

OOOGURUK UNIT

APPROVAL OF THE SECOND EXPANSION OF THE UNIT AREA

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

AUGUST 31, 2011

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I. INTRODUCTION AND DECISION SUMMARY

The State of Alaska (State), Department of Natural Resources (DNR), Division of Oil and Gas (Division), approved the formation of the Oooguruk Unit (OU) effective June 11, 2003. Effective February 1, 2006, the Division granted royalty modification to certain formations and leases within the unit and effective March 7, 2007 the Division approved the First Expansion of the OU. Effective June 1, 2008, the Division approved the formation of the Oooguruk Nuiqsut and Oooguruk Kuparuk Participating Areas. Also effective June 1, 2008, three leases contracted from the OU under Section IV, paragraph 11, of the decision approving the formation of the unit. Effective March 1, 2010, the Division approved the Formation of the Torok Participating Area. The proposed expanded OU would cover approximately 53,188 acres encompassing twenty state oil and gas leases.

Pioneer Natural Resources, Inc. (Pioneer), as the designated Oooguruk Unit Operator, filed the unit expansion application (Application) with the Division. Pioneer submitted confidential and public portions of the Application that meet the requirements for a complete application under 11 AAC 83.306. The public comment period closed on June 16, 2011 and the Division received no comments.

“A unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations.” 11 AAC 83.356(a). Pioneer has submitted confidential geological, geophysical, and engineering data that demonstrate that the area proposed for unit expansion includes all or part of an oil reservoir.

The Division finds that the expansion of the OU promotes conservation of all natural resources, promotes the prevention of economic and physical waste and provides for the protection of all parties of interest, including the state. AS 38.05.180(p) and 11 AAC 83.303. I approve the Application under the terms and conditions of Section V. The effective date of the OU Second Expansion is April 30, 2011.

II. APPLICATION

Pioneer submitted the Application on March 11, 2011, and simultaneously paid the \$500.00 unit application filing fee, in accordance with 11 AAC 83.306 and 11 AAC 05.010(a)(10)(D), respectively. The Application includes: Exhibit A, legally describing the proposed expanded unit area, its leases, and ownership interests; Exhibit B, a map of the proposed expanded unit; and Exhibit G, the Plan of Exploration (POE). The Application also includes confidential, technical data. The Division deemed the Application complete on May 2, 2011.

The Division published a public notice in the “*Anchorage Daily News*” on May 5, 2011, and in the “*Arctic Sounder*” on May 16, 2011, under 11 AAC 83.311. Copies of the Application and the public notice were provided to interested parties. The Division provided public notice to the Alaska Department of Environmental Conservation, the DNR Office of Habitat, Management and Permitting, the North Slope Borough, the City of Barrow, the City of Nuiqsut, the Kuukpik Corporation, the Arctic Slope Regional Corporation, the Nuiqsut Postmaster, and the radio station KBRW in Barrow. The notice was also published on the State of Alaska Public Notice website and the Division’s website. The public notices invited interested parties and members of the public to submit comments by June 16, 2011. The Division received no comments regarding the Application.

III. LEASE BACKGROUND

Pioneer proposed expanding the unit to add five leases: ADLs 390434, 390504, 390505, 390506, and 390697. On May 2, 2011 Pioneer requested the Division withdraw ADL 390504 from the expansion application. The four remaining state leases proposed for the unit expansion are ADLs 390434, 390505, 390506 and 390697 (Proposed Expansion Area). All of the leases, except for ADL 390697, which was issued effective July 1, 2005, were issued effective May 1, 2004 on form number DOG 200204(REV10/03) with a primary term of seven years and royalty rate of a 16.66667 percent. ADL 390697 expires June 30, 2012. ADLs 390434, 390505 and 390506 would have expired April 30, 2011 if not extended by this pending Application. Pioneer holds 70 percent and Eni Petroleum US LLC (Eni) holds 30 percent of the working interest in ADLs 390504, 390505 and 390697, and Pioneer holds 100 percent of the working interest in ADL 390506.

IV. DISCUSSION OF DECISION CRITERIA

The DNR Commissioner (Commissioner) reviews applications related to units 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

The Proposed Expansion Area, in part onshore and in part in the Colville River delta, lies directly south and southwest of the existing OU and to the southeast abuts the western boundary of the Kuparuk River Unit. This area is habitat for various mammals,

waterfowl, and fish. Area residents may use this area for subsistence hunting and fishing. Oil and gas activity in the proposed unit area may affect some wildlife habitat and some subsistence activity. DNR develops lease stipulations through the lease sale process to mitigate the potential environmental impacts from oil and gas activity. Alaska statutes require DNR to give public notice and issue a written finding before disposal of the state's oil and gas resources. AS 38.05.035(e); AS 38.05.945; 11 AAC 82.415. In the written best interest finding, the Commissioner may impose additional conditions or limitations beyond those imposed by law. AS 38.05.035(e).

Approval of the OU expansion has no direct environmental impact. This decision is an administrative action and does not authorize any on-the-ground activity. The unit expansion does not entail any environmental costs in addition to those that may occur when permits to conduct lease-by-lease exploration or development are issued. The Unit Operator must obtain approval of a Plan of Operations from the state and permits from various agencies on state leases before drilling a well or wells or initiating development activities to 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. DNR considers environmental issues during the lease sale process, and the unit Plan of Operations approval process.

2. Geologic and Engineering Characteristics

Introduction and Summary

Pioneer applied to expand the OU to the south and southwest based primarily on the prospectivity of the Torok formation, with additional upside potential within the Kuparuk C and Nuiqsut reservoir sandstones. Current OU production is from the Kuparuk, Nuiqsut, and Torok participating areas (PAs), which lie entirely within the existing OU boundary. Pioneer provided sufficient geological, geophysical, and engineering data to justify the unit expansion to the south, but not to the southwest.

Jurassic Nuiqsut Sandstone

OU and the Expansion Area contain one of the 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 sandstones were deposited on a broad, very low gradient marine shelf on a south-facing passive margin. Sedimentation on the shelf was relatively muddy due to limited accommodation space and relatively low rates of sediment input. In the Expansion Area, the Nuiqsut sandstone is preserved. The cleanest and best sands form at the top of the overall coarsening upward sequence, where not truncated by the Lower Cretaceous Unconformity (LCU).

Several older exploration wells in the Colville Delta area, on the western side of the current OU tested oil in the Nuiqsut sandstone: 1) the Texaco Colville Delta 1 well produced at a rate of 1075 barrels of oil per day (BOPD) of 25 degree API oil; 2) the

Texaco Colville Delta 2 well produced at a rate of 409 BOPD with the measured oil gravity varying from 24 – 40 degree API; 3) the Texaco Colville Delta 3 well produced at a rate of 2170 BOPD of 27.7 degree API oil; and 4) the ARCO Kalubik 1 well produced at a rate of 410 BOPD of 21 degree API gravity oil.

The Nuiqsut sandstone in the Amerada Hess Colville Delta 25-1 well located just north of the proposed expansion acreage and just west of the current OU rate averaged 104 BOPD after fracture stimulation. The Nuiqsut interval is approximately 150' thick in the Till 1 well to the west of the OU expansion acreage, but was not tested.

Reservoir Characteristics of the Nuiqsut Sandstone

Reservoir and fluid properties for the Oooguruk Nuiqsut Reservoir in the OU have been determined through the analysis of exploration well test data, conventional and sidewall core data, and well log data. Within the OU, the Oooguruk Nuiqsut reservoir consists of very fine- to fine-grained, quartz rich sandstone with up to 15 percent siderite and glauconite. Reservoir porosity ranges from 10 to 20 percent and averages about 15 percent. Permeability ranges from 0.1 to 50 millidarcies (md) and averages approximately 15 md. Estimated water saturation varies with facies and permeability and generally ranges between 40 and 60 percent for typical reservoir quality sandstone.

Kuparuk C Sandstone

The Kuparuk C sandstone is deposited on top of the eroded irregular topography created by the LCU and represents the first sediments sourced from local structural highs. Kuparuk C sandstone is absent by erosion or non-deposition on paleo-topographic highs. The most productive C sandstone areas tend to be associated with thicker sand intervals deposited in down-thrown fault blocks and paleo-topographic depressions. The Kuparuk C sandstone, is below seismic resolution (generally less than 40 feet thick) so its areal extent is difficult to predict. Seismic amplitudes may indicate the presence of the Kuparuk C interval, if thick enough, but not the lithology which can be sandstone, siderite cemented sandstone, or sideritized mudstone. Examples of Kuparuk C sandstone quality in the area include the Amerada Hess Colville Delta 25-1 well which encountered approximately 21 feet of oil-bearing Kuparuk C sandstone, with the upper two-thirds appearing siderite cemented on the density log. The Palm 1 and the Placer 1 and 2 wells to the south of the Proposed Expansion Area all exhibit an amplitude anomaly in the Kuparuk interval. Palm 1 and Placer 1 contain Kuparuk C sandstone, but the Placer 2 well does not contain any sandstone in the Kuparuk interval.

Reservoir Characteristics of the Kuparuk C Sandstone

Within the existing OU the Kuparuk C interval ranges from 0' to about 55' in thickness. Along with mudstone and siltstone, it consists of very fine- to coarse-grained, fining upward sandstone that contains 5 percent to 25 percent glauconite; 10 percent to 35 percent siderite cement; and up to 50 percent clay matrix. Kuparuk C porosity ranges from 13 percent to 32 percent, and averages approximately 17 percent. Permeability ranges from 0.5 md to 500 md and averages approximately 50 md to 100 md. Average

water saturation is about 30 percent. Based on oil samples taken in the Kuukpik No.3 and Kalubik No.1 exploration wells, oil gravity in the Kuparuk ranges from 23 to 26 degree API gravity.

Torok Formation

The Torok formation is a time transgressive unit of Albian to Cenomanian age and forms a complex series of interbedded sandstone, siltstone, and mudstone deposits that record a complex interaction of deposition, sedimentation, subsidence, sea-level changes, and erosion along shelf edge margins during the middle Cretaceous. The resultant sedimentary deposits record depositional patterns of progradation, regression, and aggradation. The entire Torok interval is generally around 250 feet thick in the OU area. The most prospective Torok reservoirs were deposited in a lower slope-to-basin floor environment as toe of slope and basin floor fan sandstone deposits. Some composite sand packages greater than 35 to 40 feet can be recognized and mapped with 3D seismic. Because the Torok reservoir consists of very finely interbedded sandstones, siltstones, and mudstones, it is difficult to correlate individual beds, but far easier to define and correlate the entire interval. In the proposed Proposed Expansion Area, the western closure of the Torok reservoirs is interpreted to be stratigraphic thinning and onlap onto the shelf edge margins along the slope and toe of slope.

The basis for defining the outline of the potential Torok accumulation is the -5150 feet subsea Lowest Known Oil (LKO) contour established from the Colville Delta 3 well. The Sinclair Colville well, that lies approximately 1 mile to the SE of the proposed expansion, encountered a zone of significant Torok reservoir interval. The Alaska Oil and Gas Conservation Commission (AOGCC) defined the Ooguruk-Torok Oil Pool (Torok Pool) boundary in Conservation Order No. 645 (CO 645), May 26, 2011. The Torok Pool extends south from the existing unit into the Proposed Expansion Area.

Reservoir Characteristics of the Torok Formation

The Torok interval in the OU and Expansion Area ranges from 200 to 250 feet thick and varies from fine sand to coarse silt. The lithology consists of quartz (20 percent to 50 percent); feldspar (15 percent to 25 percent); and clay (5 percent to 40 percent) and contains metamorphic rock fragments and minor amounts of carbonate. Sand net-to-gross is typically 45 percent to 50 percent. Porosity ranges from 12 percent to 26 percent, averaging 19 percent. Permeability ranges from 0.1 to 100 md and averages 4 md. Water saturation estimates for the reservoir sandstones range from 40 percent to 55 percent, with an average of about 50 percent.

Conclusion

Pioneer submitted confidential geological, geophysical, and engineering data to justify the expansion of the Ooguruk Unit.

3. Plan of Exploration and Development

Pioneer submitted Exhibit G, POE, Attachment 3, as part of the Application and met twice with the Division for technical presentations and discussion, February 3 and May 20, 2011. The Division and Pioneer discussed the various milestones and the Division requested a more detailed description of the timing and commitments Pioneer planned in the POE. Pioneer submitted the following as a supplement to the Exhibit G.

1. Incorporation of the three (3) Torok pilot wells drilled from ODS (Oooguruk Drill Site), with the following milestones:
 - a) Well completion dates:
 1. T-45A – Previously drilled and currently on production
 2. T-46i – To be completed by September 30, 2011
 3. T- 39 (or substitute) – To be completed by March 31, 2012
 - b) Pioneer will submit an application for an Area Injection Order to AOGCC by August 31, 2011.
 - c) Pioneer will commence injection in the Torok pool by June 30, 2012.
 - d) Pioneer will provide DOG with preliminary results and report of injection status by June 30, 2013.
2. Pioneer will drill, complete, frac and test a well from the proposed Nuna drillsite (Nuna DS-1) location by June 30, 2013.
3. Pioneer will provide DNR notice regarding its sanction decision of the Nuna project by June 30, 2014.
4. Pioneer will construct Nuna-related gravel roads and the Nuna DS-1 drillsite pad by June 30, 2015.
5. Pioneer will commence Nuna development drilling in 2016.
6. Each of the following leases, ADL 390434, ADL 390697, ADL 390505 and ADL 390506, no portion of which is included in a participating area or an approved Plan of Exploration or Plan of Development on December 31, 2016, will automatically contract out of the Unit.
7. Pioneer will provide a report and meet with DOG annually to provide an update on Oooguruk Unit activities as they relate to the Proposed Expansion Area.

The initial development work targets the northern area of the Torok, within the existing unit boundary, and would include three wells drilled from the existing ODS: the T-45A, already producing, the injector T-46i, to be completed by September 30, 2011, and the T-39, to be completed by March 31, 2012.

Pioneer proposes two additional drill sites, Nuna #1 and Nuna #2 (Nuna Development), from which to drill the Expansion Area. During 2011 and 2012 Pioneer would commence injection of the Torok within the existing unit area, and initiate engineering studies and permitting applications for the Nuna Development. By June 30, 2013, Pioneer would drill, complete, frac, and test a well from the proposed Nuna #1 drillsite location, providing the Division notice regarding its sanction decision of the Nuna Development by June 30, 2014.

After sanction, Pioneer would construct roads and the Nuna #1 pad during 2015, before commencement of development drilling of the Expansion Area in 2016. Any of the expansion leases, no part of which were committed to a participating area or under an approved POE or Plan of Development (POD) by December 31, 2016, would automatically contract out of the unit.

Pioneer's POE for the Proposed Expansion Area states that in year three, (2014), Pioneer will provide DNR notice regarding its sanction decision of the Nuna Development by June 30, 2014. If the Nuna Development is not sanctioned, then the development planned for 2015 and 2016 will not occur.

The Division approves the POE, but only through June 30, 2014 and only as follows:

1. Pioneer shall drill three Torok pilot wells from ODS, with the following completion dates:
 - a. T-45A – Previously drilled and currently on production
 - b. T-46i – To be completed by September 30, 2011
 - c. T-39 (or substitute) – To be completed by March 31, 2012
2. Pioneer shall submit an application for an Area Injection Order to AOGCC by August 31, 2011. Pioneer shall commence injection in the Torok pool by June 30, 2012.
4. Pioneer shall provide the Division with preliminary results and report of injection status by June 30, 2013.
5. Pioneer shall drill, complete, frac and test a well from the proposed Nuna drillsite (Nuna DS-1) location by June 30, 2013.
6. Pioneer shall provide the Division notice regarding its sanction decision of the Nuna project by June 30, 2014.
7. If the Nuna Development is sanctioned, Pioneer shall submit a POD for that activity in accordance with 11 AAC 83.343.

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

The assessment of the hydrocarbon potential on state lands will create jobs and in-state economic activity in the short-term and, if the exploration activity is successful, the state and its residents will enjoy royalty and tax revenues, and increased employment opportunities over the long term. These economic benefits result from unitized development conducted under the OU Agreement which provides for development of all the unitized leases as a single lease, rather than development conducted on a lease by lease basis. Unitized development maximizes oil and gas recovery, promotes conservation, prevents waste, and protects all of the parties of interest.

Three of the expansion leases would have expired on April 30, 2011 if not extended by unitization. The State foregoes revenue in the form of bonus bids by including these leases in the expanded OU. Absent inclusion in the expanded OU, ADLs 390434, 390505, and 390506 would expire and the acreage would be available at the next lease sale. To partially offset any potential loss of lease sale bonus bids on this acreage, the State is increasing the lease rentals for these three leases as authorized under AS 38.05.180(m). (“Upon extension, the commissioner may increase lease rentals so long as the increased rental rate does not exceed 150 percent of the rate for the preceding year.”) The rental rate for ADLs 390434, 390505 and 390506 will increase from \$3.00 per acre to \$4.50 per acre effective April 30, 2011, the effective date of unitization. Rental is payable in advance, and continues until income to the state from royalty exceeds rental income to the state for that year. AS 38.05.180(n).

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 expansion of unit areas to develop hydrocarbon-bearing reservoirs are well-accepted means of hydrocarbon conservation. Expansion of an existing unit, with development occurring under the terms of a unit agreement, promotes efficient evaluation and development of the State’s resources, and minimizes impacts to the area’s cultural, biological, and environmental resources.

2. The Prevention of Economic and Physical Waste

Unitization prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and by avoiding loss of ultimate recovery with the adoption of a unified reservoir management plan. Reducing costs and environmental impacts through unitized operations will expedite development of any reserves and will promote greater ultimate recovery of any oil and gas from the unit area. This will increase and extend the state’s income stream from production taxes and royalties.

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

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 expansion under future annually approved plans of development will provide for continued review and approval of Pioneer’s plans to develop the OU in a manner which will maximize economic and physical recovery. Combining interests and operating under the terms of the OU Agreement and OU Operating Agreement assures each individual Working Interest Owner (WIO) an equitable allocation of costs and revenues commensurate with the resources of its leases.

The OU expansion protects the economic interests of the WIOs and the royalty owner. The expansion promotes the state's economic interests because hydrocarbon recovery will be maximized and additional production-based revenue will be derived from the increased production. Diligent exploration and development under a single approved unit plan without the complications of competing leasehold interests promotes the state's interest. Operating under the OU Agreement provides for accurate reporting and record keeping, State approval of plans of exploration and development and operating procedures, royalty settlement, in-kind taking, and emergency storage of oil and gas, all of which will further the State's interest.

The POE submitted for the Proposed Expansion Area describes the activities that Pioneer plans to undertake to bring the Proposed Expansion Area into production. Pioneer plans two drillsites--Nuna #1 and Nuna #2. The AOGCC CO 645 (Torok Pool Rules) does not include the western sections of ADLs 390505 and 390506 for the Kuparuk, the Nuiqsut, or the Torok pools. The portion of the Torok Pool within the existing unit boundary has been drilled and evaluated, Pioneer currently produces from the northernmost portion of the reservoir.

An accumulation in the Nuiqsut and Kuparuk C may underlie the western sections of ADLs 390505 and 390506, but Pioneer has not yet drilled these western sections. Pioneer may not sanction expansion area development.

Under 11 AAC 83.356(e), “[n]ot sooner than 10 years after the effective date of the unit agreement, the commissioner will, in the commissioner's discretion, contract the unit area to include only that land covered by an approved unit plan of exploration or development, or that area underlain by one or more oil or gas reservoirs or one or more potential hydrocarbon accumulations and lands that facilitate production as set out in (b) of this section.” The OU was formed effective June 11, 2003. The Division and Pioneer agree that all four leases will be committed to the OU, but that the western sections of ADLs 390505 and 390506 will be treated as separate and distinct leases and assigned new leases numbers. The State's interest is protected because absent sanction or drilling, the Division may, after giving the unit operator, the working interest owners, and the royalty owners of the leases or portions of leases being excluded reasonable notice and an opportunity to be heard, contract leases under 11 AAC 83.356 (e).

V. FINDINGS AND DECISION

A. The Conservation of All Natural Resources

1. Expansion of the OU will provide for exploration and development of the expansion leases 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.

2. The unitized development and operation of the leases in this proposed expanded unit will reduce the amount of land and fish and wildlife habitat that would otherwise be disrupted by individual lease development. This reduction in environmental impacts and preservation of subsistence access is in the public interest.
3. There is potential for environmental impacts associated with reservoir development. All unit development must proceed according to an approved plan of development. Additionally, before undertaking any specific operations, the Unit Operator must submit a unit Plan of Operations to the Division and other appropriate state and local agencies for review and approval. The lessees may not commence any drilling or development operations until all agencies have granted the required permits. DNR may condition its approval of a unit Plan of Operations and other permits on performance of mitigation measures in addition to those in the modified leases and the Agreement, if necessary or appropriate. Compliance with mitigation measures will minimize, reduce, or completely avoid adverse environmental impacts.

B. The Prevention of Economic and Physical Waste

1. Pioneer submitted confidential geological, geophysical and engineering data to the Division in support of the Application.

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

1. The unit expansion as approved protects all parties in interest including the people of Alaska who 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).
2. Pioneer provided evidence of reasonable effort to obtain joinder of any proper party to the Agreement.
3. Pioneer holds sufficient interest in the unit area to give reasonably effective control of operations.
4. The unit expansion as approved meets the requirements of 11 AAC 83.303.
5. The Division complied with the public notice requirements of 11 AAC 83.311.
6. The unit expansion will not diminish access to public and navigable waters beyond those limitations (if any) imposed by law or already contained in the oil and gas leases covered by this Agreement.

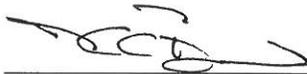
7. The OU Agreement provides for additional expansions and contractions of the unit area in the future, as warranted by data obtained by exploration or otherwise. The Agreement thereby protects the public interest, the rights of the parties, and the correlative rights of adjacent landowners.
8. The POE for the expansion acreage is approved for a three year period, until June 30, 2014. Pioneer already provides annual review sessions for the OU as part of the review of the annual OU POD and will include review and updates for the expansion acreage POE as a part of the POD reviews. The annual effective date for the POE is June 30. The effective date for the OU annual POD is revised to June 30 from June 11 in order that both plans will have the same annual effective date.
 - A. The Division approves the POE, but only through June 30, 2014 and only as follows:
 1. Pioneer shall drill three Torok pilot wells from ODS, with the following completion dates:
 - a. T-45A – Previously drilled and currently on production
 - b. T-46i – To be completed by September 30, 2011
 - c. T-39 (or substitute) – To be completed by March 31, 2012
 2. Pioneer shall submit an application for an Area Injection Order to AOGCC by August 31, 2011. Pioneer shall commence injection in the Torok pool by June 30, 2012.
 3. Pioneer shall provide the Division with preliminary results and report of injection status by June 30, 2013.
 4. Pioneer shall drill, complete, frac and test a well from the proposed Nuna drillsite (Nuna DS-1) location by June 30, 2013.
 5. Pioneer shall provide the Division notice regarding its sanction decision of the development of the expansion area by June 30, 2014.
 6. If development of the expansion area is sanctioned, Pioneer shall submit a POD for that activity in accordance with 11 AAC 83.343.
9. The rental rate for ADLs 390434, 390505 and 390506 will increase from \$3.00 per acre to \$4.50 per acre effective April 30, 2011.
10. ADL 390505, Sections 5 and 8, and ADL 390506, Sections 17 and 20, are included in the OU expansion. ADL 390505, Sections 6 and 7, and ADL 390506, Sections 18 and 19, are treated as separate and distinct leases and assigned new ADLs 391508 and 391509, respectively. New ADLs 391508 and 391509 are also

committed to the OU. The rental rate for ADLs 391508 and 391509 are set at \$4.50 per acre effective April 30 2011.

11. Pioneer will submit revised exhibits reflecting these lease decisions within sixty days of the issuance of this decision.

For the reasons discussed in this Findings and Decision, I hereby approve the expansion subject to the conditions set out in this decision, retroactively effective to April 30, 2011.

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.



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

2/31
11

Date

VI. ATTACHMENTS

- 1) Exhibit A, Proposed Expanded Oooguruk Unit Tracts/leases
- 2) Exhibit B, Map of the Proposed Expanded Oooguruk Unit Boundary
- 3) Exhibit G, Proposed Plan of Exploration and Development

ATTACHMENT ONE

Exhibit A, Proposed Expanded Ooguruk Unit Tracts/leases

Exhibit A
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
4	State of Alaska ADL 389956	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T14N, R7E, UMIAT MERIDIAN	1,280.00	16.66667%	BPO
					Sec 21: Protracted, All, 640.00 acres			1.33333%
					Sec 22: Protracted, All, 640.00 acres			APO
								3.33333%
							See Details Below	
5	State of Alaska ADL 389955	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T14N, R7E, UMIAT MERIDIAN	1,280.00	16.66667%	BPO
					Sec 23: Protracted, All, 640.00 acres			1.33333%
					Sec 24: Protracted, All, 640.00 acres			APO
								3.33333%
							See Details Below	
6	State of Alaska ADL 389958	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T14N, R7E, UMIAT MERIDIAN	2,560.00	16.66667%	BPO
					Sec 25: Protracted, All, 640.00 acres			1.33333%
					Sec 26: Protracted, All, 640.00 acres			APO
					Sec 35: Protracted, All, 640.00 acres			3.33333%
							See Details Below	
7	State of Alaska ADL 389954	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T14N, R8E, UMIAT MERIDIAN	1,263.00	16.66667%*	BPO
					Sec 31: Protracted, All, 623.00 acres			1.33333%
					Sec 32: Unsurveyed, All Tidal & Submerged Lands, 635.09 acres			APO
					T14N, R8E, TRACT A, UMIAT MERIDIAN			3.33333%
							See Details Below	
8	State of Alaska ADL 389953	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T14N, R8E, UMIAT MERIDIAN	640.00	16.66667%	BPO
					Sec 33: Protracted, All, 640.00 acres			1.33333%
								APO
								3.33333%
							See Details Below	
9	State of Alaska ADL 389950	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T13N, R8E, UMIAT MERIDIAN	2,533.00	16.66667%*	BPO
					Sec 5: Protracted, All, 640.00 acres			1.33333%
					Sec 6: Protracted, All, 625.00 acres			APO
					Sec 7: Protracted, All, 628.00 acres			3.33333%
							See Details Below	

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MAR 11 2011
DIVISION OF
OIL AND GAS

Exhibit A
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
10	State of Alaska ADL 389949	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T13N, R8E, UMIAT MERIDIAN	1,280.00	16.66667%	BPO
					Sec 4: Protracted, All, 640.00 acres			1.33333%
					Sec 9: Protracted, All, 640.00 acres			APO
								3.33333%
							See Details Below	
11	State of Alaska ADL 389952	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T13N, R8E, UMIAT MERIDIAN	1,271.00	16.66667%	BPO
					Sec 17: Protracted, All, 640.00 acres			1.33333%
					Sec 18: Protracted, All, 631.00 acres			APO
								3.33333%
							See Details Below	
12	State of Alaska ADL 389951	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/1/02	T13N, R8E, UMIAT MERIDIAN	640.00	16.66667%	BPO
					Sec 16: Protracted, All, 640.00 acres			1.33333%
								APO
								3.33333%
							See Details Below	

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OIL AND GAS

Exhibit A
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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
13	State of Alaska ADL 355036			8/1/83	T13N, R7E, UMIAT MERIDIAN	5,760.00	12.5% 30% NPS	
	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.)	70.000000% 30.000000%		Sec 1: Protracted, All, 640.00 acres Sec 2: Protracted, All, 640.00 acres Sec 3: Protracted, All, 640.00 acres Sec 10: Protracted, All, 640.00 acres Sec 11: Protracted, All, 640.00 acres Sec 12: Protracted, All, 640.00 acres Sec 13: Protracted, All, 640.00 acres Sec 14: Protracted, All, 640.00 acres Sec 15: Protracted, All, 640.00 acres			Total 5.021390% See Details Below
	LOWER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC OXY USA Inc. Hunt Petroleum Corporation Lower Interval (i.e. the interval below 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 A" of the Lease.)	47.058820% 20.168070% 28.571430% 4.201680%					Total 2.689074% See Details Below

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DIVISION OF
OIL AND GAS

Exhibit A
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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
14	State of Alaska ADL 355037			8/1/83	<u>T13N, R7E, UMIAT MERIDIAN</u> Sec 4: Protracted, All, 640.00 acres Sec 5: Protracted, All, 640.00 acres Sec 6: Protracted, All, 625.00 acres Sec 7: Protracted, All, 628.00 acres Sec 8: Protracted, All, 640.00 acres Sec 9: Protracted, All, 640.00 acres Sec 16: Protracted, All, 640.00 acres Sec 17: Protracted, All, 640.00 acres Sec 18: Protracted, All, 631.00 acres	5,724.00	12.5% 30% NPS	Total 5.0767380% See Details Below
		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%					
		Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Herbaly Exploration LLC OXY USA Inc. George Alan Joyce, Jr. Anadarko Petroleum Corporation Hunt Petroleum Corporation Lower Interval (i.e. the interval below 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 A" of the Lease.)	39.384412% 16.879033% 22.500000% 14.285715% 2.500000% 2.350000% 2.100840%					Total 2.250542% See Details Below

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DIVISION OF
OIL AND GAS

Exhibit A
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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
15	State of Alaska ADL 355038			8/1/83	T13N, R7E, UMIAT MERIDIAN	5,760.00	12.5%* 30% NPS	
		Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%		Sec 22: Protracted, All, 640.00 acres Sec 23: Protracted, All, 640.00 acres Sec 24: Protracted, All, 640.00 acres Sec 25: Protracted, All, 640.00 acres Sec 26: Protracted, All, 640.00 acres Sec 27: Protracted, All, 640.00 acres Sec 34: Protracted, All, 640.00 acres Sec 35: Protracted, All, 640.00 acres Sec 36: Protracted, All, 640.00 acres		Total 5.0767380% See Details Below	
		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.)						
		Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Herbaly Exploration LLC OXY USA Inc. George Alan Joyce, Jr. Anadarko Petroleum Corporation Hunt Petroleum Corporation	39.384412% 16.879033% 22.500000% 14.285715% 2.500000% 2.350000% 2.100840%					Total 2.2505420% See Details Below
		LOWER INTERVAL Lower Interval (i.e. the interval below 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 A" of the Lease.)						

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DIVISION OF
OIL AND GAS

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
16	State of Alaska ADL 355039			8/1/83	T13N, R7E, UMIAT MERIDIAN	5,645.24	12.5%* 30% NPS	
	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 I" of the Lease.)	70.00000% 30.00000%		Sec 19: Protracted, All, 633.00 acres Sec 20: Protracted, All, 640.00 acres Sec 21: Protracted, All, 640.00 acres Sec 28: Protracted, All, 640.00 acres Sec 29: Protracted, All, 640.00 acres Sec 30: Protracted, All, 636.00 acres Sec 31: Protracted, All, excluding that portion of USS 4326 within Section 31, 626.27 acres Sec 32: Protracted, All, excluding that portion of USS 4326 within Section 31, 549.97 acres Sec 33: Protracted, All, 640.00 acres			Total 5.0767380% See Details Below
	LOWER INTERVAL	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC Herbaly Exploration LLC OXY USA Inc. George Alan Joyce, Jr. Anadarko Petroleum Corporation Hunt Petroleum Corporation Lower Interval (i.e. the interval below 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 A" of the Lease.)	39.384412% 16.879033% 22.500000% 14.285715% 2.500000% 2.350000% 2.100840%					Total 2.2505420% See Details Below

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DIVISION OF
ELECTROGENS

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
17	State of AK ADL 389959	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1/02	T14N, R7E, UMIAT MERIDIAN Sec 27: Protracted, All, 640.00 acres Sec 28: Protracted, All, 640.00 acres Sec 33: Protracted, All, 640.00 acres Sec 34: Protracted, All, 640.00 acres	2,560.00	16.66667%	4.25000% Anadarko Petroleum Corp
18	State of Alaska ADL 389960	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	9/1/02	T14N, R7E, UMIAT MERIDIAN Sec 29: Protracted, All, 640.00 acres Sec 30: Protracted, All, 620.00 acres Sec 31: Protracted, All, 623.00 acres Sec 32: Protracted, All, 640.00 acres	2,523.00	16.66667%	4.25000% Anadarko Petroleum Corp
19	State of Alaska ADL 379301	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	8/10/92	T14N, R8E, UMIAT MERIDIAN Sec 19: Protracted, All, 617.00 acres Sec 28: Protracted, All, 640.00 acres Sec 29: Protracted, All, 640.00 acres Sec 30: Protracted, All, 630.00 acres	2,517.00	16.66667%	4.25000% Anadarko Petroleum Corp
20	State of Alaska ADL 390505	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	5/1/04	T12N, R7E, UMIAT MERIDIAN Sec. 5: Unsurveyed, All, including the beds of all meanderable waterbodies, excluding U.S. Surveys 4316, 4326 and 9124, 367.08 acres Sec. 6: Unsurveyed, All, including the bed of all meanderable waterbodies, 577.00 acres Sec. 7: Unsurveyed, All, including the bed of all meanderable waterbodies, excluding U.S. Survey 9124, 403.67 acres Sec. 8: Unsurveyed, All, including the beds of all meanderable waterbodies, excluding U.S. Survey 9124, 531.62 acres U.S. Survey 4316, 15.49 acres U.S. Survey 9124, those portions of Lines 2 thru 4 located in Sections 5, 7 and 8, 272.28 acres	2,387.14	16.66667%	.99999% See Details Below

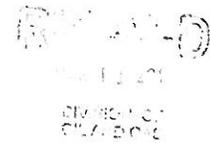

 DIVISION OF
 OIL AND GAS
 CONSERVATION
 STATE OF ALASKA

Exhibit A
Attached to and made a part of that certain Oogorok Unit Agreement

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
21	State of Alaska ADL 390434	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	5/1/04	T12N, R7E, UMIAT MERIDIAN Sec. 3: Unsurveyed, All including the bed of the Colville River and excluding U.S. Survey 9124, Lot 1, 627.82 acres Sec. 4: Unsurveyed, All including the bed of the Colville River and excluding U.S. Surveys 4226 and 9124, Lots 1 and 2, 264.98 acres Sec. 9: Unsurveyed, All including the bed of the Co ville River, 640.00 acres Sec. 10: Unsurveyed, All including the beds of the Colville River and all meanderable waterbodies, 640.00 acres	2,556.40	16.66667%	.99999% See Details Below**
22	State of Alaska ADL 390697	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	7/1/05	T12N, R7E, Tract B, UMIAT MERIDIAN Sec. 15: Unsurveyed, All, including the beds of all meanderable waterbodies, 640.00 acres Sec. 16: Unsurveyed, All, including the beds of all meanderable waterbodies, 640.00 acres Sec. 21: Unsurveyed, All, including the beds of all meanderable waterbodies, 640.00 acres Sec. 22: Unsurveyed, All, 640.00 acres	2,560.00	16.66667%	.99999% See Details Below
23	State of Alaska ADL 390506	ConocoPhillips Alaska, Inc. Chevron U.S.A. Inc.	95.04940% 4.95060%	5/1/04	T12N, R7E, UMIAT MERIDIAN Sec. 17: Unsurveyed, All, including the beds of all meanderable waterbodies, 540.00 acres Sec. 18: Unsurveyed, All, including the beds of all meanderable waterbodies, excluding U.S. Survey 9124, 549.23 acres Sec. 19: Unsurveyed, All, including the beds of all meanderable waterbodies, 585.00 acres Sec. 20: Unsurveyed, All, including the beds of all meanderable waterbodies, 640.00 acres	2,448.00	16.66667%	
24	State of Alaska Arctic Slope Regional Corporation ADL 390504	Pioneer Natural Resources Alaska, Inc. Eni Petroleum US LLC	70.00000% 30.00000%	5/1/04	T12N, R6E, UMIAT MERIDIAN Sec. 1: Surveyed, by protraction, All, including the bed of all meanderable waterbodies and excluding U.S. Survey 9999, 490.87 acres Sec. 2: Surveyed, by protraction, All, including the bed of all meanderable waterbodies and excluding U.S. Survey 9999, 446.47 acres	1,280.00	16.66667%	.99999% See Details Below**

Exhibit A
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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
					U.S. Survey 9999, those portions of Lots 2 thru 5 located in Sections 1 and 2, 342.66 acres	53,187.78		
* The state's royalty interest in ADL 355036, ADL 355037, ADL 355038, ADL 355039, ADL 389950, ADL 389952, ADL 389954, ADL 389958, and 389959 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).								
WORKING INTEREST OWNERS-All Tracts and Intervals								
Pioneer Natural Resources Alaska, Inc.								
700 G Street, Suite 600								
Anchorage, AK 99501								
Eni Petroleum US LLC								
1201 Louisiana St., Suite 3500								
Houston, TX 77002-5609								
WORKING INTEREST OWNERS: Lower Interval of Tract 13								
OXY USA Inc.								
P.O. Box 1002								
Tupman, CA 93276-1002								
KH, LLC								
1601 Elm St., Suite 4700								
Dallas, TX 75201								
WORKING INTEREST OWNERS: Lower Intervals of Tracts 14-16								
Herbaly Exploration LLC								
1420 W. Canal Ct., Suite 150								
Littleton, CO 80120-5660								
OXY USA Inc.								
P.O. Box 1002								
Tupman, CA 93276-1002								
George Alan Joyce, Jr.								
3328 Eisenhower Lane								
Plano, TX 75023								
Anadarko Petroleum Corporation								
P.O. Box 1330								
Houston, TX 77251-1330								
KH, LLC								
1601 Elm St., Suite 4700								
Dallas, TX 75201								

APR 11 2011
DIVISION OF OIL AND GAS

Exhibit A
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	Acres	Royalty	ORR Burden
Tracts 4 through 12 (inclusive) are burdened by Overriding Royalties held by the following parties in the stated percentages:								
	Tracts 4-12 Before Payout ("BPO")	William D. Armstrong 16 Village Road Englewood, CO 80110						1.11999972%
		Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.03333333%
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.03333330%
		Jeffery A. Lysio 91 Buckhorn Drive Littleton, CO 80127						0.03333333%
		Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.03333333%
		Mathew X. Furia 2001 South Madison Denver, CO 80210						0.03333333%
		Richard C. Geissman 820 Pine Street, Gold Hill Boulder, CO 80302						0.01333333%
		Stuart W. Gustafson P.O. Box 4625 Horseshoe Bay, TX 78657						0.03333333%
	Tracts 4-12 After Payout ("APO")	William D. Armstrong 16 Village Road Englewood, CO 80110						2.79999972%
		Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.08333333%
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.08333330%
		Jeffery A. Lysio 91 Buckhorn Drive Littleton, CO 80127						0.08333333%
		Reed LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.08333333%
		Mathew X. Furia 2001 South Madison Denver, CO 80210						0.08333333%

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INVESTMENT
GRAND OIL

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

Unit Tract #	Lessnr & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
		Richard C. Geestmas 820 Pine Street, Gold Hill Boulder, CO 80302						0.03333333%
		Stuart W. Gustafson P.O. Box 4625 Horshoe Bay, TX 78657						0.08333333%
The overriding royalty interests noted above affecting Tracts 4 through 12, inclusive, 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. A portion of these burdens are subsequently created interests.								
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%
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 00501						1.20000000%
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002, AK 00501						0.51429000%
		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 4331 West Geddes Avenue Littleton, CO 80128						0.01200000%
		Edgar Kerr 133 Spotted Deer Lane Franktown, CO 80116						0.01200000%
		Jeffery A. Lyslo 91 Buckhorn Drive Littleton, CO 80127						0.01200000%
		Reed LIOC, LLC P.O. Box 411 Franktown, CO 80116						0.01200000%
		Matthew X. Furrin 2001 South Madison Denver, CO 80210						0.01200000%
		Stuart W. Gustafson P.O. Box 4625 Horshoe Bay, TX 78657						0.01200000%

DIVISION OF OIL AND GAS CONSERVATION
 STATE OF TEXAS
 11/20/11

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

Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
		Chester E. Paris 1208 Mesa Court Golden, CO 80403						0.00500000%
Tract 13		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						1.68067000%
Lower Interval		William D. Armstrong 16 Village Road Englewood, CO 80110						0.73411800%
		GMT Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.13445400%
		Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.02184800%
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.02184800%
		Jeffery A. Lyslo 91 Buckhorn Drive Littleton, CO 80127						0.02184800%
		Reed LLC, LLC P.O. Box 411 Franktown, CO 80116						0.02184800%
		Matthew X. Purin 2001 South Madison Denver, CO 80210						0.02184800%
		Stuart W. Oustelton P.O. Box 4625 Horseshoe Bay, TX 78657						0.02184800%
		Chester E. Paris 1208 Mesa Court Golden, CO 80403						0.00874400%
Tracts 14 through 16 (inclusive) are burdened by overriding royalties held by the following parties in the stated percentages:								
Tracts 14-16		Anadarko Petroleum Corporation P.O. Box 1330 Houston, TX 77251-1330						0.09354800%
Upper Interval		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%

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Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acreage	Royalty	ORR Burden
		XH, LLC 1601 Elm Street, Suite 4700 Dallas, TX 75201						0.12605000%
		George Alan Joyce, Jr. 3528 Eisenhower Lane Plano, TX 75023						0.15000000%
		Pioneer Natural Resources Alaska, Inc. 700 G Street, Suite 600 Anchorage, AK 99501						0.60000000%
		Eni Petroleum US LLC 1201 Louisiana, Suite 3500 Houston, TX 77002, AK 00501						0.25714000%
		ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						2.50000000%
	Tracts 14-16 Lower Interval	ConocoPhillips Alaska, Inc. 700 G Street Anchorage, AK 99501						1.40659000%
		William D. Armstrong 16 Village Road Englewood, CO 80110						0.61439700%
		GMT Exploration Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.11252700%
		Jesse V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.01828500%
		Edgar Karr 155 Spotted Deer Lane Franktown, CO 80116						0.01828500%
		Jeffery A. Lyalo 91 Buckhorn Drive Littleton, CO 80127						0.01828500%
		Road LIGC, LLC P.O. Box 411 Franktown, CO 80116						0.01828500%
		Matthew X. Furia 2001 South Madison Denver, CO 80210						0.01828500%
		Stuart W. Gestafon P.O. Box 4625 Horseshoe Bay, TX 78657						0.01828500%
		Chester E. Pans 1208 Mesa Court Golden, CO 80403						0.00731800%

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DIVISION OF
OIL & GAS

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

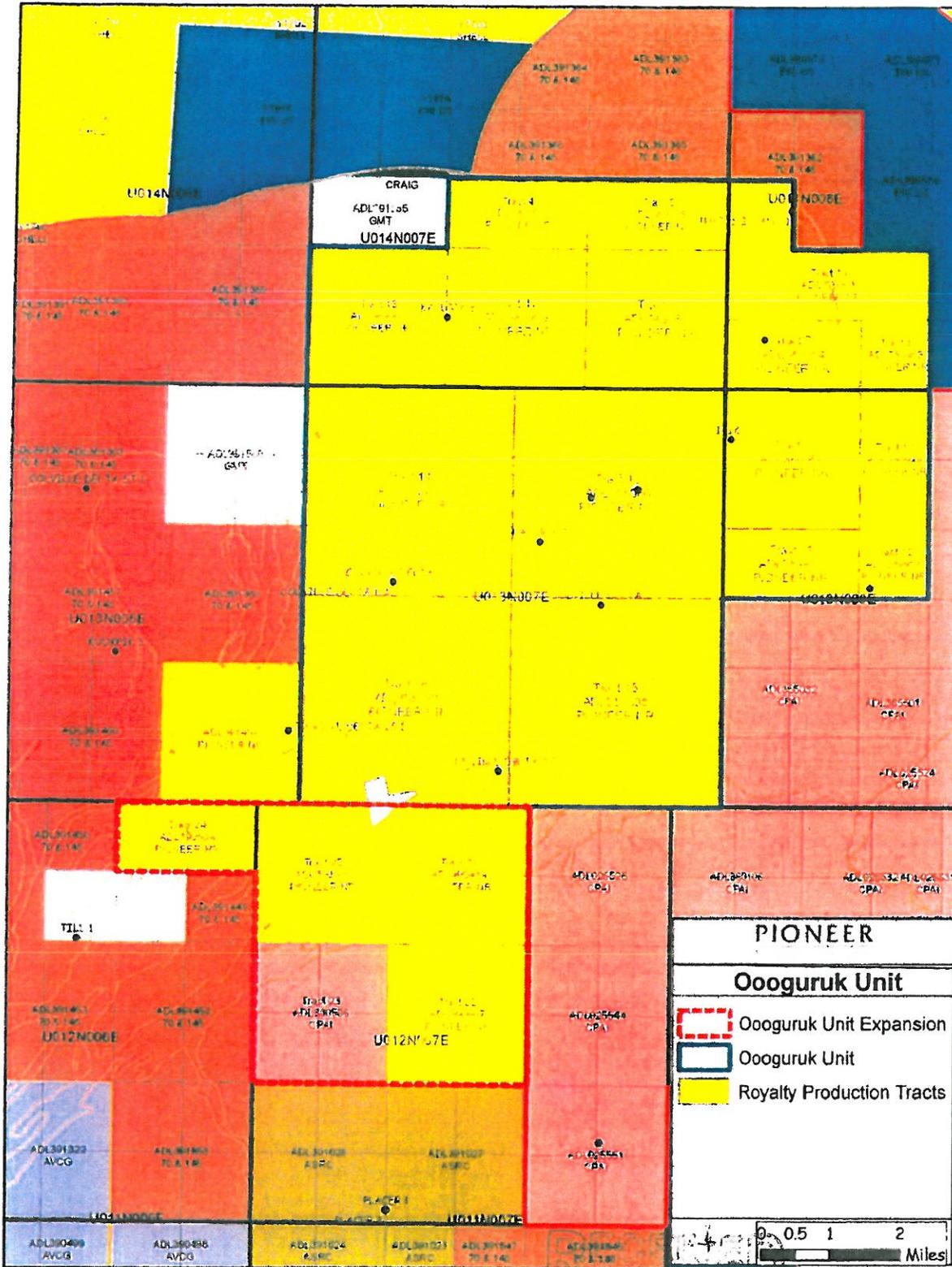
Unit Tract #	Lessor & Lease No.	Working Interest Owner	Working Interest	Effective Date	Description	Acres	Royalty	ORR Burden
Tracts 20 through 22 (inclusive) and 24 are burdened by Overriding Royalties to be borne by Eni Petroleum US LLC only and held by the following parties in the stated percentages:								
		William D. Armstrong 16 Village Road Englewood, CO 80110						0.72797000%
		GMT Exploration North Slope Royalty Company LLC 1560 Broadway, Suite 800 Denver, CO 80202						0.13333000%
		Jose V. Sommer 4531 West Geddes Avenue Littleton, CO 80128						0.02167000%
		Edgar Kerr 155 Spotted Deer Lane Franktown, CO 80116						0.02167000%
		Jeffery A. Lyslo 91 Buckhorn Drive Littleton, CO 80127						0.02167000%
		Reed LJGC, LLC P.O. Box 411 Franktown, CO 80116						0.02167000%
		Matthew K. Furin 2001 South Madison Denver, CO 80210						0.02167000%
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		Chester E. Paris 1208 Mesa Court Golden, CO 80403						0.00867000%

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11/1/2011

ATTACHMENT TWO

Exhibit B, Map of the Proposed Expanded Oooguruk Unit Boundary

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



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ATTACHMENT THREE
Exhibit G, Proposed Plan of Exploration and Development

Exhibit G
Plan of Exploration
Attached to and made a part of that certain Oooguruk Unit Agreement

Expansion of the Oooguruk Unit is requested to facilitate timely and efficient development of the Torok reservoir. Additionally, several other intervals in the expansion area are prospective and would be evaluated for exploration or appraisal drilling coincident with the Torok effort.

Development of the Torok reservoir will be completed in discrete phases to mitigate risk and improve recovery from this unconventional North Slope resource. Primary uncertainties in the development of the Torok are the lateral continuity of thin sand beds and the effective displaceable pore volume. Initial development will target the northern area of the reservoir that can be reached from the Oooguruk Drillsite (ODS). The initial ODS development will serve as a pilot flood of the Torok and provide critical performance and injection data for the reservoir. Additional geologic and engineering data will be acquired to improve reservoir characterization. Assuming a successful ODS Torok development, the expansion area of the Torok will be developed from onshore drillsites near the Nuna project.

Key milestones for the proposed expansion are:

- 2011-12
 - Implement initial ODS development (3 new wells, 1 existing well)
 - Establish Torok oil pool rules and area injection order
 - Establish the initial Torok participating area
 - Initiate Torok secondary recovery from ODS
 - Conduct support studies and submit permit applications in support of the Nuna onshore pads and production facilities
 - Initiate Nuna engineering studies
 - Evaluate exploration and appraisal drilling alternatives

- 2013-16
 - Drill a Torok appraisal well from the planned onshore drillsite
 - Finalize Nuna facility design and construction
 - Begin onshore development drilling
 - Commence Nuna Torok production

Surface activities would occur on Pioneer leases. Hydrocarbon resources would be accessed using extended reach drilling.

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