

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
and
ARCTIC SLOPE REGIONAL CORPORATION

Competitive Oil and Gas Lease

ADL No.

THIS LEASE is entered into _____, between the State of Alaska ("the State"), acting for itself and on behalf of Arctic Slope Regional Corporation, an Alaska corporation ("ASRC"), as holder of executive rights with respect to the interests of ASRC in oil, gas, and associated substances pursuant to the 1991 SETTLEMENT AGREEMENT BETWEEN ARCTIC SLOPE REGIONAL CORPORATION AND THE STATE OF ALASKA ("Settlement Agreement") which was approved by the Alaska Legislature in chapter 41, SLA 1992; and

"the lessee," whether one or more, whose sole address for purposes of notification is under Paragraph 25. (Unless otherwise specifically stated, all references hereinafter in this lease to "lessors" shall refer to both the State and ASRC, collectively, except that the State or ASRC will sometimes be referred to singularly as "lessor".)

SETTLEMENT AGREEMENT. The State discharges its duty as executive with respect to the interests of ASRC by entering into this lease for itself and for the interests of ASRC in oil, gas, and associated substances in or under the leased area. The State and ASRC will each separately administer this lease with respect to its own undivided interests. All payments due under this lease must be made to the owner of the respective undivided interest as set out in Paragraph 8.

As provided in the Settlement Agreement, the applicable terms of the Settlement Agreement are incorporated by reference in this lease. The lessee agrees that ASRC shall have the right to enforce all the terms of this lease (whether express or implied) directly on its own behalf and with respect only to ASRC's undivided interest in the oil, gas, and associated substances in and under the leased area, including any provision allowing termination of this lease as to the interest of ASRC for a breach of its terms, whether or not the State elects to do so with respect to the undivided interests of the State in the oil, gas, and associated substances in the leased area or portion of the leased area involved. Conversely, the lessee agrees that the State shall have the right to enforce all the terms of this lease (whether express or implied) directly on its own behalf and with respect only to the State's undivided interests in the oil, gas, and associated substances in and under the leased area, including any provision allowing termination of this lease as to the interests of the State for a breach of its terms, whether or not ASRC elects to do so with respect to the undivided interests of ASRC in the oil, gas, and associated substances in the leased area or portion of the leased area involved. In any instance when any action, notice, or decision is provided or permitted to be taken, given, or made by "lessors" under any term or provision of this lease, then, unless otherwise specifically provided in this lease, each of ASRC and the State shall have the independent right, acting solely on its own behalf and with respect only to its undivided interests in the oil, gas and associated substance in and under the leased area to take, give or make such action, notice or decision, without regard to whether the other lessor takes, gives, or makes a like or different action, notice or decision or omits to do so. Except for the action of the State acting as executive under and pursuant to the Settlement Agreement in entering into and granting this lease on behalf of ASRC, and except as otherwise elsewhere specifically provided in this lease, no action, notice, or decision of ASRC, alone, or of the State, alone, in connection with this lease or the leased area shall be effective with respect to or binding upon the other lessor or as to that other lessor's interests in the oil, gas, and associated substances in and under the leased area.

IN CONSIDERATION of the cash payment made by the lessee to lessors, 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 mitigating measures attached to this lease and by this reference incorporated in this lease, the State, acting for itself and on behalf of ASRC as holder of executive rights with respect to the interests of ASRC in oil, gas, and associated substances in or under the leased area pursuant to the Settlement Agreement, and the lessee agree as follows:

1. GRANT. (a) Subject to the provisions in this lease, the State, acting for itself and on behalf of ASRC as holder of executive rights with respect to the interests of ASRC in oil, gas, and associated substances in or under the leased area pursuant to the Settlement Agreement, 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:

Tract

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 either of the lessors. With respect to the State's interest, all actions shall be consistent with the principle of reasonable concurrent uses as set out in Article VIII, Section 8 of the Alaska Constitution.

(b) For the purposes of this lease, the leased area contains the legal subdivisions as shown on the attached plat marked Exhibit A.

(c) 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 for an oil and gas lease from the State 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.

(d) If the lessors' 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 lessors' interest in that oil, gas, and associated substances, and the royalties and rentals provided in this lease must be paid to the lessors in the proportion that the lessors' interest bears to the entire undivided fee.

(e) The lessors make no representations or warranties, express or implied, as to title, or access to, or quiet enjoyment of, the leased area. The lessors are 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 lessors, for themselves and others, reserve 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 lessors, or by any other person or entity acting under authority of the lessors, 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 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 with respect to a lessor's undivided interest in the leased area if that lessor's undivided interest is committed to a unit agreement consented to or approved by that lessor, and will remain in effect as to that lessor's undivided interest for so long as it remains committed to that unit agreement.

(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 either the State or ASRC gives notice to the lessee, allowing a reasonable time, which will not be less than six months 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. A notice pursuant to this subparagraph for termination of this lease shall have effect only insofar as to the undivided interests of the lessor who has given that notice.

(e) If both the State and ASRC approve 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. If only one of the State or ASRC directs or approves in writing a suspension of all operations on or production from the leased area, that suspension direction or approval shall be effective with respect only to the undivided interests of that one lessor; it shall not have the effect of suspending the lessee's obligation to the other lessor.

(f) If a lessor 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 as to that

lessor's undivided interest 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. A determination of force majeure by only one of the State or ASRC shall be effective with respect only to the undivided interests of that one lessor; it shall not take effect to suspend the lessee's obligation to the other lessor.

(g) Nothing in subparagraphs (e) or (f) suspends the obligation to pay royalties or other production or profit-based payments to the lessors 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 in accordance with the following rental schedule:

(1) For the first year through the seventh year, \$10.00 per acre or fraction of an acre;

(2) For the eighth year through the tenth year, \$250.00 per acre or fraction of an acre; except that beginning in the year after the year in which sustained production commences on this lease or the state otherwise determines in its sole discretion, upon request, that the lessee has exercised reasonable diligence in exploring and developing this lease the annual rental will be \$10.00 per acre or fraction of an acre. In evaluating a request to decrease rental based on the exercise of reasonable diligence, the state will consider the funds expended by the lessee to explore and develop this lease and the types of work completed by or on behalf of the lessee on this lease.

(b) The State may increase the annual rental rate as provided by law upon extension of this lease beyond the primary term. Any rental increase by the State under this provision shall also be applicable with respect to ASRC.

(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 respective lessors (or any depository designated by the respective lessors with at least 60 days notice to the lessee) in advance, on or before the annual anniversary date of this lease. No lessor is required to give notice that rentals are due by billing the lessee. If a lessor's (or its 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 payable to a lessor is not paid timely, this lease automatically terminates as to that lessor and the lessee at 11:59 p.m., Alaska Standard Time, on the date by which the rental payment was to have been made. However, failure to make timely payment of annual rentals to only one of the lessors will not terminate this lease as to the other lessor if the annual rentals payable to that other lessor are timely paid.

(e) A percentage share of the annual rentals for each acre or fraction of an acre in each section of land in which the leased area is situated, corresponding to the ASRC percentage in that section as set out in Paragraph 8 of this lease, shall be payable directly to ASRC (or a depository designated by ASRC as provided for above). Likewise, a percentage share of the annual rentals for each acre or fraction of an acre in each section of land in which the leased area is situated, corresponding to the State percentage in that section as set out in Paragraph 8 of this lease, shall be payable directly to the State (or a depository designated by the State as provided for above).

6. RECORDS. 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 or its agents, and ASRC 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. Likewise, upon request by ASRC, the lessee's books and records shall be made available to ASRC at an ASRC office in Anchorage, Alaska, or, at the lessee's election, an office of the lessee in Anchorage, Alaska. 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.

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 lessors' 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 lessors free and clear of all 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. (a) All payments to the State 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

(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.

(e) Neither the State nor ASRC will unreasonably withhold any approval required by this section.

11. a) The lessee shall submit to the state, at the Department of Natural Resources, Division of Oil & Gas (Division), and to ASRC, 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.

(c) Any information filed by the lessee in connection with this lease will be available at all times for the use of each of the State and ASRC and their agents except that the State will keep information confidential as provided in AS 38.05.035(a)(9), AS 31.05.035, and applicable regulations, and ASRC will keep information confidential in the same manner as the State.

12. 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 lessors or from others.

13. 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 lessors.

(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 lessors as well as the interest of the lessee.

(c) The lessee shall perform all operations under this lease with due care and in a good and workmanlike manner in accordance with modern 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 relative to the prevention of waste and to the preservation of the leased area. If the lessee fails to carry out these orders, a lessor 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 securely plug in an approved manner any well before abandoning it.

(e) The lessee shall use modern geological and geophysical techniques in exploration and development of the leased area.

(f) The lessee shall cause any identified commercial reservoirs of oil, gas, or associated substances within the leased area to be reasonably developed and produced.

14. OFFSET WELLS. The lessee shall drill such wells as a reasonable and prudent operator would drill to protect the lessors 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 in which the State or ASRC owns a lesser percentage share of the oil, gas and associated substances, or on which the State or ASRC receives a lower royalty than that covered by 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, either the State or ASRC finds that production from that well is draining lands then subject to this lease, the lessee shall within 30 days after written demand by either the State or ASRC 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 consent of both the State and ASRC, or, if only one of lessors is suffering loss of royalty through drainage, with the consent of that one lessor, compensate each of lessors, or if only one of the lessors is suffering loss of royalty through drainage that one of the lessors, in full each month for the estimated loss of royalty through drainage in the amount determined by each of the lessors, or, if applicable, by the one lessor who is suffering loss of royalty through drainage.

15. UNITIZATION. (a) As to the undivided interests owned by the State in the oil, gas, or associated substances in the leased area, 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. Likewise, as to the undivided interests owned by ASRC in the oil, gas, or associated substances in the leased area, 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, with the express prior written approval of ASRC of such a cooperative or unit agreement and upon such terms and conditions as shall be mutually agreed by lessee and ASRC.

(b) The State's approval of a cooperative or unit agreement or of any change in any such agreement shall be effective with respect only to the undivided interests owned by the State in the oil, gas, or associated substances in the leased area or part of the leased area included in or affected by that agreement. Likewise, ASRC's approval of a cooperative or unit agreement or of any change in any such agreement shall be effective with respect only to the undivided interests owned by ASRC in the oil, gas, or associated substances in the leased area or part of the leased area included in or affected by that agreement. If the State's approval of a cooperative or unit agreement including or affecting the undivided interests owned by the State in oil, gas or associated substances in all or part of the leased area is conditioned upon such agreement being effective with respect to the undivided interests in oil, gas, or associated substances owned by ASRC in such area, the lessee must obtain written approval by ASRC of a proposed cooperative or unit agreement before submitting an application to the State for approval of such cooperative or unit agreement. ASRC may condition its approval of any such proposed cooperative or unit agreement in such manner as ASRC deems necessary to protect its interests, including, without limitation, requiring its further consent to any changes in the application for State approval or in the proposed cooperative or unit agreement.

(c) The lessee agrees, within six months after demand by both the State and ASRC, to subscribe to a reasonable cooperative or unit agreement approved by both lessors that will adequately protect all parties in interest, including the lessors. Further, the lessors, acting jointly reserve the right to prescribe such an agreement upon terms and conditions approved by both lessors.

(d) The lessee also agrees, within six months after demand by the State alone, to subscribe to a reasonable cooperative or unit agreement approved by the State and including and affecting the undivided interests owned by the State in oil, gas or associated substances in the leased area or part thereof that will adequately protect all parties in interest, including the State. Further, the State reserves the right to prescribe such an agreement including and affecting the undivided interests owned by the State in oil, gas, and associated substances upon terms and conditions approved by the State. However, no cooperative or unit agreement required or prescribed by the State alone pursuant to this subparagraph (d) shall be effective with respect to the undivided interests owned by ASRC in oil, gas or associated substances in the leased area without the express agreement and approval of such agreement by ASRC.

(e) Except as otherwise provided in this subparagraph, where only a portion of the leased area is committed to a unit agreement approved by a lessor, that commitment constitutes a severance of this lease as to the undivided interests owned by that lessor in 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 covering the undivided interest in oil, gas, and associated substances owned by that lessor and 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 and any applicable 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 the leased area has a well certified, under 11 AAC 83.361, as capable of production in paying quantities as defined in 11 AAC 83.395(4) on it before commitment to a unit agreement, this lease will not be severed pursuant to the subparagraph, and if any portion of the leased area is included in a participating area formed under a unit agreement approved by a lessor, the undivided interests in oil, gas, or associated substances owned by that lessor in the entire leased area will remain

committed to the unit and this lease will not be severed as to the undivided interests in oil, gas, and associated substances in the leased area owned by that lessor.

(f) Neither the State nor ASRC will unreasonably withhold any approval required by this section.

16. INSPECTION. The lessee shall keep open at all reasonable times, for inspection and audit by any duly authorized representative of the State or ASRC, 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 and ASRC, or either of them, with copies of and extracts from any such reports and records.

17. SUSPENSION. As more fully provided in subparagraph 4(e) of this lease, either the State or ASRC may from time to time direct or approve in writing suspension of production or other operations under this lease insofar as to the undivided interests in the oil, gas, and associated substances in and under the leased area of the lessor granting the suspension approval. Further, by mutual agreement of both the State and ASRC, the lessors may from time to time direct in writing suspension of production or other operations under this lease, which direction shall be deemed to constitute a suspension approval granted by both the lessors.

18. ASSIGNMENT, PARTITION, AND CONVERSION. This lease, or an interest in this lease, may, with the approval of both lessors, 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 and operating agreements and subleases, will be binding upon the lessors unless approved by both lessors. The lessee shall remain liable for all obligations under this lease accruing prior to the approval by the lessors 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 lessors and the lessee. Applications for approval of an assignment, sublease, or other transfer must comply with all applicable regulations of the State and must be filed within 90 days after the date of final execution of the instrument of transfer. Each lessor will approve a transfer of an undivided interest in this lease unless the transfer would adversely affect the interests of that lessor or the application does not comply with applicable regulations. Each lessor 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. Each lessor 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 and by mutual agreement of both lessors or upon request of the transferee and with the approval of both lessors, be severed, and a separate and distinct lease will be issued to the transferee having the same effective date and terms as this lease.

19. SURRENDER. The lessee at any time may file with both lessors 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 both lessors, 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 both lessors 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.

20. DEFAULT AND TERMINATION; CANCELLATION. 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 within 60 days after written notice of that default from either or both of the lessors to begin and diligently prosecute operations to remedy that default, either or both lessors may terminate this lease insofar as to the undivided interests in the oil, gas, and associated substances in the leased area owned by the lessor or lessors thus electing to 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. In the event of any termination under this subparagraph, the lessee shall have the right to retain under this lease any and all drilling or producing wells for which no default exists, together with a parcel of land surrounding each well or wells and rights-of-way through the leased area that are reasonably necessary to enable the lessee to drill, operate, and transport oil or gas from the retained well or wells.

21. RIGHTS UPON TERMINATION. Upon the expiration or earlier termination of this lease as to the interests of both lessors in 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 both lessors acting jointly 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 both lessors or may be removed by either or both lessors at the lessee's expense. If both lessors elect to acquire title to the machinery, equipment, tools, and materials not removed by lessee, they shall share ownership thereof in proportion to the respective State percentage and ASRC percentage in the oil, gas, and associated substances in and under the land on which the machinery, equipment, tools, and materials are situated. 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 both lessors, or be left intact and the lessee absolved of all further responsibility as to their maintenance, repair, and eventual abandonment and rehabilitation. Subject to the above conditions, the lessee shall deliver up the leased area or those portions of the leased area in good condition.

22. DAMAGES AND INDEMNIFICATION. (a) No rights under the lease may be exercised by the lessee until the lessee has provided to pay the surface owner, his lessees and permittees, upon which the lease 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 of Alaska, Director of the Division of Oil & Gas, 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 this lease and to indemnify each of the lessors and hold each of them 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 this lease.

(b) The lessee shall indemnify each of the lessors for, and hold each of them 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 a lessor under this subparagraph for any loss, damage, or injury caused by or resulting from the sole negligence of that lessor.

(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.

23. BONDS. (a) If required by the State, the lessee shall furnish a bond prior to the issuance of this lease in an amount equal to at least \$5 per acre or fraction of an acre contained in the leased area, but no less than \$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, and the unit operator furnishes a statewide bond, the lessee need not maintain any bond with respect to the portion of the leased area committed to the cooperative or unit agreement.

24. AUTHORIZED REPRESENTATIVES. The Director of the Division of Oil and Gas, Department of Natural Resources, State of Alaska, shall be the authorized representative for the State for the purposes of administering this lease. The President of ASRC shall be the authorized representative of ASRC for the purposes of administering this lease. The person executing this lease on behalf of the lessee shall be the authorized representative of the lessee for the purposes of administering this lease. The State, ASRC, 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.

25. 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 ASRC:

VICE PRESIDENT-LAND
ARCTIC SLOPE REGIONAL CORPORATION
P.O. BOX 129
BARROW, ALASKA 99723

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 a lessor under the lease or any action of a lessor regarding a provision of this lease must file a written protest with *that lessor* within 30 days after the mailing date of that lessor's notice or bill. A lessee who fails to file a protest within the required time waives any further right to protest.

26. 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.

27. 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 lessors and the lessee expressly agree that the law of the State of Alaska will apply in any judicial proceeding affecting this lease.

28. 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.

29. WAIVER OF CONDITIONS. Each of the lessors severally reserves the right to waive any breach of a provision of this lease insofar as to the undivided interests of that lessor in the oil, gas, and associated substances in and under the leased area, but any such waiver extends only to the particular breach so waived and does not limit the rights of that lessor 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. A waiver by only one of the lessors of a breach of a provision of this lease shall not waive that breach as to the other lessor or as to the other lessor's interest in the oil, gas, and associated substances in and under the leased area. Notwithstanding the foregoing, no lessor will be deemed to have waived a provision of this lease unless it does so in writing.

30. SEVERABILITY. If it is finally determined in any judicial proceeding that any provision of this lease is invalid, either or both of lessors 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 insofar as to the lessor or lessors executing that amendment and the interest of that lessor or lessors in the oil, gas, and associated substances in and under the leased area. An agreement amending this lease which is executed by the lessee and one only of the lessors shall not be effective as to the other lessor or as to that other lessor's undivided interests in the oil, gas, and associated substances in or under the leased area.

31. 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, in formulating this proposal, to coordinate with employment services offered by the State of Alaska and local communities and to recruit employees from local communities.

32. 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.

33. 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.

34. 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 lessors as a royalty 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. In the case of each lessor, royalty attributable to the undivided percentage interest of that lessor shall be paid directly to that lessor.

35. 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) – (f).

(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 lessors.

(d) The State may establish minimum values which shall be applicable for the purposes of computing royalties payable both to the State and to ASRC 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.

36. ROYALTY IN VALUE. Except to the extent that a lessor elects to receive all or a portion of its royalty in kind as provided in Paragraph 37 below, the lessee shall pay to the lessors that value of all royalty oil, gas, and associated substances as determined under Paragraph 35 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 a lessor must be paid on or before the last 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 lessors or the lessee as the result of a redetermination will bear interest from the last 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 lessors 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.

37. 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.

38. 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. No reduction of royalty payable to ASRC shall be effected without ASRC's approval; and, likewise, no reduction of royalty payable to the State shall be effected without the State's approval.

39. EFFECTIVE DATE. This lease takes effect on _____ .

BY SIGNING THIS LEASE, the State, acting for itself and on behalf of ASRC as holder of executive rights pursuant to the Settlement Agreement, and the lessee agree that each of the State, ASRC, and the lessee shall be bound by its provisions.

STATE OF ALASKA

By: _____
W. C. Barron
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.

LESSEE: _____

Signature: _____

Printed Name/Title: _____

INSERT NOTARY ACKNOWLEDGMENT OF LESSEE'S SIGNATURE HERE.

Attachment 1. Alaska Department of Natural Resources, Division of Oil & Gas
Submission 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