# FINDINGS AND DECISION

of the Director, Division of Oil and Gas

APPROVING THE
CRONUS UNIT APPLICATION

Under Delegation of Authority from the
Commissioner, Department of Natural Resources, State of Alaska

October 28, 2005

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## I. INTRODUCTION AND BACKGROUND

The proposed Cronus Unit (CU) is located on Alaska's North Slope, west of the Kuparuk River Unit Meltwater development, two and one half miles east of the Itkillik River, and eight miles southeast of Nuiqsut. ConocoPhillips Alaska, Inc. (CPAI) filed the application with the Division of Oil and Gas (Division) on August 16, 2005. At the time of application, CPAI was the sole owner of the leases and the proposed CU Operator (Operator), subsequently CPAI assigned 30% of their working interest to AVGC LLC., retaining a 70% working interest.

The proposed unit area encompasses approximately 11,343 acres within two State of Alaska (State) oil and gas leases. The CU will be administered by the State under the terms of the Cronus Unit Agreement (Agreement). The Agreement conforms and modifies all State oil and gas leases within the unit area so that the unit operator can explore and develop on a unit-wide basis instead of on a lease-by-lease basis.

The Department of Natural Resources (DNR) issued ADL 389056 following North Slope Areawide Sale held on June 24, 1998 and ADL 389161 following North Slope Areawide Sale held on February 24, 1999. ADL 389056 was issued on State lease form DOG 9609 (REV.6/97) with an effective date of November 1, 1998 and ADL 389161 was issued on State lease form DOG 9609 (REV. 2/99) with an effective date of July 1, 1999. Each lease has a seven-year primary term and both leases retain a 12.5% royalty to the State.

## II. APPLICATION FOR THE FORMATION OF THE CRONUS UNIT

On July 27, 2005, CPAI submitted a complete application to form the CU and paid the $5,000.00 unit application filing fee. CPAI's application included: a proposed CU Agreement; Exhibit A to the agreement, legally describing the proposed unit area, its leases, and ownership interests; Exhibit B to the agreement, a map of the proposed unit; and Exhibit G to the agreement, the proposed Initial Plan of Exploration. In addition, CPAI submitted a CU Operating Agreement; and technical data supporting the application.

The Division determined that CPAI's application was complete and published a unit notice in the "*Anchorage Daily News*" on Sunday, August 21, 2005 and in the "*Arctic Sounder*" on Thursday, August 25, 2005. DNR also posted notices on the State's online public notice web page. The Division provided copies of the public notices to the North Slope Borough Mayor and Assembly, the Arctic Slope Regional Corporation, the cities of Barrow and Nuiqsut, the Kuukpik Corporation, and other interested parties in compliance with 11 AAC 83.311. The Division also provided public notices to the Alaska Department of Environmental Conservation, the Alaska Department of Fish and Game, and to post offices, libraries, and radio stations in the area. The notice invited interested parties and members of the public to submit comments by September 26, 2005. The Division did not receive any comments.

On October 27, 2005, CPAI submitted a revised CU Agreement and associated exhibits which reflects the current ownership and incorporates the results of negotiations that occurred during the application process.

The CU Agreement requires that CPAI, the Unit Operator, file unit plans that describe the activities for the proposed unit area. The Operator must consider how it can best explore and develop the resources underlying the entire unit area, without regard to internal lease boundaries. CPAI proposed a three-year Unit Plan of Exploration (Initial POE) and CPAI plans to the first well in the 2005/06 Winter Drilling Season. Based on the results from the initial test, geologic studies and engineering studies, which are planned for 2006, a participating area shall be formed, a second POE shall be submitted or a second exploration well shall be drilled in the third year of the Initial POE or earlier. Failure to perform the activities in the Initial POE will result in the termination of the CU and require CPAI to submit bid deferment payments as outlined in the Initial POE (Attachment 4).

## III. DISCUSSION OF DECISION CRITERIA

AS 38.05.180(p) gives DNR the authority to form an oil and gas unit. The Commissioner of DNR (Commissioner) reviews unit applications under AS 38.05.180(p) and 11 AAC 83.301 – 11 AAC 83.395. By memorandum dated September 30, 1999, the Commissioner approved a revision of Department Order 003, and delegated this authority to the Division Director (Director).

The Director will approve the Application upon finding that it will: 1) promote the conservation of all natural resources; 2) promote the prevention of economic and physical waste; and 3) provide for the protection of all parties of interest, including the State in accordance with 11 AAC 83.303(a). Subsection .303(b) sets out six factors that the Director will consider in evaluating the Application. A discussion of the subsection .303(b) criteria, as they apply to the Application, is set out directly below, followed by the Director's findings relevant to the subsection .303(a) finding and the Director's conditional approval of the Application.

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

Alaska statutes require the DNR to give public notice and issue a written finding before disposal of the state's oil and gas resources AS 38.05.035(e); AS 38.05.945; 11 AAC 82.415. In preparing a written decision before an oil and gas lease sale, the commissioner may impose additional conditions or limitations beyond those imposed by law. AS 38.05.035(e). The DNR develops lease stipulations through the lease sale process to mitigate the potential environmental, social and cultural impacts from oil and gas activity.

The leases that are proposed to be included in the CU contain many stipulations designed to protect the environment and address any outstanding concerns regarding impacts to the area's fish and wildlife species and to habitat and subsistence activities. They address the protection of primary waterfowl areas, site restoration, construction of pipelines, seasonal restrictions on operations, public access to, or use of the leased lands, and avoidance of seismic hazards. Including these leases in the CU will not result in additional restrictions or limitations on access to surface lands or to public and navigable waters. All lease operations are subject to a coastal zone consistency determination, and must comply with the terms of both the State and North Slope Borough coastal zone management plans.

Ongoing mitigation measures such as seasonal restrictions on specific activities in certain areas can reduce the impact on bird, fish, and mammal populations. With these mitigation measures, the anticipated exploration and development related activity is not likely to significantly impact bird, fish, and mammal populations. Area residents use the unit area for subsistence hunting and fishing. Oil and gas activity may impact some wildlife habitat, and some subsistence activity. The environmental impact will depend on the level of development activity, the effectiveness of mitigation measures and the availability of alternative habitat and subsistence resources. In any case, the anticipated activity under the new CU will impact habitat and subsistence activity less than if the lessees developed the resources on an individual lease basis. Unitized exploration, development and production will minimize surface impact.

Furthermore, state unitization regulations require the commissioner to approve a Plan of Operations before the unit operator performs any field operations. 11 AAC 83.346. Any Plan of Operations must describe the operating procedures designed to prevent or minimize adverse effects on natural resources. The unit operator must guarantee full payment for all damage sustained to the surface estate before beginning operations. The Plan of Operations must include plans for rehabilitation of the unit area. When the operator proposes to further explore and develop the unit area and submits a Unit Plan of Operations, the Division will ensure that it complies with the lease stipulations and lessee advisories developed for the most recent North Slope areawide lease sale.

The approval of the CU has no environmental impact itself. The commissioner's approval of the unit is an administrative action, which by itself does not convey any authority to conduct operations within the unit. Unitization does not waive or reduce the effectiveness of the mitigating measures that condition the lessee's right to conduct operations on these leases. The Division's approval of the POE is only one step in the process of obtaining permission to drill wells and develop the known reservoirs within the unit area.

The Unit Operator must still obtain approval of a Unit Plan of Operations and obtain various permits from state agencies before initiating activities. CPAI plans to explore the area though ice roads and pads, which will leave minimal trace after they melt.

2. The Geological and Engineering Characteristics of the Reservoir and the Prior Exploration Activities in the Unit Area

The proposed CU is comprised of two state leases, ADL 389161 and 389056, that encompass the northern half (Sections 1-18) of T8N R6E Umiat Meridian. These leases were originally part of the larger Southeast Delta exploration unit (SEDU) that was approved in the first quarter of 2001, but was later dissolved in June of 2003 when CPAI elected not to drill the Cronus well.

The proposed CU lies in the northern half of Township 8N Range 6E. The unit lies in the southern part of a six to eight mile sparsely drilled corridor between the CRU to the west and the Kuparuk River Unit (KRU) to the east. The Meltwater participating area of the KRU is adjacent to the eastern boundary of the CU.

CPAI has now elected to reactivate its 2001 permit application to drill the Cronus well and to apply for the smaller CU. CPAI provided the division with confidential seismic lines, maps, and cross sections to justify approval of the proposed CU. CPAI requested that all pertinent geological and geophysical data be held confidential under AS 38.05.035 (a) (9). Thus, this geological, geophysical, and engineering discussion has been limited to publicly available well, test, geological, geophysical, and engineering information about the area around the CU and the non-confidential well information in areas surrounding the proposed CU.

Exploration History

Early Drilling History 1966-1972

One of the early exploration wells drilled in the area was the Unocal Kookpuk 1 well, which lies approximately 15 miles to the north-northeast of the proposed CU, which was drilled in late 1966 and completed in 1967 to a total depth of 10,193 feet measured depth (MD). The well drilled through the entire Ellesmerian section and bottomed in Argillite basement. No formations were tested. In 1969, the B.P. Ugnu well was drilled approximately 16 miles east of the Kookpuk well and discovered commercial quantities of oil within the Kuparuk River formation (KRF). First oil production from the KRF in the KRU commenced in December of 1981. With commercial production from the KRF, exploration target emphasis turned attention from exploration drilling for the Ivishak and Lisburne as primary objectives to the Cretaceous KRF. The ARCO Itkillik River Unit exploration well, drilled in 1972, lies approximately five miles west of the western boundary of the CU. The original objective of the Itkillik River Unit well was the KRF and the well was originally permitted to a depth of 9,000 feet. The estimated top of the KRF was predicted at 8,200 feet MD, but came in around 220 feet high around 7,982 feet MD. ARCO cored and tested the KRF. The test recovered 120 feet of gas cut mud. ARCO then applied to AOGCC to deepen the well to 15,000 feet to test the Sadlerochit and Lisburne (Wahoo) formations. The well reached a total depth of 15,321 feet MD. A drill stem test in the Lisburne yielded 2,057 barrels of water per day. One core and seven drill stem tests were taken in the Kekiktuk. All but one drillstem test failed. The drill stem test at 14,510-14,726 feet MD recovered 405 feet of gas cut mud and flowed at an estimated rate of 3.5 million cubic feet per day.

Next Phase of drilling: 1991 - 2002

After a hiatus of nineteen years in the area, the next round of drilling in the area involved drilling for the KRF ‘C’ sandstone (Kup-C) objectives. The Bermuda well was drilled in early 1991 to a depth of 6,750 feet MD with the Kup-C sandstone as the primary objective to explore for reserves southwest of the KRU. The well was plugged and abandoned, but as happens more times than not for exploration wells on the North Slope, a shallower (younger) prospective sandstone was encountered. The Bermuda well was the first well in the area to encounter the Tarn interval, a thick (approximately 1,600 feet) clastic sequence between the depths of 4,376 – 5,990 feet MD comprised of five intervals of Upper Cretaceous (Cenomanian) marine sandstone sequences with interbedded siltstone and mudstone intervals within the Seabee Formation. The five intervals from oldest to youngest were named: C30, Bermuda, Cairn, Arete, and Iceberg..

The Tarn interval in the Bermuda well was interpreted as non-reservoir distal turbidite deposits that formed along the base of the Colville trough as apron fan systems at the base of the basin slope. No tests were conducted in the Bermuda well, but the Tarn interval, most notably the Bermuda sands became the target of future exploration wells. The Tarn 1 well was drilled in early 1992 to a total depth of 6,709 feet MD with dual exploration targets: the Kup-C sandstone and the Bermuda sands. The location of the Tarn 1 well was interpreted to be more proximal slope apron turbidite fan system than the interval encountered in the Bermuda 1 well and thus was anticipated to contain thicker and coarser-grained sediments. It turned out that the Bermuda interval in the Tarn 1 well was a distal facies of the apron slope fan system and contained thin sandstone beds interbedded with shale and siltstone. The Kup-C was also poorly developed. The Kup-C sandstone was the primary objective of the Cirque 1 and 2 exploration wells, drilled approximately 5 miles southwest of the Bermuda exploration well in the first quarter of 1992. The Kup-C sandstone appeared on seismic to be thickened in an erosional low on the Lower Cretaceous Unconformity (LCU). While drilling the surface hole on Cirque 1 from 1,815 to 2,415 feet MD before surface casing was set the well 'blew out' and a shallow gas flow occurred. The Cirque 1 well flowed dry gas for 17 days before the drill hole was filled in with heavy enough mud to overbalance the gas reservoir pressure and 'kill' the well. Cirque 1A was drilled as a relief well in case the "top kill" method did not succeed. The Cirque 2 well was drilled to a depth of 7,660 feet MD (7,314 feet true vertical depth (TVD)). A thin (approximately 5 feet) section of Kup-C and a thicker (approximately 40 feet) of Kuparuk A sequence were present; both appear to be non-reservoir. ARCO Alaska did test eight zones between 1,275 – 1,830 feet in two drill stem tests. No fluids were recovered and no sustained gas flow rate was recorded.

The ARCO Colville River 1 and 1pb1 wells drilled in 1993 approximately five miles northeast of the Union Kookpuk well, originally had the KRF as the original objective and was then deepened to drill through the Jurassic sands. The Bergschrund 1 well was drilled about eight miles northwest of the Colville River 1 well in March and April of 1994. The original objective of the well was the Kup-C sands with a tail to tag the Jurassic. The well encountered the Jurassic Alpine sands and was the discovery well for the Alpine field.

The Tarn 2 well was drilled to a total depth of 7,650 feet MD during the first quarter of 1997, almost five years after the Tarn 1 well was plugged and abandoned. The target for the Tarn 2 well was again the Bermuda sands and the Kup-C. The Bermuda Sands were encountered between 5,483 to 5,644 feet MD. ARCO perforated and fractured the interval between 5,488 to 5,572 feet MD and flowed oil at rates around 2,000 barrels of oil per day (BOPD). The Tarn 3, 3A, and 4 wells were also drilled during the first quarter of 1997 with the Bermuda Sands as objectives. As a result of the drilling results from the Tarn 2, 3, 3A, and 4 wells and the test from the Tarn 2 well confirmed the Bermuda Sands as a newly discovered field that ARCO announced in March of 1997. Retrospectively, ARCO designated the Bermuda well as the discovery well for the Tarn field. Commercial production began in July of 1998. The Tarn field contains an estimated 136 million barrels of oil (MMBO) originally in place. Primary recovery is estimated at 43 MMBO with an additional 29 MMBO or recoverable reserves with a secondary recovery process involving miscible gas. The framework grains of the Tarn reservoir contain pyroclastic glass altered to analcime and the rock matrix also contains a high clay content, a waterflood secondary recovery mechanism is not being considered because of the

potential to damage the reservoir that would affect the water mobility characteristics and permeability of the Tarn reservoir.

The Meltwater South 1 well, located approximately ten miles southeast of the CU was drilled in early 1999 to a measured depth 8,935 feet MD (8,376 feet TVD). The Bermuda sands were the primary target, but the well was drilled through the Albian section. Both the Tarn Interval and the Albian section look distal (silty) on the logs and appear to not have encountered commercial hydrocarbons. The well was plugged and abandoned.

The Meltwater North wells, located approximately six miles south of the Tarn field and about seven miles north of the Meltwater South 1 well are contiguous to the western edge of the CU and were drilled in the first quarter of 2000. The Meltwater section is the stratigraphic equivalent to the Tarn oil pool to the north, and both reservoirs share similar lithology. The Bermuda consists of channel fill and lobate sandstones deposed in a turbidite fan system located on a slope-apron environment below an shelf margin of the Cenomanian-Turonian age Seabee formation. Bermuda reservoirs from both Tarn and Meltwater are compartmentalized, primarily due to discontinuous sandstone distribution and contain similar reservoir rock properties.

The discovery well for the Meltwater accumulation is the Meltwater North 1 well (Total depth of 6,122 feet MD, 6,113 feet TVD) that tested 4,000 barrels of oil per day if 37º API gravity oil. The Meltwater North 2 and sidetrack 2A confirmed the northern portion of the reservoir. On May 2, 2000 Phillips announced the Meltwater discovery with an estimated to contain 50 MMBO of proven and potential reserves. The Meltwater North field began producing in 2002. Original oil in place is estimated at 125 MMBO. Primary production is expected to recover 22 MMBO with an additional 14 MMBO through waterflood, and an additional 11 MMBO through alternating cycles of water and miscible gas injection (MWAG).

CPAI drilled two exploration wells in the SEDU, Atlas 1 and 1Ain the first quarter of 2001. The primary objective of the Atlas wells were both the KRF and the submarine fan turbidite sand deposits within the Albian Torok formation (slightly older than the turbidite systems encountered in the Tarn and Meltwater fields). The Atlas 1 well was spud on January 1, 2001 and drilled to 7,335 feet MD (7,278 feet TVD). The Atlas 1A well was drilled as a sidetrack to a depth of 8,454 feet MD (7,200 feet TVD) during February of 2001. Both wells encountered two sandstone intervals within the siltstone and shaly turbidite section roughly between the depths of 6,170 to 6,575 feet subsea TVD (TVDSS). The Atlas 1 well was cored between the depths of 6,358’ to 6,505 feet MD and approximately 147 feet of core was recovered. The cored interval looks like a coarsening upward distal turbidite sequence with predominantly shale, siltstone, and thin laminations of sandstone that coarsens upward to thicker interbedded sandstones between thin layers of shale and siltstone. The thickest sandstones appear at the top of the cored interval and range from a few inches to a foot in thickness. Core analysis of the prospective upper Atlas interval between 6,358 to 6,384 feet MD indicates that the interval is a very fine grained silty sandstone with low permeability and porosities ranging from 13 to 15.5%. Rotary sidewall cores were taken in the Atlas 1A well between 7,229 to 8,477 feet MD. Core results were similar to the Atlas 1 well. Both wells were plugged and abandoned. Based on the results of the two Atlas wells, CPAI decided to not drill the Cronus well as was required by the SEDU unit agreement and the SEDU was dissolved.

The Cirque 3 well was not drilled until January of 2002, approximately two miles to the southeast of Cirque 1 and 2 and halfway between the Tarn and Meltwater fields. Based on the Permit to Drill, the primary objective of the Cirque 3 wells appears to have been the Bermuda Sands as the primary target and Albian sands as a secondary target. The Bermuda sand interval came in approximately 295 feet lower than prognosis. The Bermuda sand was cored from 6,123 to 6,215 feet MD. The interval appeared to be non reservoir on the logs. Core analysis indicates that the Bermuda sands in the Cirque 3 location have overall generally low horizontal and vertical permeability. The well was drilled to a depth of 6,677 feet MD (6,096 feet TVDSS) and was plugged and abandoned on abandoned on February 1, 2002. The Cirque 4 well was drilled a few days later only to a total depth of 78 feet.

The Oberon exploration well was drilled by CPAI in the first quarter of 2003, approximately six miles north of the Atlas 1 and 1A wells as part of a two well drilling commitment to justify expansion of the CRU. The primary exploration target for the well was the Kup-C, based on seismic attribute analysis with the well planned to drill through the Alpine interval. The well was drilled to 7,580 feet MD (7,491 feet TVD). The Kup-C was predicted to be on the order of 30 feet thick, but came in 87 feet lower than expected and was only a few feet thick. The Alpine interval was present, (approximately 211 feet thick), but the sandstone was poorly developed. The Upper Jurassic Unconformity (UJU) came in 138 feet lower than the original prognosis. CPAI took no cores nor conducted any tests. The well was plugged and abandoned in February of 2003.

Cronus Prospect

The proposed target for the Cronus area are Albian aged submarine fan turbidite sands within the Torok formation. Similar aged rocks were targeted by the Atlas 1 and 1A wells, drilled in the first quarter of 2001 as part of the exploration plan for the original SEDU. Current 3D seismic coverage over area of unit includes: the SEDelta3D acquired by ARCO (permit MLUP-99-004-05) and the 98MW3D acquired by ARCO (permit MLUP-97-008-01).

The proposed Cronus well is testing a submarine fan system prospect within the Albian Torok sandstone that is correlative to the section present approximately 16 miles to the northwest in the Nanuk #1 well between 6,140 feet to 6,290 feet MD (approximately equivalent 6,101 feet - 6,251 feet TVDSS)(See attached stratigraphic section). CPAI has characterized the Nanuq sandstone at the Nanuq field as an Albian basin floor submarine fan system dominated by lobe-sheet deposits in the Torok formation. The Nanuq field is a satellite of the CRU, that was discovered in April 2000 with the Nanuq No. 2 exploration well. An initial production test in the Nanuq 2 well from a combined Torok – Kuparuk interval produced at a rate of 1,750 barrels of 40º API oil and 1.2 million cubic feet of gas (MCFG). A total of five discovery and appraisal wells were drilled in the Nanuq field (Nanuq 1, 2, 3, and 5) in addition to a CRU Alpine development well, CD1-229, drilled in 2001 to test the Nanuq formation The CD1-229 Nanuq delineation well tested 19 feet of Nanuq interval at a rate of 460 barrels of 41º API oil and 6.5 MCFG from a horizontal completion. The Nanuq Torok accumulation is estimated to contain approximately 40 MMBO of gross recoverable reserves. Original oil in place in the development area is estimated

to be in the range of 84-169 MMBO and original gas in place is estimated 0-40 billion standard cubic feet.

CPAI has provided the state sufficient geological, geophysical, and engineering data to support the CU application.

3. Plans for Exploration and Development of the Proposed Unit Area

The unit operator must provide plans for exploration or development that justify including the proposed acreage in the unit area. 11 AAC 83.306(1). A Unit Plan of Exploration must include a description of proposed exploration activities, including the bottom-hole locations and depths of proposed wells, and the estimated date drilling will commence. 11 AAC 83.341(a).

The Initial POE, attached to this Decision as Attachment 4, sets out a timely sequence of exploration activities that will facilitate the ultimate development and production of the reservoir, if oil and gas are discovered in commercial quantities. Furthermore, completion of the proposed exploration activities as scheduled during the three-year initial term will satisfy the performance standards and diligence requirements that the State and the Working Interest Owners (WIOs) agreed to as a condition for approval of the Agreement.

The Initial POE protects the interests of the public and the State by committing the Operator to drill wells and reprocess seismic data within the unit area. The Initial POE, with the agreed-to terms and conditions, ensures that the lease extensions resulting from unitization under 11 AAC 83.336 continue only so long as the applicants proceed diligently with exploration and development of the unit area. Therefore, the plans for exploration of the proposed unit area justify approval of the Application under the section .303(b)(4) criteria.

4. The Economic Costs and Benefits to the State

Approval of the CU could result in both short-term and long-term economic benefits to the State. The additional assessment of the hydrocarbon potential of the leases will create jobs and in-state economic activity in the short-term and if the exploration activity is successful, the State will enjoy royalty and tax revenues as well as employment opportunities over the long-term.

The primary term of one of the leases is due to expire on October 31, 2005, but it is in the best interest of the State to form the unit to facilitate the exploration efforts.

The leases in the proposed CU are not written on the State's current lease form (DOG 200204). Effective the date of this decision, the WIOs agreed to permanently amend the terms of the leases to conform with the provisions in DOG 200204 and to delete the last sentence in paragraph 15(d) of all the lease forms. The amendments to the lease form include but are not limited to:

- Replace paragraph 36(b) of the leases with the following:

  > If oil, gas, or associated substances are sold away from the leased or unit area, the term "field price" from the purchaser of the oil, gas or associated substances, less

the lessee's actual and reasonable costs of transportation away from the leased or unit area to the point of sale. The "actual and reasonable costs of transportation" for marine transportation are as defined in 11 AAC 83.229(a), (b)(2), and (c) – (l).

- Delete the last sentence of paragraph 15(d) of both leases. That sentence reads "If any portion of this lease is included in a participating area formed under a unit agreement, the entire leased area will remain committed to the unit and this lease will not be severed."

Any additional administrative burdens associated with the formation of the new unit are far outweighed by the additional royalty and tax benefits derived from any production that may occur if the exploration and development activity is successful.

5. Amendments to the Standard Unit Agreement

CPAI submitted a unit agreement based on the State Only Model Form, dated June 2002 (Model Form) with some modifications which it considers important and many modifications which the State has required on other recently approved units.

During the negotiations of other recently approved units, the Royalty Accounting Section of the Division proposed ten modifications to the Model Form for clarity reasons and the Units Section of the Division proposed two changes to allow severing of leases upon unit contraction. CPAI included these changes in the Agreement and the modifications are listed in Attachment 5 to this decision. In addition CPAI recommended several other modifications. Most of the CPAI modifications were accepted, but several changes were not acceptable to the Division and after a series of negotiations CPAI and the Division came to agreement. The final modifications are noted in the Attachment 6.

The Agreement defines the relationship between the unit operator, the WIOs, and the royalty owners. It describes the rights and responsibilities, in addition to those imposed by state law and the leases, of the unit operator, working interest owners, and royalty owners for exploration and development of the unit area. DNR may approve the Agreement if the available data suggest that the unit area covers all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations that should be developed under an approved unit plan, and the Application meets the other statutory and regulatory criteria.

These modifications to the Standard Unit Agreement either do not effect the interests of the state or are in the best interest of the State and under the .303.(b)(6) criteria, support approval of the Application.

## IV. FINDINGS

The Application meets the criteria in 11 AAC 83.303(a) as discussed below.

1. Promote the Conservation of All Natural Resources

The unitization of oil and gas reservoirs is a well-accepted means of hydrocarbon conservation. Without unitization, the unregulated development of reservoirs tends to be a race for possession by competitive operators. The results can be: (1) overly dense drilling, especially along property lines; (2) rapid dissipation of reservoir pressure; and (3) irregular advance of displacing fluids. These all contribute to the loss of ultimate recovery or economic waste. The proliferation of surface activity, duplication of production, gathering, and processing facilities, and haste to get oil to the surface also increases the likelihood of environmental damage (such as spills and other surface impacts). Requiring lessees to comply with conservation orders and field rules issued by the AOGCC would mitigate some of these impacts without an agreement to unitize operations. Unitization, however, provides a practical and efficient method for maximizing oil and gas recovery, and minimizes negative impacts on other resources.

The formation of the CU will promote the conservation of both surface and subsurface resources through the unitized (rather than lease-by-lease) development. Unitization allows the unit operator to explore the area as if it were one lease. The formation of the unit will allow this area to be comprehensively and efficiently explored and developed. Adoption of an Operating Agreement and Plan of Development governing that production will help avoid unnecessary duplication of development efforts on and beneath the surface.

Exploring and developing the leases under a unified Plan of Exploration and Plan of Development will reduce the incremental environmental impact of the additional production.

2. Promote the Prevention of Economic and Physical Waste

Traditionally, under unitized operations, the assignment of undivided equity interests in the oil and gas reservoirs to each lease largely has resolved the tension between lessees to compete for their share of production. Economic and physical waste, however, could still occur without a well-designed and coordinated development plan and an equitable cost sharing formula. Consequently, unitization must equitably divide costs and production, and plan to maximize physical and economic recovery from any reservoir.

An equitable allocation of hydrocarbon shares among the WIOs discourages hasty or unnecessary surface development. Similarly, an equitable cost sharing agreement promotes efficient development of reservoirs and common surface facilities and encompasses rational operating strategies. Such an agreement further allows the WIOs to decide well spacing requirements, scheduling, reinjection and reservoir management strategies, and the proper common, joint use surface facilities. Unitization prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and avoiding loss of ultimate recovery by adopting a unified reservoir management plan.

Unitized operations greatly improve development of reservoirs beneath leases that may have variable productivity. Marginally economic reserves, which otherwise would not be produced on a lease-by-lease basis, often can be produced through unitized operations as a stand-alone project or in combination with more productive leases. Facility consolidation saves capital and promotes better reservoir management by all WIOs. Pressure maintenance and secondary recovery procedures are much more predictable and attainable through joint, unitized efforts than

would otherwise be possible. In combination, these factors allow less profitable areas of a reservoir to be developed and produced in the interest of all parties, including the state.

The lessees in the proposed unit leases have signed the Unit Agreement and the Unit Operating Agreement. By combining the efforts of multiple leases into a single effort, infrastructure can be shared, which eliminates the need to construct stand-alone facilities to process the volume of recoverable hydrocarbons that may be discovered on each individual lease, thus preventing economic and physical waste. Given the overall North Slope economics, stand-alone facilities on each individual lease would most likely be uneconomic.

3. Provide for the Protection of All Parties in Interest, Including the State

The proposed unit seeks to protect the economic interests of all WIOs of the reservoirs in the unit, as well as the royalty owner. Combining interests and operating under the terms of the Unit Agreement and the Unit Operating Agreement assures each individual working interest owner an equitable allocation of costs and revenues commensurate with the value of their leases.

Because hydrocarbon recovery will more likely be maximized, the state's economic interest is promoted. Diligent development and exploration under a single approved unit plan without the complications of competing leasehold interests is certainly in the state's interest. It promotes efficient evaluation and development of the state's resources, yet minimizes impacts to the area's cultural, biological, and environmental resources.

The lease form and the conditions of this decision provide, in part, that the state's royalty share will be free and clear of all lease expenses. Operating under the terms and conditions of the lease and Unit Agreement also provides for accurate reporting and record keeping, royalty settlement, in kind taking, and emergency storage of oil, all of which will further the state's interest. Finally, the inclusion of the lands in the unit promotes the state's interest in the evaluation and development of those lands sooner rather than later.

## V. DECISION

1) For the reasons discussed above, I hereby approve the CU Application subject to the conditions specified herein. The final CU Agreement which is approved by this decision was dated and signed by the WIOs on October 26, 2005. The three-year term of the Agreement and the Initial POE become effective as of 12:01 a.m. on October 29, 2005.
2) The unitized development and operation of the leases will reduce the amount of land and fish and wildlife habitat that would otherwise be disrupted by individual lease development. Reducing environmental impacts and minimizing interference with subsistence activity is in the public interest. The formation of the new unit will not diminish access to public and navigable waters beyond those limitations imposed by law or already contained in the oil and gas leases.
3) The available well data and Initial POE justify formation of the new unit. Under 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 of Alaska, the leases listed in Attachment 2, and shown on Attachment 3 are included in the CU.

4) The WIOs waive the extension provisions of 11 AAC 83.140 and Article 15.2 of the Agreement and the notice and hearing provisions of 11 AAC 83.374 applicable to default and termination of the CU.

5) In accordance with Article 8.1.1 of the Agreement and 11 AAC 83.341, an annual status report is due on each anniversary of the effective date of the CU. The annual status report must describe the status of projects undertaken and the work completed during that year of the Initial POE, as well as any proposed changes to the plan.

6) The unit operator shall either submit a Second Plan of Exploration to the Commissioner at least 60 days before the Initial POE expires or request approval of the first Plan of Development at least 90 days before the Initial POE expires.

7) Failure to drill the first well by July 1, 2006 will result in the automatic termination of the CU effective July 1, 2006.

8) If the CU terminates, the WIOs shall automatically surrender all leases within the Unit effective the day the unit terminates.

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 Thomas E. Irwin, 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. This decision takes effect immediately. 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.

Mark D. Myers, Director
Division of Oil and Gas

10/28/05
Date

Attachments:
1. The Cronus Unit Agreement
2. Exhibit A, Tract Description and Ownership Schedule
3. Exhibit B, Map of the Cronus Unit Boundary and Exploration Blocks
4. Exhibit G, Plan of Exploration
5. State of Alaska amendments to the State Only Model Form, dated June 2002
6. CPAI amendments to the State Only Model Form with attachment 5 amendments

Attachment 1: Cronus Unit Agreement

# CRONUS UNIT AGREEMENT

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## RECITALS

All record owners of any right, title, or interest in the oil or gas reservoirs or potential hydrocarbon accumulations to be included in this Unit have been invited to join this Agreement.

The Commissioner of the Department of Natural Resources, State of Alaska, is authorized by Alaska Statute 38.05.180(p) and (q) and applicable regulations to consent to and approve oil and gas unit agreements to explore, develop and produce state oil and gas resources.

## AGREEMENT

In consideration of the mutual promises in this Agreement, the parties commit their respective interests in the Unit Area defined in Exhibit A and depicted in Exhibit B to this Agreement, and agree as follows:

## ARTICLE 1: DEFINITIONS

1.1 **Alaska Oil and Gas Conservation Commission (AOGCC)** means the independent quasi-judicial agency of the State of Alaska established by the Alaska Oil and Gas Conservation Act, AS 31.05.

1.2 **Approved Unit Plan** means a Unit Plan that has been approved by the Commissioner.

1.3 **Commissioner** means the Commissioner of the Department of Natural Resources, State of Alaska, or the Commissioner's authorized representative.

1.4 **Effective Date** means the time and date this Agreement becomes effective.

1.5 **Lease or Leases** means one or more oil and gas lease subject to this Agreement.

1.6 **Oil and Gas Rights** means the rights to explore, develop, and produce Unitized Substances.

1.7 **Outside Substances** means oil, gas, and other hydrocarbons and non-hydrocarbon substances obtained from outside the Unit Area and injected into a Reservoir in the Unit Area with the approval of the Commissioner.

1.8 **Outside PA Substances** means oil, gas, and other hydrocarbons and non-hydrocarbon substances obtained from one Participating Area in the Unit Area and injected into a Reservoir in a different Participating Area in the Unit Area with the Commissioner's approval.

1.9 **Participating Area** means all Unit Tracts and parts of Unit Tracts designated as a Participating Area under Article 9 to allocate Unitized Substances produced from a Reservoir.

1.10 **Participating Area Expense** means all costs, expenses or indebtedness, which are incurred by the Unit Operator for production from or operations in a Participating Area and allocated to the Unit Tracts in that Participating Area.

1.11 **Paying Quantities** means a quantity of Unitized Substances sufficient to yield a return in excess of operating costs, even if drilling and equipment costs will never be repaid and the undertaking considered as a whole will ultimately result in a loss. The quantity is insufficient to yield a return in excess of operating costs unless it will produce sufficient revenue, not considering transportation and marketing, to induce a prudent operator to produce it.

1.12 **Reservoir** means that part of the Unit Area containing an accumulation of Unitized Substances which has been discovered by drilling and evaluated by testing a well or wells, and which is geologically separate from and not in hydrocarbon communication with any other oil and gas accumulation.

1.13 **Royalty Interest** means an ownership right to or interest in the amount or value of Unitized Substances other than a Working Interest.

1.14 **State** means the State of Alaska acting in this Agreement through the Commissioner.

1.15 **Sustained Unit Production** means continuing production of Unitized Substances from a well in the Unit Area into production facilities and transportation to market, but does not include testing, evaluation or pilot production.

1.16 **Unit Area** means the lands subject to this Agreement, described in Exhibit A and depicted in Exhibit B to this Agreement, submerged or not.

1.17 **Unit Equipment** means all personal property, Lease and well equipment, plants, platforms and other facilities and equipment used, taken over or otherwise acquired for use in Unit Operations.

1.18 **Unit Expense** means all costs, expenses or indebtedness incurred by the Unit Operator for Unit Operations, except for Participating Area Expense.

1.19 **Unit Operating Agreement** means the agreement(s) entered into by the Unit Operator and the Working Interest Owners, as described in Article 7.

1.20 **Unit Operations** means all operations conducted in accordance with an Approved Unit Plan or Approved Unit Plans.

1.21 **Unit Operator** means the party designated by the Working Interest Owners and approved by the Commissioner to conduct Unit Operations.

1.22 **Unit Plan** means a unit plan of exploration or development as described in Article 8.

1.23 **Unit Tract** means each separate parcel that is described in Exhibit A and given a Unit Tract number.

1.24 **Unit Tract Participation** means the percentage allocation credited to a Unit Tract in a Participating Area to allocate Unitized Substances.

1.25 **Unitized Substances** means all oil, gas and associated substances, as those terms are defined in the Leases, produced from the Leases within the Unit Area.

1.26 **Working Interest** means the interest held in lands by virtue of a lease, operating agreement, fee title or otherwise, under which the owner of the interest is vested with the right to explore for, develop and produce minerals; the right delegated to a unit operator by a unit agreement is not a working interest.

1.27 **Working Interest Owner** means a party who owns a Working Interest.

## ARTICLE 2: EXHIBITS

2.1 The following Exhibits are to be attached to and made a part of this Agreement. When this Agreement is approved, only Exhibits A, B, and G are required. Exhibit F is also required when this Agreement is approved, if the Unit Area includes Net Profit Share Leases. The Unit Operator shall supply all Exhibits.

2.2 Exhibit A is a table that identifies and describes each Unit Tract, and displays: the Unit Tract number, the Lease number, the Working Interest ownership, the Royalty Interest ownership, and the applicable royalty and net profit share rates applicable to each Unit Tract. Within thirty days after approval by the Commissioner of any expansion or contraction of the Unit Area under Article 13 or any change of the Working Interest or Royalty Interest in any Unit Tract, the Unit Operator shall submit a revised Exhibit A to the Commissioner.

2.3 Exhibit B is a map that shows the boundary lines of the Unit Area and of each Unit Tract, identified by Unit Tract number and Lease number. Within thirty days after the Commissioner approves any expansion or contraction of the Unit Area under Article 13 or any change of the Working Interest or Royalty Interest in any Unit Tract, the Unit Operator shall submit a revised Exhibit B to the Commissioner.

2.4 Exhibit C is comprised of a table for each Participating Area established under this Agreement. The Exhibit C table for each Participating Area must display the Unit Tract

numbers, legal descriptions, Lease numbers, Working Interest ownership, Royalty Interest ownership, and Unit Tract Participation for that Participating Area. Exhibits must be prepared for each Participating Area established in the Unit Area. The Unit Operator shall submit an initial or revised Exhibit C to the Commissioner within thirty days of: 1) the effective date of any Participating Area, 2) any expansion or contraction of a Participating Area, 3) any division of interest or allocation formula establishing or revising the Unit Tract Participation of any Unit Tract or Unit Tracts in a Participating Area, or 4) any change of the Working Interest or Royalty Interest in any Unit Tract.

2.5 Exhibit D is comprised of a map for each Participating Area. Each Exhibit D map must show the boundary lines of the Unit Area, a Participating Area and the Unit Tracts in that Participating Area identified by Unit Tract number and Lease number. Within thirty days after approval by the Commissioner of a Participating Area or any expansion or contraction of a Participating Area under Article 9 or any change of the Working Interest or Royalty Interest in any Unit Tract in a Participating Area, the Unit Operator shall submit a revised Exhibit D to the Commissioner.

2.6 Exhibit E is comprised of a table for each Participating Area that displays the allocation of Participating Area Expense to each Unit Tract in the Participating Area, identified by Unit Tract number and Lease number. Exhibits must be prepared for each Participating Area established in the Unit Area. The Unit Operator shall submit an initial or revised Exhibit E to the Commissioner whenever an initial or revised Exhibit C is required.

2.7 Exhibit F is a table that displays the allocation of Unit Expense to each Unit Tract in the Unit Area, identified by Unit Tract number and Lease number. The Unit Operator shall submit an initial or revised Exhibit F to the Commissioner whenever an initial or revised Exhibit A is required if the Unit Area includes Net Profit Share Leases. The Unit Operator may submit a revised Exhibit F anytime, but any revisions to Exhibit F are not effective until approved by the Commissioner.

2.8 Exhibit G is the unit plan of exploration or unit plan of development required by the regulations, and Article 8 of this Agreement.

## ARTICLE 3: CREATION AND EFFECT OF UNIT

3.1 All Oil and Gas Rights in and to the lands described in Exhibit A and shown in Exhibit B are subject to this Agreement so that Unit Operations will be conducted as if the Unit Area was a single Lease.

3.2 So long as this unit remains in effect, each Lease in the Unit Area shall continue in effect.

3.3 Except as otherwise provided in this Agreement, where only a portion of a lease is committed to this Agreement, that commitment constitutes a severance of the lease into unitized

and nonunitized portions. The portion of the leased area not committed to this Agreement will be treated as a separate and distinct lease and may be maintained only in accordance with the terms and conditions of the lease, statutes, and regulations. Any portion of the leased area not committed to this Agreement will not be affected by the unitization, by operations in the Unit Area, or by a suspension approved or ordered by the Commissioner. If a lease has a well certified as capable of production in paying quantities on it before commitment to this Agreement, the lease will not be severed by unitization. If any portion of the Lease is included in a Participating Area formed under this Agreement, the entire Lease will remain committed to this Agreement and the Lease will not be severed.

3.4 Production of Unitized Substances in Paying Quantities from any part of a Participating Area shall be considered production from each Unit Tract in the Participating Area. It shall cause the portion of each Lease that is wholly or partially within the Participating Area to continue in effect as if a well were producing from each Unit Tract in the Participating Area.

3.5 The provisions of the various Leases and agreements pertaining to the respective Leases or production from those Leases are amended only to the extent necessary to make them conform to the written provisions of this Agreement. Otherwise, the provisions of those Leases and agreements shall remain in full force and effect.

3.6 This Agreement shall not be construed to transfer title to Oil and Gas Rights by any party to any other party or to the Unit Operator.

3.7 All existing data determined by the Commissioner to be necessary for the administration of this Agreement or for the performance of statutory responsibilities related to this Unit shall be provided by the Unit Operator, or Working Interest Owners, or both, upon written request. All data and information provided to the Commissioner shall be protected from disclosure under the Lease, governing law including AS 38.05.035, and regulations.

## ARTICLE 4: DESIGNATION OF UNIT OPERATOR

4.1. ConocoPhillips Alaska, Inc. is designated as the Unit Operator. ConocoPhillips Alaska, Inc. agrees to accept the rights and obligations of the Unit Operator to conduct Unit Operations and to explore for, develop and produce Unitized Substances as provided in this Agreement.

4.2. Except as otherwise provided in this Agreement and subject to the terms and conditions of Approved Unit Plans, the exclusive rights and obligations of the Working Interest Owners to conduct operations to explore for, develop and produce Unitized Substances in the Unit Area are delegated to and shall be exercised by the Unit Operator. This delegation does not relieve a lessee of the obligation to comply with all Lease terms. The Unit Operator shall notify the other Working Interest Owners and the Commissioner of actions taken by the Unit Operator under this Agreement. The Unit Operator shall minimize and consolidate surface facilities to minimize surface impacts.

## ARTICLE 5: RESIGNATION OR REMOVAL OF UNIT OPERATOR

5.1 The Unit Operator shall have the right to resign at any time. The Unit Operator's resignation shall not become effective until: 1) sixty days have passed since the Unit Operator delivers a written notice of an intention to resign to the Working Interest Owners and the Commissioner; and 2) all artificial islands, installations and other devices, including wells, used for operations in the Unit Area are in a condition satisfactory to the Commissioner for suspension or abandonment of operations. However, if a successor Unit Operator is designated and approved under Article 6, the resignation is effective when approved by the Commissioner.

5.2 The Unit Operator may be removed as provided in the Unit Operating Agreement. This removal shall not be effective until: 1) the Working Interest Owners notify the Commissioner and the Unit Operator; and 2) the Commissioner approves a successor Unit Operator.

5.3 The resignation or removal of the Unit Operator shall not release it from liability for any failure to meet obligations that accrued before the effective date of the resignation or removal.

5.4 The resignation or removal of the Unit Operator does not terminate its rights, title or interest or obligations as a Working Interest Owner or other interest in the Unit Area. A termination of the Unit Operator's rights, title or interest may occur independently under the terms of the Leases and governing law. When the resignation or removal of the Unit Operator becomes effective, the Unit Operator shall relinquish possession of all Unit Equipment, artificial islands, wells, installations, devices, records, and any other assets used for conducting Unit Operations, whether or not located in the Unit Area, to the successor Unit Operator.

## ARTICLE 6: SUCCESSOR UNIT OPERATOR

6.1. Whenever the Unit Operator tenders its resignation as Unit Operator or is removed as provided in Article 5, a successor Unit Operator may be designated as provided in the Unit Operating Agreement. The successor Unit Operator must accept the rights and obligations of a Unit Operator in writing. The successor Unit Operator shall file an executed copy of the designation of successor with the Commissioner. The designation of successor Unit Operator will not become effective until approved by the Commissioner.

6.2. If no successor Unit Operator is designated within sixty days after notice to the Commissioner of the resignation or removal of a Unit Operator, the Commissioner will, in his or her discretion, designate another Working Interest Owner as successor Unit Operator, or declare this Agreement terminated.

## ARTICLE 7: UNIT OPERATING AGREEMENT

7.1 The Working Interest Owners and the Unit Operator shall enter into a Unit Operating Agreement. It will apportion all costs and liabilities incurred in maintaining or conducting Unit Operations among the Working Interest Owners. The Unit Operating Agreement will also apportion the benefits, which will accrue from Unit Operations among the Working Interest Owners.

7.2 Any allocation described in the Unit Operating Agreement will not bind the State in determining or settling royalties and net profit share payments. Allocations of Unit Expense, Participating Area Expense, or Unitized Substances for determining, settling and paying royalties and net profit share payments will be based on Exhibits C, E and F of this Agreement, and must be approved by the Commissioner in writing before taking effect. An original or revised conforming Exhibit C and F shall be submitted to the Commissioner within thirty days of: any change in the division of interest or allocation formula establishing or revising the Unit Tract Participation of any Unit Tract or Unit Tracts in a Participating Area.

7.3 The Working Interest Owners and the Unit Operator may establish, through one or more Unit Operating Agreements and amendments, other rights and obligations between the Unit Operator and the Working Interest Owners. The Unit Operating Agreement will not modify any term or obligation of this Agreement. If the terms of this Agreement and the Unit Operating Agreement conflict, this Agreement will prevail.

7.4 Any Working Interest Owner is entitled to drill a well on the unitized portion of its Lease when the Unit Operator declines to drill that well. A Working Interest Owner must have an approved permit to drill and the well must be part of an Approved Unit Plan. If the Commissioner determines any such well to be capable of producing Unitized Substances in Paying Quantities, the land upon which that well is situated will be included in a Participating Area. The Participating Area will be formed or an existing Participating Area enlarged as provided in this Agreement. The Unit Operator will thereafter operate the well in accordance with this Agreement and the Unit Operating Agreement.

7.5 The Unit Operator shall file a copy of the Unit Operating Agreement with the Commissioner when this Agreement is filed for approval. The copy of the Unit Operating Agreement is for informational purposes only. Approval of the Unit Agreement is not approval of the Unit Operating Agreement. Complete copies of all other Unit Operating Agreements and any amendments to them will also be filed with the Commissioner within thirty days of execution and at least thirty days before their effective dates.

## ARTICLE 8: PLANS OF EXPLORATION, DEVELOPMENT AND OPERATIONS

8.1. Any Unit Plan and any amendment to a Unit Plan will not be effective until the Commissioner approves it. Approved Unit Plans are incorporated into this Agreement and become effective on the date of their approval.

8.1.1. A unit plan of exploration ("Plan of Exploration") shall describe the proposed exploration and delineation activities for any land in the Unit Area that is not in a Participating Area. Plans of Exploration shall comply with 11 AAC 83.341 and any successor regulation. The Unit Operator shall submit updated Plans of Exploration to the Commissioner for approval at least sixty days before the current Plan of Exploration expires.

8.1.2. A unit plan of development ("Plan of Development") shall include a description of the proposed development activities based on data available when the plan is submitted. Plans of Development shall comply with 11 AAC 83.343 and any successor regulation. The Unit Operator shall submit updated Plans of Development to the Commissioner for approval at least ninety days before the current Plan of Development expires.

8.1.3. When this Agreement is submitted to the Commissioner for approval, the Unit Operator shall submit an initial Plan of Development or an initial Plan of Exploration (collectively called the "Initial Unit Plan") for approval by the Commissioner.

8.2. The Unit Operator shall not explore, develop or produce on the Unit Area except in accordance with an Approved Unit Plan. The Unit Operator shall obtain a plan of operations approval, and any other permits and approvals required before operations begin. A plan of operations approval must be consistent with the mitigation measures and lessee advisories developed for the most recent State areawide lease sale in the region that includes the unit as deemed necessary by the Commissioner to protect the resources of the State. The Unit Operator shall submit a complete copy of all such applications to the Commissioner. The Unit Operator shall give the Commissioner written notice before beginning testing, evaluation, or pilot production from a well in the Unit Area.

8.3. After Sustained Unit Production in Paying Quantities begins, Unit Operations shall be maintained, with lapses of no more than ninety days per lapse between operations. The lapse may be longer if suspension of operations or production has been ordered or approved by the Commissioner. Approved Unit Plans may call for a suspension of Unit Operations.

8.4. After giving written notice to the Unit Operator and an opportunity to be heard, the Commissioner may require the Unit Operator to modify from time to time the rate of prospecting and development and the quantity and rate of production.

8.5. If a well has been drilled in the Unit Area prior to the Effective Date of this Unit Agreement or is being drilled within the Unit Area on the Effective Date, that well will be considered a Unit Well as of the Effective Date of this Agreement.

8.6. The Commissioner will, in the agency's discretion, approve any injection of Outside Substances or Outside PA Substances within the Unit Area. Any injection of Outside Substances or Outside PA Substances within the Unit Area must be part of an Approved Unit Plan.

## ARTICLE 9: PARTICIPATING AREAS

9.1. The Unit Operator shall submit a request for approval of the proposed initial Participating Area to the Commissioner at least six months before Sustained Unit Production from a Reservoir in the Unit Area. A Participating Area shall include only land that is reasonably known to be underlain by Unitized Substances and known or reasonably estimated through the use of geological, geophysical and engineering data to be capable of producing or contributing to production of Unitized Substances in Paying Quantities. The Unit Operator must receive approval from the Commissioner of a Participating Area before commencement of Sustained Unit Production. The Unit Operator shall notify the Commissioner before the commencement of Sustained Unit Production from each Participating Area.

9.2. Each application for approval of a Participating Area shall include Exhibits C, D, E, and G. Exhibit F is also required if the Unit Area includes Net Profit Share Leases. If approved by the Commissioner, the area described in Exhibit C and depicted in Exhibit D shall be a Participating Area, and the allocation of Participating Area Expenses and Unit Expenses described in Exhibits E and F shall be effective on the effective date of the Participating Area.

9.3. A separate Participating Area shall be established for each Reservoir in the Unit Area. If one Reservoir underlies another Reservoir in whole or in part, separate Participating Areas may be created for each Reservoir. Any two or more Reservoirs or Participating Areas may be combined into one Participating Area if approved by the Commissioner.

9.4. At the Unit Operator's election or if so directed by the Commissioner, the Unit Operator shall apply to expand or contract the Participating Area if expansion or contraction is warranted by geological, geophysical, or engineering data. Each application for expansion or contraction shall include Exhibits C, D, E, and G. Exhibit F is also required if the Unit Area includes Net Profit Share Leases. The application must be submitted to the Commissioner for approval. Before any directed expansion or contraction of the Participating Area, the Commissioner will give the Unit Operator reasonable notice and an opportunity to be heard.

9.5. The Commissioner will establish the effective date of the initial Participating Area. That effective date shall be no later than the date of the first Sustained Unit Production. The Commissioner will establish the effective date of each later Participating Area.

9.6. Land in a Participating Area shall remain in that Participating Area even if its Unitized Substances are depleted.

9.7. If the Working Interest Owners cannot agree on the fair, reasonable and equitable allocation of production or costs, the Commissioner will prescribe an allocation.

9.8. A Unitized Substance produced from one Participating Area ("Originating Participating Area") may be used as an Outside PA Substance ("Injected Substance") for repressuring, recycling, storage or enhanced recovery purposes in another Participating Area ("Receiving Participating Area") only if the State is paid royalty as if the Unitized Substance was saved, removed, or sold by the Working Interest Owners, except as follows:

9.8.1. If the Commissioner consents to the transfer of Unitized Substances between Participating Areas without immediate payment of royalties, the Unit Operator shall provide monthly reports to the State of the transferred Unitized Substance volumes in both the originating and receiving Participating Areas as specified in 11 AAC 04. These monthly reports shall reflect the volumes of any Unitized Substance transferred and the British thermal units ("Btus") in any natural gas Unitized Substance transferred as an Outside PA Substance during the preceding month.

9.8.2. If the Commissioner consents to the transfer of Unitized Substances between Participating Areas without immediate payment of royalties, the royalties shall be paid when the Injected Substances are produced and sold from the Receiving Participating Area. The first natural gas Unitized Substances produced and sold from the Receiving Participating Area shall be considered to be the Injected Substances until a volume of natural gas containing Btus equal to the Btus contained in the Injected Substances is produced and sold from the Receiving Participating Area. All the Unitized Substances produced and sold from a Receiving Participating Area that are considered to be the Injected Substance shall be allocated to the Originating Participating Area. The Working Interest Owners shall pay the State royalties on Injected Substances produced and sold from a Receiving Participating Area as if those Injected Substances were produced and sold from the Originating Participating Area when they were produced from the Receiving Participating Area.

9.9. All liquid hydrocarbons removed in any equipment or facility in Alaska from produced Injected Substances and not used for fuel shall be allocated to the Receiving Participating Area. If liquid hydrocarbons are removed from the natural gas, the Btu content of the natural gas shall be measured after liquid hydrocarbons are removed.

9.10. The Commissioner must approve the deemed recovery rate and commencement date for recovery before any Outside Substance is injected within the Unit Area.

9.11. After giving written notice to the Unit Operator and an opportunity to be heard, the Commissioner will, in his or her discretion, require the Unit Operator to modify from time to

time the rate of prospecting and development and the quantity and rate of production from a Participating Area.

9.12. Underground storage shall be covered by separate agreement with the Commissioner.

## ARTICLE 10: OFFSET WELLS

10.1. The Unit Operator shall drill such wells as a reasonable and prudent operator would drill to protect the State from loss by reason of drainage resulting from production on other land. Without limiting the generality of the foregoing sentence, if oil or gas is produced in a well on other land not owned by the State or on which the State receives a lower rate of royalty than under any Lease in the Unit Area, and that well is within 500 feet in the case of an oil well or 1,500 feet in the case of a gas well of lands then subject to this Agreement, and that well produces oil or gas for a period of 30 consecutive days in quantities that would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing, and producing an additional well in the same geological structure at an offset location with a reasonable profit to the operator, and if, after notice to the Unit Operator and an opportunity to be heard, the Commissioner finds that production from that well is draining lands then subject to this Agreement, the Unit Operator shall within 30 days after written demand by the Commissioner begin in good faith and diligently prosecute drilling operations for an offset well on the Unit Area. In lieu of drilling any well required by this paragraph, the Working Interest Owners must compensate the State in full each month for the estimated loss of royalty through drainage in the amount determined by the Commissioner.

## ARTICLE 11: ALLOCATION OF PRODUCTION

11.1 Production and costs will be allocated according to 11 AAC 83.371 and any successor regulation. The Unit Operator shall submit a proposed allocation plan, with supporting data, to the Commissioner for approval. The Commissioner may, in accordance with 11 AAC 83.371, revise the proposed allocation plan if it does not equitably allocate production and costs from the Reservoir. The Commissioner will give the Unit Operator and Working Interest Owners reasonable notice and an opportunity to be heard before revising the Unit Operator's proposal. The allocation plan must be revised whenever a Participating Area is expanded or contracted. Within thirty days after approval by the Commissioner of any division of interest or allocation formula establishing or revising the Unit Tract Participation of any Unit Tract or Unit Tracts in a Participating Area, the Unit Operator shall submit revised Exhibits C and F to the Commissioner. The Unit Operator may submit a revised Exhibit F anytime, but any revisions to Exhibit F are not effective until approved by the Commissioner.

11.2 The Working Interest Owners shall pay royalties for each Unit Tract in proportion to each Working Interest Owner's ownership in that Unit Tract. The amount of Unitized

Substances allocated to each Unit Tract shall be deemed to have been produced from that Unit Tract.

11.3 The Working Interest Owners may allocate Unitized Substances, Participating Area Expense, and Unit Expense differently than described in Exhibits C, E and F. However, that allocation shall not be effective for determining royalty or net profit share payments. The Unit Operator shall submit any allocation which is different than the allocations required in Exhibit C, E or F to the Commissioner under 11 AAC 83.371(b) for the State's information within ten days of its effective date with a statement explaining the reason for the different allocation.

11.4 Royalties shall not be due or payable to the State for the portion of Unitized Substances unavoidably lost or used in the Unit Area for development and production in accordance with prudent industry practices. Gas that is flared for any reason other than safety purposes as allowed by the AOGCC shall not be deemed to be unavoidably lost, and the Working Interest Owners shall pay royalties for such flared gas as if it had been produced. This exemption does not apply to Unitized Substances that are sold, traded or assigned, including sales, transactions, or assignments among the Working Interest Owners.

11.5 If a State Lease committed to this Agreement provides for a discovery royalty rate reduction for the first discovery of oil or gas, that Lease provision shall not apply to a well spudded after the Effective Date.

## ARTICLE 12: LEASES, RENTALS AND ROYALTY PAYMENTS

12.1. The Working Interest Owners shall pay rentals and royalty payments due under the Leases. Payments to the State shall be made in accordance with the applicable State regulations, 11 AAC 04 and 11 AAC 83.110.

12.2. Each month, the Unit Operator shall furnish a schedule to the Commissioner. That schedule shall specify, for the previous month: 1) the total amount of Unitized Substances produced; 2) the amount of Unitized Substances used for development and production or unavoidably lost; 3) the total amount of Unitized Substances allocated to each Unit Tract; 4) the amount of Unitized Substances allocated to each Unit Tract and delivered in kind as royalty to the State; and 5) the amount of Unitized Substances allocated to each Unit Tract for which royalty is to be or has been paid to the State.

12.3. Each Working Interest Owner shall pay its share of royalties to the State on Unitized Substances as provided in the Lease, except "leased area" shall mean Unit Area.

12.4. Notwithstanding any contrary Lease term, royalties and the share of Unitized Substances attributable to royalties and any payment due must be paid free and clear of all Lease expenses, Unit Expenses and Participating Area Expenses. These excluded expenses include, but are not limited to, separating, cleaning, dehydration, saltwater removal, processing, compression,

pumping, and manufacturing costs. These excluded expenses also include the costs of gathering and preparing the Unitized Substances for transportation off the Unit Area and transportation costs incurred within the Unit Area, except common carrier tariffs. No lien for any expenses shall attach to royalty Unitized Substances. The royalty share shall bear a proportionate part of any gas shrinkage that occurs during gas processing and blending.

12.5. All royalty deductions for transportation, including marine, truck and pipeline transportation, from the Unit Area to the point of sale are limited to the actual and reasonable costs incurred by the Working Interest Owners, in accordance with the lease terms. Transportation costs must be determined by taking into account all tax benefits that affect transportation costs, including but not limited to Capital Construction Fund accounts and investment tax credits.

12.6. The Unit Operator shall give the Commissioner notice of the anticipated date for commencement of production at least six months before the commencement of Sustained Unit Production from a Participating Area. The Commissioner may take Unitized Substances in-kind in accordance with the following: The Commissioner will give the Unit Operator 90 days written notice of the State's initial election to take Unitized Substances in-kind. After taking has actually commenced, the Commissioner may increase or decrease the amount of Unitized Substances taken in-kind by not more than 10 percent, upon 30 days written notice to the Unit Operator; and greater than 10 percent, upon 90 days written notice to the Operator.

12.6.1. The Commissioner will, in his or her discretion, elect to specify the Unit Tracts from which royalty Unitized Substances taken in kind are to be allocated.

12.6.2. The Unit Operator shall deliver the State's royalty Unitized Substances at the custody transfer meter at a common carrier pipeline capable of carrying those substances, or at any other place mutually agreeable place. The State will, in its discretion, designate any individual, firm or corporation to accept delivery.

12.6.3. Royalty Interest Unitized Substances delivered in kind shall be delivered in good and merchantable condition and be of pipeline quality. Those substances shall be free and clear of all lease expenses, Unit Expenses, and Participating Area Expenses ("Excluded Expenses"), and free of any lien for these Excluded Expenses. These Excluded Expenses include, but are not limited to, expenses for separating, cleaning, dehydration, saltwater removal, processing, compression, pumping, manufacturing, and the costs of gathering and preparing the Unitized Substances for transportation off the Unit Area and transportation costs within the Unit Area, except common carrier tariffs. If a Working Interest Owner processes the Unitized Substances to separate, extract or remove liquids from a Working Interest Owner's share of natural gas Unitized Substances, the State may require that a Working Interest Owner also process the State's share of natural gas Unitized Substances being taken in kind in the same manner without cost to the State. Under these circumstances, the State, or its buyer, shall only pay any tariffed transportation costs and shrinkage of the volume of gas resulting from processing.

12.6.4. Each Working Interest Owner shall furnish storage in or near the Unit Area for the State's share of Unitized Substances to the same extent that the Working Interest Owner provides storage for its own share of Unitized Substances.

12.7. If a purchaser of the State's royalty Unitized Substances does not take delivery of Unitized Substances, the State may, without penalty, to underlift for up to six months. The State will, in its discretion, underlift all or a portion of those substances. The State's right to underlift is limited to the portion of those Unitized Substances that the purchaser did not take delivery of or what is necessary to meet an emergency condition. The State shall give the Unit Operator written notice thirty days before the first day of the month in which the underlifted royalty Unitized Substances are to be recovered. The State may recover at a daily rate not exceeding ten percent (10%) of its share of daily production, unless otherwise agreed.

12.8. The Unit Operator shall maintain records and shall keep and have in its possession books and records including expense records, of all exploration, development, production, and disposition of all Unitized Substances and Outside Substances. Each Working Interest Owner shall maintain records of the disposition of its portion of the Unitized Substances and Outside Substances including sales prices, volumes, and purchasers. The Unit Operator and the Working Interest Owners shall permit the Commissioner to examine those books and records at all reasonable times. Upon request by the Commissioner, the Unit Operator and the Working Interest Owners shall make the books and records available to the Commissioner at the Commissioner's office designated by the Commissioner. They may provide these books and records in a mutually agreeable electronic format. These books and records of exploration, development, production, and disposition must employ methods and techniques that will ensure the most accurate figures reasonably available. The Unit Operator and the Working Interest Owners shall use and consistently apply generally accepted accounting procedures.

12.9. If a Lease committed to this Agreement specifies the amount of rent due, that Lease is amended to require that rentals due be calculated under A.S. 38.05.180(n), as amended. If a Lease committed to this Agreement requires payment of minimum royalty, that Lease is amended to delete that minimum royalty obligation. The rental due under State law, as amended, must be paid in lieu of minimum royalty.

## ARTICLE 13: UNIT EXPANSION AND CONTRACTION

13.1. The Unit Operator, at its own election may, or at the direction of the Commissioner shall, apply to expand the Unit Area to include any additional lands determined to overlie a Reservoir that is at least partially within the Unit Area, or to include any additional lands that facilitate production. The Commissioner will give the Unit Operator reasonable notice and an opportunity to be heard before any directed expansion of the Unit Area. The Unit Operator shall notify the Working Interest Owners of any expansion proposed by the Unit Operator or any third party, or proposed or directed by the Commissioner. Any unit expansion shall not be effective until approved by the Commissioner.

13.2. Ten years after Sustained Unit Production begins, the Unit Area must be contracted to include only those lands then included in an approved Participating Area, lands included in an Approved Unit Plan of Exploration or Development, and lands that facilitate production including the immediately adjacent lands necessary for secondary or tertiary recovery, pressure maintenance, reinjection, or cycling operations. The Commissioner may, after considering the provisions of 11 AAC 83.303, delay contraction of the Unit Area if the circumstances of a particular unit warrant. If a portion of a Lease contracts out of the unit, that portion will be severed and treated as a separate and distinct lease, which may be maintained thereafter only in accordance with the terms and conditions of the original lease. The Working Interest Owners waive the provisions of 11 AAC 83.356(b), which protect the Lease from severance when a portion of a lease is contracted out of the Unit Area.

13.3. Not sooner than 10 years after the effective date of this Agreement, the Commissioner may contract the Unit Area to include only that land covered by an Approved Unit Plan of Exploration or Development, or that area underlain by one or more oil or gas reservoirs or one or more potential hydrocarbon accumulations and lands that facilitate production. If a portion of a Lease contracts out of the Unit Area, that portion will be severed and treated as a separate and distinct lease, which may be maintained thereafter only in accordance with the terms and conditions of the original lease. The Working Interest Owners waive the provisions of 11 AAC 83.356(e), which protect the Lease from severance when a portion of a Lease is contracted out of the Unit Area. Before any contraction of the Unit Area under this Article 13.3, the Commissioner will give the Unit Operator, the Working Interest Owners, and the Royalty Interest Owners of the Leases or portions of Leases being excluded reasonable notice and an opportunity to be heard.

13.4. The Commissioner will give the Unit Operator reasonable notice and an opportunity to be heard before any directed contraction of the Unit Area. The Unit Operator shall notify the Working Interest Owners of any proposed, directed, or approved contraction of the Unit Area. Any unit contraction shall not be effective until approved by the Commissioner.

13.5. The Unit Area may be contracted with the Commissioner's approval and an affirmative vote of the Working Interest Owners.

13.6. Within thirty days after approval by the Commissioner of any expansion or contraction of the Unit Area, the Unit Operator shall submit revised Exhibits A and B to the Commissioner.

## ARTICLE 14: UNIT EFFECTIVE DATE, TERM AND TERMINATION

14.1. This Agreement is effective as of 12:01 a.m. on the day after the Commissioner approves it. At least one copy of this Agreement shall be filed with the Department of Natural Resources, Anchorage, Alaska and one copy shall be filed with the AOGCC. This Agreement is binding upon each party who signs any counterpart.

14.2. Subject to the terms and conditions of the Approved Unit Plan, this Agreement terminates three years from the Effective Date unless:

14.2.1. A unit well in the Unit Area has been certified as capable of producing Unitized Substances in Paying Quantities; or

14.2.2. The unit term is extended with the approval of the Commissioner. An extension shall not exceed five years.

14.3. If the Commissioner orders or approves a suspension of production or other Unit Operations, this Agreement shall continue in force during the authorized suspension.

14.4. Nothing in this Article holds in abeyance the obligations to pay rentals, royalties, or other production or profit-based payments to the State from operations or production in any part of the Unit Area. Any seasonal restriction on operations or production or other condition required in the Lease is not a suspension of operations or production required by law or force majeure.

14.5. This Agreement may be terminated by an affirmative vote of the Working Interest Owners and the Commissioner's approval.

## ARTICLE 15: EFFECT OF CONTRACTION AND TERMINATION

15.1. If a Lease or portion of a Lease is contracted out of the Unit Area under this Agreement, then it will be maintained only in accordance with State law and the Lease.

15.2. Each Lease committed to this Agreement on the day that this Agreement terminates shall remain in force for an extension period of ninety days, or any longer period which may be approved by the Commissioner. After the extension period expires, the Lease will be maintained only in accordance with State law and the Lease.

15.3. Upon the expiration or earlier termination of the unit, the Unit Operator will be directed in writing by the Commissioner and will have the right at any time within a period of one year after the termination, or any extension of that period as may be granted by the Commissioner, to remove from the Unit Area all machinery, equipment, tools, and materials. Upon the expiration of that period or extension of that period and at the option of the Commissioner, any machinery, equipment, tools, and materials that the Unit Operator has not removed from the Unit Area become the property of the State or may be removed by the State at the Working Interest Owners' expense. At the option of the State, all improvements such as roads, pads, and wells must either be abandoned and the sites rehabilitated by the Unit Operator to the satisfaction of the State, or be left intact and the Unit Operator absolved of all further responsibility as to their maintenance, repair, and eventual abandonment and rehabilitation. Subject to the above conditions, the Unit Operator shall deliver up the Unit Area in good condition.

## ARTICLE 16: COUNTERPARTS

16.1. The signing of counterparts of this Agreement shall have the same effect as if all parties had signed a single original of this Agreement. Within thirty days after approval by the Commissioner of any change of the Working Interest ownership of Oil and Gas Rights in any Unit Tract, the Unit Operator shall submit a revised Exhibits A and C to the Commissioner.

## ARTICLE 17: LAWS AND REGULATIONS

17.1. This Agreement is subject to all applicable State and federal statutes and regulations in effect of the Effective Date of this Agreement, and insofar as is constitutionally permissible, to all statues and regulations placed in effect after the Effective Date of this Agreement. A reference to a statute or regulation in this Agreement includes any change in that statute or regulation whether by amendment, repeal and replacement, or other means. This Agreement does not limit the power of the State of Alaska or the United States of America to enact and enforce legislation or to promulgate and enforce regulations affecting, directly or indirectly, the activities of the parties to this Agreement or the value of interests held under this Agreement. In case of conflicting provisions, statutes and regulations take precedence over this Agreement.

## ARTICLE 18: APPEARANCES AND NOTICES

18.1. If the State gives the Unit Operator a notice or order relating to this Agreement it shall be deemed given to all Working Interest Owners and all persons whose interest in the Unit Area derived from a Working Interest. All notices required by this Agreement shall be given in writing and delivered personally, or by United States mail or by facsimile machine to the Unit Operator at the address or facsimile number listed below. All notices actually received will also be deemed properly given. The Unit Operator will change its notice address by giving thirty days written notice to the State and the other Working Interest Owners. The State will change its notice address by giving thirty days written notice to the Unit Operator.

***Address of the Unit Operator:***

Land Manager
ConocoPhillips Alaska, Inc.
700 G Street
Anchorage, Alaska 99501-3554
Fax: (907) 263-4966

*Address of the State:*

Commissioner, Department of Natural Resources
550 West Seventh Avenue, Suite 1400
Anchorage, Alaska 99501-3554
Fax: (907) 269-8918

with a copy to:

Director, Division of Oil and Gas
550 West Seventh Avenue, Suite 800
Anchorage, Alaska 99501-3560
Fax: (907) 269-8938

## ARTICLE 19: JOINDER

19.1. The Commissioner will, in his or her discretion, order or, upon request, approve a joinder to this Agreement under the expansion provisions of Article 13. The Unit Operator shall submit a request for joinder with a signed counterpart of this Agreement and a notice of proposed expansion under Article 13. A joinder is subject to the requirements of the Unit Operating Agreement. However, the Commissioner will, in his or her discretion, modify any provision in a Unit Operating Agreement, which the Commissioner finds discriminates against parties who request joinder. The Commissioner shall give notice and an opportunity to be heard to the Unit Operator before modifying the Unit Operating Agreement.

## ARTICLE 20: DEFAULT

20.1 The Commissioner will, in his or her discretion, determine that failure of the Unit Operator or the Working Interest Owners to comply with any of the terms of this Agreement, including any Approved Unit Plan, is a default under this Agreement. The failure to comply because of force majeure is not a default.

20.2 The Commissioner will give notice to the Unit Operator and the Working Interest Owners of the default. The notice will describe the default, and include a demand to cure the default by a certain date. The cure period shall be at least thirty days for a failure to pay rentals or royalties and ninety days for any other default.

20.3 If there is no well certified as capable of producing Unitized Substances in Paying Quantities and a default is not cured by the date indicated in the demand, the Commissioner will, in his or her discretion, terminate this Agreement after giving the Unit Operator notice and an opportunity to be heard. The Commissioner will give notice, by mail, of the termination, which is effective upon mailing the notice.

20.4 If there is a well capable of producing Unitized Substances in Paying Quantities and the operations to cure the default are not completed by the date indicated in the demand, the Commissioner will terminate this Agreement by judicial proceedings.

20.5 This Article's remedies are in addition to any other administrative or judicial remedy provided for by Lease, this Agreement, or federal or State law.

IN WITNESS OF THE FOREGOING, the parties have executed this Unit Agreement on the dates opposite their respective signatures.

**WORKING INTEREST OWNER(S)**

CONOCOPHILLIPS ALASKA, INC.

By: _____ Date: 10/26/05
James M. Ruud
Land Manager

AVCG, LLC

By: _____ Date: 10/26/05
John Jay Durán
Manager

STATE OF ALASKA )
)ss.
THIRD JUDICIAL DISTRICT )

This certifies that on October 26, 2005, before me, a notary public in and for the State of Alaska, duly commissioned and sworn, personally appeared James M. Ruud, known to me to be the person described in, and who executed the foregoing agreement, who then after being duly sworn according to law, acknowledged to me under oath that he executed same freely and voluntarily for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate first above written.

State of Alaska
Notary Public
Kay H. La Bau
My Comm. Expires June 8, 2007

Kay H. LaBau
NOTARY PUBLIC in and for Alaska
My Commission Expires: 6/8/2007

STATE OF Alaska )
) ss.
Third Judicial District )

This certifies that on October 26, 2005, before me, a notary public in and for the State of Alaska, duly commissioned and sworn, personally appeared John Jay Darrah, known to me to be the person described in, and who executed the foregoing agreement, who then after being duly sworn according to law, acknowledged to me under oath that he executed same freely and voluntarily for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate first above written.

Kay H. LaBau
NOTARY PUBLIC in and for Alaska
My Commission Expires: 6/8/2007

State of Alaska
Notary Public
Kay H. La Bau
My Comm. Expires June 8, 2007

Attachment 2: Exhibit A, Tract Description and Ownership Schedule

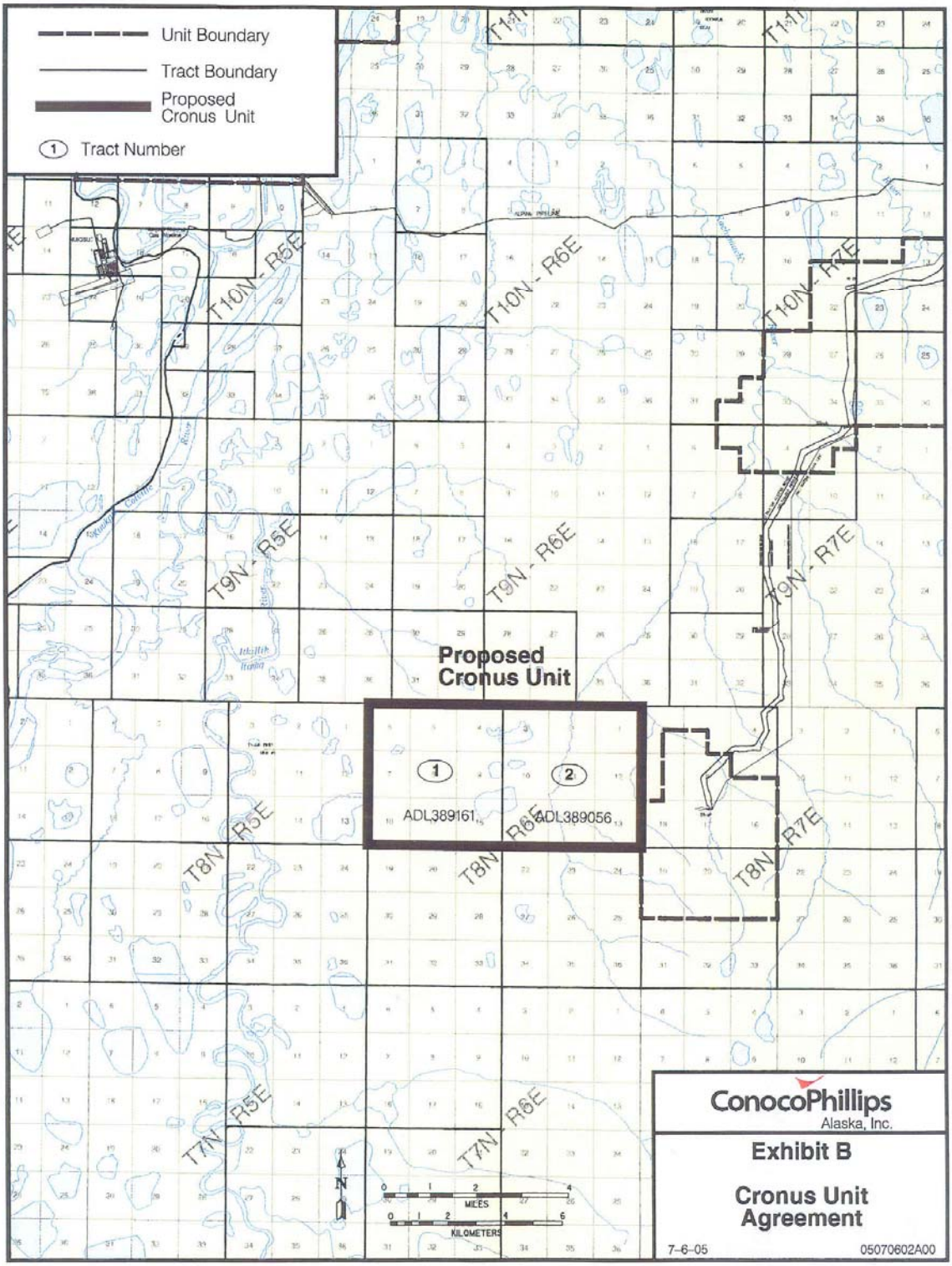
## Exhibit A

**Attached to and made a part of the Cronus Unit Agreement**

| Tr. No. | ADL No./ AK & L Nos. | Legal Description | Acres | ROYALTY: Original Royalty (%) | ROYALTY: Royalty Owner | ROYALTY: Mineral Owns. | ROYALTY: Net Royalty | ROYALTY: Net ORRI (%) | Tract Owner | WI Working Interest (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 389161 | T8N,R6E-U.M. | | 12.5 | State | 100.00 | 12.50 | 0 | CPAI | 70.00 |
| | 5102 | Sec. 4 | 640.00 | | | | | | AVCG | 30.00 |
| | 32494 | Sec. 5 | 640.00 | | | | | | **Total** | 100.00 |
| | | Sec. 6 | 578.00 | | | | | | | |
| | | Sec. 7 | 581.00 | | | | | | | |
| | | Sec. 8 | 640.00 | | | | | | | |
| | | Sec. 9 | 640.00 | | | | | | | |
| | | Sec. 16 | 640.00 | | | | | | | |
| | | Sec. 17 | 640.00 | | | | | | | |
| | | Sec. 18 | 584.00 | | | | | | | |
| | | TOTAL | 5,583.00 | | | | | | | |
| 2 | 389056 | T8N,R6E-U.M. | | 12.5 | State | 100.00 | 12.50 | 0 | CPAI | 70.00 |
| | 4996 | Sec. 1 | 640.00 | | | | | | AVCG | 30.00 |
| | 32407 | Sec. 2 | 640.00 | | | | | | **Total** | 100.00 |
| | | Sec. 3 | 640.00 | | | | | | | |
| | | Sec. 10 | 640.00 | | | | | | | |
| | | Sec. 11 | 640.00 | | | | | | | |
| | | Sec. 12 | 640.00 | | | | | | | |
| | | Sec. 13 | 640.00 | | | | | | | |
| | | Sec. 14 | 640.00 | | | | | | | |
| | | Sec. 15 | 640.00 | | | | | | | |
| | | TOTAL | 5,760.00 | | | | | | | |
| | **TOTAL UNIT ACREAGE** | | **11,343.00** | | | | | | | |

Exhibit A to Cronus UA
July 20, 2005

Attachment 3: Cronus Unit Exhibit B, Map of the Unit Boundary and Exploration Blocks



# Exhibit G

**Attached to and made part of**
**The Cronus Unit Agreement**

# CRONUS UNIT
# INITIAL PLAN OF EXPLORATION

Effective for 3 years from the effective date of the Unit Agreement

All terms not defined herein shall have the meaning set forth in Article 1 of the Cronus Unit Agreement.

**First Year**

1) The Working Interest Owners (WIOs) shall drill an initial well (Initial Well) within the boundaries of the proposed Cronus Unit during the first year of the Initial Plan of Exploration (Initial POE) by July 1, 2006.
    a. The Initial Well will be drilled vertically to a targeted bottomhole location on State Oil and Gas Lease ADL-389161, T8N-R6E, U.M.
    b. The Initial Well will be drilled to depths sufficient to penetrate the Albian Torok Sand interval correlative to the section seen in the Nanuk #1 well between 6,140 feet to 6,300 feet MD, or 6,100 feet to 6,300 feet subsea TVD, whichever is the lesser depth ("Target Depth") located in Section 19, T11N-R5E, U.M.

2) If the WIOs fail to drill the Initial Well to the Target Depth by July 1, 2006:
    a. The Unit automatically terminates July 1, 2006,
    b. The WIOs shall surrender ADL-389161 and ADL-389056,
    c. The WIOs waive the extension provisions of 11 AAC 83.140 and Article 15.2 of the Agreement and the notice and hearing provisions of 11 AAC 83.374 applicable to default, contraction, and termination of the unit, AND
    d. The WIOs will pay the State a bid deferment payment of $39,200 for ADL-389056.

**Second Year**

3) If the WIOs drill the Initial Well to the proposed Target Depth:
    a. The Operator will evaluate the drilling results of the Initial Well during the second year of the Initial POE.
    b. The WIOs may terminate the Unit and surrender ADL-389161 and ADL-389056 at anytime before the end of the second year of the Initial POE without any further obligation to the State. The WIOs waive the extension provisions of 11 AAC 83.140 and Article 15.2 of the Agreement and the notice and hearing provisions of 11 AAC 83.374 applicable to default, contraction, and termination of the unit.
    c. The Operator has the option to submit a second Plan of Exploration at least 90 days before the end of the second year of the Initial POE. If the second Plan of Exploration is approved before the end of the second year, the Initial POE's third year terms (items 4-6 below) will no longer apply and will be replaced with the terms of the approved Second Plan of Exploration..

**Third Year**

4) During the third year of the Initial POE, the Operator may further evaluate the drilling results of the Initial Well and delineation potential of the Cronus Unit.

5) At the end of the third year of the Initial POE (3 years from the effective date of the Unit Agreement), the WIOs shall pay the State a bid deferment payment of $75,300 for ADL-389056 and a bid deferment payment of $50,700 for ADL-389161, unless the operator
    a. Drills or sidetracks a well (Second Well) to a targeted bottomhole location within the Cronus Unit area that is at least 1000 feet from the bottomhole location of the Initial Well before or during the third year, OR
    b. Obtains approval of a participating area before the end of the third year of the Initial POE or six months before Sustained Unit Production, which ever is earlier.

6) If the Operator fails to drill a Second well, fails to obtain approval of a participating area or fails to obtain approval of a Second Plan of Exploration by the end of the third year of the Initial POE:
    a. The Unit automatically and immediately terminates at the end of the third year,
    b. The WIOs shall surrender ADL-389161 and ADL-389056, AND
    c. The WIOs waive the extension provisions of 11 AAC 83.140 and Article 15.2 of the Agreement and the notice and hearing provisions of 11 AAC 83.374 applicable to default, contraction, and termination of the unit.

Attachment 5: State of Alaska amendments to the State Only Model Form, dated June 2002

*NOTE: Text that is underlined indicates where text has been added and text that has the strikethrough font indicates where text has been deleted.*

ARTICLE 9: PARTICIPATING AREAS

9.1 *Amend the last sentence to read:*

The Unit Operator shall notify the Commissioner before the ~~of~~ commencement of Sustained Unit Production ~~within 10 days after commencement~~ from each Participating Area.

9.8.1 *Amend the first sentence to read:*

If the Commissioner consents to the transfer of Unitized Substances between Participating Areas without immediate payment of royalties, the Unit Operator shall provide monthly reports to the State of the transferred Unitized Substance volumes in both the originating and receiving Participating Areas as specified in 11 AAC 04.

ARTICLE 11: ALLOCATION OF PRODUCTION

11.1 *Amend the fourth sentence to read:*

The Commissioner will give the Unit Operator and Working Interest Owners reasonable notice and an opportunity to be heard before revising the Unit Operator's proposal.

ARTICLE 12: LEASES, RENTALS AND ROYALTY PAYMENTS

12.1 *Amend article to read:*

The Working Interest Owners shall pay rentals and royalty payments due under the Leases. Payments to the State must be made in accordance with the applicable State regulations, 11 AAC 04 and 11 AAC 83.110. ~~Those payments must be made to any depository designated by the State with at least sixty days notice to the Unit Operator and the Working Interest Owners.~~

12.4 *Amend third sentence to read:*

These excluded expenses also include the costs of gathering and preparing the Unitized Substances for transportation off the Unit Area and ~~gathering and~~ transportation costs incurred within the Unit Area. ~~incurred before the Unitized Substances are delivered to a common carrier pipeline.~~

12.5 *Amend article to read:*

Notwithstanding any contrary Lease term or provision in 11 AAC 83.228—11 AAC 83.229, all royalty deductions for transportation, including marine, truck, and pipeline transportation, from the Unit Area to the point of sale are limited to the actual and reasonable costs incurred by the Working Interest Owners. These transportation costs must be determined by taking into account all tax benefits applicable to the transportation.

12.6 *Amend article to read:*

The Unit Operator shall give the Commissioner notice of the anticipated date for commencement of production at least six months before the commencement of Sustained Unit Production from a Participating Area. The Commissioner may take Unitized Substances in-kind in accordance with the following: ~~Within ninety days of receipt of that notice,~~ T~~t~~he Commissioner will give the ~~Working Interest Owners~~ Unit Operator 90 days written notice of ~~its~~ the State's initial election~~s~~ to take Unitized Substances in-kind ~~all, none, a specified percentage, or a specified quantity of its royalties in any Unitized Substances produced from the Participating Area~~. After taking has actually commenced, the Commissioner ~~will, in his or her discretion,~~ may increase or decrease ~~(including ceasing to take royalty Unitized Substances in kind)~~ the amount of ~~royalty~~ Unitized Substances ~~the State takes~~ taken in-kind by not more than 10 percent, upon 30 days written notice to the Unit Operator; and greater than 10 percent, upon 90 days written notice to the Unit Operator. ~~The Commissioner shall give written notice to the Working Interest Owners ninety days before the first day of the month in which an increase or decrease is to be effective.~~

12.6.3 Amend article to read:

Royalty Interest Unitized Substances delivered in kind shall be delivered in good and merchantable condition and be of pipeline quality. Those substances shall be free and clear of all lease expenses, Unit Expenses, and Participating Area Expenses, and free of any lien for these excluded Expenses. These excluded expenses include, but are not limited to, expenses for separating, cleaning, dehydration, saltwater removal, processing, compression, pumping, manufacturing, and the costs of gathering and preparing the Unitized Substances for transportation off the Unit Area and transportation costs within the Unit Area. If a Working Interest Owner processes the Unitized Substances to separate, extract or remove liquids from a Working Interest Owner's share of natural gas Unitized Substances, the State ~~will, in its discretion,~~ may require that a Working Interest Owner also process the State's share of natural gas Unitized Substances being taken in kind in the same manner without cost to the State. Under these circumstances, the State, or its buyer, shall only pay any tariffed transportation costs and shrinkage of the volume of gas resulting from processing.

12.8 *Replace article to read:*

The Unit Operator shall maintain records, and shall keep and have in its possession books and records including expense records, of all exploration, development, production, and disposition of all Unitized Substances and Outside Substances. Each Working Interest Owner shall maintain records of the disposition of its portion of the Unitized Substances and Outside Substances including sales prices, volumes, and purchasers. The Unit Operator and the Working Interest Owners shall permit the Commissioner ~~or its agents~~ to examine those books and records at all reasonable times. Upon request by the Commissioner, the Unit Operator and the Working Interest Owners shall make the books and records available to the Commissioner at the Commissioner's office designated by the Commissioner. They may provide these books and records in a mutually agreeable electronic format. These books and records of exploration, development, production, and disposition must employ methods and techniques that will ensure

the most accurate figures reasonably available. The Unit Operator and the Working Interest Owners shall use and consistently apply generally accepted accounting procedures.

12.10 *Amend second sentence to read:*

The State ~~will, in its discretion,~~ may audit the net profit share reports or payments due for any Lease within ten years of the ~~date~~ year of production of Unitized Substances in Paying Quantities.

13.2 *Amend Article to read:*

Ten years after Sustained Unit Production begins, the Unit Area must be contracted to include only those lands then included in an approved Participating Area, lands included in an Approved Unit Plan of Exploration or Development, and lands that facilitate production including the immediately adjacent lands necessary for secondary or tertiary recovery, pressure maintenance, reinjection, or cycling operations. The Commissioner ~~will, in the Commissioner's discretion~~may, after considering the provisions of 11 AAC 83.303, delay contraction of the Unit Area if the circumstances of a particular unit warrant. If a portion of a Lease contracts out of the unit, that portion will be severed and treated as a separate and distinct lease, which may be maintained thereafter only in accordance with the terms and conditions of the original lease. The Working Interest Owners waive the provisions of 11 AAC 83.356(b), which protect the Lease from severance when a portion of a lease is contracted out of the Unit Area. ~~If any portion of a Lease is included in the Participating Area, the portion of the Lease outside the Participating Area will neither be severed nor will it continue to be subject to the terms and conditions of the unit. The portion of the Lease outside the Participating Area will continue in full force and effect so long as production is allocated to the unitized portion of the Lease and the lessee satisfies the remaining terms and conditions of the Lease.~~

13.3 *Amend Article to read:*

Not sooner than 10 years after the effective date of this Agreement, the Commissioner ~~will, in the Commissioner's discretion,~~ may contract the Unit Area to include only that land covered by an Approved Unit Plan, or that area underlain by one or more oil or gas reservoirs or one or more potential hydrocarbon accumulations and lands that facilitate production. If a portion of a Lease contracts out of the Unit Area, that portion will be severed and treated as a separate and distinct lease, which may be maintained thereafter only in accordance with the terms and conditions of the original lease. The Working Interest Owners waive the provisions of 11 AAC 83.356(e), which protect the Lease from severance when a portion of a Lease is contracted out of the Unit Area. Before any contraction of the Unit Area under this Article 13.3, the Commissioner will give the Unit Operator, the Working Interest Owners, and the ~~royalty~~ Royalty Interest ~~owners~~ Owners of the Leases or portions of Leases being excluded reasonable notice and an opportunity to be heard.

ARTICLE 14: UNIT EFFECTIVE DATE, TERM AND TERMINATION

14.2 *Amended Article to read:*

Subject to the terms and conditions of the Approved Unit Plan, this Agreement terminates three ~~five~~ years from the Effective Date unless:

Attachment 6: CPAI amendments in addition to the amendments in Attachment 5

*NOTE: Text that is underlined indicates where CPAI is proposing text be added and text that has the strikethrough font indicates where CPAI is proposing text be deleted. These are after or in addition to the amendments addressed in Attachment 5.*

ARTICLE 3: CREATION AND EFFECT OF UNIT

3.7 *The State did not accept the amendments proposed. After negotiations, the article should read:*

All existing data determined by the Commissioner to be necessary for the administration of this Agreement or for the performance of statutory responsibilities related to this Unit shall be provided by the Unit Operator, or Working Interest Owners, or both, upon written request. All data and information provided to the Commissioner shall be protected from disclosure under the Lease, governing law including AS 38.05.035, and regulations.

ARTICLE 9: PARTICIPATING AREAS

9.7 *The State did not accept CPAI's proposed modifications.*

ARTICLE 11: ALLOCATION OF PRODUCTION

11.1 *The State did not accept the amendments proposed. After negotiations, the third sentence should read*:

The Commissioner may, ~~will, in his or her discretion~~ in accordance with 11 AAC 83.371, revise the proposed allocation plan if it does not equitably allocate production and costs from the Reservoir~~, unless a formula or other method of allocation is imposed and mandated by the AOGCC under AS 31~~.

ARTICLE 12: LEASES, RENTALS AND ROYALTY PAYMENTS

12.4 *The State accepts the amendment to the third sentence:*

These excluded expenses also include the costs of gathering and preparing the Unitized Substances for transportation off the Unit Area and transportation costs incurred within the Unit Area, except common carrier tariffs.

12.5 *The State did not accept CPAI's proposed amendment, but after working with CPAI, both parties agree to substitute the following text for this article:*

All royalty deductions for transportation, including marine, truck and pipeline transportation, from the Unit Area to the point of sale are limited to the actual and reasonable costs incurred by the Working Interest Owners, in accordance with the lease terms. Transportation costs must be determined by taking into account all tax benefits that affect transportation costs, including but not limited to Capital Construction Fund accounts and investment tax credits.

12.6 *The State did not accept CPAI's proposed amendment to the last sentence:*

12.6.3 *The State accepts CPAI's capitalization of "Excluded Expenses" in the third sentence and the addition of "except common carrier tariffs" to the end of the third sentence.*

12.7 *The State accepts the amendment to the second sentence:*

The State's right to underlift is limited to the portion of those Unitized Ssubstances that the purchaser did not take delivery of or what is necessary to meet an emergency condition.

12.7 *The State accepted reducing the recovery rate from 25% to 10%. The rate in the leases is 10%.*

12.10 *Since there are no NPSL leases in the Unit or in the nearby area, this article was deleted*