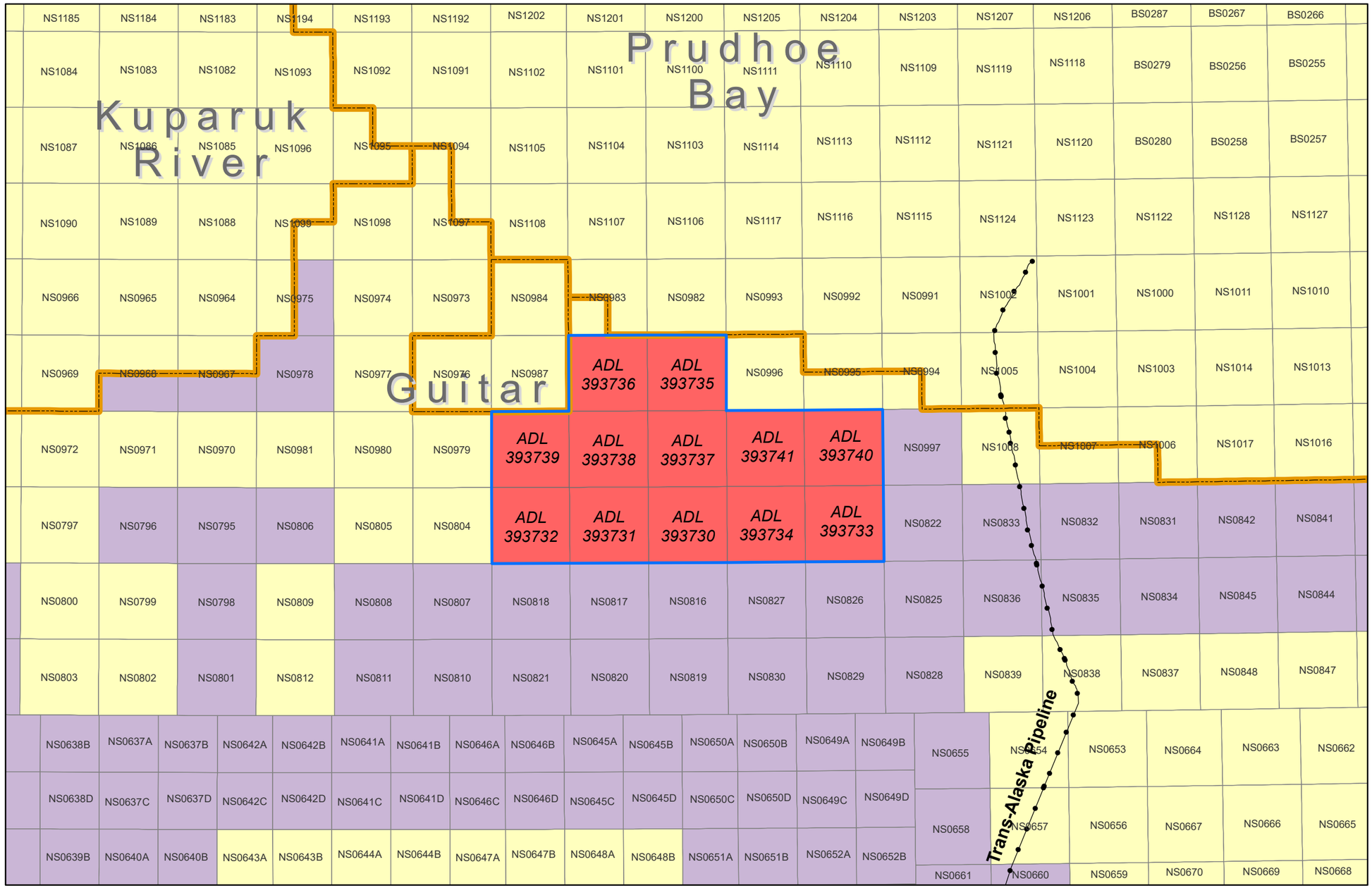
Storms 2019W Block Competitive Oil and Gas Lease Sale

June 28, 2019



State Oil and Gas Lease
Lease Sale Block
Lease Offered in Block
Unleased State-Owned Land
Lease Sale Tracts
Unit Boundary

Map Location

This map was created, edited, and published by the State of Alaska, Department of Natural Resources, Division of Oil and Gas, and is for informational purposes.

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0 2.5 5 7.5 10
Kilometers

0 2.5 5 7.5 10
Miles

Complete details about this oil and gas lease sale are available online at dog.dnr.alaska.gov, by phone to (907)269-8800 or email to dog.leasing@alaska.gov.

Bidders are cautioned to verify land title, land available for leasing, and acreage within a tract prior to bidding. The regional tract map depicts general mineral estate ownership, oil and gas lease activity, and lease sale tract boundaries and is subject to change. This map is not intended to provide a detailed depiction of land status or ownership interests. For land status, ownership, and land survey information consult land records of the following agencies:
State of Alaska Department of Natural Resources
http://dnr.alaska.gov/Landrecords
US Department of Interior Bureau of Land Management
http://sdms.ak.blm.gov
Land ownership and status on this map are depicted at section - or township-level resolution. Base map data, including hydrologic data, village and town locations, land status and boundaries, etc. are from geospatial data maintained by the Department of Natural Resources Support Services Division and Division of Oil and Gas. Base map data are in North American Datum 1983, Alaska Albers projection.The use of multiple data sets from varying sources may result in discrepancies in boundary alignments.

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Natural Resources
DIVISION OF OIL & GAS
550 West 7th Avenue, Suite 1100
Anchorage, AK 99501-3650
Main: 907.269-8800
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June 28, 2019

SALE ANNOUNCEMENT AND INSTRUCTIONS TO BIDDERS
STORMS BLOCK 2019W
COMPETITIVE OIL AND GAS LEASE SALE

The Alaska Department of Natural Resources (DNR), Division of Oil and Gas (DO&G), announces the public bid opening for the Storms Block 2019W Competitive Oil and Gas Lease Sale will be held at 9:00 a.m. on Wednesday, December 11, 2019.

Block Location

The Storms Block (Block) encompasses 30,592.00 acres of state-owned uplands in 12 leases in the North Slope Areawide. The Block is located south of the Prudhoe Bay and Guitar Units and west of the Trans-Alaska Pipeline System.

The Block offered in this sale are contiguous, State-owned lands where geological and seismic data are available to the public. The DO&G has not identified and analyzed prospects on the Block. Sale terms and conditions for the Block require a minimum work commitment.

Sale Dates

- Last day for acreage to be included in lease sale – Monday, September 16, 2019
- Block map available – Friday, June 28, 2019
- Deadline to qualify to bid – Friday, December 6, 2019
- In-person bid submission – Monday, December 9, 2019 from 9:00 a.m. to 4:00 p.m.
- Deadline for DO&G to receive all bids – Monday, December 9, 2019 at 4:00 p.m.
- Deadline to withdraw bid – Monday, December 9, 2019 at 4:00 p.m.
- Public bid opening – Wednesday, December 11, 2019 from 9:00 a.m. until all bids are read
- In-person pick-up of bid deposits for unsuccessful bids – Friday, December 13, 2019 from 9:00 a.m. until 3:00 p.m.
- Return of bid deposits for unsuccessful bids – Friday, December 13, 2019 at 3:00 p.m.

Sale Locations and Addresses

- Address for mailing bids or sending by delivery service – DNR Division of Oil & Gas, Attn: Lease Sale, 550 W 7th Avenue, Suite 1100, Anchorage, Alaska 99501-3563
- In-person bid submission – Atwood Building, 550 W 7th Avenue, Suite 1100, Anchorage, Alaska

- Public bid opening – Kahtnu 1 Meeting Room, Dena'ina Center, 600 W 7th Avenue, Anchorage, Alaska
- In-person pick-up of bid deposits – Atwood Building, 550 W 7th Avenue, Suite 1100, Anchorage, Alaska

Sale Documents

The following documents are available at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale.

- Notice of Sale
- Sale Announcement and Instructions to Bidders
- Attachment A with Block lease legal descriptions
- Lease Forms
- Mitigation Measures
- Bid Form for Areawide Oil & Gas Lease Sale
- Block Map
- Supplemental Notice of Sale (if issued)

Printed copies of these documents are available for a fee. Printed copies of the tract map can be ordered for $50.00. To order any of these documents, please contact:

Leasing Section
Alaska Department of Natural Resources
Division of Oil and Gas
550 West 7th Avenue, Suite 1100
Anchorage, AK 99501-3563
Phone: (907) 269-8800
Email: dog.leasing@alaska.gov

Copies of these documents have been provided to the following locations:

Nuiqsut Trapper School Community Library, Nunamiut School Library in Anaktuvuk Pass, Harold Kaveolook School Library in Kaktovik, Meade River School Library in Atqasuk, Tuzzy Consortium Library in Barrow, Alaska Resource Library & Information Services, Z.J. Loussac Public Library in Anchorage, and the Alaska State Library in Juneau.

If you are unable to access this information, call (907) 269-8800 or email dog.leasing@alaska.gov. You may subscribe to lease sale email announcements at http://list.state.ak.us/mailman/listinfo/DOG.Leasing.

Acreage Offered in Block

This Block is a group of leases offered as an auction lot. DO&G will only accept bids on the entire block of leases; bids on individual leases or Areawide lease sale tracts within the Block will be rejected. A block map displaying the location of the leases offered will be released according to the **Sale Dates** section of this document. The block map will also show general land ownership and lease status.

DO&G will award multiple leases in the block. State-owned lands available for oil and gas leasing in the block have been determined as land status, ownership and acreage within leases were adjudicated and verified. The lands available for leasing are listed in Attachment A with lease legal descriptions.

DNR provides online tools for researching land title, lease status, leasing history, and recorded documents within a Block or lease sale tract (LST) or meridian, township, range, and section (MTRS). The US Department of Interior Bureau of Land Management (BLM) provides tools for researching land title and federal land surveys by MTRS. In addition, DO&G physical case files for oil and gas leases may be reviewed on request. Call (907) 269-8800 or email dog.leasing@alaska.gov for more information.

These online research tools are available at:

- DNR Land Administration System (LAS) – http://dnr.alaska.gov/projects/las/
- DNR Land Records – http://dnr.alaska.gov/landrecords/
- DNR Alaska Mapper – http://dnr.alaska.gov/mapper/controller
- DNR Recorder's Office – http://dnr.alaska.gov/ssd/recoff/
- BLM Spatial Data Management System (SDMS) – http://sdms.ak.blm.gov/

Acreage Deferred or Deleted from Sale

Deferred or deleted acreage will not be offered for lease in this sale but may be included in future lease sales.

DO&G reserves the right to delete or defer any acreage from the sale at any time prior to issuance of the leases.

Deferred or deleted acreage will be listed on Attachment A of the Sale Announcement and Instructions to Bidders. Check http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale for updated Attachment A documents.

Bids on acreage deferred or deleted prior to bid submission will not be accepted, opened, or read at the sale.

Bids on acreage deferred or deleted after bid opening will be returned along with the bid deposit. The bid will not have priority over later bids when the acreage is re-offered in a lease sale, nor will the returned bid be valid for future lease sales.

Sale Terms and Conditions

The bidding method, minimum bid, and terms and conditions are shown in the following table. Bids for less than the minimum per-acre bid will be rejected. Leases will be executed on the oil and gas lease form specified below. Sample lease forms are available at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale.

Storms Block 2019W Competitive Oil and Gas Lease Sale Terms and Conditions						
Bid Variable	Minimum Bid	Royalty Rate	Primary Lease Term*	Annual Rental Rate	Work Commitment+	Lease Form
Cash Bonus	$25.00 per acre	16.66667 % Fixed	8 Years	Years 1-8: $10.00 per acre	Drill Well to Depth by 7th Anniversary as Described in Lease Paragraph 9	DOG 201912W S
*Under AS 38.05.180(m), state oil and gas leases may receive a one-time lease extension under certain conditions.						
+State oil and gas lease work commitment terms may be modified under certain conditions. AS 38.05.180(h) and 11 AAC 83.700-.705.						

Lease Form Changes

The lease form listed in the **Sale Terms and Conditions** section of this document includes changes from lease form DOG 201808W S used by DO&G in the Fall 2018 sale. The following lease paragraphs changed:

Introduction
9. WORK COMMITMENTS
10. PLAN OF OPERATIONS

Mitigation Measures

AS 38.05.035(e) and the departmental delegation of authority give the Director the authority to impose conditions or limitations in addition to those required by law to ensure the disposal best serves the interests of the State. To meet this requirement, the Director has adopted mitigation measures that will be incorporated in issued leases resulting from this sale.

Revised mitigation measures and lessee advisories for this Areawide are available at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale.

Bonding

Before beginning lease operations, an oil and gas lease bond of a minimum of $10,000 per operation is required under 11 AAC 83.160. Alternatively, a statewide oil and gas lease bond of a minimum of $500,000 for operations conducted on more than one lease may be filed. These bonding provisions do not affect the commissioner's authority to require additional unusual risk bonds as may be necessary. In addition, in accordance with 20 AAC 82.600, the Alaska Oil and Gas Conservation Commission (AOGCC) requires a bond in an amount determined by the number of wellheads permitted by an entity. Additional bonding may be required under 11 AAC 82.465, 11 AAC 82.600, 11 AAC 82.615, 11 AAC 83.390 and 11 AAC 96.060, lease provisions in Paragraph 21(b), and applications approved under AS 38.05.180(m) and 11 AAC 83.705.

Best Interest Findings to Offer Oil and Gas Leases

This lease sale is being held under AS 38.05.035(e) and AS 38.05.180. Under these statutes, land that is subject to a best interest finding issued within the previous 10 years may be offered for oil and gas leasing. The finding sets forth the facts, policies, and applicable laws and regulations upon which the Director based his determination that oil and gas lease sales in an Areawide sale will best serve the interests of the State. Every year, the Director requests substantial new information that may justify a supplement to the finding and issues a response to information received.

Best interest findings and supplements can be found at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale. If you are unable to access this information, call the Leasing Section at (907) 269-8800 or email dog.bif@alaska.gov.

Areawide Oil and Gas Lease Sale Best Interest Findings for this Offering		
Areawide	*Date*	*Decision Document*
North Slope	April 18, 2018	Final Finding of the Director
North Slope	May 23, 2019	Decision of No Substantial New Information

Qualification of Bidders

Bidders must qualify with DO&G in accordance with 11 AAC 82.200-.205 and DO&G instructions before the deadline specified in the **Sale Dates** section of this document. Corporations, partnerships, joint ventures, limited liability companies, and other business entities must also be qualified with the Alaska Department of Commerce, Community and Economic Development (DCC&ED) to do business in Alaska prior to the qualification deadline.

Information on qualifying to bid in a lease sale is available at http://dog.dnr.alaska.gov/Services/Applications. For additional information on qualifying, please call (907) 269-8800, or email dog.qualifications@alaska.gov.

Information on how to qualify with DCC&ED and obtain copies of certificates is available from DCC&ED at https://www.commerce.alaska.gov/web/cbpl/Corporations.aspx. For additional information on these requirements, please call the Corporations Section at (907) 465-2550 or email corporations@alaska.gov.

Qualification information and supporting documents must be on file with DO&G no later than specified in the Sale Dates section of this document. It is the bidder's responsibility to ensure that all qualification requirements are met. Failure to provide DO&G with qualification information or documents may result in rejection of bids.

Preparing Bids for Submission

Bidders with questions about submitting bids are encouraged to contact DO&G at the information provided under the **Sale Documents** section of this document. Bids with incomplete bid forms may be rejected. Under 11 AAC 82.445, a bid will not be considered unless supported by the bid deposit and the information required in the bid form, unless any omission is determined by the commissioner or his designee to be immaterial or due to excusable inadvertence, and the omission is corrected within one week following receipt of a notice of deficiency.

1. *Bid form*. Bids for this lease sale must be submitted on the form Bid Form for Areawide Oil & Gas Lease Sale specified in the **Sale Documents** section of this document, or an exact copy of that form. The bid form can be downloaded at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale.

2. *Areawide oil & gas lease sale name*. Include the Block name with year.

3. *Lease Sale Tract (LST)*. Specify the Block you are bidding on as listed on Attachment A. Blocks have a single, unique LST number listed on Attachment A for the purposes of submitting a bid.
4. *Lease interest percentages*. Joint bids with fractional lease interests must include lease interest percentages expressed in decimals of no more than five digits without rounding. The sum of all ownerships for each bid must equal 100.00000 percent. The lease interest percentage for a sole bidder is 100.00000.

5. *Qualification file number*. The qualification file number is the number assigned to a corporation, partnership, or joint venture when initial qualification requirements are met. Individuals are not assigned qualification numbers and may leave this line blank. Qualification file numbers are available on the Business Qualifications report at http://dog.dnr.alaska.gov/Information/Data.

6. *Bidder name*. Include the name of the bidding individual or bidding entity name. If more than one person or entity is submitting a joint bid, all bidders must be listed and sign the bid form. Under 11 AAC 82.430, joint bids must disclose, and the bid form must be signed by or on behalf of, each person or entity that has any working interest in the bid or who will receive any working interest in any lease issued in this sale by virtue of any agreement or understanding, oral or written.

7. *Individual bidder or bidder agent authorized signature*. The individual bidder or authorized bidder agent signs the top line. Include the name and title of the bidder agent authorized to sign for an entity, if applicable, on the line immediately below.

8. *Date*. Use the date the individual bidder or bidder agent signs the bid form.

9. *Estimated Acreage*. Use the Total Acreage for the Block listed in Attachment A. Bids for less than the number of acres specified in Attachment A will be rejected.

10. *Bid Per Acre*. Enter your bid per acre. Bids for less than the minimum per-acre bid specified in Attachment A will be rejected. The Bid Per Acre controls in case of discrepancy or tie.

11. *Estimated Bonus Bid*. Use the Total Acreage for the Block listed on Attachment A for the purposes of calculating Estimated Bonus Bid. A sample calculation for Estimated Bonus Bid is below.

12. *Minimum Bid Deposit*. Each bid must include a bid deposit equal to or greater than the Minimum Bid Deposit, which is *20% of the Estimated Bonus Bid being offered for the Block*. The bid deposit must be cash, money order, cashier's check or certified check in US dollars. Personal checks will not be accepted. Checks must be drawn on any solvent bank in the United States. Make checks and money orders payable to the "Department of Natural Resources, State of Alaska."

    Minimum Bid Deposit calculations that result in sums containing fractions of less than one dollar should be rounded up to the nearest whole dollar to ensure that a minimum of 20% of the Estimated Bonus Bid is tendered. A sample calculation for Minimum Bid Deposit is below:

Sample Bid Data	
Block	BS2018G
Estimated Acreage from Attachment A	23,012 acres
Minimum Bid Per Acre from Attachment A	$25.00
Bid Per Acre	$36.00

Estimated Acreage			Bid Per Acre			Estimated Bonus Bid
23,012	**Acres**	**X**	**$** 36.00	**/Acre**	**=**	**$** 828,432.00

Estimated Bonus Bid		20%		Minimum Bid Deposit
$ 828,432.00	**X**	**0.20**	**=**	**$** 169,686.40

The recommended Minimum Bid Deposit amount after rounding up to the nearest whole dollar is $169,687.00.

13. *Bid Agent*. Include the contact information for the person designated to act as agent for all bidders regarding this bid.

    Include instructions for the return of the bid deposit in the event the bid is unsuccessful. You may designate individuals that have the authority to pick up the bid deposit after the bid opening as described in these instructions and/or the address to which it should be returned if it is not picked up by the time and date and location specified in the **Sale Dates** and **Sale Locations and Addresses** sections of this document.

14. *Notification Lessee*. Include the bidder name and contact information for the bidder designated to act as the Notification Lessee. If it is determined that the bid is the apparent high bid and if a lease is awarded, future lease notices and correspondence will be mailed to this bidder.

15. *Delivery Address*. Include the bidder name and physical address for the bidder designated to receive private delivery or courier services. If it is determined that the bid is the apparent high bid and if a lease is awarded, an award package may be delivered to this bidder. The physical address must be a location acceptable to a private delivery or courier service, e.g. FedEx.

16. *Sealed bids*. Each bid with bid deposit must be submitted in a sealed envelope. Each envelope must contain only one bid and one bid deposit for one Block. The envelope must be marked with Block information as shown in the sample markings below. No other markings should appear on the outside of the bid envelope. The information on the bid form controls in case of discrepancy. Sample markings for the sealed bid envelope are below:

State of Alaska, Storms Block 2019W
Not to be opened until 9:00 a.m., December 11, 2019; Lease Sale Tract #NS2018S

Bid Submission

Bids may be submitted in person on the date and location specified in the **Sale Dates** and **Sale Locations and Addresses** sections of this document.

Mailed bids and bids sent by delivery service must be sent to the address specified in the **Sale Locations and Addresses** section of this document. Bidders are encouraged to place sealed bids in a second envelope when mailing bids or using a delivery service.

Bids must be received by DO&G no later than the deadline specified in the **Sale Dates** section of this document to be included in the public bid opening. Bids arriving by mail or delivery service prior to the bid submission date specified in the **Sales Dates** section of this document will be held by DO&G until 9:00 a.m. on bid submission day and will be receipted at that time. Bids received after the deadline specified in the **Sale Dates** section of this document will not be accepted, opened, or read at the sale.

Bids on tracts deferred or deleted from the sale prior to the bid submission deadline will not be receipted, opened, or read at the public bid opening. Refer to the section **Acreage Deferred or Deleted from Sale** for more information.

A bid agent may withdraw a submitted bid prior to the date and time specified in the **Sale Dates** section of this document without forfeiting the bid deposit.

Information pertaining to the total number of bids received for the block may be released after the bid withdrawal deadline specified in the **Sale Dates** section of this document at the discretion of the Commissioner of DNR.

Bid Reading and Processing

Public opening and reading of bids will be held as specified in the **Sale Dates** and **Sale Locations and Addresses** sections of this document. Bids will be processed in the following manner:

1. *Bid opening and reading*. Bid opening will start at 9:00 a.m. and will continue as necessary to open and read all bids. **The opening and reading of bids are for the sole purpose of publicly announcing bids received. No bids will be officially validated or rejected at this time.**

2. *Bid adjudication*. Bids will be adjudicated in DO&G offices following bid opening and reading.

3. *Results*. Preliminary sale results, including a list of the apparent high bidders, will be posted at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale once bid adjudication is complete.

4. *Return of bid deposit*. A bidder submitting a bid that is not the apparent high bid may pick up bid deposits as specified in the **Sale Dates** and **Sale Locations and Addresses** sections of this document. Bid deposits that have not been picked up by that time will be returned to the bidder by mail according to the instructions for return of bid deposit on the bid form.

5. *Presentation of bid deposits for payment*. Bid deposits for an apparent high bid tendered in cash or by certified check, cashier's check or money order will be presented immediately after bid adjudication for payment in federal funds at the State of Alaska's financial institution.

Method of Handling Bids Following Bid Opening

The bidder submitting a valid bid presenting the highest Bid Per Acre will be the apparent high bidder.

Once the commissioner accepts the apparent high bids and bid deposits, the high bidders will receive a Notice to High Bidder informing them of the commissioner's acceptance of the bids and bid deposits. Please note that this may take several weeks.

DO&G will issue an Award Notices to the high bidder(s) no earlier than 60 days after bidding. The Award Notices will inform the high bidder(s) of the balance of the bonus bid due for the Block, the interest rate and interest on the balance of the bonus bid, and the first year's rental for all leases in the Block, all of which must be paid before a lease will be issued.

Acreage Limitations

DO&G will not award leases that cause a bidder to exceed acreage limitations prescribed in AS 38.05.140(c).

Americans with Disabilities Act Compliance

The State of Alaska, Department of Natural Resources, Division of Oil & Gas complies with Title II of the Americans with Disabilities Act of 1990. This publication will be made available in alternative communication format upon request. Please call (907) 269-8800 or email dog.leasing@alaska.gov to make any necessary arrangements.

James B. Beckham
Acting Director

Sale Announcement and Instructions to Bidders
Storms Block 2019W
Competitive Oil and Gas Lease Sale
Attachment A

Last Updated June 28, 2019

Refer to the **Sale Terms and Conditions** section of the Sale Announcement and Instructions to Bidders at http://dog.dnr.alaska.gov/Services/BIFAndLeaseSale for bid variable, royalty rate, primary lease term, annual rental rate, work commitment, and lease forms.

This block is a group of leases offered as an auction lot. DO&G will award multiple leases in the block. State-owned lands available for oil and gas leasing in the block have been determined as land status, ownership and acreage within leases were adjudicated, that is, verified. The lands available for leasing are listed below with lease legal descriptions.

DNR provides online tools for researching land title, lease status, leasing history, and recorded documents within a lease sale tract (LST) or meridian, township, range, and section (MTRS). The US Department of Interior Bureau of Land Management (BLM) provides tools for researching land title and federal land surveys by MTRS. In addition, DO&G physical case files for oil and gas leases may be reviewed on request. Call (907) 269-8800 or email dog.leasing@alaska.gov for more information.

These online research tools are available at:

- DNR Land Administration System (LAS) – http://dnr.alaska.gov/projects/las/
- DNR Land Records – http://dnr.alaska.gov/landrecords/
- DNR Alaska Mapper – http://dnr.alaska.gov/mapper/controller
- DNR Recorder's Office – http://dnr.alaska.gov/ssd/recoff/
- BLM Spatial Data Management System (SDMS) – http://sdms.ak.blm.gov/

DO&G has provided additional information on oil and gas resource data available from public sources for this lease sale block. For more information, please visit http://dog.dnr.alaska.gov/Library/SALSA.

Hyperlinks for LSTs and ADLs open the case file abstract in LAS.

LST	Total Acreage	Number of Leases	Minimum Bid $/Acre	Sale Terms and Conditions
NS2018S	30,592.00	12	$25.00	Storms Block 2019W

Legal descriptions for leases to be awarded in this block start on the following page.

ADL 393730
T. 009N, R. 012E, Umiat Meridian, Alaska.

Section 1, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;
Section 2, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;
Section 11, Unsurveyed, All, 640.00 acres;
Section 12, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;

This Tract (NS0813) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393731
T. 009N, R. 012E, Umiat Meridian, Alaska.

Section 3, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 4, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 9, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 10, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;

This Tract (NS0814) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393732
T. 009N, R. 012E, Umiat Meridian, Alaska.

Section 5, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;
Section 6, Unsurveyed, All, including the bed of the unnamed lake, 625.00 acres;
Section 7, Unsurveyed, All, including the bed of the unnamed lake, 628.00 acres;
Section 8, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;

This Tract (NS0815) contains 2,533.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393733
T. 009N, R. 013E, Umiat Meridian, Alaska.

Section 3, Unsurveyed, All, 640.00 acres;
Section 4, Unsurveyed, All, 640.00 acres;
Section 9, Unsurveyed, All, 640.00 acres;
Section 10, Unsurveyed, All, 640.00 acres;

This Tract (NS0823) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393734
T. 009N, R. 013E, Umiat Meridian, Alaska.

Section 5, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;
Section 6, Unsurveyed, All, including the beds of the unnamed lakes, 625.00 acres;
Section 7, Unsurveyed, All, including the beds of the unnamed lakes, 628.00 acres;
Section 8, Unsurveyed, All, 640.00 acres;

This Tract (NS0824) contains 2,533.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393735
T. 010N, R. 012E, Umiat Meridian, Alaska.

Section 13, Unsurveyed, All, including the beds of the Kuparuk River and the unnamed lake, 640.00 acres;
Section 14, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 23, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 24, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;

This Tract (NS0985) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

ADL 393736
T. 010N, R. 012E, Umiat Meridian, Alaska.

Section 15, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 16, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;
Section 21, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;
Section 22, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;

This Tract (NS0986) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968

ADL 393737
T. 010N, R. 012E, Umiat Meridian, Alaska.

Section 25, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;
Section 26, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 35, Unsurveyed, All, including the beds of the Kuparuk River and the unnamed lakes, 640.00 acres;
Section 36, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;

This Tract (NS0988) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968

ADL 393738
T. 010N, R. 012E, Umiat Meridian, Alaska.

Section 27, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 28, Unsurveyed, All, including the beds of the Kuparuk River and the unnamed lake, 640.00 acres;
Section 33, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;
Section 34, Unsurveyed, All, including the bed of the Kuparuk River, 640.00 acres;

This Tract (NS0989) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968

ADL 393739
T. 010N, R. 012E, Umiat Meridian, Alaska.

Section 29, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;
Section 30, Unsurveyed, All, including the bed of the unnamed lake, 620.00 acres;
Section 31, Unsurveyed, All, including the beds of the unnamed lakes, 623.00 acres;
Section 32, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;

This Tract (NS0990) contains 2,523.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968

ADL 393740
T. 010N, R. 013E, Umiat Meridian, Alaska.

Section 27, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;
Section 28, Unsurveyed, All, 640.00 acres;
Section 33, Unsurveyed, All, 640.00 acres;
Section 34, Unsurveyed, All, including the bed of the unnamed lake, 640.00 acres;

This Tract (NS0998) contains 2,560.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968

ADL 393741
T. 010N, R. 013E, Umiat Meridian, Alaska.

Section 29, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;
Section 30, Unsurveyed, All, including the beds of the unnamed lakes, 620.00 acres;
Section 31, Unsurveyed, All, including the beds of the unnamed lakes, 623.00 acres;
Section 32, Unsurveyed, All, including the beds of the unnamed lakes, 640.00 acres;

This Tract (NS0999) contains 2,523.00 acres, more or less.

According to the survey plat accepted by the United States Department of the Interior, Bureau of Land Management in Washington, DC on October 14, 1968.

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES

Competitive Oil and Gas Lease **ADL No.**

THIS LEASE is entered into , between the State of Alaska, "the state," and

"the lessee," whether one or more, whose sole address for purposes of notification is under Paragraph 26.

In consideration of the cash payment made by the lessee to the state, which payment includes the first year's rental and any required cash bonus, and subject to the provisions of this lease, including applicable stipulation(s) and mitigation measures incorporated in this lease under Paragraph 10, the state and the lessee agree as follows:

1. GRANT. (a) Subject to the provisions in this lease, the state grants and leases to the lessee, without warranty, the exclusive right to drill for, extract, remove, clean, process, and dispose of oil, gas, and associated substances in or under the following described tract of land:

containing approximately acres, more or less (referred to in this lease as the "leased area"); the nonexclusive right to conduct within the leased area geological and geophysical exploration for oil, gas, and associated substances; and the nonexclusive right to install pipelines and build structures on the leased area to find, produce, save, store, treat, process, transport, take care of, and market all oil, gas, and associated substances and to house and board employees in its operations on the leased area. The rights granted by this lease are to be exercised in a manner which will not unreasonably interfere with the rights of any permittee, lessee or grantee of the state consistent with the principle of reasonable concurrent uses as set out in Article VIII, Section 8 of the Alaska Constitution.

(b) If the leased area is described by protracted legal subdivisions and, after the effective date of this lease, the leased area is surveyed under the public land rectangular system, the boundaries of the leased area are those established by that survey, when approved, subject, however, to the provisions of applicable regulations relating to those surveys. If for any reason the leased area includes more acreage than the maximum permitted under applicable law (including the "rule of approximation" authorized in AS 38.05.145 and defined in AS 38.05.965 (18)), this lease is not void and the acreage included in the leased area must be reduced to the permitted maximum. If the state determines that the leased area exceeds the permitted acreage and notifies the lessee in writing of the amount of acreage that must be eliminated, the lessee has 60 days after that notice to surrender one or more legal subdivisions included in the leased area comprising at least the amount of acreage that must be eliminated. Any subdivision surrendered must be located on the perimeter of the leased area as originally described. If a surrender is not filed within 60 days, the state may terminate this lease as to the acreage that must be eliminated by mailing notice of the termination to the lessee describing the subdivision eliminated.

(c) If the State of Alaska's ownership interest in the oil, gas, and associated substances in the leased area is less than an entire and undivided interest, the grant under this lease is effective only as to the state's interest in that oil, gas, and associated substances, and the royalties and rentals provided in this lease must be paid to the state in the proportion that the state's interest bears to the entire undivided fee.

(d) The state makes no representations or warranties, express or implied, as to title, or access to, or quiet enjoyment of, the leased area. The state is not liable to the lessee for any deficiency in title to the leased area, nor is the lessee or any successor in interest to the lessee entitled to any refund due to deficiency in title for any rentals, bonuses, or royalties paid under this lease.

2. RESERVED RIGHTS. (a) The state, for itself and others, reserves all rights not expressly granted to the lessee by this lease. These reserved rights include, but are not limited to:

(1) the right to explore for oil, gas, and associated substances by geological and geophysical means;

(2) the right to explore for, develop, and remove natural resources other than oil, gas, and associated substances on or from the leased area;

(3) the right to establish or grant easements and rights-of-way for any lawful purpose, including without limitation for shafts and tunnels necessary or appropriate for the working of the leased area or other lands for natural resources other than oil, gas, and associated substances;

(4) the right to dispose of land within the leased area for well sites and well bores of wells drilled from or through the leased area to explore for or produce oil, gas, and associated substances in and from lands not within the leased area; and

(5) the right otherwise to manage and dispose of the surface of the leased area or interests in that land by grant, lease, permit, or otherwise to third parties.

(b) The rights reserved may be exercised by the state, or by any other person or entity acting under authority of the state, in any manner that does not unreasonably interfere with or endanger the lessee's operations under this lease.

3. TERM. This lease is issued for an initial primary term of __8__ years from the effective date of this lease. The term may be extended as provided in Paragraph 4 below.

4. EXTENSION. (a) This lease will be extended automatically if and for so long as oil or gas is produced in paying quantities from the leased area.

(b) This lease will be extended automatically if it is committed to a unit approved or prescribed by the state, and will remain in effect for so long as it remains committed to that unit.

(c) (1) If the drilling of a well whose bottom hole location is in the leased area has commenced as of the date on which the lease otherwise would expire and is continued with reasonable diligence, this lease will continue in effect until 90 days after cessation of that drilling and for so long as oil or gas is produced in paying quantities from the leased area.

(2) If oil or gas in paying quantities is produced from the leased area, and if that production ceases at any time, this lease will not terminate if drilling or reworking operations are commenced on the leased area within sixty days after cessation of production and are prosecuted with reasonable diligence; if those drilling or reworking operations result in the production of oil or gas, this lease will remain in effect for so long as oil or gas is produced in paying quantities from the leased area.

(d) If there is a well capable of producing oil or gas in paying quantities on the leased area, this lease will not expire because the lessee fails to produce that oil or gas unless the state gives notice to the lessee, allowing a reasonable time, which will not be less than sixty days after notice, to place the well into production, and the lessee fails to

do so. If production is established within the time allowed, this lease is extended only for so long as oil or gas is produced in paying quantities from the leased area.

(e) If the state directs or approves in writing a suspension of all operations on or production from the leased area (except for a suspension necessitated by the lessee's negligence), or if a suspension of all operations on or production from the leased area has been ordered under federal, state, or local law, the lessee's obligation to comply with any express or implied provision of this lease requiring operations or production will be suspended, but not voided, and the lessee shall not be liable for damages for failure to comply with that provision. If the suspension occurs before the expiration of the primary term, the primary term will be extended at the end of the period of the suspension by adding the period of time lost under the primary term because of the suspension. If the suspension occurs during an extension of the primary term under this paragraph, upon removal of that suspension, the lessee will have a reasonable time, which will not be less than six months after notice that the suspension has been removed, to resume operations or production. For the purposes of this subparagraph, any suspension of operations or production specifically required or imposed as a term of sale or by any stipulation made a part of this lease will not be considered a suspension ordered by law.

(f) If the state determines that the lessee has been prevented by force majeure, after efforts made in good faith, from performing any act that would extend the lease beyond the primary term, this lease will not expire during the period of force majeure. If the force majeure occurs before the expiration of the primary term, the primary term will be extended at the end of the period of force majeure by adding the period of time lost under the primary term because of the force majeure. If the force majeure occurs during an extension of the primary term under this paragraph, this lease will not expire during the period of force majeure plus a reasonable time after that period, which will not be less than 60 days, for the lessee to resume operations or production.

(g) Nothing in subparagraphs (e) or (f) suspends the obligation to pay royalties or other production or profit-based payments to the state from operations on the leased area that are not affected by any suspension or force majeure, or suspends the obligation to pay rentals.

5. RENTALS. (a) The lessee shall pay annual rental to the state in the amount of $10.00 per acre or fraction of an acre.

(b) The state may increase the annual rental rate as provided by law upon extension of this lease beyond the primary term.

(c) Annual rental paid in advance is a credit on the royalty or net profit share due under this lease for that year.

(d) The lessee shall pay the annual rental to the State of Alaska (or any depository designated by the state with at least 60 days notice to the lessee) in advance, on or before the annual anniversary date of this lease. The state is not required to give notice that rentals are due by billing the lessee. If the state's (or depository's) office is not open for business on the annual anniversary date of this lease, the time for payment is extended to include the next day on which that office is open for business. If the annual rental is not paid timely, this lease automatically terminates as to both parties at 11:59 p.m., Alaska Standard Time, on the date by which the rental payment was to have been made.

6. RECORDS. (a)The lessee shall keep and have in its possession books and records showing the development and production (including records of development and production expenses) and disposition (including records of sale prices, volumes, and purchasers) of all oil, gas, and associated substances produced from the leased area. The lessee shall permit the State of Alaska or its agents to examine these books and records at all reasonable times. Upon request by the state, the lessee's books and records shall be made available to the state at the state office designated by the state. These books and records of development, production, and disposition must employ methods and techniques that will ensure the most accurate figures reasonably available without requiring the lessee to provide separate tankage or meters for each well. The lessee shall use generally accepted accounting procedures consistently applied.

(b) The lessee shall maintain accurate records of lease working interest and secondary overriding royalty interest ownership and shall submit the information to the state within 15 days upon receipt of request.

7. APPORTIONMENT OF ROYALTY FROM APPROVED UNIT. The landowners' royalty share of the unit production allocated to each separately owned tract shall be regarded as royalty to be distributed to and among, or the proceeds of it paid to, the landowners, free and clear of all unit expense and free of any lien for it. Under this provision, the state's royalty share of any unit production allocated to the leased area will be regarded as royalty to be distributed to, or the proceeds of it paid to, the state, free and clear of all lease or unit expenses (and any portion of those expenses incurred away from the unit area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing oil, gas, or associated substances for transportation off the unit area, and free of any lien for them.

8. PAYMENTS. All payments to the State of Alaska under this lease must be made payable to the state in the manner directed by the state, and unless otherwise specified, must be tendered to the state at:

DEPARTMENT OF NATURAL RESOURCES
550 WEST 7TH AVENUE, SUITE 1410
ANCHORAGE, ALASKA 99501-3561
ATTENTION: FINANCIAL SERVICES SECTION

or in person at either of the Department's Public Information Centers located at

550 W. 7th Ave., Suite 1260 Anchorage, Alaska	3700 Airport Way Fairbanks, Alaska

or to any depository designated by the state with at least 60 days notice to the lessee.

9. WORK COMMITMENTS. (a) Before the seventh anniversary of the effective date of the lease, the lessee shall complete, suspend, or plug and abandon one well that has penetrated to the base of the Kuparuk C interval as observed as the LCU correlative stratigraphic surface seen in the Hemi Springs State 1 well (API No. 50-02921056-00-00) at 7,256 feet measured depth.

(b) The lessee shall submit well data, to include at a minimum a mudlog, gamma ray log, resistivity log, and porosity log, before the seventh anniversary of the effective date of the lease, to substantiate adherence to the work commitment terms. Data must be submitted according to the instructions set out in Attachment 1

(c) The work commitment will be considered met if the lessee completes the work as described in (a) and (b) of this paragraph on any of ADLs 393730, 393731, 393732, 393733, 393734, 393735, 393736, 393737, 393738, 393739, 393740, or 393741.

(d) If the lessee fails to meet the work commitment set out in this paragraph, this lease will automatically terminate as provided under 11 AAC 83.700 - 11 AAC 83.705

10. PLAN OF OPERATIONS. No lease operations may be undertaken on the leased area until a plan of operations has been approved by the State pursuant to 11 AAC 83.158, 11 AAC 83.343, or other applicable regulations relating to a plan of operations. All operations must be consistent with the plan of operations and any mitigation measures in effect for the areawide in which this lease was issued at the time each operation is undertaken. Mitigation measures in effect as of the date of this lease are attached. Revised mitigation measures and lessee advisories will be available from the State on the Division website at http://dog.dnr.alaska.gov/ or by email to dog.leasing@alaska.gov and should be consulted when undertaking lease operations.

11. PLAN OF DEVELOPMENT. (a) Except as provided in subparagraph (d) below, within 12 months after completion of a well capable of producing oil, gas, or associated substances in paying quantities, the lessee shall file an application for approval by the state of an initial plan of development that must describe the lessee's plans for developing the leased area. No development of the leased area may occur until a plan of development has been approved by the state.

(b) The plan of development must be revised, updated, and submitted to the state for approval annually before or on the anniversary date of the previously approved plan.

(c) The lessee may, with the approval of the state, subsequently modify an approved plan of development.

(d) If the leased area is included in an approved unit, the lessee will not be required to submit a separate lease plan of development for unit activities.

12. INFORMATION ACQUIRED FROM OPERATIONS. (a) The lessee shall submit to the state, at the Department of Natural Resources, Division of Oil & Gas (Division), all geological, geophysical, and engineering data obtained from the lease within 30 days following completion, abandonment, or suspension of each well, pilot hole, and plugged back well bore. The lessee shall also submit to the Division, on behalf of the state, data acquired subsequent to completion, abandonment, or suspension of each well, pilot hole, and plugged back well bore within 30 days following acquisition of those data. The Division, on behalf of the state, may waive receipt of operational data from some development, service, or injection wells, and will inform the operator of the waiver in writing prior to data submittal.

Data shall be submitted according to the instructions set out in Attachment 1.

Submission of data under this paragraph does not affect any statutory or regulatory obligation to submit data or other information to the state or any of its agencies.

(b) Any data submitted to the state, at the Department of Natural Resources, Division of Oil & Gas will be available at all times for use by the state and its agents, and will be held confidential as provided in AS 38.05.035(a)(8) and its applicable regulations. In accordance with AS 38.05.035(a)(8)(C), in order for geological, geophysical, and engineering data to be held confidential, the lessee must request confidentiality at the time of submission and mark the data "CONFIDENTIAL" in compliance with applicable regulations.

13. DIRECTIONAL DRILLING. This lease may be maintained in effect by directional wells whose bottom hole location is on the leased area but that are drilled from locations on other lands not covered by this lease. In those circumstances, drilling will be considered to have commenced on the leased area when actual drilling is commenced on those other lands for the purpose of directionally drilling into the leased area. Production of oil or gas from the leased area through any directional well surfaced on those other lands, or drilling or reworking of that directional well, will be considered production or drilling or reworking operations on the leased area for all purposes of this lease. Nothing contained in this paragraph is intended or will be construed as granting to the lessee any interest, license, easement, or other right in or with respect to those lands in addition to any interest, license, easement, or other right that the lessee may have lawfully acquired from the state or from others.

14. DILIGENCE AND PREVENTION OF WASTE. (a) The lessee shall exercise reasonable diligence in drilling, producing, and operating wells on the leased area unless consent to suspend operations temporarily is granted by the state.

(b) Upon discovery of oil or gas on the leased area in quantities that would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing, and producing an additional well in the same geologic structure at another location with a reasonable profit to the operator, the lessee must drill those wells as a reasonable and prudent operator would drill, having due regard for the interest of the state as well as the interest of the lessee.

(c) The lessee shall perform all operations under this lease in a good and workmanlike manner in accordance with the methods and practices set out in the approved plan of operations and plan of development, with due regard for the prevention of waste of oil, gas, and associated substances and the entrance of water to the oil and gas-bearing sands or strata to the destruction or injury of those sands or strata, and to the preservation and conservation of the property for future productive operations. The lessee shall carry out at the lessee's expense all orders and requirements of the State of Alaska relative to the prevention of waste and to the preservation of the leased area. If the lessee fails to carry out these orders, the state will have the right, together with any other available legal recourse, to enter the leased area to repair damage or prevent waste at the lessee's expense.

(d) The lessee shall plug and abandon any well in a manner prescribed by the Alaska Oil and Gas Conservation Commission.

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

16. UNITIZATION. (a) The lessee may unite with others, jointly or separately, in collectively adopting and operating under a cooperative or unit agreement for the exploration, development, or operation of the pool, field, or like area or part of the pool, field, or like area that includes or underlies the leased area or any part of the leased area whenever the state determines and certifies that the cooperative or unit agreement is in the public interest.

(b) The lessee agrees, within six months after demand by the state, to subscribe to a reasonable cooperative or unit agreement that will adequately protect all parties in interest, including the state. The state reserves the right to prescribe such an agreement.

(c) With the consent of the lessee, and if the leased area is committed to a unit agreement approved by the state, the state may establish, alter, change, or revoke drilling, producing, and royalty requirements of this lease as the state determines necessary or proper to secure the proper protection of the public interest.

(d) Except as otherwise provided in this subparagraph, where only a portion of the leased area is committed to a unit agreement approved or prescribed by the state, that commitment constitutes a severance of this lease as to the unitized and nonunitized portions of the leased area. The portion of the leased area not committed to the unit will be treated as a separate and distinct lease having the same effective date and term as this lease and may be maintained only in accordance with the terms and conditions of this lease, statutes, and regulations. Any portion of the leased area not committed to the unit agreement will not be affected by the unitization or pooling of any other portion of the leased area, by operations in the unit, or by suspension approved or ordered for the unit. If any portion of this lease is included in a participating area formed under a unit agreement, the entire leased area will remain committed to the unit and this lease will not be severed.

17. INSPECTION. The lessee shall keep open at all reasonable times, for inspection by any duly authorized representative of the State of Alaska, the leased area, all wells, improvements, machinery, and fixtures on the leased area, and all reports and records relative to operations and surveys or investigations on or with regard to the leased area or under this lease. Upon request, the lessee shall furnish the State of Alaska with copies of and extracts from any such reports and records.

18. SUSPENSION. The state may from time to time direct or approve in writing suspension of production or other operations under this lease.

19. ASSIGNMENT, PARTITION, AND CONVERSION. This lease, or an interest in this lease, may, with the approval of the state, be assigned, subleased, or otherwise transferred to any person or persons qualified to hold a lease. No assignment, sublease, or other transfer of an interest in this lease, including assignments of working or royalty interests, or subleases, will be binding upon the state unless approved by the state. The lessee shall remain liable for all obligations under this lease accruing prior to the approval by the state of any assignment, sublease, or other transfer of an interest in this lease. All provisions of this lease will extend to and be binding upon the heirs, administrators, successors, and assigns of the state and the lessee. Applications for approval of an assignment, sublease, or other transfer must comply with all applicable regulations and must be filed within 90 days after the date of final execution of the instrument of transfer. The state will approve a transfer of an undivided interest in this lease unless the transfer would adversely affect the interests of Alaska or the application does not comply with applicable regulations. The state will disapprove a transfer of a divided interest in this lease if the transfer covers only a portion of the lease or a separate and distinct zone or geological horizon unless the lessee demonstrates that the proposed transfer of a divided interest is reasonably necessary to accomplish exploration or development of the lease, the lease is committed to an approved unit agreement, the lease is allocated production within an approved participating area, or the lease has a well capable of production in paying quantities. The state will make a written finding stating the reasons for disapproval of a transfer of a divided interest. Where an assignment, sublease, or other transfer is made of all or a part of the lessee's interest in a portion of the leased area, this lease may, at the option of the state or upon request of the transferee and with the approval of the state, be severed, and a separate and distinct lease will be issued to the transferee having the same effective date and terms as this lease.

20. SURRENDER. The lessee at any time may file with the state a written surrender of all rights under this lease or any portion of the leased area comprising one or more legal subdivisions or, with the consent of the state, any separate and distinct zone or geological horizon underlying the leased area or one or more legal subdivisions of the leased area. That surrender will be effective as of the date of filing, subject to the continued obligations of the lessee and its surety to make payment of all accrued royalties and to place all wells and surface facilities on the surrendered land or in the surrendered zones or horizons in condition satisfactory to the state for suspension or abandonment. After that, the lessee will be released from all obligations under this lease with respect to the surrendered lands, zones, or horizons.

21. DEFAULT AND TERMINATION; CANCELLATION. (a) The failure of the lessee to perform timely its obligations under this lease, or the failure of the lessee otherwise to abide by all express and implied provisions of this lease, is a default of the lessee's obligations under this lease. Whenever the lessee fails to comply with any of the provisions of this lease (other than a provision which, by its terms, provides for automatic termination), and fails to comply within 60 days after written notice of that default, the state may terminate this lease if at the time of termination there is no

well on the leased area capable of producing oil or gas in paying quantities. If there is a well on the leased area capable of producing oil or gas in paying quantities, this lease may be terminated by an appropriate judicial proceeding.

(b) The state may cancel this lease at any time if the state determines, after the lessee has been given notice and a reasonable opportunity to be heard, that:

(1) continued operations pursuant to this lease probably will cause serious harm or damage to biological resources, to property, to mineral resources, or to the environment (including the human environment);

(2) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and

(3) the advantages of cancellation outweigh the advantages of continuing this lease in effect. Any cancellation under this subparagraph will not occur unless and until operations under this lease have been under suspension or temporary prohibition by the state, with due extension of the term of this lease, continuously for a period of five years or for a lesser period upon request of the lessee.

(c) Any cancellation under subparagraph (b) will entitle the lessee to receive compensation as the lessee demonstrates to the state is equal to the lesser of:

(1) the value of the cancelled rights as of the date of cancellation, with due consideration being given to both anticipated revenues from this lease and anticipated costs, including costs of compliance with all applicable regulations and stipulations, liability for clean-up costs or damages, or both, in the case of an oil spill, and all other costs reasonably anticipated under this lease; or

(2) the excess, if any, over the lessee's revenues from this lease (plus interest on the excess from the date of receipt to date of reimbursement) of all consideration paid for this lease and all direct expenditures made by the lessee after the effective date of this lease and in connection with exploration or development, or both, under this lease, plus interest on that consideration and those expenditures from the date of payment to the date of reimbursement.

22. RIGHTS UPON TERMINATION. (a) Upon the expiration or earlier termination of this lease as to all or any portion of the leased area, the lessee will be directed in writing by the state and will have the right at any time within a period of one year after the termination, or any extension of that period as may be granted by the state, to remove from the leased area or portion of the leased area all machinery, equipment, tools, and materials. Upon the expiration of that period or extension of that period and at the option of the state, any machinery, equipment, tools, and materials that the lessee has not removed from the leased area or portion of the leased area become the property of the state or may be removed by the state at the lessee's expense. At the option of the state, all improvements such as roads, pads, and wells must either be abandoned and the sites rehabilitated by the lessee to the satisfaction of the state, or be left intact and the lessee absolved of all further responsibility as to their maintenance, repair, and eventual abandonment and rehabilitation. All such improvements left intact shall become property of the state if not otherwise required to be removed or rehabilitated upon expiration or termination of this lease. Subject to the above conditions, the lessee shall deliver up the leased area or those portions of the leased area in good condition.

(b) The state may require such financial assurances as the commissioner determines necessary to ensure the lessee’s ability to meet its obligations under this paragraph. If at any time the commissioner determines that existing financial assurances are insufficient to satisfactorily guarantee the performance of all the lessee’s obligations under this paragraph, the commissioner may require the delivery of such substitute or supplemental financial assurances as the commissioner determines necessary.

23. DAMAGES AND INDEMNIFICATION. (a) No rights under the AS 38.05.125 reservation may be exercised by the lessee until the lessee has provided to pay the owner of the land, his lessees and permittees, upon which the AS 38.05.125 reserved rights are sought to be exercised, full payment for all damage sustained by the owner by reason of entering the land. If the owner for any reason does not settle the damages, the lessee may enter the land after posting a surety bond determined by the state, after notice and an opportunity to be heard, to be sufficient as to form, amount, and security to secure to the owner, his lessees and permittees, payment for damages, and may institute legal proceedings in a court of competent jurisdiction where the land is located to determine the damages which the owner of the land may suffer. The lessee agrees to pay for any damages that may become payable under AS 38.05.130 and to indemnify the state and hold it harmless from and against any claims, demands, liabilities, and expenses arising from or in connection with such damages. The furnishing of a bond in compliance with this paragraph will be regarded by the state as sufficient provision for the payment of all damages that may become payable under AS 38.05.130 by virtue of this lease.

(b) The lessee shall indemnify the state for, and hold it harmless from, any claim, including claims for loss or damage to property or injury to any person caused by or resulting from any act or omission committed under this lease by or on behalf of the lessee. The lessee is not responsible to the state under this subparagraph for any loss, damage, or injury caused by or resulting from the sole negligence of the state.

(c) The lessee expressly waives any defense to an action for breach of a provision of this lease or for damages resulting from an oil spill or other harm to the environment that is based on an act or omission committed by an

independent contractor in the lessee's employ. The lessee expressly agrees to assume responsibility for all actions of its independent contractors.

24. BONDS. (a) The lessee shall furnish a bond before lease operations commence in an amount equal to at least $10,000, and must maintain that bond as long as required by the state.

(b) The lessee may, in lieu of the bond required under (a) above, furnish and maintain a statewide bond in accordance with applicable regulations.

(c) The state may, after notice to the lessee and a reasonable opportunity to be heard, require a bond in a reasonable amount greater than the amount specified in (a) above where a greater amount is justified by the nature of the surface and its uses and the degree of risk involved in the types of operations being or to be carried out under this lease. A statewide bond will not satisfy any requirement of a bond imposed under this subparagraph, but will be considered by the state in determining the need for and the amount of any additional bond under this subparagraph.

(d) If the leased area is committed in whole or in part to a cooperative or unit agreement approved or prescribed by the state the unit operator will furnish and maintain a statewide bond in accordance with applicable regulations.

25. AUTHORIZED REPRESENTATIVES. The Director of the Division of Oil and Gas, Department of Natural Resources, State of Alaska, and the person executing this lease on behalf of the lessee shall be authorized representatives for their respective principals for the purposes of administering this lease. The state or the lessee may change the designation of its authorized representative or the address to which notices to that representative are to be sent by a notice given in accordance with Paragraph 25 below. Where activities pursuant to a plan of operations are underway, the lessee shall also designate, pursuant to a notice under Paragraph 25 below, by name, job title, and address, an agent who will be present in the state during all lease activities.

26. NOTICES; PROTEST. (a) Any notices required or permitted under this lease must be by electronic media producing a permanent record or in writing and must be given personally or by registered or certified mail, return receipt requested, addressed as follows:

TO THE STATE:

DIRECTOR, DIVISION OF OIL AND GAS
DEPARTMENT OF NATURAL RESOURCES
550 WEST 7TH AVENUE, SUITE 1100
ANCHORAGE, ALASKA 99501-3563

TO THE LESSEE:

(b) Any notice given under this paragraph will be effective when delivered to the above authorized representative.

(c) A lessee who wishes to protest the amount of money due the state under the lease or any action of the state regarding a provision of this lease must file a written protest with the Division of Oil and Gas within 30 days after the mailing date of the state's notice or bill. A lessee who fails to file a protest within the required time waives any further right to protest. The state will establish the administrative appeal procedure to be followed and will inform the lessee of the procedure no later than 30 days after the filing of the written protest.

27. STATUTES AND REGULATIONS. This lease is subject to all applicable state and federal statutes and regulations in effect on the effective date of this lease, and insofar as is constitutionally permissible, to all statutes and

regulations placed in effect after the effective date of this lease. A reference to a statute or regulation in this lease includes any change in that statute or regulation whether by amendment, repeal and replacement, or other means. This lease does not limit the power of the State of Alaska or the United States of America to enact and enforce legislation or to promulgate and enforce regulations affecting, directly or indirectly, the activities of the lessee or its agents in connection with this lease or the value of the interest held under this lease. In case of conflicting provisions, statutes and regulations take precedence over this lease.

28. INTERPRETATION. This lease is to be interpreted in accordance with the rules applicable to the interpretation of contracts made in the State of Alaska. The paragraph headings are not part of this lease and are inserted only for convenience. The state and the lessee expressly agree that the law of the State of Alaska will apply in any judicial proceeding affecting this lease.

29. INTEREST IN REAL PROPERTY. It is the intention of the parties that the rights granted to the lessee by this lease constitute an interest in real property in the leased area.

30. WAIVER OF CONDITIONS. The state reserves the right to waive any breach of a provision of this lease, but any such waiver extends only to the particular breach so waived and does not limit the rights of the state with respect to any future breach; nor will the waiver of a particular breach prevent cancellation of this lease for any other cause or for the same cause occurring at another time. Notwithstanding the foregoing, the state will not be deemed to have waived a provision of this lease unless it does so in writing.

31. SEVERABILITY. If it is finally determined in any judicial proceeding that any provision of this lease is invalid, the state and the lessee may jointly agree by a written amendment to this lease that, in consideration of the provisions in that written amendment, the invalid portion will be treated as severed from this lease and that the remainder of this lease, as amended, will remain in effect.

32. LOCAL HIRE. The lessee is encouraged to hire and employ local and Alaska residents and companies, to the extent they are available and qualified, for work performed on the leased area. Lessees shall submit, with the plans of operations, a proposal detailing the means by which the lessee will comply with this measure. The lessee is encouraged to coordinate with employment services offered by the State of Alaska and local communities to employ apprentices to perform work in the leased area and to recruit employees from local communities.

33. CONDITIONAL LEASE. If all or a part of the leased area is land that has been selected by the state under laws of the United States granting lands to the state, but the land has not been patented to the state by the United States, then this lease is a conditional lease as provided by law until the patent becomes effective. If for any reason the selection is not finally approved, or the patent does not become effective, any rental, royalty, or other production or profit-based payments made to the state under this lease will not be refunded.

34. NONDISCRIMINATION. The lessee and the lessee's contractors and subcontractors may not discriminate against any employee or applicant because of race, religion, marital status, change in marital status, pregnancy, parenthood, physical handicap, color, sex, age, or national origin as set out in AS 18.80.220. The lessee and its contractors and subcontractors must, on beginning any operations under this lease, post in a conspicuous place notices setting out this nondiscrimination provision.

35. DEFINITIONS. All words and phrases used in this lease are to be interpreted where possible in the manner required in respect to the interpretation of statutes by AS 01.10.040. However, the following words have the following meanings unless the context unavoidably requires otherwise:

(1) "oil" means crude petroleum oil and other hydrocarbons, regardless of gravity, that are produced in liquid form by ordinary production methods, including liquid hydrocarbons known as distillate or condensate recovered by separation from gas other than at a gas processing plant;

(2) "gas" means all natural gas (except helium gas) and all other hydrocarbons produced that are not defined in this lease as oil;

(3) "associated substances" means all substances except helium produced as an incident of production of oil or gas by ordinary production methods and not defined in this lease as oil or gas;

(4) "drilling" means the act of boring a hole to reach a proposed bottom hole location through which oil or gas may be produced if encountered in paying quantities, and includes redrilling, sidetracking, deepening, or other means necessary to reach the proposed bottom hole location, testing, logging, plugging, and other operations necessary and incidental to the actual boring of the hole;

(5) "reworking operations" means all operations designed to secure, restore, or improve production through some use of a hole previously drilled, including, but not limited to, mechanical or chemical treatment of any horizon, plugging back to test higher strata, etc.;

(6) "paying quantities" means production in quantities sufficient to yield a return in excess of operating costs, even though drilling and equipment costs may never be repaid and the undertaking considered as a whole may ultimately result in a loss; and

(7) "force majeure" means war, riots, acts of God, unusually severe weather, or any other cause beyond the lessee's reasonable ability to foresee or control and includes operational failure of existing transportation facilities and delays caused by judicial decisions or lack of them.

36. ROYALTY ON PRODUCTION. Except for oil, gas, and associated substances used on the leased area for development and production or unavoidably lost, the lessee shall pay to the state as a royalty 16.66667 percent in amount or value of the oil, gas, and associated substances saved, removed, or sold from the leased area and of the gas from the leased area used on the leased area for extraction of natural gasoline or other products.

37. VALUE. (a) For the purposes of computing royalties due under this lease, the value of royalty oil, gas, or associated substances shall not be less than the highest of:

(1) the field price received by the lessee for the oil, gas, or associated substances;

(2) the volume-weighted average of the three highest field prices received by other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality, or associated substances of like kind and quality at the time the oil, gas, or associated substances are sold or removed from the leased or unit area or the gas is delivered to an extraction plant if that plant is located on the leased or unit area; if there are less than three prices reported by other producers, the volume-weighted average will be calculated using the lesser number of prices received by other producers in the field or area;

(3) the lessee's posted price in the field or area for the oil, gas, or associated substances; or

(4) the volume-weighted average of the three highest posted prices in the same field or area of the other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality, or associated substances of like kind and quality at the time the oil, gas, or associated substances are sold or removed from the leased or unit area or the gas is delivered to an extraction plant if that plant is located on the leased or unit area; if there are less than three prices posted by other producers, the volume-weighted average will be calculated using the lesser number of prices posted by other producers in the field or area.

(b) If oil, gas, or associated substances are sold away from the leased or unit area, the term "field price" in subparagraph (a) above will be the cash value of all consideration received by the lessee or other producer from the purchaser of the oil, gas, or associated substances, less the lessee's actual and reasonable costs of transportation away from the leased or unit area to the point of sale. The "actual and reasonable costs of transportation" for marine transportation are as defined in 11 AAC 83.229(a), (b)(2), and (c) – (*l*).

(c) In the event the lessee does not sell in an arm's-length transaction the oil, gas, or associated substances, the term "field price" in subparagraphs (a) and (b) above will mean the price the lessee would expect to receive for the oil, gas, or associated substances if the lessee did sell the oil, gas, or associated substances in an arm's-length transaction, minus reasonable costs of transportation away from the leased or unit area to the point of sale or other disposition. The lessee must determine this price in a consistent and logical manner using information available to the lessee and report that price to the state.

(d) The state may establish minimum values for the purposes of computing royalties on oil, gas, or associated substances obtained from this lease, with consideration being given to the price actually received by the lessee, to the price or prices paid in the same field or area for production of like quality, to posted prices, to prices received by the lessee and/or other producers from sales occurring away from the leased area, and/or to other relevant matters. In establishing minimum values, the state may use, but is not limited to, the methodology for determining "prevailing value" as defined in 11 AAC 83.227. Each minimum value determination will be made only after the lessee has been given notice and a reasonable opportunity to be heard. Under this provision, it is expressly agreed that the minimum value of royalty oil, gas, or associated substances under this lease may not necessarily equal, and may exceed, the price of the oil, gas, or associated substances.

38. LESSEE SALES INFORMATION. Lessee acknowledges that sales information, including but not limited to confidential sales pricing terms, of the lessee for the production and sale of hydrocarbons from the lease may be used by the Department to administer the lease, and other leases in the field or area, including valuation for royalty purposes and the Department may disclose such confidential sales information to other producer/lessees in the same field or area in the administration, collection, and/or audit of royalties and net profit share payments. The Department also reserves the

right to utilize information filed by the lessee with the Department of Revenue in the administration, collection, and/or audit of royalties and net profit share payments.

39. ROYALTY IN VALUE. Except to the extent that the state elects to receive all or a portion of its royalty in kind as provided in Paragraph 39 below, the lessee shall pay to the state that value of all royalty oil, gas, and associated substances as determined under Paragraph 36 above. Royalty paid in value will be free and clear of all lease expenses (and any portion of those expenses that is incurred away from the leased area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas, or associated substances for transportation off the leased area. All royalty that may become payable in money to the State of Alaska must be paid on or before the last federal banking day of the calendar month following the month in which the oil, gas, or associated substances are produced. The amount of all royalty in value payments which are not paid when due under this lease or the amount which is subsequently determined to be due to the state or the lessee as the result of a redetermination will bear interest from the last federal banking day of the calendar month following the month in which the oil, gas, or associated substances were produced, until the obligation is paid in full. Interest shall accrue at the rate provided in AS 38.05.135(d) or as may later be amended. Royalty payments must be accompanied by such information relating to valuation of royalty as the state may require which may include, but is not limited to, run tickets, evidence of sales, shipments, and amounts of gross oil, gas, and associated substances produced.

40. ROYALTY IN KIND. (a) At the state's option, which may be exercised from time to time upon not less than 50 days' notice to the lessee, the lessee shall deliver all or a portion of the state's royalty oil, gas, or associated substances produced from the leased area in kind. Delivery will be on the leased area, unit area, or at a place mutually agreed to by the state and the lessee, and must be delivered to the State of Alaska or to any individual, firm, or corporation designated by the state.

(b) Royalty oil, gas, or associated substances delivered in kind must be delivered in good and merchantable condition, of pipeline quality, and free and clear of all lease expenses (and any portion of those expenses incurred away from the leased area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas, or associated substances for transportation off the leased area.

(c) After having given notice of its intention to take, or after having taken its royalty oil, gas, or associated substances in kind, the state, at its option, may elect to receive a different portion or none of its royalty in kind. If, under federal regulations, the taking of royalty oil, gas, or associated substances in value by the state creates a supplier-purchaser relationship, the lessee hereby waives its right to continue to receive royalty oil, gas, or associated substances under that relationship, and further agrees that it will require any purchasers of the royalty oil, gas, or associated substances likewise to waive any supplier-purchaser rights.

(d) The lessee shall furnish storage for royalty oil, gas, and associated substances produced from the leased or unit area to the same extent that the lessee provides storage for the lessee's share of oil, gas, and associated substances. The lessee shall not be liable for the loss or destruction of stored royalty oil, gas and associated substances from causes beyond the lessee's ability to control.

(e) If a state royalty purchaser refuses or for any reason fails to take delivery of oil, gas, or associated substances, or in an emergency, and with as much notice to the lessee as is practical or reasonable under the circumstances, the state may elect without penalty to underlift for up to six months all or a portion of the state's royalty on oil, gas, or associated substances produced from the leased or unit area and taken in kind. The state's right to underlift is limited to the portion of royalty oil, gas, or associated substances that the royalty purchaser refused or failed to take delivery of, or the portion necessary to meet the emergency condition. Underlifted oil, gas, or associated substances may be recovered by the state at a daily rate not to exceed 100 percent of its royalty interest share of daily production at the time of the underlift recovery.

41. REDUCTION OF ROYALTY. Lessee may request a reduction of royalty in accordance with the applicable statutes and regulations in effect on the date of application for the reduction.

42. EFFECTIVE DATE. This lease takes effect on .

BY SIGNING THIS LEASE, the state as lessor and the lessee agree to be bound by its provisions.

STATE OF ALASKA

By: _____

Director, Division of Oil and Gas

STATE OF ALASKA)
) ss.
Third Judicial District)

On , before me appeared _____ of the Division of Oil and Gas of the State of Alaska, Department of Natural Resources, and who executed this lease and acknowledged voluntarily signing it on behalf of the State of Alaska as lessor.

_____
Notary public in and for the State of Alaska
My commission expires _____

LESSEE: _____

Signature: _____

Printed Name/Title: _____

INSERT NOTARY ACKNOWLEDGMENT OF LESSEE'S SIGNATURE HERE.

LESSEE: _____

Signature: _____

Printed Name/Title: _____

INSERT NOTARY ACKNOWLEDGMENT OF LESSEE'S SIGNATURE HERE.

Attachment 1.
Alaska Department of Natural Resources, Division of Oil & Gas
Submittal of Well Data Required by DNR Lease

Data shall be submitted to the Division in a digital format, generally in PDF. For spreadsheets, include the original Excel document. For images such as maps or charts, include a high-resolution TIFF or JPEG. For logs, see formats specified below, but include a graphical image file of the logs as a PDF or TIFF in addition to the final merged data file of the log curves. Data may be submitted on CD, DVD or USB mass storage device (include any necessary cables). Required data shall include any and all of the following:

1. A copy of the well completion report (AOGCC Form 10-407) for each well bore.
2. Daily drilling reports or a summary report of daily drilling.
3. Latitudinal and longitudinal coordinates for each well, pilot hole, and plugged back well bore with completed surface and bottom hole locations. Coordinates can be based upon either the NAD 83 or NAD 27 geodetic datum as long as the datum used is clearly specified.
4. Directional survey for each well, pilot hole, and plugged back well bore.
5. A list of all logs run and the depth interval covered for each well, pilot hole, and plugged back well bore.
6. A list of formations and other geologic markers encountered and the measured depths (MD) and true vertical depths (TVD) of each, for each well, pilot hole, and plugged back well bore.
7. Summary of cored intervals (conventional and sidewall), including depth, formation name, lithology, presence of oil, gas, gas hydrates, and water, porosity, fractures and apparent dips; indicate "**none**" on completion report or in an attachment if no cores were taken.
8. Core reports including lab analyses of lithology, porosity, permeability (vertical and horizontal, air and liquid), density, capillary pressure, and fluid saturation, if available.
9. Conventional and sidewall core photos (plain light and ultraviolet), if applicable.
10. Identified formation names and corresponding depths for oil, gas, and gas hydrate shows. Indicate "**none**" on the completion report or in an attachment if no shows were observed.
11. Identified depth zones of abnormal pressure. Indicate "**none**" on the completion report or in an attachment if none were observed.
12. A synopsis or summary of testing and all fluid recovery efforts, including production tests (IP), drill stem tests (DST), wireline formation tests (i.e. repeat formation tests (RFT) and modular dynamics tests (MDT)), and any other production and formation testing data; the summary should include test date, time, depth, formation name, method of operation, recovered fluid type(s) and amount(s), fluid rate, gas-oil ratio (GOR), oil gravity, pressure, and choke size, when available. If no tests were undertaken, indicate "**none**" where appropriate on the completion report or in an attachment, if tests were undertaken but failed to recover fluids indicate "**no recovery**".
13. Pressure build-up and fluid PVT analyses, if applicable.
14. Open flow potential test reports and report attachments to AOGCC Forms 10-421.
15. Well test procedures, field chronologies, and field data; including details necessary for evaluation (intervals open to test; volumes of oil, gas, water, mud, and other borehole substances; API gravity; gas density; wellhead and down hole pressure; and formation and wellhead temperature).
16. Geochemical and formation fluid analyses and reports, if applicable.
17. Down hole and surface fluid sampling procedures, field chronologies, raw data, and laboratory test results for all water and hydrocarbon-bearing zones (oil, gas, gas hydrates) sampled; including details sufficient to fully evaluate quality of sample data.
18. Permit to drill (AOGCC form 10-401) and the survey as-built of the well location.
19. LAS Version 2, TAP, TIF, LIS and DLIS (if available) files of final merged open-and cased-hole log data, including specialty logs (such as Schlumberger's cyberlook, formation microscanners and dipmeter logs), measured-while-drilling (MWD) and logged-while-drilling (LWD) logs. Include a graphical image file of the 2-inch MD & TVD logs as a PDF or TIFF in addition to the log data file.
20. LAS Version 2 of final composite mudlog or lithology log curves. Include a graphical image file of the final 2-inch MD & TVD logs, with lithology display, oil, gas, and gas hydrate show indicators, mud properties, and cuttings descriptions and report as a PDF or TIFF in addition to the log data file.
21. Clear, legible files of all well data and reports including, but not limited to, paleontology, palynology, petrography (including point-count analyses), X-ray diffraction analyses, SEM micrographs, thermal maturity, vitrinite reflectance, total organic carbon, RockEval pyrolysis, geochronology, fission track analyses, fluid inclusion

analyses, Mercury injection capillary pressure analyses, chemical analyses (EPMA, XRF, ICP, etc.), isotope analyses, water chemistry, burial and temperature history analyses, strain analyses, acoustic analyses, gas hydrate analyses and well pressure and temperature survey analyses.

22. Final reports of velocity, checkshot or VSP surveys (an ASCII format digital version of the above data shall also be submitted), including seismic profile data in SEG-Y format. Indicate “none” in your response to this request if no velocity, checkshot or VSP surveys were undertaken. Submission of velocity, checkshot, and VSP surveys is always required by DNR under the operator surface-use permit obligations.
23. All coalbed core, gas, and water quality reports including lab analyses of core lithology, coal rank, vitrinite reflectance, maceral composition, total organic carbon, ash, sulfur and BTU content, moisture content, cleating, adsorption/desorption data, residual gas measurements, porosity and permeability analyses, core photos, if available.
24. Any other geoscience- and engineering-related data sets from the well(s).

Please note: Physical samples of well cuttings or cores specified in 20 AAC 25.071(b)(2) and 20 AAC 25.071(b)(4) should be sent to AOGCC, not to the Division.

All material should be either hand-carried by bonded courier or mailed by registered mail to:

Resource Evaluation Section
Alaska Department of Natural Resources, Division of Oil & Gas
550 West 7th Avenue, Suite 1100
Anchorage, AK 99501-3510
Email: DOG.REdata@alaska.gov

Mitigation Measures
North Slope Areawide
Effective April 18, 2018

Operations will be conditioned by mitigation measures that are attached to any leases issued and are binding on the lessee. These measures were developed to mitigate potential effects of lease-related activities, considering all information made known to the Director. Additional measures may be imposed when the lessee submits a proposed plan of operations (11 AAC 83.158(e) and 83.346(e)) for exploration, production, development, or transportation uses, or in rights-of-way for other pipelines. The Director may consult with local government organizations and other agencies in implementing the mitigation measures below. Lessees are subject to applicable local, state, and federal laws and regulations, as amended.

The Director may grant exceptions to these mitigation measures upon a showing by the lessee that compliance with the mitigation measure is not practicable and that the lessee will undertake an equal or better alternative to satisfy the intent of the mitigation measure. Requests and justifications for exceptions must be included in the plan of operations application as specified by the application instructions, and decisions of whether to grant exceptions will be made during the plan of operations review.

A. Mitigation Measures

1. Facilities and Operations

a. Oil and gas facilities, including pipelines, shall be designed using industry-accepted engineering codes and standards. Technical submittals to the Division of Oil and Gas (DO&G) that reflect the "practice of engineering," as defined by AS 08.48.341, must be sealed by a professional engineer registered in the State of Alaska.

b. A plan of operations shall be submitted and approved before conducting exploration, development, or production activities in accordance with 11 AAC 83.

c. Facilities shall be designed and operated to minimize sight and sound impacts in areas of high residential, recreational, and subsistence use and important wildlife habitat.

d. The siting of facilities, including roads, airstrips, and pipelines, is prohibited within one-half mile of the coast as measured from the mean high water mark and 500 feet of all fish bearing waterbodies.

e. Notwithstanding (d) above, the siting of facilities is prohibited within one-half mile of the banks of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers as measured from the ordinary high water mark. Facilities may be sited, on a case-by-case basis, within the one-half mile buffer if the lessee demonstrates that siting of such facilities outside this buffer zone is not feasible or prudent, or that a location within the buffer is environmentally preferable.

f. No facilities will be sited within one-half mile of identified Dolly Varden overwintering and/or spawning areas on the Canning, Shaviovik, and Kavik rivers. Notwithstanding the previous sentence, road and pipeline crossings may only be sited within these buffers if the lessee demonstrates to the satisfaction of the Director and Alaska Department of Fish and Game (ADF&G) in the course of obtaining their respective permits, that either (1) the scientific data indicate the proposed crossing is not within an overwintering or spawning area; or (2) the proposed road or pipeline crossing will have no significant adverse impact to Dolly Varden overwintering or spawning habitat.

g. Impacts to important wetlands shall be minimized to the satisfaction of the Director, in consultation with ADF&G and Alaska Department of Environmental Conservation (ADEC). The Director will consider whether facilities are sited in the least sensitive areas.

h. Exploration roads, pads, and airstrips shall be temporary and constructed of ice. Use of gravel roads, pads, and airstrips may be permitted on a case-by-case basis by the Director, in consultation with Division of Mining, Land, and Water (DMLW) and ADF&G.

i. Road and pipeline crossings will be aligned perpendicular or near perpendicular to watercourses.

j. Pipelines

    i. Shall use existing transportation corridors and be buried where soil and geophysical conditions permit.

    ii. In areas with above ground placement, pipelines shall be designed, sited, and constructed to allow for the free movement of wildlife and to avoid significant alteration of caribou and other large ungulate movement and migration patterns.

    iii. At a minimum, above ground pipelines shall be elevated seven feet, as measured from the ground to the bottom of the pipeline, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage. A lessee shall consider snow depth in relation to pipe elevation to ensure adequate clearance for wildlife.

    iv. Pipelines and gravel pads shall facilitate the containment and cleanup of spilled fluids.

k. Causeways and docks shall not be located in river mouths or deltas. Approved causeways shall be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics (e.g., salinity, temperature, suspended sediments) that result in exceedances of water quality criteria, and must maintain free passage of marine and anadromous fish.

l. Artificial gravel islands and bottom founded structures shall not be located in river mouths or active stream channels on river deltas, except as provided for in (m) below

m. Each proposed structure will be reviewed on a case-by-case basis. Causeways, docks, artificial gravel islands and bottom founded structures may be permitted if the Director, in consultation with ADF&G and ADEC, determines that a causeway or other structures are necessary for field development and that no practicable alternatives exist. A monitoring program may be required to address the objectives of water quality and free passage of fish, and mitigation shall be required where significant deviation from objectives occurs.

n. Upon abandonment of material sites, drilling sites, roads, buildings or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the Director, unless the Director and any non-state surface owner, determines that such removal and rehabilitation is not in the state's interest.

o. Material sites required for exploration and development activities shall be:

    i. restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage,

    ii. where practicable, designed and constructed to function as water reservoirs for future use, and

    iii. located outside active floodplains of a watercourse unless the director of DMLW, after consultation with ADF&G, determines that there is no practicable alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed.

p. The Director may include plan stipulations if necessary to reduce or eliminate adverse impacts to fish and wildlife or to protect the environment.

2. Fish Wildlife and Habitat

a. The lessee shall consult with the North Slope Borough (NSB) before proposing the use of explosives for seismic surveys. The Director may approve the use of explosives for seismic surveys after consultation with the NSB.

b. Any water intake structures in fish bearing or non-fish bearing waters shall be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. All water withdrawal equipment must be equipped and must use fish screening devices approved by ADF&G.

c. Removal of snow from fish-bearing rivers, streams, and natural lakes shall be subject to prior written approval by ADF&G. Compaction of snow cover overlying fish-bearing waterbodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, then ice or snow bridges may be required.

d. Bears:

i. Brown bears

A. A lessee must consult with ADF&G before commencing any activities to identify the locations of known brown bear den sites that are occupied in the season of proposed activities.

B. Exploration and production activities shall not be conducted within one-half mile of occupied brown bear dens unless alternative mitigation measures are approved by ADF&G.

C. A lessee who encounters an occupied brown bear den not previously identified by ADF&G shall report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. The lessee will avoid conducting mobile activities one-half mile from discovered occupied dens unless alternative mitigation measures are approved by the Director, with concurrence from ADF&G. Non-mobile facilities will not be required to relocate.

ii. Polar Bears

A. Consultation with the US Fish and Wildlife Service (USFWS) is required prior to commencement of any activities as required by the Endangered Species Act, and also to identify the locations of known polar bear den sites.

B. Operations shall avoid known polar bear dens by at least one mile.

C. A lessee who encounters an occupied polar bear den not previously identified by USFWS shall report it to the USFWS within 24 hours and subsequently avoid the new den by at least one mile.

D. If a polar bear should den within an existing development, off-site activities shall be restricted to minimize disturbance.

iii. For projects in proximity to areas frequented by bears, the lessee is required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan shall include measures to:

A. minimize attraction of bears to facility sites;

B. organize layout of buildings and work areas to minimize interactions between humans and bears;

C. warn personnel of bears near or on facilities and the proper actions to take;

D. if authorized, deter bears from the drill site;

E. provide contingencies in the event bears do not leave the site;

F. discuss proper storage and disposal of materials that may be toxic to bears; and

G. provide a systematic record of bears on the site and in the immediate area.

e. Permanent, staffed facilities shall be sited to the extent practicable outside identified brant, white-fronted goose, snow goose, tundra swan, king eider, common eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas.

f. The Director, in consultation with ADF&G, may impose additional and seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.

3. Subsistence, Commercial, and Sport Harvest Activities

a. Lease-related use will be restricted if necessary to prevent unreasonable conflicts with subsistence, commercial, or sport fish and wildlife harvest activities. Traditional and customary access to subsistence areas will be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users. Lessees will consult the NSB, nearby communities, and native organizations for assistance in identifying and contacting local subsistence users.

b. Before submitting a plan of operations that has the potential to disrupt subsistence activities, the lessee will consult with the potentially affected subsistence communities and the NSB (collectively "parties") to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures that could be implemented by the operator to prevent unreasonable conflicts. The parties will also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee will make reasonable efforts to ensure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable interference with subsistence harvests.

4. Fuel, Hazardous Substances, and Waste

a. The lessee will ensure that secondary containment is provided for the storage of fuel or hazardous substances and sized as appropriate to container type and according to governing regulatory requirements in 18 AAC 75 and 40 CFR 112. Containers with an aggregate storage capacity of greater than 55 gallons that contain fuel or hazardous substances will not be stored within 100 feet of a water body or within 1,500 feet of a current surface drinking water source.

b. During equipment storage or maintenance, the site must be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.

c. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose

ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, must be on hand during any transfer or handling of fuel or hazardous substances.

d. Vehicle refueling will not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.

e. All independent fuel and hazardous substance containers must be marked with the contents and the lessee's or contractor's name using paint or a permanent label.

f. A fresh water aquifer monitoring well, and quarterly water quality monitoring, is required down gradient of a permanent storage facility, unless alternative acceptable technology is approved by ADEC.

g. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60.

h. Proper disposal of garbage and putrescible waste is essential to minimize attraction of wildlife. The lessee must use the most appropriate and efficient method to achieve this goal. The primary method of garbage and putrescible waste is prompt, on-site incineration in compliance with State of Alaska air quality regulations. The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is on-site non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste is required unless safety considerations prevent it.

i. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property for exploration.

j. The preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Drilling mud and cuttings will not be discharged into lakes, streams, rivers, or wetlands. On-pad temporary cuttings storage may be allowed as necessary to facilitate annular injection and backhaul operations. Injection of non-hazardous oilfield wastes is regulated by Alaska Oil and Gas Conservation Commission through its Underground Injection Control Program for oil and gas wells.

5. Access

a. Exploration activities must be supported only by ice roads, winter trails, existing road systems, or air service. Wintertime off-road travel across tundra and wetlands may be approved in areas where snow and frost depths are sufficient to protect the ground surface.

b. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DMLW.

c. Emergency exceptions may be granted by the Director of DMLW, and the Director, if it is determined that travel can be accomplished without damaging vegetation or the ground surface on a site-specific basis.

d. Gravel use may be authorized on a site-specific basis if it is determined, after consulting with ADF&G and DMLW, that no practicable alternatives exist for constructing an exploration road or pad in the area south of the boundary described below and depicted in the map below:

Beginning at the NPR-A boundary, from the northeast corner of T 1N, R 2E,

east to the northwest corner of T 1N, R 9E, then
north to the northwest corner of T 4N, R 9E, then
east to the northwest corner of T 4N, R 23E, then
south to the southwest corner of T 4N, R 23E, and then
east along the top of T 3N to the ANWR boundary.

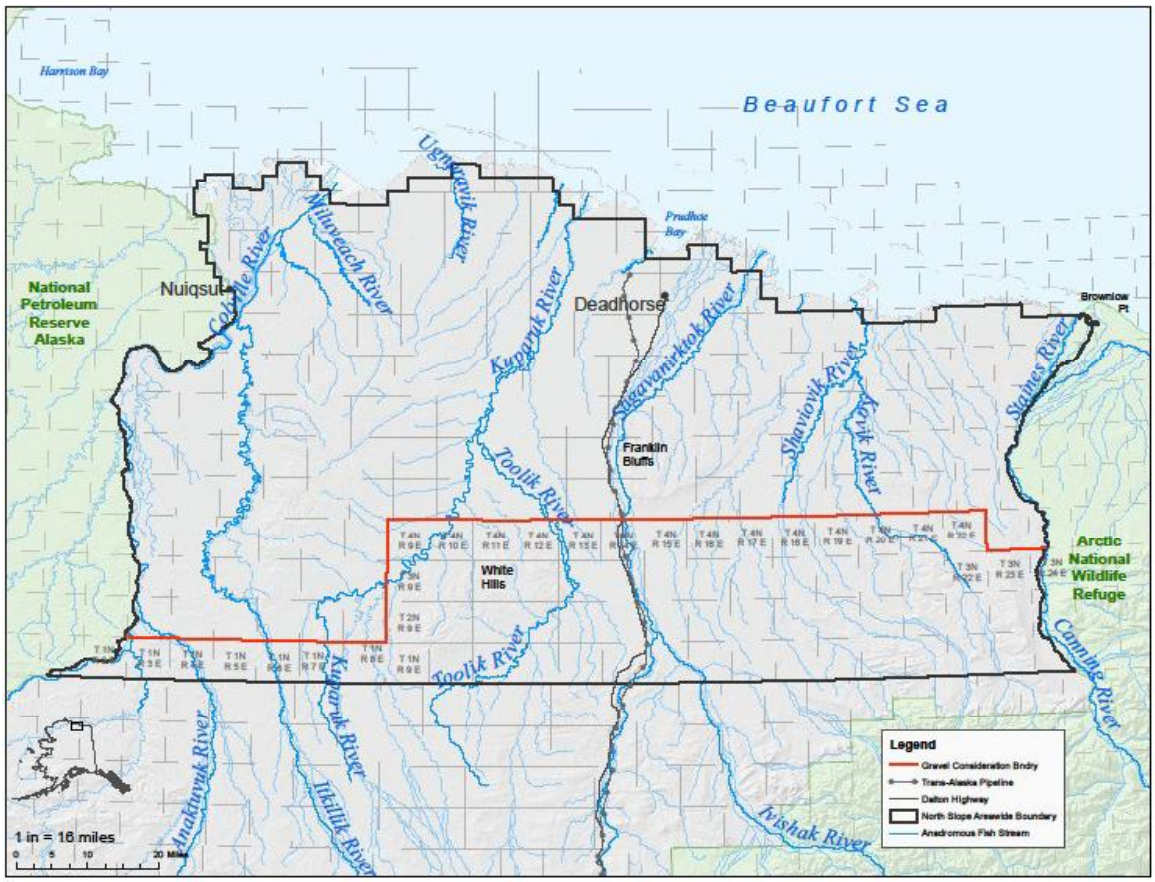

Figure 9.1.—Gravel Consideration Boundary

e. Public access to, or use of, the lease area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related structures. Areas of restricted access must be identified in the plan of operations.

6. Historic, Prehistoric, and Archaeological Sites

a. Before the construction or placement of any structure, road, or facility supporting exploration, development, or production activities, the lessee must conduct an inventory of prehistoric, historic, and archeological sites within the area, including a detailed analysis of the effects that might result from that construction or placement.

b. The inventory of prehistoric, historic, and archeological sites must be submitted to the Director and the Office of History and Archeology (OHA) who will coordinate with the NSB for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by a lease activity, the Director, after consultation with OHA and the NSB, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.

c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee shall report the discovery to the Director as soon as possible. The lessee shall make all reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the Director, after consultation with the State Historic Preservation Office and the NSB, has directed the lessee on the course of action to take for its preservation.

7. Hiring Practices

a. The lessee is encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a hiring plan that shall include a description of the operator's plans for partnering with local communities to recruit, hire, and train local and Alaska residents and contractors. As a part of this plan, the lessee is encouraged to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.

b. In accordance with Administrative Order 278, the lessee is encouraged to employ apprentice labor to perform at least 15 percent of total work hours, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a hiring plan detailing the means by which the lessee might incorporate apprentice labor.

c. A plan of operations application must describe the lessee's past and prospective efforts to communicate with local communities and interested local community groups.

d. A plan of operations application must include a training program

   i. for all personnel including contractors and subcontractors;

   ii. designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job;

   iii. using methods to ensure personnel understand and use techniques necessary to preserve geological, archeological, and biological resources; and

   iv. designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.

B. Definitions

Facilities – Any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps, and buildings.

Hazardous substance – As defined under 42 USC 9601 – 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980).

Important wetlands – Those wetlands that are of high value to fish, waterfowl, and shorebirds because of their unique characteristics or scarcity in the region or that have been determined to function at a high level using the hydrogeomorphic approach.

Minimize – To reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction.

Plan of operation – A lease plan of operations under 11 AAC 83.158 and a unit plan of operations under 11 AAC 83.346.

Practicable – Feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the mitigation measure.

Secondary containment – An impermeable diked area, portable impermeable containment structure, or integral containment space capable of containing the volume of the largest independent container. The containment shall, in the case of external containment, have enough additional capacity to allow for local precipitation.

Temporary – No more than 12 months.