

KUPARUK RIVER UNIT

APPLICATION FOR THE
FORMATION OF THE TABASCO
PARTICIPATING AREA

DECISION AND FINDINGS OF THE COMMISSIONER
ALASKA DEPARTMENT OF NATURAL RESOURCES

OCTOBER 14, 1998

KUPARUK RIVER UNIT
FORMATION OF THE TABASCO
PARTICIPATING AREA

I. INTRODUCTION AND BACKGROUND

ARCO Alaska, Inc. (ARCO), as Kuparuk River Unit Operator, and on behalf of the Working Interest Owners (WIOs) in the Kuparuk River Unit (KRU), applied to form the Tabasco Participating Area (TABPA) within the current boundary of the KRU. The proposed KRU TABPA includes approximately 3,040 acres around two existing Tabasco wells and numerous KRU Drillsite 2T wells. The geologic, well, and production data that ARCO submitted justifies the formation of the TABPA. The data indicate that the Tabasco Reservoir within the Tabasco Sands is capable of producing or contributing to the production of hydrocarbons in paying quantities.

The Division approves ARCO's application to form the TABPA. The TABPA should be limited to the area proposed by ARCO because that area has been shown to be "reasonably known to be underlain by hydrocarbons and known or reasonably estimated ...to be capable of producing or contributing to production of hydrocarbons in paying quantities." 11 AAC 83.351(a). If additional data are obtained or submitted in the future, the boundaries of the TABPA may be revised. The division also approves the Tract Allocation Schedule for the TABPA proposed in Exhibit 8 of the application. The tract allocation schedule "equitably allocates production and costs among the leases" in the TABPA. The effective date of the TABPA and the TABPA Tract Allocation Schedule is April 1, 1998.

II. APPLICATION FOR THE FORMATION OF THE TABASCO PARTICIPATING AREA

ARCO submitted the TABPA application dated July 17, 1998, under 11 AAC 83.351 and Section 6.3 of the KRU Agreement. Portions of four state oil and gas leases, ADL 25548 (Tract 29), ADL 25569 (Tract 44), ADL 25643 (Tract 30), and ADL 25644 (Tract 43), totaling approximately 3040 acres, are proposed for the TABPA. The WIOs in the proposed TABPA are ARCO, BPXA, UNOCAL, Mobil, and Chevron.

The proposed TABPA acreage encompasses the Tabasco reservoir within the Tabasco Sands, which are capable of producing or contributing to the production of hydrocarbons in paying quantities. The proposed vertical definition for the TABPA is the sequence of oil-bearing sandstones and conglomerates within the Tabasco Sands (See Exhibit 3 and 4 of the application). The legal description of the leases proposed for TABPA, the initial tract participation schedule for the leases in the TABPA, and a map depicting the proposed TABPA are Exhibits 7, 8, and 2, respectively of the application.

There is geologic and engineering evidence to support the formation of the TABPA to develop the Tabasco Reservoir within the KRU under a unified plan of development. There are numerous well penetrations of the Tabasco Sands in the KRU Drillsite 2T area. ARCO drilled and tested 2T-201 in October 1995. Another well, 2T-202 was drilled and completed as a producing well in April 1998. Since April 1998, ARCO has been conducting a Tabasco Pilot Waterflood Tract Operation on ADL 25569 (KRU Tract 44). The production and injection data from the Tract Operation demonstrate that 2T-201 and 2T-202 are capable of producing or contributing to production in paying quantities. Production from the Tabasco Pilot Waterflood Tract Operation is currently over 2500 BOPD.

ARCO filed several other exhibits in support of its application. These included: a proposed plan of development for the TABPA; a Tabasco Sandstone Type Log; a map and legal description of the leases proposed for the TABPA; geological and engineering data supporting the proposed TABPA; a Tabasco Reservoir Paying Quantities Determination; a proposed methodology for allocating production from the participating areas that will share the Kuparuk infrastructure, facilities, and gathering system prior to any stream passing through a custody transfer meter; proposed methods for reporting the allocated production and gas reserve/gas debits from each participating area (PA) sharing the Kuparuk facilities; and a copy of the Tabasco Special Provisions to the KRU Operating Agreement for Satellite Operations. ARCO and the DNR agree that the effective date for the TABPA and initial tract participation schedule for the TABPA will be April 1, 1998. This is the first day of the month when production commenced from the Tabasco Pilot Waterflood tract Operation.

The leases proposed for the TABPA are already included in the Kuparuk Participating Area (KPA) of the KRU. The leases reserve a 12.5% royalty share to the state. The state's royalty share is subject to Appendix I of the KRU Agreement, Settlement of Cleaning, Dehydration, and Transportation Charges Applicable to Royalty Oil Taken from the Kuparuk River Unit.

III. DISCUSSION OF THE PARTICIPATING AREA DECISION CRITERIA

A PA may include only land reasonably known to be underlain by hydrocarbons and known or reasonably estimated through use of geological, geophysical, or engineering data to be capable of producing or contributing to the production of hydrocarbons in paying quantities. 11 AAC 83.351(a). "Paying Quantities" means:

quantities sufficient to yield a return in excess of operating costs, even if drilling and equipment costs may never be repaid and the undertaking as a whole may ultimately result in a loss; quantities are insufficient to yield a return in excess of operating costs unless those quantities, not considering the costs of transportation and marketing, will produce sufficient revenue to induce a prudent operator to produce those quantities.

11 AAC 83.395(4). A PA application must be evaluated under these standards, and the standards in

11 AAC 83.303.

Under 11 AAC 83.303(a), a proposed PA will be approved if the commissioner finds that the PA is necessary or advisable to protect the public interest. To make such a finding, the commissioner must determine that the proposed PA will: (1) conserve natural resources; (2) prevent economic and physical waste; and (3) protect all parties of interest, including the state.

In evaluating these criteria, the commissioner will consider: (1) the environmental costs and benefits; (2) the geological and engineering characteristics of the potential hydrocarbon accumulation or reservoir proposed for inclusion in the PA; (3) prior exploration activities in the proposed PA; (4) the applicant's plans for exploration or development of the proposed PA; (5) the economic costs and benefits to the state; and (6) any other relevant factors (including mitigation measures) the commissioner determines necessary or advisable to protect the public interest. 11 AAC 83.303(b). The following evaluates the TABPA under these criteria and considerations.

(A) Conservation of Natural Resources

The formation of oil and gas units and PAs within unit areas to develop hydrocarbon-bearing reservoirs conserves hydrocarbons. A single PA encompassing that portion of the Tabasco reservoir capable of producing or contributing to the production of hydrocarbons in paying quantities will provide for more efficient, integrated development of the area. A comprehensive operating agreement and plan of development governing that production will help avoid duplicative development efforts on and beneath the surface.

Producing hydrocarbon liquids from the TABPA through the existing KRU production and processing facilities reduces the incremental environmental impact of the additional production. Using the existing facilities, gravel pads, and infrastructure eliminates the need for new ones. Tabasco fluids will be commingled with KPA fluids at existing KRU drillsites and produced into the existing Central Production Facility (CPF-2). The TABPA's utilization of the KRU infrastructure will maximize oil and gas recovery, while minimizing negative impacts on other resources within the area.

(B) Prevention of Economic and Physical Waste

Generally, forming a PA facilitates the equitable division of costs and allocation of hydrocarbon shares, and provides for a diligent development plan, which maximizes hydrocarbon recovery from a reservoir. The formation of the PA and facility sharing opportunities may also allow development of economically marginal hydrocarbon accumulations. Providing for PA operations of the leases improves the likelihood of more complete development of a reservoir with variable productivity across adjoining leases. ARCO has represented that sharing the existing KRU facilities and infrastructure makes the Tabasco Reservoir development possible.

Some of the KRU owners have negotiated agreements among themselves to share the existing production capacity of the KRU facilities and the KRU infrastructure. These facilities can be used

to process the relatively small volume of recoverable hydrocarbons in the TABPA. Eliminating the need for construction of additional production facilities minimizes any additional surface impacts and costs. The state has agreed to allow commingled production through the existing facilities (at the drillsite and CPF prior to either the Tabasco or Kuparuk production passing through a custody transfer meter) and has approved a well test-based production allocation methodology for current and future reservoirs sharing the KRU facilities. The methodology is designed to accurately and fairly allocate production. The adoption of that methodology is subject to periodic review and reconsideration to assure that the state's royalty and tax interests are protected.

Further facility consolidation will save capital and promote better reservoir management through pressure maintenance and enhanced recovery procedures. In combination, these factors allow the Tabasco Reservoir to be developed and produced to the benefit of all interested parties.

(C) Protection of All Parties

Forming separate PAs protects the economic interests of all working interest owners and the royalty owner. By combining interests and operating under the terms of a unit agreement and unit operating agreement, the owners may fairly allocate costs and revenues among themselves.

Because hydrocarbon recovery will be maximized and additional production-based revenue will be earned from TABPA production, the state's economic interest is promoted. Additional recovery of hydrocarbons, however, in and of itself may not always be determinative of the state's best interest. Production must occur under suitable terms and conditions to assure that the economic interests of both the working interest owners and the state, as the royalty owner, are protected.

All the leases proposed for the TABPA were issued on state of Alaska lease form DL-1. The interpretation of the royalty provisions in the form DL-1 lease were the subject of litigation, State of Alaska v. Amerada Hess Corporation, et al (C.A. No. 77-847. Superior Court for the State of Alaska, First Judicial District at Juneau). (ANS Royalty Litigation). When the KRU Agreement was signed in 1981, the state and the lessees disagreed whether and to what extent the cost of cleaning and dehydrating the oil could be deducted from the state's royalty share. The state and the lessees agreed to a formula for calculating and paying these field costs. This field cost allowance settlement is Appendix I to the KRU Agreement.

The area proposed for the TABPA is completely within the boundaries of the KPA and the KRU. The Applicants and the Department of Natural Resources, Division of Oil and Gas ("the Division") agree that the provisions of Appendix I of the KRU Agreement apply to the royalty share of production from the TABPA. The state's economic interest in the allocation of production, royalty value and costs to process the state's royalty share of production from the TABPA is protected by Appendix I to the KRU Agreement, the ANS Settlement Agreements for the determination of royalty value for the TABPA and KPA production, and the methodology that allocates the production between the reservoirs that share the KRU infrastructure.

In reviewing the above criteria, the following factors were considered:

(1) The Environmental Costs and Benefits

Sharing the existing KRU facilities eliminates duplication and reduces the surface area altered by the Tabasco development. The Phase 1 Tabasco development will take place from existing KRU Drillsite 2T in the CPF-2 area of the unit. Some gravel will be added to the existing pad to accommodate construction of Tabasco facilities and wells. Tabasco fluids will be commingled with KPA fluids at the drillsite and produced into the existing CPF-2

Only existing KRU roads will be used to support drilling, construction, and production operations. Existing cross-country KPA pipelines serving Drillsite 2T will be used for Tabasco production. The KRU owners propose to make maximum use of existing KRU infrastructure. No significant additional impacts to habitat or biological resources are anticipated because of the additional Tabasco production.

(2) The Geological and Engineering Characteristics of the Reservoir

The Tabasco sands is an informal name given to a sequence of incised valley fill sandstones and conglomerates of Campanian age that are correlative with the lower portion of the Schrader Bluff Formation (part of the Upper Cretaceous Colville Group). ARCO provided the following confidential data to support the TABPA application: (1) five representative seismic lines, A through E; (2) a base map illustrating the location of the seismic lines; (3) three well log cross-sections through the Tabasco interval; (4) Tabasco Hydrocarbon Pore Thickness (HPT) Map locating the cross-section lines and outlining the proposed Tabasco participating area; (5) Top and Base Structure Maps of the Tabasco Interval; and (6) an Oil Pore Volume Map with tentative development well locations.

The Tabasco sands were initially encountered while drilling to the Kuparuk sands of the KPA on Drillsite 2T in the middle 1980's. The type log for the Tabasco sands is the interval encountered in the ARCO 2T-201 well (that was fully dedicated to drill only the Tabasco objective in the mid 1990's) between 3352 feet and 3599 feet measured depth, where it attains a gross vertical thickness of 244 feet. Test production from 2T-201 averaged 2,500 BOPD of 16.5 degree API gravity oil. The Tabasco sands vary in thickness between 0 – 397 feet in the proposed TABPA. The Tabasco interval lies below the regional C-80 log and seismic marker. Approximately 300 feet of inter-bedded claystone, mudstone, and shale separate the Tabasco interval from the overlying West Sak sands.

Well control indicates that the Tabasco sands have high lateral heterogeneity, and are limited in aerial extent. Faults have influenced the preservation, thickness, and geometry of the Tabasco sands. ARCO has worked diligently at associating log character with seismic attributes. The Tabasco reservoir contains two types of sandstone facies that were deposited at or near the shelf margin that was characterized by large-scale slumping and erosion. One facies consists of amalgamated sands that were deposited as fluvial channel fill in a valley that was incised into the underlying shales, oriented approximately perpendicular to the shelf/slope break. The second

type of sandstone facies is comprised of stacked thin-bedded marine sandstones that are separated by mudstones that were deposited at or near the shelf margin.

ARCO's seismic analyses accurately define the prospective areas and roughly predict the gross thickness of the pay zones. ARCO has submitted enough technical data to justify the size and shape of the initial TABPA. Only the drilling of additional wells will resolve the ultimate shape of this structural/stratigraphic trap. One of the major uncertainties with the Tabasco reservoir is predicting the geometry and distribution of reservoir sands that were deposited as non-continuous sandstone bodies. Although 3-D seismic can readily identify channels, the lithology of the rock present cannot be reliably predicted. Drilling, to date, has not encountered an oil/water contact. The 2T-201 Well did encounter a gas-oil contact at -2915 feet. An up-dip stratigraphic pinch-out, caused by non-deposition or erosion of the Tabasco sands, is believed to limit the reservoir. The currently proposed drilling schedule (Phase 1B) justifies the size of the proposed TABPA.

The first phase of development drilling within the TABPA consists of 8 producers and 4 injectors. Reservoir performance in the first phase of drilling will influence the distribution of additional development wells, and could result in the expansion of the TABPA. Conversely, areas included within the proposed PA that are currently interpreted to be hydrocarbon-bearing may turn out to be disappointing because of the unpredictability of the geometry and sand distribution of the Tabasco sands system.

(3) Prior Exploration and Development Activities

The KRU Owners have collected Tabasco reservoir delineation data since the start of drilling at KRU Drillsites 2T, 3G and 3H. They have log data from wells on these western KPA Drillsites. The KRU Owners selectively logged and cored KPA development wells to evaluate the Tabasco sands within the KRU.

Prior Tabasco exploration activity included the drilling and testing of 2T-201 in 1995 and the drilling of a KRU Drillsite 2U well in 1997. In the 2nd Quarter of 1998, ARCO began the Pilot Phase 1A evaluation of the Tabasco Sands. This Phase 1A evaluation included (1) a production test of the 2T-201 Well; (2) the drilling, coring and testing of Tabasco 2T-202; and (3) a pilot waterflood of the Tabasco sands with water injection into the 2T-201 Well and 2T-202 on production for approximately 6 months. The Tabasco Phase 1A/Pilot Waterflood Tract Operation on ADL 25569 (Tract 44) was approved by the DNR on March 25, 1998. The Tract Operation was approved for approximately 6 months, until September 30, 1998. Currently, 2T-202 is producing over 2500 BOPD.

Based on the results of the Tabasco Phase 1A/Pilot Waterflood Tract Operation to date, ARCO has represented to the DNR that wells 2T-201 and 2T-202 are capable of production or contributing to production in paying quantities. A paying quantities calculation was submitted with the TABPA application.

(4) The Applicant's Plan for Exploration or Development of the Participating Area

Tabasco development plans call for a phased approach in which development proceeds as the understanding of the overall project improves. Phase 1A was the Pilot Waterflood Operation mentioned above. Phase 1B will consist of approximately 10 to 18 new wells (in addition to the two existing wells 2T-201 and 2T-202) to develop the Tabasco accumulation at Drillsite 2T. Four to six wells are planned in the fourth quarter of 1998. The remaining Phase 1B wells are planned in 1999 and 2000, taking advantage of reservoir performance data and improved seismic calibrations acquired from earlier wells.

Approximately, one-third of the wells will be water injection wells. Waterflooding of the reservoir is planned from the initial development to maintain reservoir pressure. Injection water will be derived from a suitable makeup water, which may be any combination of Greater Kuperuk Area produced water and seawater. A polymer flood enhanced oil recovery project is currently under review. The estimated ultimate recovery for the TABPA under the initial plan of development is between 25 and 30 million barrels (gross).

Beyond the Drillsite 2T development, additional Tabasco sands are present at several other KRU Drillsites. Plans envision Tabasco Phase 2 operations at KRU Drillsite 3H in early 1999.

(5) The Economic Costs and Benefits to the State and Any Other Relevant Factors (including mitigation measures) the Commissioner Determines Necessary or Advisable to Protect the Public Interest

ARCO has represented to the division that development of the Tabasco is possible because the existing KRU facilities and infrastructure will be shared. Sharing existing production facilities is possible because of spare liquid capacity at Kuperuk facilities. Tabasco production will be commingled with KPA production at the drillsite. The production will be commingled before either production stream passes through a custody transfer meter. ARCO proposes to allocate the KRU production between the TABPA and the KPA based on an individual well test allocation methodology currently in place at the West Sak Participating Area (WSPA) and Tarn Participating Area (TPA) in the KRU.

The Tabasco Phase 1A /Pilot Waterflood Tract Operation used the existing DS 2T test separator equipment to meter the individual well production. Tabasco Phase 1B well test allocation procedures will employ a same type of separation device to meter the Tabasco production before it enters the KRU facilities as Tarn and West Sak; the Accuflow metering system. This multiphase meter system uses a separation approach in handling the oil/gas/water flow stream by first separating the gas from the liquid stream and then measuring the gas and the oil/water separately.

ARCO also proposed that Tabasco use a fixed production allocation factor (AF) of 1.0 to the Tabasco well tests for revenue and accounting purposes. See Attachment 9 of the application. An AF of 1.0 means that the Accuflow meter data for the individual well test volumes will represent the volume of oil, gas and water allocated and reported for the TABPA wells.

ARCO's proposed production allocation methodology for the TABPA is similar to procedures proposed and approved for the WSPA and the TPA. The division approves ARCO's TABPA production commingling, allocation and well testing procedures for volume and royalty accounting subject to the same terms and conditions imposed on the WSPA and TPA. Those terms and conditions are: (1) the Allocation Factor (AF) for the TPA will be 1.0 for the first year of TPA production to evaluate either the Accuflow metering system or a conventional test separator, the individual well test allocation methodology, well test frequency and quality of the individual well test data; (2) during the first year of production, the individual well test frequency will be a minimum of 2 well tests per month; (3) ARCO submit a monthly production allocation report similar to the report currently submitted for the KRU WSPA and TPA; (4) an allocation and well test review meeting be held with the DNR, DOR, and AOGCC after 6 and 12 months of commingled production; and (5) after 12 months of commingled production, the TABPA production allocation methodology will be evaluated to determine the continued use of the allocation procedures.

ARCO submitted an allocation of production and cost for the leases in the proposed TABPA (Attachment 3 to this Decision and Findings) as required by 11 AAC 83.371. The proposed allocation distributes working interest equity among the lease tracts on a surface acreage basis. Because all the leases within the TABPA were issued on the DL-1 lease form which reserves a 12.5% royalty to the state and the state is in sole royalty owner of the leases in the TABPA, ARCO's tract allocation schedule is acceptable for allocating production and costs among the leases within the TABPA.

The TABPA will be the fourth PA in the KRU that will share the KRU facilities and infrastructure. In order to properly allocate KPA, WSPA, TPA, TABPA, and any other KRU participating area produced gas, gas used for fuel, flare, gas reinjected into the KPA reservoir or any other participating area reservoir established in the KRU, and natural gas liquids that go through the KRU facilities, the TPA Owners should continue to use the gas reserve and gas debit reporting procedures already established for the facility sharing at the KRU. The monthly gas reserves and gas debit report should be similar to the form approved for the WSPA. (See WSPA Decision and Findings, dated December 18, 1997)

Finally, in accordance with the applicable WIO Alignment Agreements that have been filed with the division, ARCO, BPXA, UNOCAL, Chevron, and Mobil are the only WIOs in the Sixth KRU Expansion Area. Currently, the division's title ownership records do not reflect this realignment of interests in the Greater Kuparuk Area. The WIOs have represented that the lease assignments implementing the realigned interests will be filed with the Division before the end of 1998. To simplify the monthly royalty reporting for the TPA, the Division will permit the WIOs to use the same procedures in the TPA as are now used in the KPA and WSPA for royalty reporting. Attachment 4 to this Decision and Findings describes those procedures.

VI. FINDINGS AND DECISION

Considering the facts discussed in this document and the administrative record, I hereby make findings and impose conditions as follows:

1. The proposed TABPA meets the requirements of 11 AAC 83.303.
2. The available geological and engineering data submitted demonstrate that a paying quantities certification is appropriate for the area of the Tabasco Reservoir proposed for the TABPA. The acreage is known to be underlain by hydrocarbons and known or reasonably estimated to be capable of production or contributing to production in sufficient quantities to justify the formation of the TABPA within the KRU.
3. The geological and engineering data supporting the TABPA justify the inclusion of all the proposed tracts at this time. The entire TABPA is wholly contained within the boundaries of the current KRU. Under the terms of the applicable regulations governing formation and operation of oil and gas units (11 AAC 83.301 - 11 AAC 83.395) and the terms and conditions under which these lands were leased from the state, the following lands are to be included in the TABPA:
 - T.12.N., R.8.E., U.M., Sec. 35: SE/4; Sec. 36: all
(ADL 25548 (Tract 29));
 - T.12.N., R.9.E., U.M., Sec. 31: W/2
(ADL 25643 (Tract 30));
 - T.11.N., R.9.E., U.M., Sec. 6: NW/4
(ADL 25644 (Tract 43)).
 - T.11N., R.8.E., U.M., Secs. 1 and 2: all; Sec. 11: N/2; Sec. 12: NW/4
(ADL 25569 (Tract 44)).
4. Formation of the TABPA equitably divides costs and allocates produced hydrocarbons, and sets forth a development plan designed to maximize physical and economic recovery from the Tabasco Reservoir within the approved TABPA.
5. The production of TABPA hydrocarbon liquids may be commingled with KPA production in surface facilities prior to custody transfer. Facility sharing reduces the environmental impact of the additional production. Utilization of existing facilities will avoid unnecessary duplication of development efforts on and beneath the surface.

6. The proposed well test allocation methodology, as conditioned in Article III(5), is acceptable for royalty allocation purposes and for allocating the commingled gas and hydrocarbon liquids production between the TABPA and the KPA as those streams are processed through the common KRU facilities.

ARCO, as KRU Operator, shall provide the division with the monthly production allocation reports and well test data for the Tabasco wells producing through CPF-2 by the 20th of the following month. The Division reserves the right to request any information it deems pertinent to the review of those reports from ARCO. Moreover, this approval of the allocation methodology is conditioned upon the operator's agreement to promptly and fully reply to any such requests.

The monthly allocation report shall include a summary of monthly allocation by well, and specific well test data for all tests which have been conducted.

7. The Division reserves the right to review the well test allocations to insure compliance with the methodology prescribed in this decision. Such review may include, but is not limited to, inspection of facilities, equipment, well test data.

8. During the first year in which commingled production from the TABPA is allocated, semi-annual reviews of the allocation methodology will be scheduled with the Division. Following its review, the Division, in its discretion, may require revision of the allocation procedure. Either the Division or the operator may request subsequent reviews. The allocation procedure may only be revised with the written consent of, or upon the written direction of, the Division.

9. To account for the gas produced from each participating area within the KRU, the gas volume disposition and gas reserves debited from or credited to each PA using the shared KRU facilities, ARCO shall submit a monthly gas disposition and reserves debit report using the form indicated in Attachment 2. The gas disposition report shall be submitted with the monthly production allocation reports.

10. The field cost allowance for the state's royalty share of oil produced from the approved TABPA is governed by Appendix I to the Kuparuk River Unit Agreement.

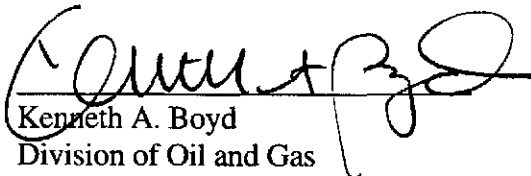
11. Diligent exploration and delineation of the Tabasco Reservoir underlying the approved participating area is to be conducted by the Unit Operator under the KRU plans of development and operation approved by the state.

12. The plan of development for the TABPA meets the requirements of 11 AAC 83.303 and 11 AAC 83.343. The plan is approved for a period of two years from the effective date of this Decision and Finding. Annual updates to the plan of development which describe the status of projects undertaken and the work completed, any changes or expected changes to

the plan, and a further plan of development, must be submitted in accordance with 11 AAC 83.343.

13. Approval of the TABPA within the KRU is effective April 1, 1998.

For these reasons and subject to the conditions and limitations noted, I hereby approve the Tabasco Participating Area within the Kuparuk River Unit.


Kenneth A. Boyd
Division of Oil and Gas

10/14/98
Date

Attachments: 1) TABPA Map with Existing KRU Boundary
2) TABPA and Reservoir Outline
3) TABPA Tract Participation Schedule
4) KRU Allocation and Ownership of Production, DNR letter dated April 7, 1998

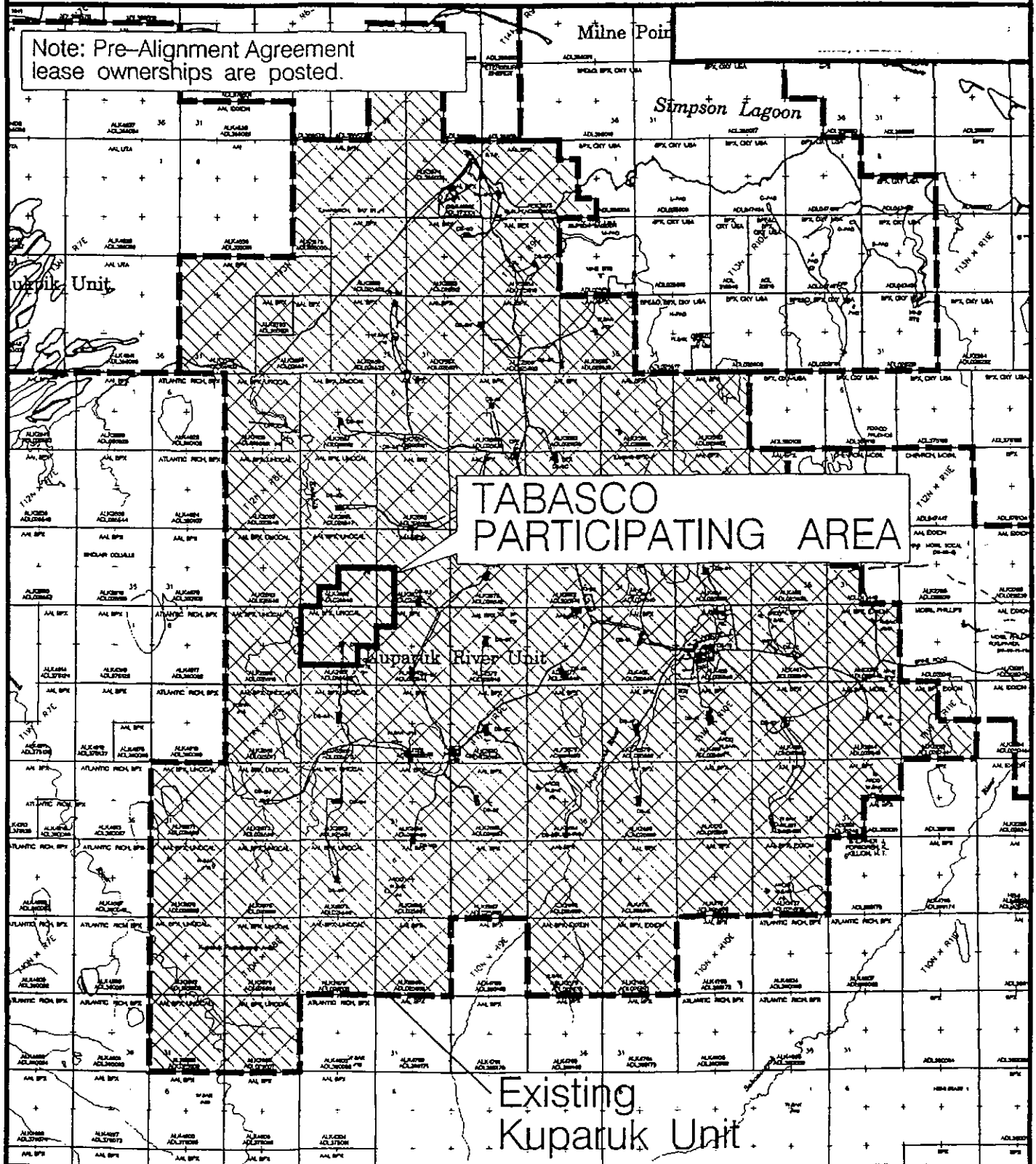
KRU.TabascoPA.Appv.txt

Attachment 1

TABASCO PARTICIPATING AREA MAP WITH EXISTING KRU BOUNDARY

Scale: N.T.S.

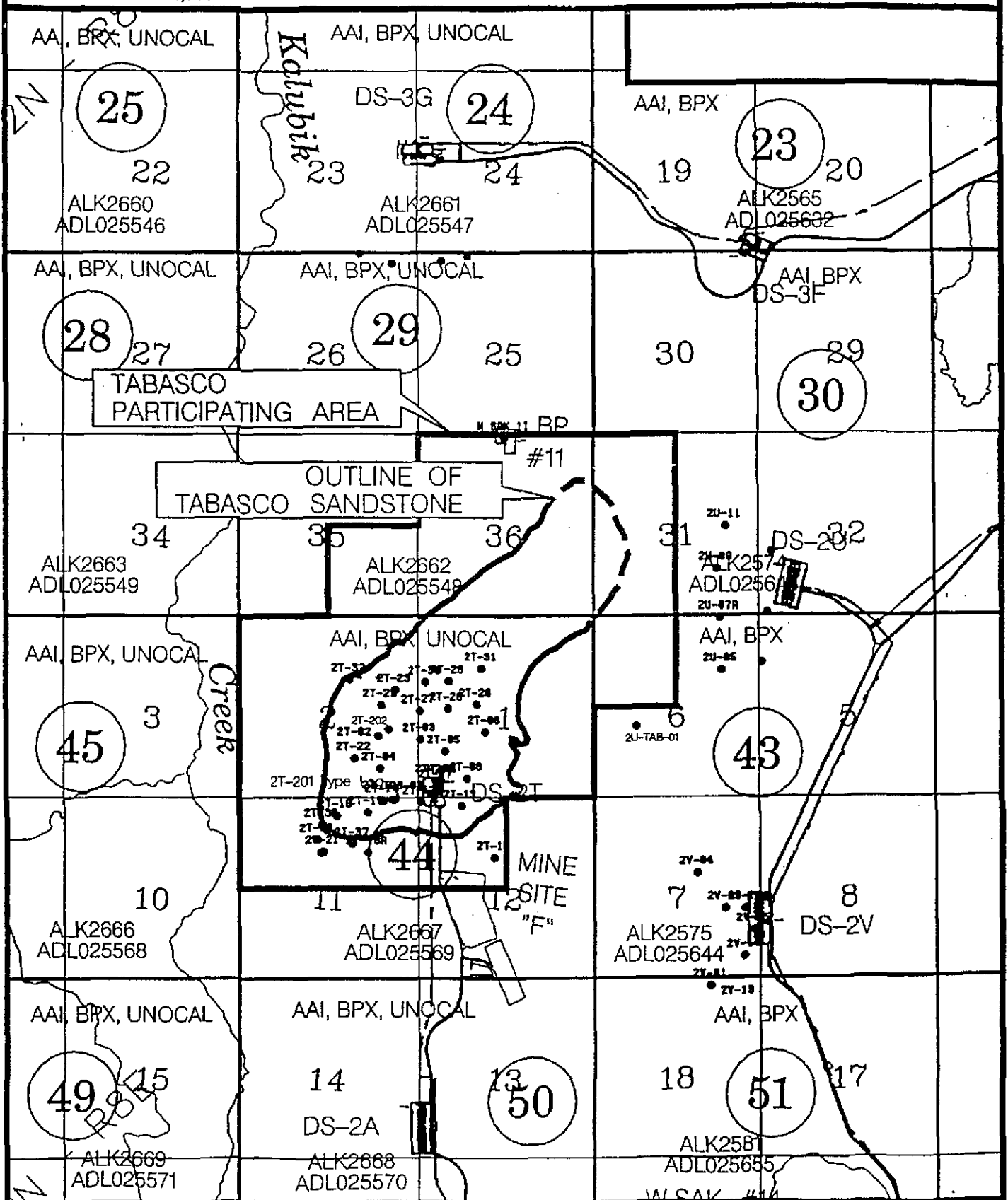
Note: Pre-Alignment Agreement
lease ownerships are posted.



Attachment 2

TABASCO PARTICIPATING AREA AND RESERVOIR OUTLINE

Scale: 1" = 4,000'



Attachment 3

Tabasco Participating Area and Tract Participation Decimals

Tr. No.	Lease No.	Exp. Date	Legal Description	Lease Acres	Lessor Royalty	Alaska Net Profit Share	Agreed Leasehold Working Interests					Area Inside 0' Contour (Acres)	Tract Participation
							ARCO	BPX	UNOCAL	MOBIL	CHEVRON		
29	ADL025548	03/26/80	T12N, R08E, UM: Sec. 35: SE 1/4; Sec. 36: All.	2,560	12.50%	0.00%	55.293767%	39.282233%	4.950600%	0.364800%	0.108600%	237	0.2176
44	ADL025569	03/26/80	T11N, R08E, UM: Sec. 1: All; Sec. 2: All; Sec. 11: N 1/2; Sec. 12: NW 1/4.	2,560	12.50%	0.00%	55.293767%	39.282233%	4.950600%	0.364800%	0.108600%	782	0.7181
30	ADL025643	03/26/80	T12N, R09E, UM: Sec. 31: W 1/2.	2,459	12.50%	0.00%	55.293767%	39.282233%	4.950600%	0.364800%	0.108600%	68	0.0624
43	ADL025644	03/26/80	T11N, R09E, UM: Sec. 06: NW 1/4.	2,469	12.50%	0.00%	55.293767%	39.282233%	4.950600%	0.364800%	0.108600%	2	0.0018