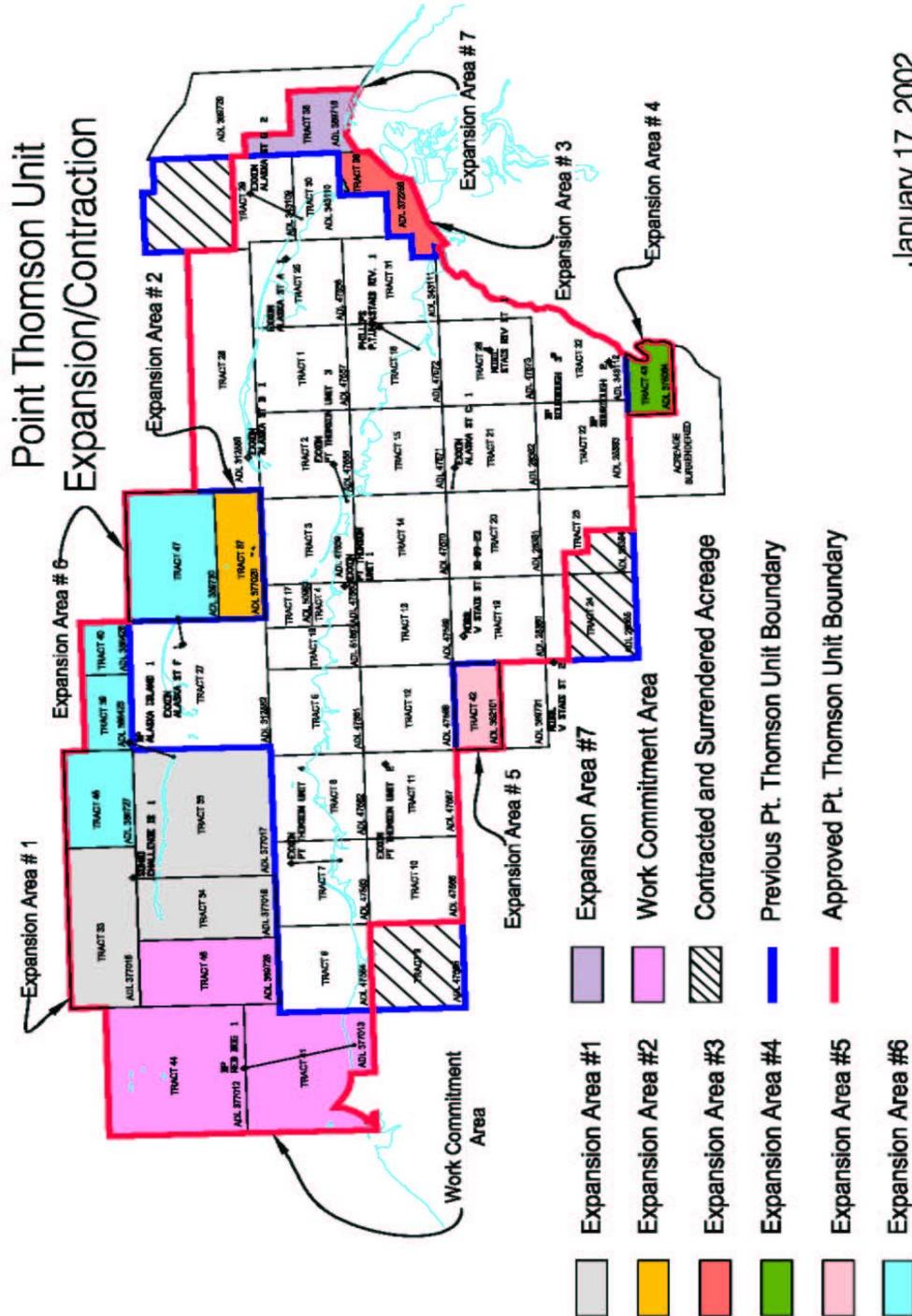
\_\_\_\_\_  
Mark D. Myers  
Division of Oil and Gas

\_\_\_\_\_  
Date

Attachments: 1) Map of the Approved PTU with Expansion, Contraction and Work  
Commitment Areas  
2) Point Thomson Unit Well List

cc: Pat Pourchot, Commissioner DNR  
Richard Todd, Dept. of Law  
Bob Gage, Murphy

Attachment 1: Map of the Revised PTU Boundary



January 17, 2002

Attachment 2: List of Point Thomson Unit Wells

Well Name	Abbreviation	API #	Completion Date	OLD ADL	Current ADL	Unit Tract	Area	Certified Well	Extended Confidentiality
West Staines State #1	W.Stns 1	500892000100	7/16/1970		ADL 28380	PTU Tract 19	Core Unit Area		
West Staines State #2	W.Stns 2	500892000400	5/21/1971	ADL 28377	ADL 382102	--	Outside unit area		
Alaska State A-1	A-1	500892000300	9/6/1975		ADL 47556	PTU Tract 25	Core Unit Area	Y	
Point Thomson Unit #1	PTU1	500892000500	12/8/1977		ADL 47560	PTU Tract 4	Core Unit Area	Y	
Point Thomson Unit #2	PTU2	500892000600	8/12/1978		ADL 47567	PTU Tract 11	Core Unit Area	Y	
Point Thomson Unit #3	PTU3	500892000700	7/4/1979		ADL 47558	PTU Tract 2	Core Unit Area		
Staines River State #1	Stns 1	500892000800	7/21/1979		ADL 47573	PTU Tract 26	Core Unit Area	Y	Y
Point Thomson Unit #4	PTU4	500892000900	12/20/1980		ADL 47563	PTU Tract 7	Core Unit Area		
Challenge Island #1	Chal. Is. 1	500892001200	2/11/1981	ADL 312847	ADL 377015	PTU Tract 33	Expansion Area #1		
Alaska State C-1	C-1	500892001100	7/14/1981		ADL 28382	PTU Tract 21	Core Unit Area	Y	
Alaska State D-1	D-1	500892001500	2/16/1982		ADL 312866	PTU Tract 28	Core Unit Area		
Alaska Island #1	Ak. Is. 1	500892001800	4/22/1982		ADL 388425	PTU Tract 39	Expansion Area #6		
North Staines River #1	N.Stns 1	500892001700	5/16/1982		ADL 47572	PTU Tract 16	Core Unit Area		Y
Alaska State F-1	F-1	500892001900	5/30/1982		ADL 312862	PTU Tract 27	Core Unit Area	Y	
Alaska State G-2	G-2	500892002000	8/19/1983		ADL 343109	PTU Tract 29	Core Unit Area		Y
Sourdough #2	Sourd 2	500892002500	3/25/1994		ADL 343112	PTU Tract 32	Core Unit Area	Y	Y
Sourdough #3	Sourd 3	500892002600	3/15/1996		ADL 343112	PTU Tract 32	Core Unit Area		Y
Red Dog #1	Red Dog 1	500892002700	3/26/1999		ADL 377012	PTU Tract 41	Work Commitment Area		