

OOOGURUK UNIT

**APPROVAL IN PART OF THE APPLICATION FOR THE SECOND
EXPANSION OF THE OOOGURUK UNIT NUIQSUT PARTICIPATING AREA**

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

April 4, 2014

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I. INTRODUCTION AND DECISION SUMMARY

On January 21, 2014, the Division received the application (Application) for the 2nd Expansion of the Oooguruk Unit (OU) Nuiqsut Participating Area (ONPA) from the Pioneer Natural Resources Alaska, Inc. (Pioneer), designated operator of the OU, on behalf of itself and other working interest owner, Eni Petroleum US LLC. The State of Alaska (State), Department of Natural Resources (DNR), Division of Oil and Gas (Division) approved the formation of the Oooguruk Nuiqsut Participating Area on August 5, 2009, with an effective date of June 1, 2008. In 2013, the ONPA was expanded to include an additional 2,400 acres with a retroactive effective date of December 1, 2011. The proposed 2nd expansion of the ONPA encompasses portions of one State oil and gas lease that lies within the boundary of the OU, as shown in Exhibits C and D, Attachments 1 and 2, comprising an area of approximately 1,040 acres.

A participating area “must be expanded to include acreage reasonably estimated through use of geological, geophysical, or engineering data to be capable of producing or contributing to the production of hydrocarbons in paying quantities, and must be contracted to exclude acreage reasonably proven through the use of geological, geophysical, and engineering data to be incapable of producing hydrocarbons in paying quantities, subject to approval by the commissioner.” 11 AAC 83.351(c). Pioneer submitted confidential and public information in the Application. The confidential geological, geophysical, and engineering data indicate that the acreage proposed for inclusion in the 2nd ONPA expansion is reasonably estimated to be capable of producing or contributing to production of hydrocarbons in paying quantities. Pioneer’s plan of development (Exhibit G) for the proposed expansion area, submitted with the Application, does not protect the State’s interest because it does not commit to development drilling of the entire proposed expansion area. One well has recently been completed in the proposed expansion area. Therefore, under this decision, the Division is approving 800 acres of the proposed 1,040 acres, adding an additional 120 unrequested acres, and denying the remaining undrilled 240 acre area proposed for expansion. In total, the Division is approving 920 acres for the 2nd expansion of the ONPA.

The Division finds that the expansion of the ONPA, as set out in this decision, promotes conservation of all natural resources, promotes the prevention of economic and physical waste, provides for the protection of all parties of interest, including the State, and protects the public interest. AS 38.05.180(p); 11 AAC 83.303. I approve the Application, as modified by this decision, in accordance with the criteria set out in 11 AAC 83.303. The effective date of the 2nd expansion of the ONPA is June 1, 2008.

II. APPLICATION AND LEASE SUMMARY

Pioneer submitted the Application under 11 AAC 83.351 and Article 9.4 of the Oooguruk Unit Agreement. The Application includes Exhibit C (Attachment 1), legally describing the proposed expanded participating area, its leases, and ownership interests; Exhibit D

(Attachment 2), a map of the proposed expanded participating area; Exhibit E (Attachment 3), proposed participating area expense allocation; and Exhibit F (Attachment 4), proposed allocation of unit area expense. The existing ONPA includes 16,111 acres as set out below in table 1.

Table 1

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
6	389958	8/1/02	2,240	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T14N, R7E, UM</u> Sec 25: Protracted, S/2SE/4, SW/4, S/2NW/4, NW/4 NW/4, NW/4SE/4 Sec 26: Protracted, E/2, S/2NW/4, SW/4 Sec 35: Protracted, All Sec 36: Protracted, All
7	389954	8/1/02	347	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T14N, R8E, UM</u> Sec 31: Protracted, W/2SE/4, SW/4, S/2NW/4, NW/4NW/4
9	389950	8/1/02	1,773	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T13N, R8E, UM</u> Sec 5: Protracted, SW/4, SW/4NW/4 Sec 6: Protracted, All Sec 7: Protracted, All Sec 8: Protracted W/2
11	389952	8/1/02	471	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T13N, R8E, UM</u> Sec 17: Protracted, NW/4NW/4 Sec 18: Protracted, NE/4, SW/4SW/4, N/2SW/4, NW/4
13	355036	8/1/83	5,760	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1 U.I.	<u>T13N, R7E, UM</u> Sec 1: Protracted, All Sec 2: Protracted, All Sec 3: Protracted, All Sec 10: Protracted, All Sec 11: Protracted, All Sec 12: Protracted, All Sec 13: Protracted, All Sec 14: Protracted, All Sec 15: Protracted, All
14	355037	8/1/83	1,960	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1 U.I.	<u>T13N, R7E, UM</u> Sec 4: Protracted, All Sec 5: Protracted, E/2 Sec 8: Protracted, E/2NE/4, NE/4SE/4 Sec 9: Protracted, All Sec 16: Protracted, NE/4, NE/4SE/4, NE/4NW/4
15	355038	8/1/83	1,680	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1 U.I.	<u>T13N, R7E, UM</u> Sec 22: Protracted, NE/4, NE/4NW/4, NE/4SE/4 Sec 23: Protracted, All Sec 24: Protracted, W/2E/2, W/2 Sec 25: Protracted, NW/4NW/4 Sec 26: Protracted, NE/4, E/2NW/4, NW/4NW/4
17	389959	9/1/02	1,720	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T14N, R7E, UM</u> Sec 27: Protracted, S/2, S/2NE/4 Sec 28: Protracted SE/4SE/4 Sec 33: Protracted, All Sec 34: Protracted, All
18	389960	8/31/09	160	16.66667%	PNRA, Inc. 70% ENI Petroleum US LLC 30%		<u>T14N, R7E, UM</u> Sec 32: Protracted, SE/4

The proposed 2nd ONPA expansion includes an additional 1,040 acres as set out below in table 2.

Table 2

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
14	35503 7	8/1 '83	1,040	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1 U.I.	<u>T13N, R7E, UM</u> Sec 7: Protracted, SE 1/4 SE/4 Sec 8: Protracted, S/2 S/2 Sec 16: Protracted, W/2 W/2, SE 1/4 NW/4, NE 1/4 SW/4, NW 1/4 SE/4 Sec 17: Protracted, E 2, NW/4, NE 1/4 SW/4 Sec 18: Protracted, NE 1/4 NE/4
		Total	1,040				

III. DISCUSSION OF DECISION CRITERIA

The DNR Commissioner (Commissioner) reviews applications related to units, including participating area formations, expansions and contractions, under 11 AAC 83.303-11 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. The Division's review of the Application is based on the criteria set out in 11 AAC 83.303 (a) and (b). A discussion of the subsection (b) criteria, as they apply to the Application, is set out directly below, followed by a discussion of the subsection (a) criteria.

A. Decision Criteria considered under 11 AAC 83.303(b)

1. Environmental Costs and Benefits

Approval of the 2nd ONPA expansion has no direct environmental impact. This decision is an administrative action and does not authorize any on-the-ground activity. DNR considers environmental issues during the lease sale process and develops lease stipulations to mitigate the potential environmental, social, cultural impacts from lease operations. The unit operator must obtain approval of a plan of operations from the State and permits from various agencies on State leases before drilling wells or initiating development activities to explore and produce reservoirs within the unit area. 11 AAC 83.346. Potential effects on the environment are analyzed when permits to conduct exploration or development in the unit area are reviewed. The Oooguruk development uses a compact drilling site and existing infrastructure at the Kuparuk River Unit (KRU) to process production.

2. Geologic and Engineering Characteristics of the Proposed ONPA Expansion Area

The proposed 2nd ONPA expansion is based upon drilling results that demonstrate the presence of productive Nuiqsut reservoir sands to the southwest beyond the current

ONPA boundary. Pioneer has been able to optimize its well designs and drilling trajectories to extend the drilling reach from the offshore drill site (ODS) island to the southwest beyond the current ONPA boundary into the requested ONPA expansion area. Pioneer has submitted sufficient confidential geological, geophysical, and engineering data to justify the expansion of the ONPA to the southwest. The proposed expansion area includes section 17 of T13N 7E that includes exploration wells Colville Delta 1 and 1A drilled in the southwest part of Section 17 by Texaco in 1985 and the Sikumi 1 well drilled in the northeast part of Section 16 by Pioneer in 2012. Currently Pioneer is drilling horizontal ODSN-48 in the middle of Section 17. Pioneer submitted confidential GG&E data for the proposed expansion area to demonstrate the area is capable of producing or contributing to production of hydrocarbons in paying quantities to justify its inclusion into the ONPA. The proposed expansion acreage lies wholly within the current Oooguruk Unit.

Geology of Nuiqsut Interval, Upper Jurassic Kingak Formation

Regional Structural Setting:

The Nuiqsut Sandstone of Late Jurassic age is present along a broad south to southeast plunging antiform that is divided by a series of NW-SE trending faults that form separate fault-bounded Nuiqsut oil accumulations. The Nuiqsut reservoir sandstone is bounded to the northwest by erosional truncation by the Base Cretaceous Unconformity (BCU) and/or the Lower Cretaceous Unconformity (LCU). To the south the depositional environment becomes more distal; and the Nuiqsut reservoir properties degrade as the interval becomes more silt and clay dominated and less permeable.

Nuiqsut Regional Depositional Setting:

The regional depositional setting of the Jurassic Kingak Formation in the Colville Delta area is interpreted from both seismic and regional well control as a series of shallow marine / shoreface deposits composed of coarsening upward sandstone, siltstone mudstone sequences that were deposited on a broad, very low gradient marine shelf on a south-facing passive margin. These shallow marine sediments were deposited from a northern source area that foundered in the early Cretaceous during the opening of the Canada Basin. The Nuiqsut Sandstone is one of three oil-bearing intervals within the Jurassic Kingak Formation. From oldest to youngest these reservoir intervals are the Nechelik, Nuiqsut, and Alpine sandstones. These three Upper Jurassic intervals were deposited as progradational and aggradational coarsening upward units over a period of approximately 20 million years. In the OU area, sedimentation on the shelf was dominated by mud and clay deposition due to the provenance of the lithologies contributed from the source areas in combination with limited accommodation space and relatively low rates of sediment input. The Nuiqsut sandstone is preserved in this area as reservoir quality rock because of proximity to the sediment source, localized variations in topography, sea level changes, faulting, and localized erosion. The cleanest and best sands form at the top of the overall coarsening upward sequences, where not truncated by the LCU or BCU.

Reservoir Characteristics of the Nuiqsut Sandstone:

Nuiqsut Type Section Kalubik 1 well

The type section for the ONPA is defined in AOGCC CO 597 as the Nuiqsut interval, present at 6354-6472' measured depth (md) on the Dual Laterolog/Micro Laterolog in the ARCO Kalubik 1 well, drilled in 1993. The Nuiqsut interval was tested and recovered 280 BO of 23 degree API oil with a gas-oil ratio (GOR) of 232 standard cubic feet per stock tank barrel (scf/stb) and no formation water during a 20-hour test, with a measured oil rate of 336 barrels of oil per day (BOPD).

Nuiqsut Reservoir Characteristics

Reservoir and fluid properties for Nuiqsut Reservoir have been determined through the analyses of exploration well test data, conventional and sidewall core data, well log data, and additional drilling within the ONPA. The Nuiqsut Reservoir sandstones consist of very fine- to fine-grained, quartz-rich sandstone with up to 15 percent siderite and glauconite. The reservoir quality degrades as the clay content increases in the sands. Sedimentary structures present in core data include abundant bioturbated sands, interbedded layers and lenses of carbonaceous muds, and ripple and lenticular bedding. Reservoir porosity ranges from 10 - 20 percent and averages about 15 percent. Permeability ranges from 0.1 - 50 millidarcies and averages approximately 15 millidarcies. Estimated water saturation varies with facies and permeability and generally ranges between 40 - 60 percent for typical reservoir quality sandstone.

3. Prior Exploration and Development Activities of the Proposed ONPA Expansion Area

Between 1970 and 1998, fifteen exploration wells were drilled by several companies in the Colville Delta/Oooguruk area. A number of the wells tested oil bearing sands in the Nuiqsut intervals, but at that time, the companies concluded that development was uneconomical. The Colville Delta 1/1A wells are located within the southwest corner of the Nuiqsut expansion boundary.

The Texaco Colville Delta 1 well, drilled in 1985, produced 25° API gravity oil at an average test rate of 273 BOPD with a maximum rate of 1,075 BOPD. The Texaco Colville Delta 2 well, drilled in 1986, produced 24° API gravity oil at a final average test rate of 485 BOPD. The Texaco Colville Delta 3 well, also drilled in 1986, produced 27° API gravity oil at an average test rate of 290 BOPD.

Pioneer drilled the Sikumi 1 exploration well in 2012 that lies to the northeast of the expansion area within the current ONPA. The objective of this exploration well was the Ivishak sandstone. Although the Nuiqsut sandstone was present in the well, it was not tested.

To date, Pioneer has drilled 18 horizontal ONPA development wells and is currently drilling the ODSN-48 horizontal well in the middle of the proposed expansion area.

Cumulative oil produced from the Nuiqsut pool is 6,172,206 bbls as of December 2013. Initial reservoir pressure in the Nuiqsut is 3,250 psi at 6,400 true vertical depth subsea (TVDSS). Bubble point pressure is approximately 1,900 psi.

The wells that Pioneer has drilled on the north and west side of the PA have demonstrated that the LCU and BCU unconformities that form the northwest-trending truncation edge that erodes the best reservoir rock are located farther to the northwest than Pioneer originally predicted thus justifying the expansion of the PA to the west.

Conclusion

Pioneer has demonstrated with seismic, well, and engineering data acquired around and within the proposed PA expansion area, that the proposed expansion area is capable of producing or contributing to production of hydrocarbons in paying quantities.

4. Plans of Development for the ONPA Expansion Area

The Alaska Oil and Gas Conservation Commission (AOGCC) approved pool rules for the Oooguruk Nuiqsut Reservoir on March 25, 2008, Conservation Order (CO) Number 597. The stated plans were to develop the Nuiqsut Reservoir with 30 to 39 horizontal wells split evenly between producers and injectors spaced reaching depths up to 9000' in length. The wells were to be spaced approximately 1,500-1,700 feet apart with separate production from the Nuiqsut and Kuparuk Oil Pools.

The AOGCC approved Area Injection Order No. 34 for the Oooguruk Nuiqsut Reservoir on May 19, 2010, authorizing the injection of glycol and water mixtures into the Oooguruk-Nuiqsut Oil Pool for the purposes of pressure maintenance and enhanced oil recovery. Injection start-up in ODSN-38 began in 2010.

The Division approved the OU Seventh POD on May 16, 2013 effective for the period June 30, 2013 through June 29, 2014. During the Seventh POD Pioneer drilled four horizontal ONPA wells.

Pioneer submitted Exhibit G (Nuiqsut Participating Area – Plan of Development) with the Application. Planned development activities within the proposed 2nd ONPA expansion area include:

- Drilling, logging, fracture stimulating and completing the ODSN-48 and ODSN-6 wells in 2013 and 2014
- Additional wells in the expansion area will be predicated on results from the ODSN-48 and ODSN-06.

As of date of this decision, Pioneer is completing the drilling of the ODSN-48. Currently there is no approved drilling permit for the ODSN-06 or the other expansion wells.

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

The expanded ONPA as approved in this decision will provide economic benefits to the State through royalty payments and taxes on production if the activities planned under Exhibit G result in recovery of hydrocarbons in the expanded ONPA, although, because some of the acreage is already producing or contributing to production, there is no additional direct royalty benefit for that acreage. The allocation of production and the allocation of participating area and unit area expense under Exhibits C, E, and F maximize oil and gas recovery, promote conservation, prevent waste, and protect all of the parties of interest.

5.1 Facility Sharing, Metering, and Production Allocation

Production from OU is commingled with production from the KRU under the Production Processing and Service Agreement (PPSA) between the KRU owners and the OU owners. In section 4.1 of its August 5, 2009 decision approving the ONPA, the Division approved the use of multiphase flow meters (MPFMs) for well testing and allocation between wells, between the Oooguruk Nuiqsut PA (ONPA) and the Oooguruk Kuparuk PA (OKPA), and between the OU and the KRU, subject to the same terms and conditions set out in AOGCC CO Nos. 596.007, 597.007, 432D.007, 406B.008, 430A.008, 435A.007, 456A.007 and 645. This approval is hereby extended to the expanded ONPA.

5.2 Point of Production and Transportation Deduction

In section 4.2 of its August 5, 2009 decision approving the ONPA, the Division determined that no transportation deduction would be allowed for transportation of non-sales quality oil. That decision is hereby extended to production from the expanded ONPA.

5.3 Shrinkage and Loss Factor

Production from the expanded ONPA will be subject to shrinkage and loss factors applicable to ONPA, as described in section 4.3 of the Division's August 5, 2009 decision approving the formation of the ONPA.

5.4 Plant Fill and Back-out

Production from the expanded ONPA will be subject to the back-out applicable to the ONPA, as described in section 4.4 of the Division's August 5, 2009 decision approving the formation of the ONPA.

5.5 Tract Allocation and Redetermination Schedules

Pioneer submitted tract allocation schedules (Attachment 1, 3 and 4, Exhibits C, E, and F) that describe how the OU WIOs plan to allocate production and costs in the expanded ONPA. Under this schedule, Pioneer owns 70 percent, and Eni owns 30 percent of the production from the proposed expanded ONPA.

On March 20, 2014, The Division approved Pioneer's Interim Determination proposed revised tract allocation factors based on original oil in place, submitted in accordance with article 11.4 of the Oooguruk Unit Operating Agreement. Revised Exhibits C, E and F, to be submitted within 30 days of this decision, will reflect the approved tract allocation factors.

5.6 Gas disposition

The PPSA provides for processing of three-phase OU fluid, and the return of gas and water for reservoir pressure maintenance and enhanced oil recovery at the OU. The PPSA also provides for a certain volume of OU gas to be retained by the KRU to compensate the KRU for the OU's share of fuel and flare gas. The OU's share is determined by the ratio of OU processed volume to total processed volume. As set out in section 4.6 of its August 5, 2009 decision approving the formation of the ONPA, the Division agrees that gas returned to OU for use at OU, and OU's proportionate share of fuel and flare gas will not bear royalty until produced and sold.

The Division issued a letter to Pioneer on April 19, 2013 addressing gas disposition reporting for all OU PAs.

5.7 NPS Lease Accounting

The existing ONPA includes three Net Profit Share (NPS) leases, ADLs 355036, 355037, and 355038. The expansion area of the ONPA includes an additional area of one NPS lease: ADL 355037. The Division approves the cost center allocation methodology that it approved in section 4.7 of its August 5, 2009 decision approving the formation of the ONPA for the expanded ONPA NPS lease accounting subject to the following:

Well allocation factors included in previous Oooguruk Unit decisions have varied from 47 to 41 and most recently to 46 "planned wells." The final allocation for cost center allocation should be based on total actual completed wells, subject to final audit review.

Article 11 of the Oooguruk Unit Operating Agreement provides for determination of Initial tract participation on an acreage basis, Interim tract participation based on original oil in place and Final determination using an equity formula to calculate value-based tract participations on recoverable hydrocarbons and portions of costs allocated to each tract.

The Director's Decision approving royalty modification effective February 1, 2006 specified the deemed true and correct NPS lease balance as of January 1, 2005 and is repeated here for clarity:

The NPS lease regulations set out in 11 AAC 83.201 - 11 AAC 83.295 remain in full force and effect. However, Pioneer's request that the current unaudited NPS lease balance of \$80,000,000.00 as of January 1, 2005, be deemed true and correct and not be subject to future adjustment resulting from audit, is approved.

- a. \$80,000,000.00 NPS lease balance will be allocated to the NPS leases (ADLs 355036, 355037, 355038, and 355039) pursuant to the final participating area redetermination.

The filing of NPS reports shall be based on the revised tract factors based on original oil in place per the Division's March 20, 2014 decision.

5.8 Paying Quantities Determination

The expanded ONPA as approved in this decision meets the paying quantities definition set out in 11 AAC 83.395(4).

B. Decision Criteria considered under 11 AAC 83.303(a)

1. Promote the Conservation of All Natural Resources

The unitization of oil and gas reservoirs and the formation, expansion, and contraction of participating areas within unit areas to develop oil and gas reservoirs are well-accepted means of maximizing the efficient recovery of oil and gas and minimizing adverse impacts on the surface and other resources. Expansion of the ONPA within an existing unit, with development occurring under the terms of the unit agreement and approved POD, and through existing OU and KRU facilities, promotes efficient evaluation and development of the State's oil and gas, and minimizes impacts to the area's cultural, biological, and environmental resources.

2. The Prevention of Economic and Physical Waste

Expansion of the ONPA allows for continued development of the Oooguruk Nuiqsut reservoir. Approval of the Application, as modified by this decision, will prevent economic and physical waste because the approval will allocate production revenue under the approved tract allocations, equitably allocating production revenues among the WIOs and the State. Approval of the ONPA expansion will not result in economic waste given the current well spacing, market demand, and anticipated production rates.

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

The Division reviewed confidential geophysical, geological and engineering data in its evaluation of the proposed 2nd expansion of the ONPA. Pioneer has demonstrated that the acreage proposed for the 2nd expansion of the ONPA is “reasonably estimated” to be capable of producing or contributing to production of hydrocarbons in paying quantities. Because Pioneer is currently completing the drilling of the ODSN-48 and does not plan to drill any of the three remaining wells in the proposed expansion area this drilling season, limiting the 2nd expansion of the ONPA to the approximate drainage radius of the ODSN-48, which is located in the proposed expansion area, protects the State. Though not proposed in the Application, the Division is including 3 quarter sections (120 acres) in Section 17 of tract 14 adjacent to the proposed 2nd ONPA expansion area because this acreage is “reasonably estimated” to be capable of producing or contributing to production of hydrocarbons in paying quantities based on the Colville Delta 1/1A wells. The approved 2nd Expansion of the ONPA is described in Table 3, Section IV, C, 1 below.

The people of Alaska have an interest in the development of the State’s oil and gas resources to maximize the economic and physical recovery of the resources. AS 38.05.180(a). Approval of the 2nd expansion of the ONPA under annually updated and approved PODs will provide for continued review and approval of Pioneer’s plans to develop the expanded ONPA and OU in a manner that will maximize economic and physical recovery of oil and gas.

IV. FINDINGS AND DECISION

A. The Conservation of All Natural Resources

The 2nd expansion of the ONPA will provide for continued development of the participating area under the OU Agreement and will maximize the efficient recovery of oil and gas and minimize the adverse impacts on the surface and other resources, including hydrocarbons, gravel, sand, water, wetlands, and valuable habitat.

B. The Prevention of Economic and Physical Waste

Using the KRU infrastructure and facilities eliminates the need to construct stand-alone production facilities to process production from the Oooguruk Nuiqsut reservoir. Unitized development of the Nuiqsut reservoir using existing unit infrastructure will promote greater ultimate recovery and prevent economic waste.

The production of hydrocarbons through the existing production and processing facilities reduces the environmental impact of the additional production. Using existing facilities will avoid unnecessary duplication of development efforts on and beneath the surface.

C. The Protection of All Parties in Interest, Including the State

1. The approved 2nd expansion of the ONPA area contains the following lands described in table 3.

Table 3

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
14	355037	8/1/83	920	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1 U.I.	<u>T13N, R7E, UM</u> Sec 16: Protracted, W/2 W/2, SE/4 NW/4, NE/4 SW/4, NW/4 SE/4 Sec 17: Protracted, All
		Total	920				

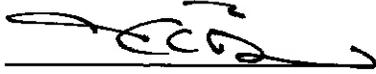
2. The 2nd expansion of the ONPA provides for the equitable division of costs and an equitable allocation of produced hydrocarbons under a POD designed to maximize physical and economic recovery from the participating area. The Division approves Pioneer's revised division of interest and costs allocation of hydrocarbon production and unit operating cost among those leases in the expanded ONPA. Pioneer shall submit revised ONPA Exhibits C, D, E, and F, reflecting the approved expanded ONPA within 30 days of the issuance of this decision under the OU agreement Article 11.1. The revised exhibits shall reflect the Division's March 20, 2014 decision approving tract allocation factors based on original oil in place.
3. Ninety days after approval of Interim and Final determinations revised royalty and net profit share reports must be filed to reflect the retro-active changes resulting from the new Interim participation factors and the new Final participation factors and any additional royalty or net profit share payment due is payable at that time and is subject to audit by the DNR before Interim and Final participation factors may take effect. Please contact the Royalty Accounting Manager (907-269-8796) for instructions on how to re-file the royalty and NPSL reports.
4. The ONPA boundary will contract to 160 acre spacing around development wells in the Final Redetermination, unless the parties agree otherwise.

For the reasons discussed in this Findings and Decision, I hereby approve the 2nd expansion of the ONPA to include lands described in Section IV, C, 1 (Table 3). The 2nd expansion of the ONPA is effective retroactive to June 1, 2008.

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 Joe Balash, 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@alaska.gov. 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.

If you have any questions regarding this decision, contact Don Perrin with the Division at 269-8813, or by email at donald.perrin@alaska.gov.



W. C. Barron,
Director
Division of Oil and Gas

April 4, 2014

Date

V. Attachments:

1. Exhibit C, ONPA Tracts/Leases
2. Exhibit D, Map of proposed PA Expansion
3. Exhibit E, Proposed Allocation of PA Expense
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6. Map of Approved ONPA 2nd Expansion Acreage

ATTACHMENT ONE

OU ONPA Exhibit C, ONPA 2nd Expansion Proposed Tracts/Leases

Exhibit C
Attached to and made a part of that certain Oooguruk Unit Agreement

Unit Tract	Lessor & Lease	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	TOTAL ORR Burden	Unit Tract Participation (Surface Ac.)
6	State of AK ADL 389958	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 25: Protracted, SE/4 SE/4, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4 Sec 26: Protracted, E/2, SW/4, S/2 NW/4 Sec 35: Protracted, All Sec 36: Protracted, All	2,240.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	13.18655%
7	State of AK ADL 389954	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R8E, UMIAT MERIDIAN</u> Sec 31: Protracted, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4	343.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.01919%
9	State of AK ADL 389950	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 5: Protracted, SW/4, SW/4 NW/4 Sec 6: Protracted, All Sec 7: Protracted, All Sec 8: Protracted, W/2	1,773.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	10.43739%
11	State of AK ADL 389952	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 17: Protracted, NW/4 NW/4 Sec 18: Protracted, NE/4, SW/4 SW/4, N/2 SW/4, NW/4	471.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.77271%

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Exhibit C
Attached to and made a part of that certain Ooguruk Unit Agreement

13	State of AK ADL 355036 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	5,760.00	12.5%* 30% NPS	Total 5.021390% See Details Below	33.90828%
14	State of AK ADL 355037 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	2,840.00	12.5%* 30% NPS	Total 5.0767380% See Details Below	16.71867%
15	State of AK ADL 355038 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	1,680.00	12.5%* 30% NPS	Total 5.0767380% See Details Below	9.88992%

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17	State of AK ADL 389959	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9.1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 27: Protracted, S/2 NE/4, S 2 Sec 28: Protracted, SE/4 SE 4 Sec 33: Protracted, All Sec 34: Protracted, All	1,720.00	16.66667% ²	4.25000% See details below	10.12539%
18	State of AK ADL 389960	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9.1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 32: Protracted, SE/4	160.00	16.66667%	4.25000% See details below	0.94190%
Total Acres						16,987.00			100.00000%

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Attached to and made a part of that certain Ooguruk Unit Agreement

Working Interest Owners

Pioneer Natural Resources Alaska, Inc.
 700 G St., Suite 600
 Anchorage, AK 99501

Eni Petroleum US LLC
 1201 Louisiana St., Suite 3500
 Houston, TX 77002-5609

Tracts 6, 7, 9 and 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

<p>Before Payout ("BPO")</p> <p>William D. Armstrong 1421 Blake Street Denver, CO 80202</p> <p>Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128</p> <p>Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108</p> <p>Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127</p> <p>Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116</p> <p>Matthew X. Furin 2001 South Madison Denver, CO 80210</p> <p>Richard C. Gecsaman 820 Pine Street, Gold Hill Boulder, CO 80302</p> <p>Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257</p> <p>Maeco Family Trust P.O. Box 5 Edmonds, WA 98020</p> <p>GMT North Slope Royalty Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202</p> <p>Chester E. Paris 1208 Mesa Court Golden, CO 80403</p>	<p>1.556800%</p> <p>0.046330%</p> <p>0.046330%</p> <p>0.046330%</p> <p>0.046330%</p> <p>0.046330%</p> <p>0.046330%</p> <p>0.013350%</p> <p>0.023170%</p> <p>0.023170%</p> <p>0.080000%</p> <p>0.005200%</p>
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The ORRI noted above affecting Tracts 6, 7, 9 and 11 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

Exhibit C
Attached to and made a part of that certain Ooguruk Unit Agreement

Tracts 6, 7, 9 and 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

After Payout ("APO")	William D. Armstrong 1421 Blake Street Denver, CO 80202	2.800000%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.083330%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.083330%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.083330%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.083330%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.083330%
	Richard C. Geesaman 820 Pine Street, Gold Hill Boulder, CO 80302	0.083330%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.041670%
	Maeco Family Trust P.O. Box 5 Edmonds, WA 98020	0.041670%

The ORRI noted above affecting Tracts 6, 7, 9 and 11 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

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Exhibit C
Attached to and made a part of that certain Oooguruk Unit Agreement

Tracts 14 and 15 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

<p>Tracts 14 and 15 Segment I - Upper Interval</p>	<p>Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330</p>	<p>0.093548%</p>
	<p>David L. Herbaly as Trustee of the David L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120</p>	<p>1.350000%</p>
	<p>XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201</p>	<p>0.126050%</p>
	<p>George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023</p>	<p>0.150000%</p>
	<p>Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002</p>	<p>0.257140%</p>
	<p>Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501</p>	<p>0.600000%</p>
	<p>ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501</p>	<p>2.500000%</p>

Tracts 17 and 18 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

<p>Tracts 17 and 18</p>	<p>Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330</p>	<p>4.250000%</p>
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*The state's royalty interest in ADL 355036, ADL 355037, ADL 355038, ADL 355039, ADL 389950, ADL 389952, ADL 389954, ADL 389958 and ADL 389959 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying lease royalty in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).

**ORRI are borne exclusively by Eni Petroleum US LLC, considered Other Burdens as defined in Article 4.4 Oooguruk Unit Operating Agreement; not borne by Pioneer Natural Resources Alaska, Inc.

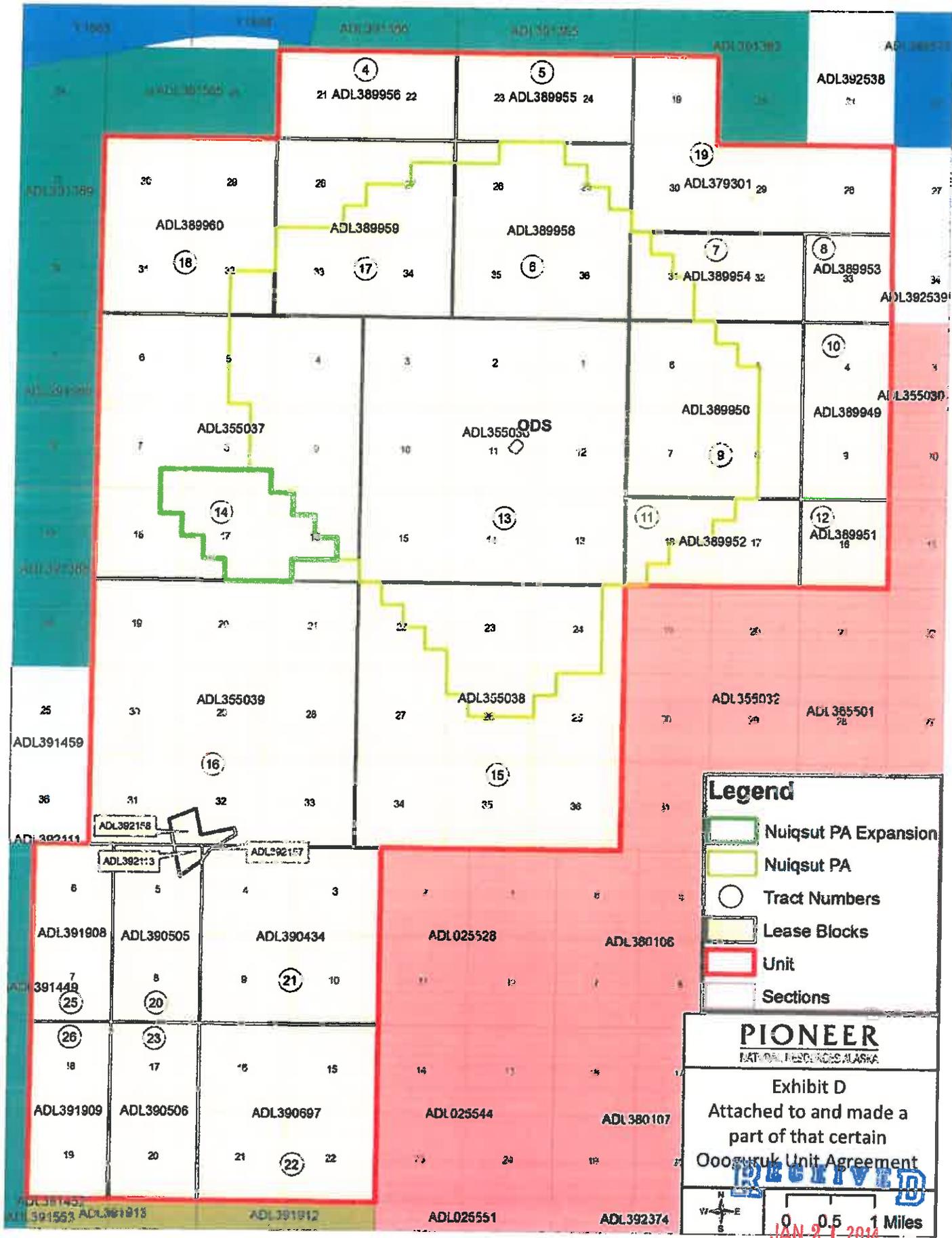
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ATTACHMENT TWO

OU ONPA Exhibit D, Map of Proposed 2nd ONPA Expansion



Legend

- Nuiqsut PA Expansion
- Nuiqsut PA
- Tract Numbers
- Lease Blocks
- Unit
- Sections

PIONEER
NATIONAL RESOURCES ALASKA

Exhibit D
Attached to and made a part of that certain
Ooogruk Unit Agreement

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ATTACHMENT THREE

OU ONPA Exhibit E, Proposed Allocation of PA Expense

Exhibit E
Attached to and made a part of that certain Ooguruk Unit Agreement

Unit Tract	Lessor & Lease	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	TOTAL ORR Burden	PA Expense
6	State of AK ADL 389958	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 25: Protracted, SE/4 SE/4, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4 Sec 26: Protracted, E/2, SW/4, S/2 NW/4 Sec 35: Protracted, All Sec 36: Protracted, All	2,240.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	13.18655%
7	State of AK ADL 389954	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R8E, UMIAT MERIDIAN</u> Sec 31: Protracted, W.2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4	343.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.01919%
9	State of AK ADL 389950	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 5: Protracted, SW/4, SW/4 NW/4 Sec 6: Protracted, All Sec 7: Protracted, All Sec 8: Protracted, W.2	1,773.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	10.43739%
11	State of AK ADL 389952	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 17: Protracted, NW/4 NW/4 Sec 18: Protracted, NE/4, SW/4 SW/4, N.2 SW.4, NW/4	471.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.77271%
13	State of AK ADL 355036	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	5,760.00	12.5%* 30% NPS		33.90828%

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Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Total 5.021390%
See Details Below

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	Segment 1 UPPER INTERVAL	Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)			Sec 1: Protracted, All Sec 2: Protracted, All Sec 3: Protracted, All Sec 10: Protracted, All Sec 11: Protracted, All Sec 12: Protracted, All Sec 13: Protracted, All Sec 14: Protracted, All Sec 15: Protracted, All				
14	State of AK ADL 355037 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u> Sec 4: Protracted, All Sec 5: Protracted, E/2 Sec 7: Protracted, SE/4 SE/4 Sec 8: Protracted, E 2 E/2, SW/4 SE/4, S/2 SW/4 Sec 9: Protracted, All Sec 16: Protracted, N/2, N.2 SE/4, N/2 SW/4, SW/4 SW/4 Sec 17: Protracted, N.2, SE/4, NE/4 SW/4 Sec 18: Protracted, NE/4 NE/4	2,840.00	12.5%* 30% NPS		16.71867%
								Total 5.0767380% See Details Below	
15	State of AK ADL 355038 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8.1/83	<u>T13N, R7E, UMIAT MERIDIAN</u> Sec 22: Protracted, NE/4, NE/4 SE/4, NE/4 NW/4 Sec 23: Protracted, All Sec 24: Protracted, W/2 E/2, W/2 Sec 25: Protracted, NW/4 NW/4 Sec 26: Protracted, NE 4, E/2 NW/4, NW/4 NW/4	1,680.00	12.5%* 30% NPS		9.88992%
								Total 5.0767380% See Details Below	
17	State of AK ADL 389959	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 27: Protracted, S/2 NE/4, S/2 Sec 28: Protracted, SE/4 SE/4 Sec 33: Protracted, All Sec 34: Protracted, All	1,720.00	16.66667%*	4.25000% See details below	10.12539%
18	State of AK ADL 389960	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u>	160.00	16.66667%		0.94190%

Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Sec 32: Protracted, SE/4

4.25000%
See details below

Total Acres		
Working Interest Owners	16,987.00	100.00000%
Pioneer Natural Resources Alaska, Inc. 700 G St., Suite 600 Anchorage, AK 99501		
Eni Petroleum US LLC 1201 Louisiana St., Suite 3500 Houston, TX 77002-5609		

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Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Tracts 6, 7, 9 & 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

Before Payout ("BPO")	William D. Armstrong 1421 Blake Street Denver, CO 80202	1.556800%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.046330%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.046330%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.046330%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.046330%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.046330%
	Richard C. Gecsaman 820 Pine Street, Gold Hill Boulder, CO 80302	0.013350%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.023170%
	Maeco Family Trust P.O. Box 5 Edmonds, WA 98020	0.023170%
	GMT North Slope Royalty Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202	0.089000%
	Chester E. Paris 1208 Mesa Court Golden, CO 80403	0.005200%

The ORRI noted above affecting Tracts 4-12 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

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**DIVISION OF
OIL AND GAS**

Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Tracts 6, 7, 9 and 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

After Payout ("APO")	William D. Armstrong 1421 Blake Street Denver, CO 80202	2.800000%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.083330%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.083330%
	Jeffery A. Lyslo 91 Buckhorn Drive Littleton, CO 80127	0.083330%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.083330%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.083330%
	Richard C. Geesaman 820 Pine Street, Gold Hill Boulder, CO 80302	0.083330%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.041670%
	Maeco Family Trust P.O. Box 5 Edmonds, WA 98020	0.041670%

The ORRI noted above affecting Tracts 4-12 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

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**DIVISION OF
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Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Tract 13 is burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

Tract 13	XH, LLC	0.252100%
Segment 1 - Upper Interval	1601 Elm Street, Suite 4700 Dallas, TX 75201	
	Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002	0.514290%
	Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501	1.200000%
	ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501	2.500000%
	William D. Armstrong 1421 Blake Street Denver, CO 80202	0.404000%
	GMT North Slope Royalty Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202	0.074000%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.012000%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.012000%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.012000%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.012000%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.012000%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.006000%
	Maeco Family Trust P.O. Box 5 Edmonds, WA 98020	0.006000%

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Tracts 14 & 15 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

Exhibit E
Attached to and made a part of that certain Oooguruk Unit Agreement

Tracts 14 & 15 Segment 1 - Upper Interval	Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330	0.093548%
	David L. Herbaly as Trustee of the David L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120	1.350000%
	XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201	0.126050%
	George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023	0.150000%
	Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002	0.257140%
	Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501	0.600000%
	ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501	2.500000%

Tracts 17 & 18 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

Tracts 17 & 18	Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330	4.250000%
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*The state's royalty interest in ADL 355036, ADL 355037, ADL 355038, ADL 355039, ADL 389950, ADL 389952, ADL 389954, ADL 389958 and ADL 389959 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying lease royalty in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).

**ORRI are borne exclusively by Eni Petroleum US LLC, considered Other Burdens as defined in Article 4.4 Oooguruk Unit Operating Agreement; not borne by Pioneer Natural Resources Alaska, Inc.

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ATTACHMENT FOUR

OU ONPA Exhibit F, Proposed Allocation of Unit Area Expense

Exhibit F
Attached to and made a part of that certain Oooguruk Unit Agreement
Nuiqsut

Pioneer Natural Resources Alaska, Inc., as the Oooguruk Unit Operator, estimates the total Unit economic reserves will be contributed 94% from the Nuiqsut PA, 3% from the Kuparuk PA and 4% from the Torok PA. The current Unit Plan of Development contemplates the drilling a total of 46 wells for Oooguruk development; 5 wells in the Kuparuk, 37 in the Nuiqsut and 4 wells in the Torok. On a relative well count basis 10.870% of the unit wells will be drilled to produce Kuparuk reserves, 80.435% of the unit wells will be drilled to produce Nuiqsut reserves and 8.696% of the unit wells will be drilled to produce Torok reserves. Pioneer proposes that expenses be broadly captured in four different cost centers and such costs be allocated as follows:

1. Well Costs – Will be first allocated to the specific Participating Area into which the wells are drilled (Kuparuk PA, Nuiqsut PA or Torok PA) and then to each Tract within a PA by the PA Tract Participation factor.
2. Oooguruk Drill Site (ODS) - Costs including all drillsite facilities, (i.e. well-bay modules, flowline manifolds, etc.) will be first allocated to the specific Participating Area by relative well count and then to each Tract within a PA by the PA Tract Participation factor.
3. Flowline Costs – Costs include all downstream of the ODS, include sub-sea three-phase production, gas, water and diesel flowlines, shore crossing and above ground vertical support member supported flowlines and all facilities at the Onshore Tie-in Pad (O'IP). These will be first allocated to the specific Participating Area by relative total reserves contribution and then to each Tract within a PA by the PA Tract Participation factor.
4. Gas Injection Costs - Costs include compression and injection equipment and will be first allocated exclusively to the Nuiqsut PA and then to each Tract within said PA by the PA Tract Participation factor.

Unit Tract	Lessor & Lease	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	TOTAL ORR Burden	Unit Tract Participation	Relative Reserve Allocation (.94 x Tract Allocation)	Well Count Allocation (37/46 x Tract Allocation)
6	State of AK ADL 389958	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u> Sec 25: Protracted, SE/4 SE/4, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4 Sec 26: Protracted, E/2, SW/4, S/2 NW/4 Sec 35: Protracted, All Sec 36: Protracted, All	2,240.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	13.18655%	0.123953612	0.106065764
7	State of AK ADL 389954	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T14N, R8E, UMIAT MERIDIAN</u> Sec 31: Protracted, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4	343.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.01919%	0.018980397	0.01624132

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9	State of AK ADL 389950	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 5: Protracted, SW/4, SW/4 NW/4 Sec 6: Protracted, All Sec 7: Protracted, All Sec 8: Protracted, W/2	1,773.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	10.43739%	0.096111497	0.083952946
11	State of AK ADL 389952	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	<u>T13N, R8E, UMIAT MERIDIAN</u> Sec 17: Protracted, NW/4 NW/4 Sec 18: Protracted, NE/4, SW/4 SW/4, N/2 SW/4, NW/4	471.00	16.66667%*	BPO 1.933330% APO 3.333330% See Details Below	2.77271%	0.02606346	0.022302221
13	State of AK ADL 355036 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u> Sec 1: Protracted, All Sec 2: Protracted, All Sec 3: Protracted, All Sec 10: Protracted, All Sec 11: Protracted, All Sec 12: Protracted, All Sec 13: Protracted, All Sec 14: Protracted, All Sec 15: Protracted, All	5,760.00	12.5%* 30% NPS	Total 5.021390% See Details Below	33.90828%	0.318737858	0.272740536

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14	State of AK ADL 355037 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8.1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	2,840.00	12.5%* 30% NPS	16.71867%	0.157155472	0.134476236	Total 5.0767380% See Details Below
		Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)			Sec 4: Protracted, All Sec 5: Protracted, E/2 Sec 7: Protracted, SE/4 SE/4 Sec 8: Protracted, E/2 E/2, SW/4 SE/4, S/2 SW/4 Sec 9: Protracted, All Sec 16: Protracted, N/2, N/2 SE/4, N/2 SW/4, SW/4 SW/4 Sec 17: Protracted, N/2, SE/4, NE/4 SW/4 Sec 18: Protracted, NE/4 NE/4						
15	State of AK ADL 355038 Segment 1 UPPER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u>	1,680.00	12.5%* 30% NPS	9.88992%	0.092965209	0.079549323	Total 5.0767380% See Details Below
		Upper Interval (i.e. the interval from the surface down to the stratigraphic equivalent of 8,373' (Driller's total depth +100') which is equivalent to 8,402' (Wireline Logger's total depth + 100') below the Kelly Bushing as shown on the Dual Laterolog Run #3 log dated April 5, 1992, in the ARCO-Kalubik #1 well located in Sec. 11, T.13 N., R. 7 E., U.M. known in the DNR computer records as "Segment 1" of the Lease.)			Sec 22: Protracted, NE/4, NE/4 SE/4, NE/4 NW/4 Sec 23: Protracted, All Sec 24: Protracted, W/2 E/2, W/2 Sec 25: Protracted, NW/4 NW/4 Sec 26: Protracted, NE/4, E/2 NW/4, NW/4 NW/4						
17	State of AK ADL 389959	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1.02	<u>T14N, R7E, UMIAT MERIDIAN</u>	1,720.00	16.66667%*	10.12539%	0.095178666	0.081443354	4.25000% See details below
					Sec 27: Protracted, S/2 NE/4, S/2 NW/4 Sec 28: Protracted, SE/4 SE/4 Sec 33: Protracted, All Sec 34: Protracted, All						
18	State of AK ADL 389960	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1/02	<u>T14N, R7E, UMIAT MERIDIAN</u>	160.00	16.66667%	0.94190%	0.008853829	0.007576126	4.25000% See details below
					Sec 32: Protracted, SE/4						

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Total Acres	16,987.00	100.00000%	94%	80.435%
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Working Interest Owners
Pioneer Natural Resources Alaska, Inc.
700 G St., Suite 600
Anchorage, AK 99501

Eni Petroleum US LLC
1201 Louisiana St., Suite 3500
Houston, TX 77002-5609

Tracts 6, 7, 9 & 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

Before Payout ("BPO")	William D. Armstrong 1421 Blake Street Denver, CO 80202	1.556800%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.046330%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.046330%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.046330%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.046330%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.046330%
	Richard C. Geesaman 820 Pine Street, Gold Hill Boulder, CO 80302	0.013350%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.023170%
	Macco Family Trust P.O. Box 5 Edmonds, WA 98020	0.023170%
	GMT North Slope Royalty Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202	0.080000%
	Chester E. Paris 1208 Mesa Court Golden, CO 80403	0.005200%

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The ORRI noted above affecting Tracts 6,7,9, and 11 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

Tracts 6, 7, 9 and 11 are burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

After Payout ("APO")	William D. Armstrong 1421 Blake Street Denver, CO 80202	2.800000%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.083330%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.083330%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.083330%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.083330%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.083330%
	Richard C. Geesaman 820 Pine Street, Gold Hill Boulder, CO 80302	0.083330%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.041670%
	Macco Family Trust P.O. Box 5 Edmonds, WA 98020	0.041670%

The ORRI noted above affecting Tracts 6,7,9, and 11 are set forth in and subject to that certain Development Agreement dated effective November 1, 2002 between Armstrong Resources, LLC and Pioneer Natural Resources Alaska, Inc.

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Tract 13 is burdened by Overriding Royalty Interests ("ORRI") held by the following parties in the stated percentages:

Tract 13 Segment 1 - Upper Interval	XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201	0.252100%
	Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002	0.514290%
	Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501	1.200000%
	ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501	2.500000%
	William D. Armstrong 1421 Blake Street Denver, CO 80202	0.404000%
	GMT North Slope Royalty Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202	0.074000%
	Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128	0.012000%
	Edgar Kerr 6750 Lemon Gulch Dr. Castle Rock, CO 80108	0.012000%
	Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127	0.012000%
	Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116	0.012000%
	Matthew X. Furin 2001 South Madison Denver, CO 80210	0.012000%
	Stuart W. Gustafson P.O. Box 1466 La Conner, WA 98257	0.006000%

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Macco Family Trust P.O. Box 5 Edmonds, WA 98020	0.006000%
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Tracts 14 & 15 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

Tracts 14 & 15 Segment 1 - Upper Interval	Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330	0.093548%
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David L. Herbaly as Trustee of the David L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120	1.350000%
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XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201	0.126050%
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George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023	0.150000%
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Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002	0.257140%
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Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501	0.600000%
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ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501	2.500000%
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Tracts 17 & 18 are burdened by Overriding Royalties ("ORRI") held by the following parties in the stated percentages:

Tracts 17 & 18	Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330	4.250000%
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*The state's royalty interest in ADL 355036, ADL 355037, ADL 355038, ADL 355039, ADL 389950, ADL 389952, ADL 389954, ADL 389958 and ADL 389959 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying lease royalty in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).

**ORRI are borne exclusively by Eni Petroleum US LLC, considered Other Burdens as defined in Article 4.4 Oooguruk Unit Operating Agreement; not borne by Pioneer Natural Resources Alaska, Inc.

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ATTACHMENT FIVE

Exhibit G, Plan of Development

Exhibit G
Nuiqsut Participating Area - Plan of Development
Attached to and made a part of that certain Ooguruk Unit Agreement

Planned development activities within the proposed expanded ONPA include:

- Drilling, logging, fracture stimulating and completing the ODSN-48 and ODSN-06 wells in 2013 and 2014.
- Additional wells in the expansion area will be predicated on results from ODSN-48 and ODSN-06.

Additional development of the ONPA is possible, but is contingent on the results of the current plan and well slot availability. Well particulars are subject to change based upon new reservoir information and logistical constraints.

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ATTACHMENT SIX

OU ONPA Map of Approved 2nd Expansion Acreage

ONPA 2nd Expansion Approved Acreage

