OOOGURUK UNIT

APPROVAL IN PART OF THE APPLICATION TO EXPAND THE OOOGURUK UNIT TOROK 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

March 26, 2013

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I. INTRODUCTION AND DECISION SUMMARY

Effective March 1, 2010, the State of Alaska Department of Natural Resources Division of Oil and Gas (Division) approved the formation of the Torok Participating Area. On August 9, 2012, the Division received the Application for the Expansion of the Oooguruk Unit (OU) Torok Participating Area (OTPA) from Pioneer Natural Resources Alaska, Inc. (Pioneer), designated operator of the OU, on behalf of itself and the other Working Interest Owner (WIO). The proposed OTPA Expansion encompasses portions of two State oil and gas leases that lie within the boundary of the OU, as shown in Exhibits C and D, Attachments 1 and 2, comprising an area of approximately 1,320 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 OTPA is reasonably estimated to be capable of producing or contributing to production of hydrocarbons in paying quantities. Pioneer's plan of development (POD) for the OTPA, submitted with the application, does not protect the State's interest because it does not propose development of the proposed expansion area beyond the one well currently in place. Therefore, under this decision, the Division is expanding the OTPA by 760 acres and denying the expansion of the remaining undrilled 560 acre area.

The Division finds that the expansion of the OTPA, 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 OTPA expansion is March 26, 2013.

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; Exhibit F (Attachment 4) proposed allocation of unit area expense; and Exhibit G (Attachment 5) Torok PA Plan of Development (POD).

The existing OTPA includes 1,720 acres as set out below.

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
13	355036	8/1/83	1,160	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T13N, R7E UM Sec 10: Protracted, SE/4 SE/4, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4 Sec 14: Protracted, W/2 NW/4, NW/4 SW/4 Sec 15: Protracted, All
14	355037	8/1/83	560	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T 13N, R7E UM Sec 9: Protracted, E/2 NE/4, SW/4 NE/4, SE/4, E/2 SW/4 Sec 16: Protracted, NE/4, NE/4 SE/4
			1,720				

The proposed OTPA expansion includes an additional 1,320 acres as set out below.

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
13	355036	8/1/83	200	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T13N, R7E UM Sec 14: Protracted, SW/4 SE/4, E/2 SW/4, SW/4 SW/4, SE/4 NW/4
15	355038	8/1/83	1,120	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T 13N, R7E UM Sec 22: Protracted, NE/4 NW/4, NE/4, E/2 SE/4 Sec 23: Protracted, All Sec 24: Protracted, SW/4 NW/4, NW/4 SW/4 Sec 26: Protracted, N/2 NW/4, NW/4 NE/4
			1,320				

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 OTPA 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. Pioneer has obtained the required permits for the expanded OTPA well and is operating under an approved plan of operations and POD. The Oooguruk development uses a compact drilling site and existing infrastructure at the Kuparuk River Unit (KRU).

2. Geologic and Engineering Characteristics and Prior Exploration and Development Activities of the Proposed OTPA Expansion

Prior Exploration and Development Activities

Many exploration wells were drilled in the Colville River Delta area between 1965 and the early 2000s. Several of these wells encountered prospective Torok Formation at depths between 4,000' to 6,000' true vertical depth subsea en route to deeper exploration targets such as the Kuparuk and Sadlerochit (Ivishak sandstone). Wells in the area that encountered significant Torok reservoir interval included: the Sinclair Colville 1 well drilled in 1965-1966; the Texaco Colville Delta 2 and 3 wells drilled in 1986; the ARCO Kalubik 1 well drilled in 1992; the ARCO Kalubik 2 well drilled in 1998; and the Oooguruk 1 and Ivik 1 wells drilled in 2003. Both the Colville Delta 2 & 3 wells produced completion fluids and minor oil (unstimulated) at very low flow rates and at very low bottomhole pressures. Following moderate fracture stimulation, the Colville Delta 3 well did produce an average of 240 stock tank barrels of oil per day during an 84-hour flow period. The Kalubik 1 well produced (unstimulated) completion fluids and water during a 12-hour test. During 1998, a Modular Dynamics Tester sample recovered from ARCO's Kalubik 2 well yielded an oil gravity value of 19.8 API, but the well was not production tested. Formation tests conducted in the Torok interval in the Oooguruk 1 and Ivik 1 wells produced water, confirming that the down dip Torok formation is wet east of the Colville Delta 2 and Kalubik 2 wells due to the presence of a normal, down to the east, northwest-southeast trending fault.

Because the Torok Formation is the shallowest of the three producing horizons within the Oooguruk Unit, Pioneer has drilled 37 wells that have penetrated the Torok interval since 2007. The ODSN-45A and the ODST-39 are the two wells that are currently producing hydrocarbons within the existing Torok PA. The ODSN-45 (located near the Kalubik 2 well) was originally drilled to produce the Nuiqsut sandstone, but was plugged back and recompleted as a horizontal producer ODST-45A in the Torok due to operational difficulties. The well began producing in March of 2010. The ODST-39 well was completed in January 2012. The ODST-46 well was completed in March 2011 and is currently a water alternating gas injection well that supports the two producing wells, ODST-39 and ODST-45A. As of January 2013, the Torok participating area has

produced 521,419 barrels of oil; 860,366 thousand cubic feet of gas; and 237,193 barrels of water. The ODST-47 well, drilled south of the current OTPA, was completed in October 2012. Pioneer plans to start producing this well in the first part of 2013. The Nuna 1 well was drilled in the southwestern part of the current Oooguruk Unit and was completed in April 2012. The well produced 27,654 barrels of oil in 19 days in April 2012 at an oil rate of 1455.5 barrels per day. The well is currently suspended.

Pioneer has used a variety of analyses including production tests, log analysis, core data, fluid analyses, and seismic mapping to determine the extent of the Torok reservoir. One of the primary criteria Pioneer used to justify the size of the original OTPA, which the Division approved on June 24, 2011, was the thickness of the Torok Interval above -5150 feet subsea, the depth of lowest known oil present in the Colville Delta 3 well.

Geology of the Torok Interval

Geological, geophysical, and engineering data submitted in support of the application for the OTPA expansion were received on August 9, 2012. Submitted data included structure, isopach, net to gross and net sand maps, well logs, cross sections, seismic cross sections, formation tops, and confidential geological, engineering, and well production test analyses for the Torok interval.

The Torok reservoir within the OU is a combination structural-stratigraphic trap. The Torok in this area is part of an eastward dipping monocline. There are several minor northwest trending normal faults in the area and a major down-to-the-east northwest-southeast trending fault between the Kalubik 1 and Colville Delta 2 wells. This major fault defines the northeast edge of the OTPA and stratigraphically isolates the down dip water wet Torok formation east of the Texaco Colville Delta 2 well. The western edge of the OTPA is formed as a result of stratigraphic closure due to sandstone onlap onto the toe of slope.

The Torok formation is a time transgressive unit of Albian to Cenomanian in age and forms a complex series of interbedded sandstone, siltstone, and mudstone deposits that record complex interaction of deposition, sedimentation, subsidence, sea-level changes, and erosion along a shelf edge margin during the middle Cretaceous. The resultant sedimentary deposits record the interplay of changes in sea level, subsidence, and sedimentation and accompanying depositional patterns of progradation, regression, and aggradation. The entire Torok interval is generally around 250 feet thick in the Oooguruk area. The most prospective Torok reservoirs in the area represent toe of slope and basin floor fan sandstone deposits. Some composite sand packages greater than 35-40 feet can be recognized and mapped with 3D seismic. The Alaska Oil and Gas Conservation Commission (AOGCC) Conservation Order (CO) Number 645 defines the interval from 4,991 to 5,272 feet measured depth (-4,954' to -5,235' true vertical depth subsea) in the ARCO Kalubik 1 well as the type section for the prospective Torok reservoir in the OTPA.

Conclusion

Pioneer has generated or acquired sufficient seismic, well and engineering data in and around the proposed PA expansion area to estimate the thickness and extent of the Torok reservoir. With this data Pioneer has reasonably mapped Torok oil pay in the area proposed for expansion to be capable of producing or contributing to production of hydrocarbons in paying quantities.

3. Plans of Development for the OTPA Expansion

The OTPA began production in March 2010 from well ODST-45A. The AOGCC approved pool rules for the Oooguruk Torok Reservoir on May 26, 2011, CO Number 645 and approved Area Injection Order No. 37 for the Oooguruk Torok Reservoir on October 8, 2012, authorizing the injection of fluids into the Oooguruk-Torok Oil Pool for the purposes of pressure maintenance and enhanced oil recovery. Injection start-up in the ODST-46, located in the existing OTPA, began in November 2012. Current plans are to develop the Oooguruk Torok oil pool in discrete phases with 26 horizontal wells split evenly between producers and injectors spaced approximately 1,500 feet apart. With the conversion of the ODST-46 to an injector and completion of the ODST-47, located in the in the proposed expansion area, the current Torok development patterns consist of one injector (ODST-46i) and three producers (ODST-39, ODST-45 A, and ODST-47).

The Division approved the Oooguruk Unit Sixth POD on May 3, 2012 effective for the period June 11, 2012 through June 10, 2013. Current OTPA development includes hydraulic fracture stimulation of horizontal producer ODST-39 and production continues from horizontal fracture stimulated ODST-45A.

Pioneer submitted an OTPA expansion POD, as part of the Application, and met with the Division for a technical presentation on August 7, 2012. Pioneer proposed the following POD in Exhibit G (Attachment 5) for the expanded OTPA:

- initiate enhanced recovery with injection start-up in ODST-46;
- drill, log and complete the ODST-47 well in 2012;
- fracture stimulate the ODST-47 well in 2013 during the winter season;
- evaluate ODST-46 injectivity and responses in ODST-45A and ODST-39;
- perform a workover on ODST -45A to replace an ESP and increase production; and
- perform a workover on ODST-39 to pull the frac completion and run an ESP to increase production from the well.

Pioneer has not proposed additional wells in the proposed expansion area through Exhibit G (Attachment 5), the Sixth POD, or the recently submitted Seventh POD.

4. The Economic Costs and Benefits to the State and Other Relevant Factors

The expanded OTPA 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 (Attachment 5) result in recovery of hydrocarbons in the expanded OTPA.

4.1 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 June 24, 2011 decision approving the OTPA, the Division approved the use of multiphase flow meters (MPFMs) for well testing and allocation between wells, between the OTPA, 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 Conservation Order 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 OTPA.

4.2 Point of Production and Transportation Deduction

In section 4.2 of its June 24, 2011 decision approving the OTPA, 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 OTPA.

4.3 Shrinkage and Loss Factor

Production from the expanded OTPA will be subject to shrinkage and loss factors applicable to OTPA, as described in section 4.3 of the Division's June 24, 2011 decision approving the formation of the OTPA.

4.4 Plant Fill and Back-out

Production from the expanded OTPA will be subject to the back-out applicable to the OTPA, as described in section 4.4 of the Division's June 24, 2011 decision approving the formation of the OTPA.

4.5 Tract Allocation of Production and Costs

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

4.6 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 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. 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 June 24, 2011 decision approving the formation of the OTPA, 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 will address gas disposition reporting for all OU PAs under a separate letter to Pioneer.

4.7 NPS Lease Accounting

The expanded OTPA includes portions of three Net Profit Share (NPS) leases: ADLs 355036, 355037, and 355038. The Division approves the cost center allocation methodology that it approved in section 4.7 of its June 24, 2011 decision approving the formation of the OTPA for the expanded OTPA NPS accounting.

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.

4.8 Paying Quantities Determination

The Division conducted a cash flow analysis for the OTPA formation, which was approved on June 24, 2011. The analysis was based on submitted data and incorporated other elements to standardize the "paying quantities" determination required under the participating area approval process. The Division reviewed the proposed OTPA expansion application with the 2011 cash flow analysis for the OTPA formation. The expanded OTPA 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 OTPA 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 OTPA allows for continued development of the Oooguruk Torok reservoir. Approval of the Application, as modified by this decision, will prevent economic and physical waste because the approval will allocate production revenue under an approved tract allocation formula, equitably allocating production revenues among the WIOs and to the State. Approval of the OTPA 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 and determined the area proposed for expansion is reasonably estimated to be capable of producing or contributing to production of hydrocarbons in paying quantities. Because Pioneer's POD for the OTPA does not propose additional wells and development for the entire proposed expansion area, limiting expansion of the OTPA to the drainage radius of the ODST-47 horizontal well, which is located in the proposed expansion area, protects the State. The approved expansion area is described in section IV. C. 2. below and depicted in Attachment 6.

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 expanded OTPA under annually updated and approved PODs will provide for continued review and approval of Pioneer's plans to develop the expanded OTPA 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

Expansion of the OTPA will provide for continued development of the participating area and the Oooguruk Torok reservoir 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 Torok reservoir. Unitized

development of the Torok 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 expanded OTPA 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 proposed formula for allocation of hydrocarbon production and unit operating cost among those leases in the expanded OTPA. Pioneer shall submit revised OTPA Exhibits C, D, E, and F, reflecting the approved expansion area described in Section IV. C. 2. within 30 days of the issuance of this decision under the OU agreement Article 11.1.

2. The approved OTPA expansion area contains the following lands:

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description
15	355038	8/1/83	760	12.5% 30%NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T 13N, R7E UM Sec 22: Protracted, NE/4 NW/4, NE/4, E/2 SE/4 Sec 23: Protracted, W/2 NW/4, SE4/NW/4, SW/4, W/2 SE/4 Sec 26: Protracted, N/2 NW/4, NW/4 NE/4
		Total	760				

3. The approved expanded OTPA contains the following lands:

Tract No.	Lease No.	Lease Date	Acres	Royalty	WIO	Seg	Description	Estimated Unit Tract Participation (acreage)
13	355036	8/1/83	1,160	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T13N, R7E UM Sec 10: Protracted, SE/4 SE/4, W/2 SE/4, SW/4, S/2 NW/4, NW/4 NW/4 Sec 14: Protracted, W/2 NW/4, NW/4 SW/4, SW/4 SE/4, E/2 SW/4, SW/4 SW/4, SE/4 NW/4 Sec 15: Protracted, All	46.7742
14	355037	8/1/83	560	12.5% 30% NPS	PNRA, Inc. 70% ENI Petroleum US LLC 30%	1	T 13N, R7E UM Sec 9: Protracted, E/2 NE/4, SW/4 NE/4, SE/4, E/2 SW/4 Sec 16: Protracted, NE/4, NE/4 SE/4	22.5806
15	355038	8/1/83	760	12.5% 30% NPS	PNRA, Inc. 70% ENI	1	T 13N, R7E UM Sec 22: Protracted, NE/4 NW/4, NE/4, E/2 SE/4	30.6452

					Petroleum US LLC 30%		Sec 23:Protracted, W/2 NW/4, SE/4 NW/4, SW/4, W/2 SE/4 Sec 26: Protracted, N/2 NW/4, NW/4 NE/4	
			2480					100

4. Ninety days after approval of Interim and Final determinations, revised royalty and net profit share reports must be filed to reflect the retroactive 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.

5. The OTPA 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 OTPA Expansion to include lands described in Section IV. C. 2. of this decision.

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 Daniel S. Sullivan, 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.

for Jonne D Alemons

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

3/26/2013
Date

Attachments:
1. Exhibit C, OTPA Tracts/Leases
2. Exhibit D, Map of proposed PA Expansion
3. Exhibit E, Proposed Allocation of PA Expense
4. Exhibit F, Proposed Allocation of Unit Area Expense
5. Exhibit G, Initial Plan of Development
6. Map of Approved OTPA Expansion Area

ATTACHMENT ONE
OU OTPA Proposed Exhibit C
Description of lands within the proposed expanded participating area

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)
13	State of Alaska ADL 355036	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	1,360.00	12.5%* 30% NPS		
	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 10: Protracted, S/2 NW/4, NW/4 NW/4, SE/4 SE/4, W/2 SE/4, SE/4 NE/4, SW/4 Sec 14: Protracted, W/2 NW/4, SE/4 NW/4, SW/4 SE/4, SW/4 Sec 15: Protracted, All			Total 5.021390% See Details Below	44.73684%
14	State of Alaska ADL 355037	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	560.00	12.5%* 30% NPS		
	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 9: Protracted, E/2 NE/4, SW/4 NE/4, SE/4, E/2 SW/4 Sec 16: Protracted, NE/4, NE/4 SE/4			Total 5.0767380% See Details Below	18.42105%
15	State of Alaska ADL 355038	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	1,120.00	12.5%* 30% NPS		
	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 22: Protracted, NE/4 NW/4, NE/4, E/2 SE/4 Sec 23: Protracted, All Sec 24: Protracted, SW/4 NW/4, NW/4 SW/4 Sec 26: Protracted, N/2 NW/4, NW/4 NE/4			Total 5.0767380% See Details Below	36.84211%
WORKING INTEREST OWNERS-All Tracts and Intervals						3,040.00			100.00000%
Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 99501									
Eni Petroleum US LLC 1201 Louisiana St., Suite 3500 Houston, TX 77022-5609									

* The state's royalty interest in ADL 355036, 355037 and ADL 355038 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying royalty under the leases in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).

RECEIVED
AUG 09 2012
DIVISION OF
OIL AND GAS

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

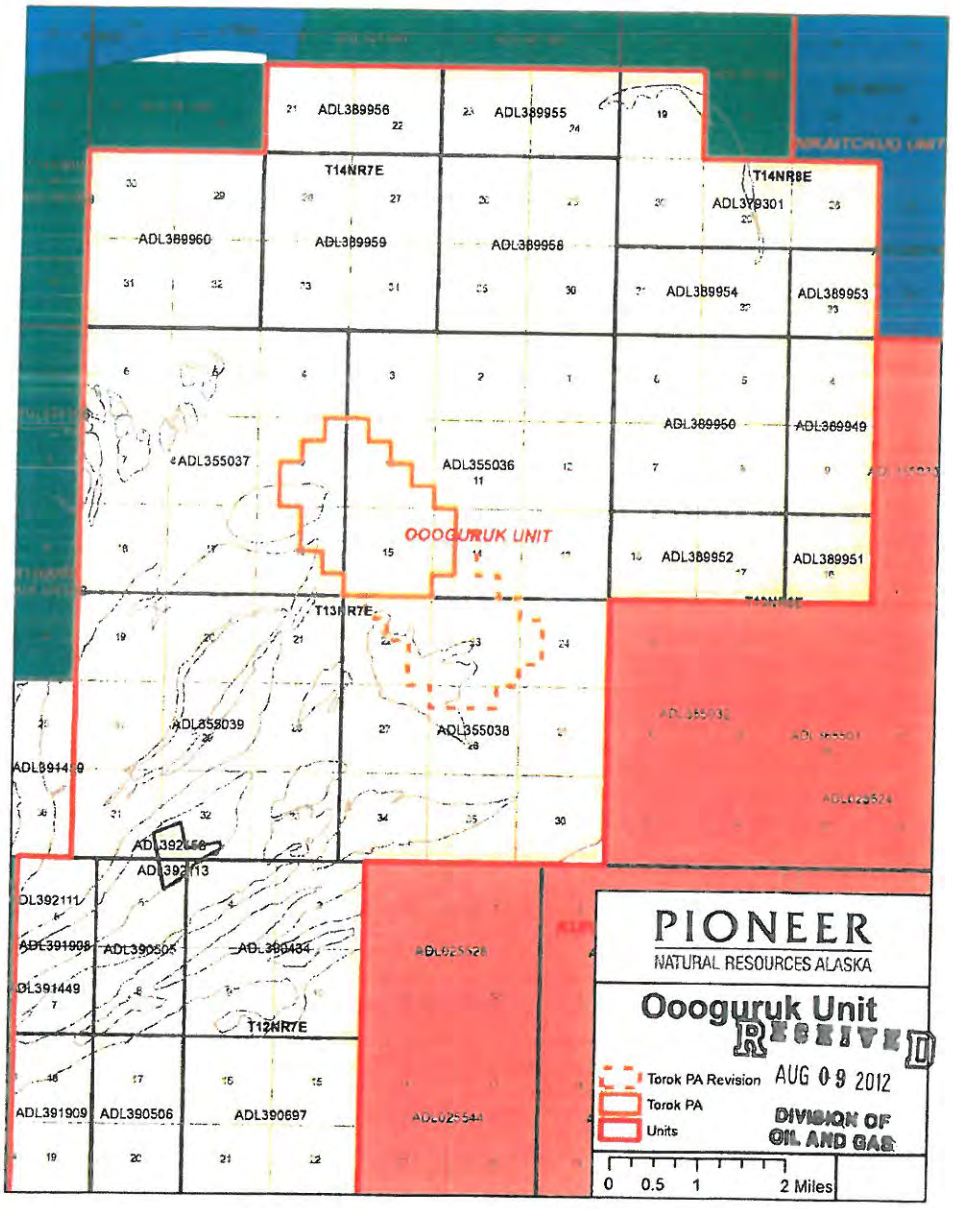
Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)
Tract 13 is burdened by Overriding Royalties held by the following parties in the stated percentages:									
Tract 13 Upper Interval		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.25210000%	
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.51429000%	
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501						1.20000000%	
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 00501						2.50000000%	
		William D. Armstrong 16 Village Road Englewood, CO 80110						0.40400000%	
		GMT Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.07400000%	
		Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.01200000%	
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.01200000%	
		Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127						0.01200000%	
		Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.01200000%	
		Matthew X. Furin 2001 South Madison Denver, CO 80210						0.01200000%	
		Stuart W. Gustafson P.O. Box 4625 Horseshoe Bay, TX 78657						0.01200000%	
		Chester E. Paris 1208 Mesa Court Golden, CO 80403						0.00500000%	

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)
Tracts 14 is burdened by Overriding Royalties held by the following parties in the stated percentages :									
Tracts 14 &15 Upper Interval		Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330						0.09354800%	
		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						0.67500000%	
		Elmer L. Herbaly and Lorna M. Herbaly as Trustees of the Elmer L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120						0.67500000%	
		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.12605000%	
		George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023						0.15000000%	
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.25714000%	
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501						0.60000000%	
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						2.50000000%	

ATTACHMENT TWO
OU OTPA Proposed PA Expansion Exhibit D
Map of participating area and proposed expansion area

Exhibit D
Torok Participating Area
Attached to and made a part of that certain Oooguruk Unit Agreement



ATTACHMENT THREE

OU OTPA Proposed PA Expansion Exhibit E
Proposed allocation of participating area expense

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	PA Expense
13	State of Alaska ADL 355036	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	1,360.00	12.5%* 30% NPS		
	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 10: Protracted, S/2 NW/4, NW/4 NW/4, SE/4 SE/4, W/2 SE/4, SE/4 NE/4, SW/4 Sec 14: Protracted, W/2 NW/4, SE/4 NW/4, SW/4 SE/4, SW/4 Sec 15: Protracted, All			Total 5.021390% See Details Below	44.73684%
14	State of Alaska ADL 355037	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	560.00	12.5%* 30% NPS		
	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 9: Protracted, E/2 NE/4, SW/4 NE/4, SE/4, E/2 SW/4 Sec 16: Protracted, NE/4, NE/4 SE/4			Total 5.0767380% See Details Below	18.42105%
15	State of Alaska ADL 355038	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	1,120.00	12.5%* 30% NPS		
	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 22: Protracted, NE/4 NW/4, NE/4, E/2 SE/4 Sec 23: Protracted, All Sec 24: Protracted, SW/4 NW/4, NW/4 SW/4 Sec 26: Protracted, N/2 NW/4, NW/4 NE/4			Total 5.0767380% See Details Below	36.84211%
WORKING INTEREST OWNERS-All Tracts and Intervals						3,040.00			100.00000%
Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 99501									
Eni Petroleum US LLC 1201 Louisiana St., Suite 3500 Houston, TX 77022-5609									
* The state's royalty interest in ADL 355036, 355037 and ADL 355038 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying royalty under the leases in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).									

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	PA Expense
Tract 13 is burdened by Overriding Royalties held by the following parties in the stated percentages:									
Tract 13 Upper Interval		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201							
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.25210000%	
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501						0.51429000%	
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 00501						1.20000000%	
		William D. Armstrong 16 Village Road Englewood, CO 80110						2.50000000%	
		GMT Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.40400000%	
		Jesse V Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.07400000%	
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.01200000%	
		Jeffery A. Lyslo 91 Buckthorn Drive Littleton, CO 80127						0.01200000%	
		Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.01200000%	
		Matthew X Furin 2001 South Madison Denver, CO 80210						0.01200000%	
		Stuart W Gustafson P.O Box 4625 Horseshoe Bay, TX 78657						0.01200000%	
		Chester E. Paris 1208 Mesa Court Golden, CO 80403						0.00500000%	

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	PA Expense
Tracts 14 & 15 are burdened by Overriding Royalties held by the following parties in the stated percentages :									
Tracts 14 &15 Upper Interval		Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330							
		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						0.09354800%	
		Elmer L. Herbaly and Lorna M. Herbaly as Trustees of the Elmer L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120						0.67500000%	
		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.67500000%	
		George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023						0.12605000%	
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.15000000%	
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501						0.25714000%	
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						0.60000000%	
								2.50000000%	

ATTACHMENT FOUR

OU Proposed PA Revision Exhibit F
Proposed allocation of unit expense

Exhibit F
Torok Participating Area
Attached to and made a part of that certain Oooguruk Unit Agreement

Pioneer Natural Resources Alaska, Inc., as the Oooguruk Unit Operator, estimates the total Unit economic reserves will be contributed 90% from the Nuiqsut PA, 7% from the Kuparuk PA and 3% from the Torok PA. The current Unit Plan of Development contemplates the drilling a total of 47 wells for Oooguruk development; 7 wells in the Kuparuk, 35 in the Nuiqsut and 5 in the Torok. On a relative well count basis 14.8936% of the unit wells will be drilled to produce Kuparuk reserves, 74.4680% of the unit wells will be drilled to produce Nuiqsut reserves and 10.6382% 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 – Cost 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 (OTP). 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 - These 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 No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)	Relative Reserve Allocation (.03 x Tract Allocation)	Well Count Allocation 5/47 x Tract Allocation)
13	State of Alaska ADL 355036	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8.1/83	T13N, R7E, UMIAT MERIDIAN	1,360.00	12.5%* 30% NPS				
	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 10: Protracted, S/2 NW 4, NW 4 NW 4, SE 4 SE/4, W 2 SE 4, SE 4 NE 4, SW 4 Sec 14: Protracted, W/2 NW 4, SE/4 NW 4, SW 4 SE/4, SW 4 Sec 15: Protracted, All			Total 5.021390% See Details Below	44.73684%	0.013421053	0.047592385
14	State of Alaska ADL 355037	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	560.00	12.5%* 30% NPS				
	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 9: Protracted, E/2 NE/4, SW/4 NE/4, SE 4, E/2 SW 4 Sec 16: Protracted, NE 4, NE 4 SE 4			Total 5.0767380% See Details Below	18.42105%	0.005526316	0.019596865
15	State of Alaska ADL 355038	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/83	T13N, R7E, UMIAT MERIDIAN	1,120.00	12.5%* 30% NPS				
	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 22: Protracted, NE 4 NW/4, NE/4, E/2 SE/4 Sec 23: Protracted, All Sec 24: Protracted, SW 4 NW 4, NW 4 SW 4 Sec 26: Protracted, N 2 NW/4, NW/4 NE 4			Total 5.0767380% See Details Below	36.84211%	0.011052632	0.039193729
WORKING INTEREST OWNERS-All Tracts and Intervals						3,040.00			100.00000%	0.03	0.106382979
Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 99501											
Eni Petroleum US LLC 1201 Louisiana St., Suite 3500 Houston, TX 77022-5609											

* The state's royalty interest in ADL 355036, 355037 and ADL 355038 is subject to that certain Final Findings and Determination of the Commissioner of DNR dated February 1, 2006 (modifying royalty under the leases in response to the Oooguruk Development Royalty Modification Application filed on May 20, 2005).

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Exhibit F
Torok Participating Area
Attached to and made a part of that certain Oooguruk Unit Agreement

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)	Relative Reserve Allocation (.03 x Tract Allocation)	Well Count Allocation 5/47 x Tract Allocation)
Tract 13 is burdened by Overriding Royalties held by the following parties in the stated percentages:											
Tract 13 Upper Interval		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.25210000%			
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.51429000%			
		Pioneer Natural Resources Alaska, Inc 700 G Street, Suite 600 Anchorage, AK 00501						1.20000000%			
		ConocoPhillips Alaska, Inc 700 G Street Anchorage AK 00501						2.50000000%			
		William D Armstrong 16 Village Road Englewood, CO 80110						0.40400000%			
		GMT Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.07400000%			
		Jesse V Sommer 4531 West Gedder Avenue Littleton, CO 80128						0.01200000%			
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.01200000%			
		Jeffery A Lyslo 91 Buckthorn Drive Littleton, CO 80127						0.01200000%			
		Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.01200000%			
		Matthew X Flinn 2001 South Madison Denver, CO 80210						0.01200000%			
		Stuart W Gustafson P.O Box 4625 Horseshoe Bay, TX 78657						0.01200000%			
		Chester E Paris 1208 Mesa Court Golden, CO 80403						0.00500000%			

Exhibit F
Torok Participating Area
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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden	Unit Tract Participation (surf. acreage)	Relative Reserve Allocation (.03 x Tract Allocation)	Well Count Allocation 5/47 x Tract Allocation)
Tracts 14 and 15 are burdened by Overriding Royalties held by the following parties in the stated percentages											
Tracts 14 &15 Upper Interval		Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX77251-1330						0.09354800%			
		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						0.67500000%			
		Elmer L. Herbaly and Lorna M. Herbaly as Trustees of the Elmer L. Herbaly Revocable Trust dated May 24, 2004 1420 W Canal Ct Ste 150 Littleton, CO 80120						0.67500000%			
		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.12605000%			
		George Alan Joyce, Jr 3528 Eisenhower Lane Plano, TX 75023						0.15000000%			
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002						0.25714000%			
		Pioneer Natural Resources Alaska, Inc 700 G Street, Suite 600 Anchorage, AK 00501						0.60000000%			
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						2.50000000%			

ATTACHMENT FIVE

OU OTPA Exhibit G
Proposed Initial Plan of Development

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

Planned development activities within the proposed expanded OTPA include:

- Initiating enhanced recovery with injection start-up in ODST-46 in September 2012 (pending issuance of an Area Injection Order from the AOGCC);
- Drilling, logging and completing the ODST-47 well in 2012.
- Fracture stimulating the ODST-47 well in 2013 during the winter season;
- Evaluating ODST-46 injectivity and responses in ODST-45A and ODST-39;
- Performing a workover on ODST-45A to replace an ESP and increase production;
- Performing a workover on ODST-39 to pull the frac completion and run an ESP to increase production from the well;

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

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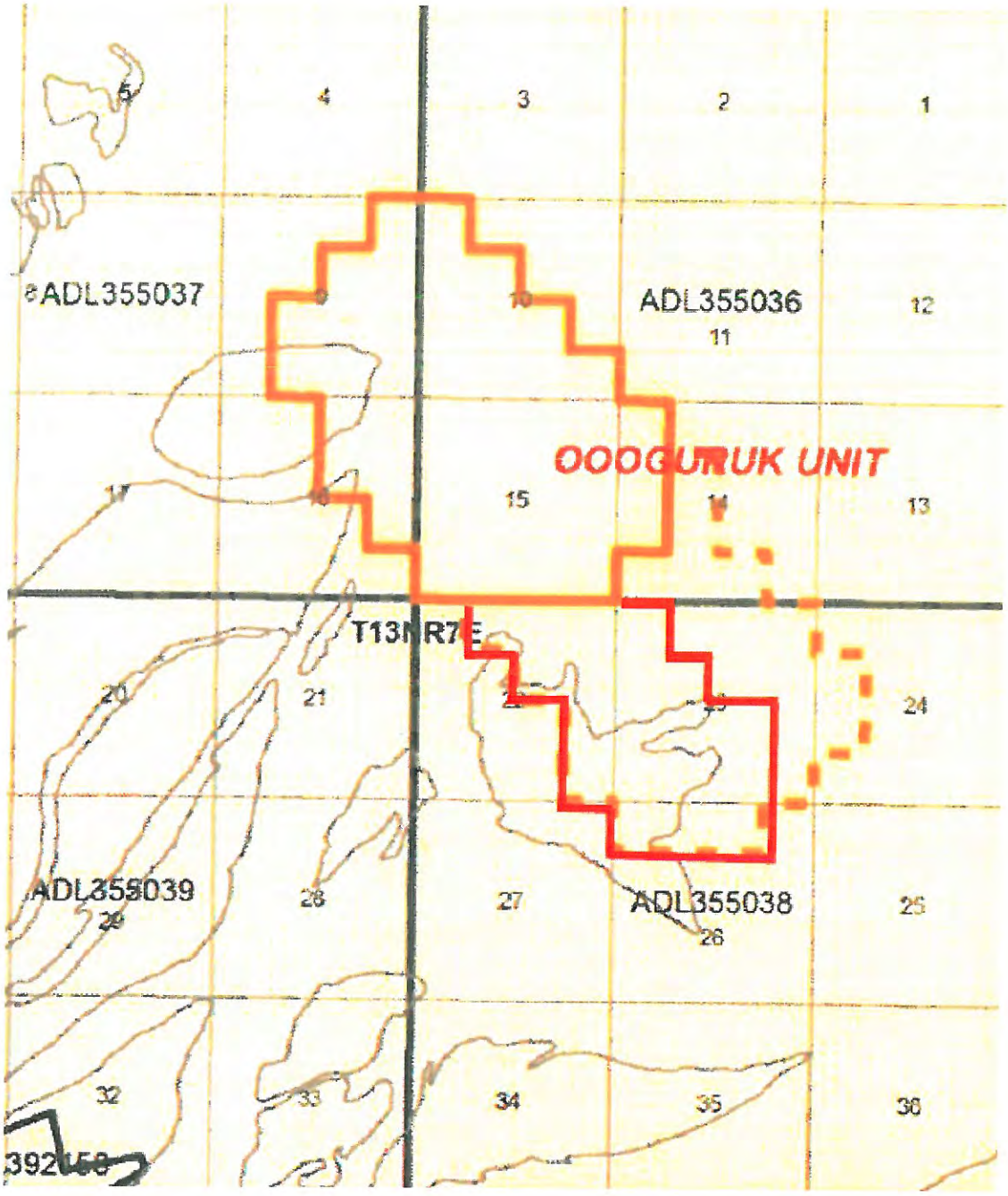
ATTACHMENT SIX
Approved Torok PA Expansion Boundary