

OIL AND GAS LEASE
NO. _____

WHEREAS, pursuant to the Texas Natural Resources Code Chapters 32, 33, 51, and Chapter 52, Subchapters A-D and H, (hereinafter referred to as N.R.C.), and subject to all rules and regulations promulgated by the Texas General Land Office ("GLO") and/or the School Land Board ("SLB") pursuant thereto, and all other applicable statutes and amendments to the N.R.C., the following area (the "Leased Premises"), to-wit:

was, after being duly advertised, offered for lease on the ____ day of _____, 2016, at 10:00 o'clock a.m., by the GLO and the SLB for the sole and only purpose of exploring and drilling for, and producing oil and/or gas that may be found and produced from the Leased Premises; and

WHEREAS, after all bids and remittances which were received up to said time have been duly considered by the GLO and the SLB at a regular meeting thereof in the GLO at Austin, Texas, on the ____ day of _____, 2016, hereinafter the "effective date" and it was found and determined that _____ ("Lessee") whose address is _____ had offered the highest and best bid for a lease of the Leased Premises and is, therefore, entitled to receive a lease thereon:

NOW, THEREFORE, I, _____, Commissioner of the GLO, hereinafter sometimes referred to as "Lessor," by virtue of the authority vested in me and in consideration of the payment by Lessee of the sum of _____, receipt of which is hereby acknowledged and of the royalties, covenants, stipulations and conditions contained and hereby agreed to be paid, observed and performed by Lessee, do hereby demise, grant, lease and let unto Lessee the non-exclusive right to explore for, and the exclusive right to produce and take oil and/or gas from the Leased Premises upon the following terms and conditions:

1. RESERVATION: There is hereby excepted and reserved to Lessor: the full use of the Leased Premises and all rights with respect to the surface and subsurface thereof for any and all purposes except those granted to Lessee, and to the extent herein granted to Lessee; the right to grant third parties seismic, geophysical and geological permits and to enter into other agreements with third parties, which allow such third parties to conduct geophysical, geological or seismic surveys on, over, under, through and across the Leased Premises during the term of this lease; and the rights of ingress and egress and use of the Leased Premises by Lessor and its mineral lessees for purposes of exploring for and producing the minerals which are not covered, or which may not be covered in the future, under the terms of this lease, but which may be located within the surface boundaries of the Leased Premises. All of the rights in and to the Leased Premises retained by Lessor and all of the rights in and to the Leased Premises granted to Lessee herein shall be exercised in such a manner that neither shall unduly interfere with the operations of the other. This lease is made and entered into subject to any existing rights of way, easements, geophysical or geochemical exploration permits.

2. TERM: Subject to the other provisions hereof, this lease shall be for a term of **three (3)** years from the effective date hereof (herein called "primary term") and as long thereafter as oil or gas is produced in paying quantities from the Leased Premises.

3. DELAY RENTALS: If no well is commenced on the Leased Premises on or before the anniversary date of this lease, this lease shall terminate as to both parties unless the Lessee on or before said date shall pay to the GLO the sum of Ten Dollars (\$10.00) per acre, which if received in the GLO on or before the anniversary date shall operate as rental and confer on Lessee the privilege of deferring the commencement of a well for twelve (12) months from said date. In like manner and upon like payments the commencement of a well may be further deferred for like periods of the same number of months successively during the primary term hereof. A payment that is submitted electronically shall be considered timely paid if such payment is successfully transmitted to the proper account with the Comptroller of the State of Texas on or before the due date.

4. ROYALTY: All capitalized terms used in this lease that are not defined in this lease shall have the meanings given them in the Rules. Upon production of Oil and/or Gas, Lessee agrees to pay or cause to be paid to the GLO, for the use and benefit of the State of Texas, during the term hereof, each of the following royalties as applicable to the substances actually produced from the Leased Premises and/or subsequent processing:

(a) **OIL:** As a royalty on Oil, **one fourth (1/4)** part of the Gross Production or the value thereof, at the option of the Lessor, such value to be calculated at the point the Oil is Ready for Sale and Use and without deduction for expenses, as described in section (4)(k), and determined by the greatest of: (1) the highest posted price, plus premium, if any, paid or offered for Oil of a like type and gravity in the general area where produced and when run, (2) the highest market price thereof paid or offered in the general area where produced and when run, or (3) the gross proceeds of the sale thereof.

(b) **NON-PROCESSED GAS:** As a royalty on any Non-Processed Gas that is produced from the Leased Premises, Lessee agrees to pay Lessor **one fourth (1/4)** part of the Gross Production or the value thereof received by Lessee or any Affiliate of Lessee, at the option of the Lessor, such value to be calculated (i) at the point at which the Non-Processed Gas is Ready for Sale and Use and without deduction for expenses, as described in section (4)(k), (ii) on a Dry gas basis as to both volume and energy content (as described in the section 30 definitions below), and (iii) based on the higher of:

(A) the highest market price paid or offered for gas of comparable quality in the general area where produced and when run; or

(B) the gross price paid or offered to the Lessee; provided that the maximum pressure base in measuring the gas under this lease contract shall equal 14.65 pounds per square inch absolute, and the standard base temperature shall be sixty (60) degrees Fahrenheit, correction to be made for pressure according to Boyle's Law, and for specific gravity according to a test made by chromatographic analysis or the Balance Method.

Provided, however, that if Non-Processed Gas is sold to a parent, subsidiary or affiliate of Lessee, then the royalty due hereunder shall be based on the value of the Gas as either Non-Processed Gas or Processed Gas, as the case may be, in the first sale to a third party in an agreement negotiated at arms' length.

(c) **PROCESSED GAS:** As a royalty on any Processed Gas, Lessee agrees to pay **one fourth (1/4)** part of the Residue Gas and the NGLs extracted, or the value thereof, at the option of the Lessor, such value to be calculated at the point the Residue Gas and/or the NGLs, respectively, are Ready for Sale and Use. All royalties due herein shall be on 100% of the volume of the Gas produced from the Leased Premises (calculated on a Dry gas basis as to both

volume and energy content, as described in the section 30 definitions below) as measured or attributed at the inlet of the Processing Plant. The royalty due from Lessee hereunder shall be based on the greater value of:

(1) the sum of the values of (A) 100% of the Residue Gas MMBtus attributable to the Gas determined at the plant recovery efficiency applicable to each NGL component, plus (B) the net value of the NGLs after deduction of all applicable gas processing fees and/or the value of the NGLs at the applicable liquids percent of proceeds accruing to the Processing Plant; or

(2) the sum of the values of (A) 100% of the available Residue Gas MMBtus attributable to the Gas, plus (B) the value of the NGLs at the applicable minimum liquids POP%, established herein in section 4(d), without deduction or reduction in the value of the NGLs by a percent of proceeds or any other fees or adjustments of any type, form, or character; or

(3) the “keep whole” value of the Gas as described in section 4(f).

For purposes of calculating the royalty due hereunder, the respective values of the Residue Gas and the NGLs shall be based on the greater of:

(1) the highest market price paid or offered in the general area for (A) any Pipeline-Quality Residue Gas, and (B) NGLs, as either Raw Mix or merchantable and marketable commercial grades and/or blends of each of the individual components, after fractionation, of comparable quality in the general area, or

(2) the (A) gross price paid or offered to Lessee for such Pipeline-Quality Residue Gas, and (B) weighted monthly average gross selling price for the respective grades of NGLs, as either Raw Mix or merchantable and marketable commercial grades and/or blends of each of the individual components, after fractionation.

No fees or costs of any kind shall be deducted from the value of Gas that is bypassed around a gas Processing Plant and then blended with Gas that was processed to remove liquefiable hydrocarbons at, or at a point downstream of, the tailgate of the Processing Plant, a.k.a. “conditioning”. The value of Gas bypassed around a plant in which no liquefiable hydrocarbons or NGLs are removed from the gas shall equal that for Non-Processed Gas per section 4(b).

Provided, however, that if NGLs are recovered from Gas processed in a plant in which Lessee (or its parent, subsidiary or affiliate) owns an interest, then the POP% applicable to NGLs shall be the greater of (x) the applicable POP% per section 4(d), or (y) the highest percent accruing to a third party processing Gas through such plant under a processing agreement negotiated at arms' length.

- (d) **APPLICABLE MINIMUM LIQUIDS PERCENT OF PROCEEDS:** (1) The applicable minimum liquids percent of proceeds (“POP%”) of the total available liquid hydrocarbon content volume for all NGLs, except ethane, shall, regardless of the natural gas liquids recovery process or gas processing agreement terms and/or conditions, be equal to the following:
- (A) 70% for gas with a heating content or BTU value equal to or greater than 1100 BTU/SCF;
 - (B) 60% for gas with a heating content or BTU value equal to or greater than 1070 BTU/SCF but less than 1100 BTU/SCF; and
 - (C) 50% for gas with a heating content or BTU value less than 1070 BTU/SCF.
- (2) The available liquid hydrocarbon volume, in gallons, of each NGL component used to calculate the value of the NGLs at the applicable POP% shall equal the product of (i) the Processing Plant inlet Gas volume, in MSCF, on a Dry gas basis, times (ii) the gallons per MSCF of each component calculated per the applicable standards, at 14.65 pounds per square inch absolute and 60° Fahrenheit, according to a test made by chromatographic analysis of the Gas, except ethane, where the theoretical gallons of ethane available in the Gas shall be reduced by the Processing Plant recovery efficiency of ethane then being specified in processing agreements negotiated at arm's length between the Lessee and the plant for each dedicated Processing Plant and each Processing Plant that may process the Gas in a series of plants.
- (3) The available Residue Gas MMBtu amount used in the calculation of the royalty value in section 4(c)(2) shall equal the product of (i) the Processing Plant inlet Gas MMBtu amount less the sum total MMBtu of shrinkage calculated for the available liquid hydrocarbon volume in section 4(d)(2) for each NGL component, times (ii) one (1.0) minus the lesser of (A) the plant fuel MMBtu percentage divided by 100%, or (B) 0.035.
- (e) **OTHER PRODUCTS:** As a royalty on carbon black, carbon dioxide, sulphur or any other products (including water) produced (excepting Oil, Gas, or NGLs, addressed separately above), Lessee agrees to pay one fourth (1/4) part of the gross production of such products, or the value thereof at the option of Lessor, such value to be calculated at the point the other products are Ready for Sale and Use and without deduction for expenses, as described in section 4(k), such value to be based on the higher of:
- (1) the highest market price of each product, during the same month in which such product is produced; or
 - (2) the average gross sale price of each product for the same month in which such products are produced.
- (f) **KEEP WHOLE:** Notwithstanding any other provision of this lease to the contrary, Lessee may not pay a royalty hereunder for Processed Gas that is less than the royalty that would have been due under section 4(b) for the total energy content of the Processing Plant inlet Gas if it had not been processed.
- (g) **NON-SALES DISPOSITIONS:** As a royalty on non-sales dispositions of Gas, including but not limited to vented gas, flared gas, flash gas and lease fuel gas, Lessee agrees to pay Lessor based on the royalty provisions for Non-Processed Gas described in section 4(b) of this Lease (but without requirement of merchantability or marketability) if the Gas produced from the Leased Premises is not processed; otherwise, the non-sales dispositions of Gas shall be based on the royalty provisions for Processed Gas described in section 4(c) for Residue Gas. If, for whatever reason, there are no Gas sales dispositions, then Lessee agrees to pay to Lessor royalty on one fourth (1/4) part of the total energy content of the Gas, in MMBtu determined on a Dry gas basis, based on the posted market price of natural gas at the nearest applicable gas market hub in \$/MMBtu.
- (h) **PLANT FUEL AND RECYCLED GAS:** No royalty shall be payable on any Gas as may represent this lease's proportionate share of any fuel used to process Gas produced hereunder in any third party gas processing plant pursuant to section 4(c); provided, however, that this lease's proportionate share of any such fuel used to process Gas shall be the lesser of (1) the plant fuel MMBtu percentage of the total plant inlet MMBtu amount (as determined by

contract or, if none, by actual MMBtu amounts), or (2) 3.5%, and royalty shall be payable on any Gas in excess of that lesser amount. Subject to the consent in writing of Lessor, Lessee may inject gas for secondary or enhanced recovery operations or for gas lift purposes into any oil- or gas-producing formation in the Leased Premises after the liquid hydrocarbons contained in the Gas have been removed, and no royalty shall be payable on the Gas so injected until such time as the same may thereafter be produced and sold or used.

- (i) **CONSERVATION:** Lessee shall use all reasonable means to prevent the underground or above ground waste of Oil or Gas and to avoid the physical waste, flaring or venting of Gas produced from the Leased Premises.
- (j) **DUTY TO MARKET:** Lessee shall exercise due diligence and use all reasonable efforts in marketing any and all production from the Leased Premises, at no cost to Lessor, to obtain the best price reasonably available for the Oil and Gas
- (k) **NO DEDUCTIONS:** Except for fees or deductions that may be permitted pursuant to section 4(c), Lessee shall pay or cause to be paid royalty due under this lease without deduction for the cost of producing, gathering, storing, separating, treating, dehydrating, conditioning, compressing, processing, transporting and otherwise making the Oil, Non-Processed Gas, Processed Gas, and other products hereunder Ready For Sale and Use, whether borne by Lessee or by third-party purchasers and whether stated as a deduction from the price or an adjustment to the price based on location or condition. If any contract by which Lessee or an Affiliate of Lessee sells Oil or Gas produced hereunder makes deductions or adjustments to the price to account for costs of producing, gathering, storing, separating, treating, dehydrating, conditioning, compressing, processing, or transporting of Oil or Gas produced from the Leased Premises, then such deductions shall be added back to the price received for purposes of computing the gross production upon which royalties are to be paid. Lessor and Lessee agree that the foregoing provision is to be given full effect and is not to be construed as "surplusage" under *Heritage Resources, Inc. v. Nationsbank*, 939 S.W.2d 118 (Tex. 1996).
- (l) **ROYALTY IN KIND:** Lessee shall pay monetary royalties based on the value of the gross production from the Leased Premises, unless Lessor elects to receive royalty in kind. Lessee shall pay oil or gas royalty, or both, in kind at the option of Lessor without deduction for expenses, as described in section (4)(k), necessary to make the oil, gas and any other products Ready for Sale and Use. Lessor may change its election to take royalty in kind or monetary form at any time or from time to time by giving Lessee notice of such election not less than sixty (60) days in advance. If Lessor elects to take its royalty production in kind, Lessor may elect to have the royalty production of the Oil, Gas, and any other products that are in a Ready for Sale and Use condition delivered in kind at the location Lessee sells its production, or at another location mutually acceptable to Lessor and Lessee. Lessee shall bear all costs to the point of delivery. If Lessor elects to take its royalty in kind, Lessor and Lessee agree to execute either the State's form of Gas Balancing Agreement or any other agreement that is acceptable to Lessor and Lessee.
- (m) **SEPARATION:** Lessee agrees that before any hydrocarbons in liquid form and any gas produced from the Leased Premises is sold, transferred, surface commingled with the production from any other lease tract and/or pooled unit, or is used or processed in a plant, it will be run free of cost to Lessor through a gravity-based oil and gas separator of conventional type and of adequate size and efficiency such that all liquid hydrocarbons recoverable from the gas by such means shall be recovered. Upon written consent of Lessor, Lessee may apply other forms of separation equipment that are at least as efficient as a gravity-based separator upon such terms and conditions as prescribed by Lessor. Upon written consent of Lessor, the requirement that such gas and liquid hydrocarbons be run through a separator or other equipment may be waived upon such terms and conditions as prescribed by Lessor. Lessee must request and obtain a waiver in writing from Lessor before the installation and/or use of any full well stream/wet gas/multiphase flow meters that measure any production on or from the Leased Premises.
- (n) **COMMINGLING:** Lessee must obtain prior written permission from Lessor per 31 TAC §9.35(a)(3) before surface commingling Oil and/or Gas production from a state lease or pooled unit with the production from any other private or state lease and/or unit into (i) a common manifold and/or separator, (ii) common storage, (iii) a common gathering system or pipeline, or (iv) to utilize an off-lease gas supply to inject gas for lift purposes into any oil- or gas-producing formation in the Leased Premises. These requirements are in addition to, and apart from, the requirements of any other state and/or federal entity.
- (o) **METERING:** Lessee agrees that any hydrocarbons in liquid form and any gas produced from the Leased Premises shall be measured separately before the liquid hydrocarbons and/or gas leave the Leased Premises. Lessee agrees to comply with all applicable American Gas Association (AGA) Standards, as well as the American Petroleum Institute (API) Manual of Petroleum Measurement Standards (MPMS) for any measurement device or tank that covers the standards, practices, guidelines, recommendations and procedures which include, but are not limited to, the design, installation, calibration, testing and handling of samples and operation of a metering system used for the measurement of hydrocarbons in liquid form or gas at any meter location on the Leased Premises, at a point of lease custody transfer, for the purpose of lease allocation in the event of surface commingling, or for the reporting and allocation of lease fuel, flared gas volumes, vented volumes or any other lease use.
- (p) **ROYALTY ON CONTRACT SETTLEMENTS:** Lessee shall pay to the GLO royalty at the applicable royalty rate on any monetary settlement received by Lessee from any breach of contract by Lessee's purchaser relating to the marketing, pricing or taking of oil or gas production from the Leased Premises.

5. PAYMENTS, SUBMISSIONS AND NOTICES TO LESSOR:

- (a) **MONETARY ROYALTY PAYMENTS:** All royalty not paid in kind at the election of Lessor shall be paid to the GLO at Austin, Texas, in the following manner: payment of royalty on production of oil and gas shall be as provided in the rules set forth in the Texas Administrative Code. The rules currently provide that royalty on oil is due and must be received in the GLO on or before the fifth (5th) day of the second (2nd) month succeeding the month of production or such later date as may be prescribed in the rules. Royalty on gas is due and must be received in the GLO on or before the fifteenth (15th) day of the second (2nd) month succeeding the month of production or such later date as may be prescribed in the rules. All royalty payments must be accompanied by the affidavit of the owner, manager or other authorized agent, completed in the form and manner prescribed by the GLO and showing the gross amount and disposition of all oil and gas produced and the market value of the oil and gas. Lessee must maintain, and make available to the GLO upon request, copies of all documents, records or reports confirming the gross production, disposition and market value including gas meter readings, pipeline receipts, gas line receipts and other checks or memoranda of the amount produced and put into pipelines, tanks, or pools and gas lines or gas storage, and any other reports or records which the GLO may require to verify the gross production, disposition and market value. In all cases the authority of a manager or agent to act for the Lessee herein must be filed in the GLO. Each royalty payment shall be accompanied by a check stub, schedule, summary or other remittance advice showing, by the assigned GLO lease number, the amount of royalty being paid on each lease.

- (b) **MANNER AND TIMELINESS OF PAYMENTS:** A monetary royalty payment that is not submitted electronically shall be considered timely paid if delivered to the Lessor on or before the applicable due date or if deposited in a postpaid, properly addressed wrapper with a post office or official depository under the care and custody of, and postmarked by, the United States Postal Service at least one (1) day before the applicable due date. A payment that is submitted electronically shall be considered timely paid if such payment is successfully transmitted to the proper account with the Comptroller of the State of Texas on or before the due date.
- (c) **PENALTIES AND INTEREST.** Lessee shall pay penalties and interest due on late royalty payments and other sums due, and for failure to provide documents, (whether physical documents or information in electronic form), as provided by law or the rules. The right to collect penalties and interest is in addition to, and shall not in any way limit or restrict, the rights of the GLO to pursue other remedies at law or in equity, including without limitation forfeiture of this lease. If Lessee pays royalty on or before thirty (30) days after the royalty payment was due, then Lessee owes a penalty of five percent (5%) on the royalty or twenty-five dollars (\$25.00), whichever is greater. A royalty payment which is over thirty (30) days late shall accrue a penalty of ten percent (10%) of the royalty due or twenty-five dollars (\$25.00), whichever is greater. In addition to a penalty, royalties shall accrue interest at a rate of twelve percent (12%) per year; such interest will begin to accrue when the royalty is sixty (60) days overdue. For royalties due on or after February 26, 2010, the interest rate assessed on delinquent royalties shall be determined as of the date of the first business day of the year the royalty becomes delinquent and will be reduced to prime plus one percent (1%). Affidavits and supporting documents which are not filed when due shall incur a penalty in an amount set by the GLO administrative rule which is effective on the date when the affidavits or supporting documents were due. The Lessee shall bear all responsibility for paying or causing royalties to be paid as prescribed by the due date provided herein. Payment of the delinquency penalty shall in no way operate to prohibit the State's right of forfeiture as provided by law nor act to postpone the date on which royalties were originally due. The above penalty provisions shall not apply in cases of title dispute as to the State's portion of the royalty or to that portion of the royalty in dispute as to fair market value
- (d) **PAYMENTS, NOTICES, AND CORRESPONDENCE TO LESSOR:** Lessee shall assure that all royalty payments, shut-in royalty payments, extension payments, delay rentals, and all other payments due under this Lease, as well as documents, reports, notices, and other information, unless expressly provided herein that such payment or information be directed to another office, are directed to the following address:

Texas General Land Office
P.O. Box 12873
Austin, Texas 78711-2873

or

Texas General Land Office
1700 N. Congress Avenue
Austin, Texas 78701

or such other address as may then be specified in the rules. Any payments submitted electronically shall be delivered by electronic funds transfer to the proper account with the Comptroller.

- (e) **NOTICES AND CORRESPONDENCE TO LESSEE:** Notices and correspondence to Lessee shall be sent to the address shown above or such other address as Lessee shall provide in writing to Lessor. Any such notice of change of address must specifically reference this Lease.

6. RECORDS:

- (a) **RESERVES, CONTRACTS AND OTHER RECORDS:** Upon written request by the GLO, Lessee shall annually furnish the GLO with its best possible estimate of oil and gas reserves underlying this lease or allocable to this lease and shall furnish the GLO with copies of all contracts under which gas is sold or processed and all subsequent agreements and amendments to such contracts within thirty (30) days after entering into or making such contracts, agreements or amendments. Such contracts and agreements when received by the GLO shall be held in confidence by the GLO unless otherwise authorized by Lessee. All other contracts and records pertaining to the production, transportation, sale and marketing of the oil and gas produced from these Leased Premises, including the books and accounts, receipts and discharges of all wells, tanks, pools, meters, and pipelines shall at all times be subject to audit, inspection, and examination by the GLO, the Attorney General, the Governor, or the representative of any of them.
- (b) **PERMITS, DRILLING RECORDS AND REQUIRED FILINGS:** Written notice of all operations on this lease shall be submitted to the GLO by Lessee or operator five (5) days before spud date, workover, re-entry, temporary abandonment or plug and abandonment of any well or wells. Such written notice to the GLO shall include copies of Railroad Commission forms for application to drill. Copies of well tests, completion reports and plugging reports shall be supplied to the GLO at the time they are filed with the Texas Railroad Commission. All applications, permits, reports or other filings that reference this lease or any specific well on the Leased Premises and that are submitted to the Texas Railroad Commission or any other governmental agency must have the word "State" as the first word in the title. Additionally, in accordance with Railroad Commission rules, any signage on the Leased Premises for the purpose of identifying wells, tank batteries or other associated improvements to the land must also include the word "State." Division orders must be submitted to the GLO within thirty (30) days of first production. GLO shall not be required to sign any division orders. Lessee shall supply the GLO with any records, memoranda, accounts, reports, cuttings and cores, or other information relative to the operation of the above-described Leased Premises, which may be requested by the GLO, in addition to those herein expressly provided for. Lessee shall have a basic electrical log as defined by the Railroad Commission made on the bore-hole section, from the base of the surface casing to the total depth of well, of all wells drilled on the above described Leased Premises or such other log or logs as a reasonable and prudent operator would run and shall transmit a complete suite of such logs on each well to the GLO within fifteen (15) days after the making of said logs.
- (c) **PENALTIES:** Lessee shall incur a penalty whenever reports, documents or other materials are not filed in the GLO when due. The penalty for late filing shall be set by the GLO administrative rule which is effective on the date when the materials were due to the GLO.

7. RETAINED ACREAGE: Notwithstanding any provision of this lease to the contrary, after a well producing or capable of producing oil or gas has been completed on the Leased Premises, Lessee shall exercise the diligence of a reasonably prudent operator in drilling such additional well or wells as may be reasonably necessary for the proper development of the Leased Premises and in marketing the production thereon.

(a) **VERTICAL:** In the event this lease is in force and effect in whole or in part, two (2) years after the expiration date of the primary term it shall then terminate as to all of the Leased Premises, EXCEPT as to the following acreage amounts for wells drilled under this lease capable of producing in paying quantities (including a shut-in oil or gas well as provided in section 11 hereof), or a well that has been spud and upon which Lessee is then engaged in continuous drilling or reworking operations: (1) the lesser of 40 acres or the amount of acreage assigned to an oil well for proration purposes under special field rules; (2) the lesser of 80 acres or the amount of acreage assigned to a gas well for proration purposes under special field rules; (3) for horizontal drainhole wells the amount of acreage retained shall be the greater of 40 acres or the amount of acreage determined by the following formula: $0.032 \times L = A$, where L = the length (in feet) of the horizontal lateral component of the well from the first takepoint to the last takepoint and A = the area retained (in acres) provided that, if A is not divisible by the number 20, A will be rounded up to the next number divisible by 20, i.e. $(0.032 \times 4500 \text{ feet} = 144 \text{ acres}$, which rounds up to 160 acres); (4) if more acreage is required than is provided for in (1), (2) or (3) above in order to obtain the maximum allowable under special field rules for the permitted or producing interval or intervals, upon written approval from the GLO, such number of acres that are required to obtain the maximum allowable as required by the special field rules as approved by the Railroad Commission of Texas, or any successor agency, or other governmental authority having jurisdiction; or (5) the number of acres held in a pooled unit pursuant to Natural Resources Code Sections 52.151-52.154. After termination pursuant to this subsection, each tract retained shall be considered a separate lease and must be maintained independently. Lessee shall retain the right of ingress and egress on and across the terminated portion of the Leased Premises as may be reasonably necessary for the continued operation of the portions of the lease remaining in force and effect. Further, Lessee shall retain an easement for its pipelines, tank batteries or other surface equipment or installations on the terminated acreage for so long as they continue to be used for the development and operations on the retained acreage.

(b) **HORIZONTAL:** Two (2) years after the expiration date of the primary term this lease shall further terminate as to those depths stipulated as follows for each tract retained in section 7 (a) above: for vertical wells, 100 feet true vertical depth below the deepest then producing perforations; for horizontal wells, 300 feet true vertical depth below the deepest depth reached by the horizontal lateral between the first takepoint and the last takepoint, and for acreage retained that is pooled or unitized, all depths above and below the pooled or unitized interval. If a well has been spud and is being drilled over this termination date, the acreage retained by said well under section 7 (a) shall be held as to all depths until completion of the well, and upon completion of the well as capable of producing in paying quantities, the acreage retained shall then terminate as to those depths as provided in this section.

(c) **IDENTIFICATION AND FILING:** The surface acreage retained hereunder as to each well shall, as nearly as practical, be in the form of a square for vertical wells or a rectangle for horizontal wells, with the well located in the center thereof, or such other shape as may be approved by the GLO. Within thirty (30) days after partial termination of this lease as provided herein, Lessee must execute and record a release or releases containing a satisfactory legal description of the acreage and/or depths not retained hereunder. The recorded release, or a certified copy of same, shall be filed in the GLO, within thirty (30) days of recording accompanied by the filing fee prescribed by the GLO rules in effect on the date the release is filed. If Lessee fails or refuses to execute and record such release or releases then the GLO, in its sole discretion, may designate, by written instrument, the acreage and/or depths that have terminated hereunder, and record such instrument at Lessee's expense in the county or counties where the lease is located and in the official records of the GLO, and such designation shall be binding upon Lessee for all purposes. If at any time after the effective date of the partial termination provisions hereof, the applicable field rules are changed or the well or wells located thereon are reclassified so that less acreage is thereafter allocated to said well or wells for production purposes, this lease shall thereupon terminate as to all acreage not thereafter allocated to said well or wells for production purposes, and Lessee shall file a release or releases in the same manner as provided above.

(d) **FIELD RULES AND EXCEPTIONS:** If Lessee seeks to amend existing field rules to establish field rules applicable to the Leased Premises, and if Lessee requests a hearing for the amendment or establishment of field rules, or if Lessee requests the consolidation of existing field rules or an exemption from field rules or statewide rules, or if Lessee seeks to adopt field rules different from those in use in the immediate area, Lessee shall notify Lessor of such request prior to any Railroad Commission hearing and provide all exhibits to Lessor relative to such hearing. Any attempt by Lessee to establish, amend, consolidate, or exempt such field rules without Lessor's prior consent shall not be applicable to the Leased Premises unless and until such consent is given.

8. OFFSET WELLS: If oil and/or gas should be produced in commercial quantities from a well located on land privately owned or on State land leased at a lesser royalty, which well is within one thousand (1,000) feet of the area included herein, or which well is draining the area covered by this lease, the Lessee shall, within sixty (60) days after such initial production from the draining well or the well located within one thousand (1,000) feet from the area covered by this lease, begin in good faith and prosecute diligently the drilling of an offset well on the area covered by this lease, and such offset well shall be drilled to such depth as may be necessary to prevent the undue drainage of the area covered by this lease, and the Lessee shall use all means necessary in a good faith effort to make such offset well produce oil and/or gas in commercial quantities. Only upon the determination of the GLO with its written approval, may the payment of a compensatory royalty satisfy the obligation to drill an offset well or wells required under this section.

9. DRY HOLE/CESSATION, DRILLING, AND REWORKING:

(a) If, during the primary term hereof, within sixty (60) days of a lease anniversary date, (i) Lessee should complete a well as a dry hole, or (ii) production should cease, then the lease is maintained over the anniversary date without the payment of a delay rental. If a dry hole is completed or production or drilling operations cease more than sixty (60) days before a lease anniversary date, a delay rental must be paid on or before such anniversary date to maintain the lease and upon failure to make such payment the lease shall terminate unless otherwise held over the anniversary date by additional drilling operations or re-establishment of production during the sixty (60) days prior to the anniversary date. If, during the last year of the primary term, the production of oil or gas should cease, Lessee's rights shall remain in full force and effect without further operations until the expiration of the primary term; and if Lessee has not resumed production in paying quantities at the expiration of the primary term, Lessee may maintain this lease by conducting additional drilling or reworking operations pursuant to section 9(b), using the expiration of the primary term as the date of cessation of production under section 9(b). Should the first well or any subsequent well drilled on the above described land be completed as a shut-in oil or gas well within the primary term hereof, Lessee may resume payment of the annual rental in the same manner as provided herein on or before the rental paying date following the expiration of sixty (60) days from the date of completion of such shut-in oil or gas well and upon the failure to make such payment, this lease shall automatically terminate. If, at the expiration of the primary term or any time thereafter, a shut-in oil or gas well is located on the Leased Premises, payments may be made in accordance with the shut-in provisions hereof.

(b) If, after the expiration of the primary term, production of oil or gas from the Leased Premises, after once obtained, should cease for any cause, this lease shall not terminate if Lessee restores production in paying quantities within sixty (60) days after such cessation or commences additional drilling or reworking operations within sixty (60) days after such cessation, and this lease shall remain in full force and effect for so long as such operations continue in good faith and in

workmanlike manner without interruptions totaling more than sixty (60) days. If such drilling or reworking operations result in the production of oil or gas, the lease shall remain in full force and effect for so long as oil or gas is produced from the Leased Premises in paying quantities or payment of shut-in oil or gas well royalties or payment of compensatory royalties is made as provided herein or as provided by law. If the drilling or reworking operations result in the completion of a well as a dry hole, the lease will not terminate if the Lessee commences additional drilling or reworking operations within sixty (60) days after the completion of the well as a dry hole, and this lease shall remain in effect so long as Lessee continues drilling or reworking operations in good faith and in a workmanlike manner without interruptions totaling more than sixty (60) days. Lessee shall give written notice to the GLO within thirty (30) days of any cessation of production.

10. POOLING; ALLOCATION: Lessee is hereby expressly prohibited from pooling or unitizing the Leased Premises or any interests therein with any other leasehold or mineral interest for the exploration, development and production of oil or gas or either of them without the express consent of the School Land Board and the Commissioner of the General Land Office. A well, whether or not classified as an allocation well, that traverses multiple leases or units including the Leased Premises hereunder, one or more of which leases or units contains oil and gas owned by the state, and which well is not associated with an agreement approved by Lessor specifying the allocation of the production of state-owned oil and gas, is hereby expressly not permitted and may not be operated on or under this lease or a unit containing state-owned oil and gas without the prior written consent of the Commissioner of the General Land Office or his authorized designee, which consent may be granted or withheld in the Commissioner's sole discretion.

11. SHUT-IN ROYALTIES: For purposes of this section, "well" means any well that has been assigned a well number by the governmental agency having jurisdiction over the production of oil and gas. If at any time after the expiration of the primary term of a lease that, until being shut in, was being maintained in force and effect, a well capable of producing oil or gas in paying quantities is located on the Leased Premises, but oil or gas is not being produced for lack of suitable production facilities (lack of suitable production facilities is not acceptable as a reason for making a shut-in payment if all or part of such production facilities are owned and /or operated by Lessee, and the cause is due to Lessee's improper maintenance or neglect) or lack of a suitable market, then Lessee may pay as a shut-in oil or gas royalty an amount equal to double the annual rental provided in the lease, but not less than \$1,200 a year for each well capable of producing oil or gas in paying quantities. To be effective, each initial shut-in oil or gas royalty payment, accompanied by the GLO Shut-In Affidavit, must be paid on or before: (1) the expiration of the primary term, (2) Sixty (60) days after the Lessee ceases to produce oil or gas from the Leased Premises, or (3) Sixty (60) days after Lessee completes a drilling or reworking operation in accordance with the lease provisions; whichever date is the latest. If the shut-in oil or gas royalty is paid, accompanied by the GLO Shut-In Affidavit, the lease shall be considered to be a producing lease and the payment shall extend the term of the lease for a period of one (1) year from the end of the primary term, or from the first (1st) day of the month following the month in which production ceased, and, after that, if after a diligent effort, that being those of a reasonable and prudent operator to obtain or repair the production facilities or to obtain a market, no suitable production facilities or suitable market for the oil or gas exists, Lessee may, upon written approval of the GLO, extend the lease for four (4) more successive periods of one (1) year by paying the same amount each year on or before the expiration of each shut-in year.

12. COMPENSATORY ROYALTIES: If, during the period the lease is kept in effect by payment of the shut-in oil or gas royalty, oil or gas is sold and delivered in paying quantities from a well located within one thousand (1,000) feet of the Leased Premises and completed in the same producing reservoir, or in any case in which drainage is occurring, the right to continue to maintain the lease by paying the shut-in oil or gas royalty shall cease, but the lease shall remain effective for the remainder of the year for which the royalty has been paid. Upon written approval from the GLO, the Lessee may maintain the lease for four (4) more successive years by Lessee paying compensatory royalty at the royalty rate provided in the lease of the market value of production from the well causing the drainage or which is completed in the same producing reservoir and within one thousand (1,000) feet of the Leased Premises. The compensatory royalty is to be paid monthly to the GLO beginning on or before the last day of the month following the month in which the oil or gas is produced from the well causing the drainage or that is completed in the same producing reservoir and located within one thousand (1,000) feet of the Leased Premises; if the compensatory royalty paid in any twelve (12) month period is in an amount less than the annual shut-in oil or gas royalty, Lessee shall pay an amount equal to the difference within thirty (30) days from the end of the twelve (12) month period; and none of these provisions will relieve Lessee of the obligation of reasonable development nor the obligation to drill offset wells as provided in N.R.C. Section 52.034; however, at the determination of the GLO, and with the GLO's written approval, the payment of compensatory royalties shall satisfy the obligation to drill offset wells. Compensatory royalty payments which are not timely paid will accrue penalty and interest in accordance with section 5 of this lease.

13. EXTENSIONS: If, at the expiration of the primary term of this lease, production of oil or gas has not been obtained on the Leased Premises but drilling operations are being conducted thereon in good faith and in a good and workmanlike manner, Lessee may, on or before the expiration of the primary term, file in the GLO written application for a thirty (30) day extension of this lease, accompanied by payment of Three Thousand Dollars (\$3,000.00) if this lease covers six hundred forty (640) acres or less and Six Thousand Dollars (\$6,000.00) if this lease covers more than six hundred forty (640) acres and the GLO shall, in writing, extend this lease for a thirty (30) day period from and after the expiration of the primary term and so long thereafter as oil or gas is produced in paying quantities; provided further, that Lessee may, so long as such drilling operations are being conducted, make like application and payment during any thirty (30) day extended period for an additional extension of thirty (30) days and, upon receipt of such application and payment, the GLO shall, in writing, again extend this lease so that same shall remain in force for such additional thirty (30) day period and so long thereafter as oil or gas is produced in paying quantities; provided, however, that this lease shall not be extended for more than a total of three hundred ninety (390) days from and after the expiration of the primary term unless production in paying quantities has been obtained.

14. USE OF WATER; SURFACE: For the rates established below, Lessee shall have the right to use water produced on said land necessary for drilling operations hereunder and solely upon the Leased Premises; provided, however, Lessee shall not use potable water or water suitable for livestock or irrigation purposes for water flood, hydraulic fracturing, or completion operations without the prior written consent of Lessor. Subject to its obligation to pay surface damages, Lessee shall have the right to use so much of the surface of the land that may be reasonably necessary for drilling and operating oil and gas wells and transporting and marketing the production therefrom, such use to be conducted under conditions of least injury to the surface of the land. Lessee shall pay surface damages and water use in an amount no less than the amount set by the University Lands Rate and Damage Schedule which is effective on the date when the activity requiring the payment of surface damages or water use occurs.

15. POLLUTION: In developing the Leased Premises, Lessee shall use the highest degree of care and all proper safeguards to prevent pollution. Without limiting the foregoing, pollution of coastal wetlands, natural waterways, rivers and impounded water shall be prevented by the use of containment facilities sufficient to prevent spillage, seepage or ground water contamination. In the event of pollution, Lessee shall use all means at its disposal to recapture all escaped hydrocarbons or other pollutants and shall be responsible for all damage to public and private properties.

(A) UPLANDS: Lessee shall build and maintain fences around its slush, sump and drainage pits and tank batteries so as to protect livestock against loss, damage or injury; and upon completion or abandonment of any well or wells, Lessee shall fill and level all slush pits and cellars and completely clean up the drilling site of all rubbish thereon and restore the surface to its original condition.

(B) SUBMERGED LANDS: No discharge of solid waste or garbage shall be allowed into State waters from any drilling or support vessels, production platform, crew or supply boat, barge, jack-up rig or other equipment located on the leased area. Solid waste shall include but shall not be limited to containers, equipment, rubbish, plastic, glass, and any other man-made non-biodegradable items. A sign must be displayed in a high traffic area on all vessels and manned platforms stating, "Discharge of any solid waste or garbage into State Waters from vessels or platforms is strictly prohibited and may subject a State of Texas lease to forfeiture." Such statement shall be in lettering of at least 1" in size.

(C) RIVERS: To the extent necessary to prevent pollution, the provisions found in subsections (a) and (b) of this section shall also apply to rivers and riverbeds.

(D) PENALTY: Failure to comply with the requirements of this provision may result in the maximum penalty allowed by law including forfeiture of the lease. Lessee shall be liable for the damages caused by such failure and any costs and expenses incurred in cleaning areas affected by the discharged waste.

16. IDENTIFICATION MARKERS: Lessee shall erect, at a distance not to exceed twenty-five (25) feet from each well on the premises covered by this lease, a legible sign on which shall be stated the name of the operator, the lease designation and the well number. Where two or more wells on the same lease or where wells on two or more leases are connected to the same tank battery, whether by individual flow line connections direct to the tank or tanks or by use of a multiple header system, each line between each well and such tank or header shall be legibly identified at all times, either by a firmly attached tag or plate or an identification properly painted on such line at a distance not to exceed three feet (3') from such tank or header connection. Said signs, tags, plates or other identification markers shall be maintained in a legible condition throughout the term of this lease.

17. ASSIGNMENTS: Subject to the right of the GLO to require a demonstration by the transferee of its financial responsibility, this lease may be transferred at any time; provided, however, that the liability of the transferor to properly discharge its obligation under the lease, including properly plugging abandoned wells, removing platforms or pipelines or remediation of contamination at drill sites shall only pass to the transferee upon the prior written consent of the GLO. The GLO may require the transferee to demonstrate financial responsibility and may require a bond or other security. All transfers must reference the lease by the file number and must be recorded in the county where the area is located, and the recorded transfer or a copy certified to by the County Clerk of the county where the transfer is recorded must be filed in the GLO within ninety (90) days of the execution date, as provided by N.R.C. Section 52.026, accompanied by the filing fee prescribed by the GLO rules in effect on the date of receipt by the GLO of such transfer or certified copy thereof. Without limiting the liability of the original lessee or any prior transferee for that entity's debts owed to the GLO hereunder, every transferee shall succeed to all rights and be subject to all obligations, liabilities, and penalties owed to the State by the original lessee or any prior transferee of the lease, including any liabilities to the State for unpaid royalties.

18. RELEASES: Lessee may relinquish the rights granted hereunder to the State at any time by recording the relinquishment in the county where this area is situated and filing the recorded relinquishment or certified copy of same in the GLO within ninety (90) days after its execution accompanied by the filing fee prescribed by the GLO rules in effect on the date of receipt by the GLO of such relinquishment or certified copy thereof. Such relinquishment will not have the effect of releasing Lessee from any liability theretofore accrued in favor of the State.

19. LIEN: In accordance with N.R.C. Section 52.136, the State shall have a first lien upon all oil and gas produced from the area covered by this lease to secure payment of all unpaid royalty and other sums of money that may become due under this lease. By acceptance of this lease, Lessee grants the State, in addition to the lien provided by N.R.C. Section 52.136 and any other applicable statutory lien, an express contractual lien on and security interest in all leased minerals in and extracted from the Leased Premises, all proceeds which may accrue to Lessee from the sale of such leased minerals, whether such proceeds are held by Lessee or by a third party, and all fixtures on and improvements to the Leased Premises used in connection with the production or processing of such leased minerals in order to secure the payment of all royalties or other amounts due or to become due under this lease and to secure payment of any damages or loss that Lessor may suffer by reason of Lessee's breach of any covenant or condition of this lease, whether express or implied. This lease, when filed in the real property records where the Leased Premises are located, and for purposes of perfecting Lessor's lien on and security interest in all proceeds, shall constitute a financing statement under the Texas Uniform Commercial Code. This lien and security interest may be foreclosed with or without court proceedings in the manner provided in Title 1, Chapter 9 of the Texas Business and Commerce Code. Lessee agrees that the GLO may require Lessee to execute and record such instruments as may be reasonably necessary to acknowledge, attach or perfect this lien. Lessee hereby represents that there are no prior or superior liens arising from and relating to Lessee's activities upon the above-described property or from Lessee's acquisition of this lease. Should the GLO at any time determine that this representation is not true, then the GLO may declare this lease forfeited as provided herein.

20. FORFEITURE: If Lessee shall fail or refuse to make the payment of any sum within thirty (30) days after it becomes due, or if Lessee or an authorized agent should knowingly make any false return or false report concerning production or drilling, or if Lessee shall fail or refuse to drill any offset well or wells in good faith as required by law and the rules and regulations adopted by the GLO, or if Lessee should fail to file reports in the manner required by law or fail to comply with rules and regulations promulgated by the GLO, the SLB or the Railroad Commission, or refuse the proper authority access to the records pertaining to operations, or if Lessee or an authorized agent should knowingly fail or refuse to give correct information to the proper authority, or knowingly fail or refuse to furnish the GLO a correct log of any well, or if Lessee shall knowingly violate any of the provisions of this lease, or if this lease is assigned and the assignment is not filed in the GLO as required by law, or if Lessee shall fail or refuse to execute and file a release as required under this lease and by GLO rules, the rights acquired under the entirety of this lease shall be subject to forfeiture by the GLO, and it shall forfeit same when sufficiently informed of the facts which authorize a forfeiture, and when forfeited the area shall again be subject to lease to the highest bidder, under the same regulations controlling the original sale of leases. However, nothing herein shall be construed as waiving the automatic termination of this lease by operation of law or by reason of any special limitation arising hereunder. Forfeitures may be set aside and this lease and all rights thereunder reinstated before the rights of another intervene upon satisfactory evidence to the GLO of future compliance with the provisions of the law and of this lease and the rules and regulations that may be adopted relative hereto.

21. RIVERBED TRACTS: In the event this lease covers a riverbed, Lessee is hereby specifically granted the right of eminent domain and condemnation as provided for in N.R.C. Sections 52.092-52.093.

22. APPLICABLE LAWS AND DRILLING RESTRICTIONS: This lease shall be subject to all rules and regulations, and amendments thereto, promulgated by the Railroad Commission and the GLO governing drilling and producing operations on State land (specifically including any rules promulgated that relate to payment of royalties, and auditing procedures, and shall be subject to all other valid statutes, rules, regulations, orders and ordinances that may affect operations under the provisions of this lease. Without limiting the generality of the foregoing, Lessee hereby agrees, by the acceptance of this lease, to be bound by and subject to all statutory and regulatory provisions relating to the GLO's audit billing notice and audit hearings procedures. Said statutes are currently found at N.R.C. Sections

52.135 and 52.137 through 52.140. In the event this lease covers land franchised or leased or otherwise used by a navigation district or by the United States for the purpose of navigation or other purpose incident to the operation of a port, then Lessee shall not be entitled to enter or possess such land without prior approval as provided under Section 61.117 of the Texas Water Code, but Lessee shall be entitled to develop such land for oil and gas by directional drilling; provided, however, that no surface drilling location may be nearer than six hundred sixty feet (660') and special permission from the GLO is necessary to make any surface location nearer than two thousand one hundred sixty feet (2,160') measured at right angles from the nearest bulkhead line or from the nearest dredged bottom edge of any channel, slip, or turning basin which has been authorized by the United States as a federal project for future construction, whichever is nearer.

23. REMOVAL OF EQUIPMENT: Upon the termination of this lease, Lessee has the duty to properly plug all wells and to remove all equipment, structures, machinery, tools, supplies and other items on the property and otherwise restore the property to the condition it was in immediately preceding issuance of the lease. If such is not completed within one hundred twenty (120) days of termination, a presumption shall arise that these items have been abandoned by the lessee or operator and the GLO may exercise the State's rights pursuant to N.R.C. Section 51.302 *et seq.*

24. FORCE MAJEURE: If, in the last year of the primary term or thereafter, Lessee is prevented from complying with any express or implied covenant of this lease, from conducting drilling operations thereon, or from producing oil and/or gas therefrom, after effort made in good faith, by reason of war, rebellion, riots, strikes, fires, acts of God or any order, rule or regulation of governmental authority, then while so prevented, Lessee's obligation to comply with such covenant shall be suspended upon proper and satisfactory proof presented to the GLO (the GLO should be notified within fifteen (15) days of any force majeure event) and accepted by the GLO in support of Lessee's contention and Lessee shall not be liable for damages for failure to comply therewith; and this lease shall be extended while and so long as Lessee is prevented, by any such cause, from drilling, reworking operations or producing oil and/or gas from the Leased Premises. Lessee agrees to immediately notify the GLO when the reason for force majeure has ceased. Notwithstanding anything contained herein to the contrary, this section is not applicable for wells being shut-in due to pipeline disruptions. See section 11.

25. LEASE SECURITY: Lessee shall take the highest degree of care and all proper safeguards to protect said Leased Premises and to prevent theft of oil, gas, and other hydrocarbons produced from said lease. This includes, but is not limited to, the installation of all necessary equipment, seals, locks, or other appropriate protective devices on or at all access points at the lease's production, gathering, and storage systems where theft of hydrocarbons can occur. Lessee shall be liable for the loss of any hydrocarbons resulting from theft and shall pay the GLO royalties thereon as provided herein on all oil, gas or other hydrocarbons lost by reason of theft.

26. REDUCTION OF PAYMENTS: If, during the primary term, a portion of the land covered by this lease is included within the boundaries of a pooled unit that has been approved by the SLB in accordance with N.R.C. Sections 52.151-52.154, or if, at any time after the expiration of the primary term or the extended term, this lease covers a lesser number of acres than the total amount described herein, payments that are made on a per acre basis hereunder shall be reduced according to the number of acres pooled, released, surrendered, or otherwise severed, so that payments determined on a per acre basis under the terms of this lease during the primary term shall be calculated based upon the number of acres outside the boundaries of a pooled unit, or, if after the expiration of the primary term, the number of acres actually retained and covered by this lease.

27. SUCCESSORS AND ASSIGNS: The covenants, conditions and agreements contained herein shall extend to and be binding upon the heirs, executors, administrators, successors or assigns of Lessee herein.

28. ANTIQUITIES CODE: In the event that any feature of archeological or historical interest on Permanent School Fund Land is encountered during the activities authorized by this lease, Lessee will immediately cease activities and will immediately notify the GLO and the Texas Historical Commission (P.O. Box 12276, Austin, TX 78711) so that adequate measures may be undertaken to protect or recover such discoveries or findings, as appropriate. Lessee is expressly placed on notice of the National Historical Preservation Act of 1966 (PB-89-66, 80 Statute 915; 16 U.S.C.A. 470) and the Antiquities Code of Texas, N.R.C. Chapter 191 (Vernon 1993 & Supp. 1998). On state-owned land not dedicated to the Permanent School Fund, lessee shall notify the Texas Historical Commission before breaking ground at a project location. An archaeological survey might be required by the Commission before construction of the project can commence. Further, in the event that any site, object, location, artifact or other feature of archaeological, scientific, educational, cultural or historic interest is encountered during the activities authorized by this lease, Lessee will immediately notify Lessor and the Texas Historical Commission so that adequate measures may be undertaken to protect or recover such discoveries or findings, as appropriate.

29. VENUE: Lessor and Lessee, including Lessee's successors and assigns, hereby agree that venue for any dispute arising out of a provision of this lease, whether express or implied, regarding interpretation of this lease, or relating in any way to this lease or to applicable case law, statutes, or administrative rules, shall be in a court of competent jurisdiction located in the county where venue is established pursuant to applicable statute, or, if no such venue is established by statute, then, at the election of Lessor, either in Travis County, Texas, or in the county where the Leased Premises are located.

30. DEFINITIONS:

- a. **"BTU"** means British thermal unit, which is the quantity of heat required to raise the temperature of one-pound avoirdupois of pure water from 58.5 degrees Fahrenheit ("°F") to 59.5°F. An MMBtu is one million (1,000,000) British thermal units.
- b. **"Dry gas"** means a gas that contains less than or equal to seven (7) lbs of water per million standard cubic feet. The volume of Gas, on a Dry gas basis, shall be determined by mathematically removing the water vapor from Gas that is partially or fully saturated with water vapor at measurement conditions of flowing pressure and temperature. The total energy content of Gas shall be the product of multiplying the volume of Gas, on a Dry gas basis, times the heating value per unit volume, in Btu/SCF, on a Dry gas basis, at the same base temperature and base pressure.
- c. **"Gas"** means methane and other gaseous hydrocarbons, including gaseous combustible, noncombustible, and inert elements, compounds, components or mixtures thereof, and liquefiable hydrocarbons in the vapor stream. Gas volumes shall be calculated and reported, at the option of Lessor, in standard cubic feet (SCF), one thousand (1,000) standard cubic feet of gas (MSCF), or one million (1,000,000) standard cubic feet of gas (MMSCF).
- d. **"Gross Heating Value or BTU Content"** means the energy per unit volume represented by the number of BTUs produced by the complete combustion of one standard cubic foot of Gas (excluding hydrogen sulfide) at a temperature base of sixty degrees (60° F) Fahrenheit and pressure base of 14.65 pounds per square inch absolute.

- e. **“Gross Production”** means all gas and fluids brought from underground up to and through the well head, and includes: (i) all hydrocarbons produced in liquid form as oil or condensate at the well head and also all condensate, distillate, and any other liquid hydrocarbons recovered from oil, condensate, or gas run through a separator or other equipment; (ii) all hydrocarbons and gaseous substances not in liquid form produced from any well; and (iii) natural gasoline or liquid hydrocarbons, carbon dioxide, carbon black, sulfur or any other products produced or manufactured from any gas or liquid. The gross production volumes of oil, condensate, and gas includes all sales, custody transfer dispositions, and/or stored volumes and all non-sales disposition volumes, including but not limited to, lease use, fuel, vent, flare, spills, uncontrolled releases, theft, and any other loss. The gross production of gaseous hydrocarbons shall be adjusted and reported in MMBTUs.
- f. **“Market Value”** means the greatest of (i) the highest posted price, plus premium, if any, offered or paid for oil, gas, condensate, distillate, other hydrocarbons, or any Other Products produced or manufactured from the Oil or Gas, of similar characteristics and type in the general area, (ii) the prevailing market price thereof in the general area, (iii) the proceeds of the sale thereof, or (iv) the highest value reasonably available to Lessee. The proceeds of sale shall include the total value accruing to the Lessee from the sale or use of the production, including proceeds and any other thing of value received by Lessee or the operator.
- g. **“Marketable”** means that sufficient infrastructure is in-place or installed to allow for the sale or delivery of merchantable Oil and/or Gas into the custody of an authorized carrier, receiving agency, or party.
- h. **“Merchantable”** means (i) with respect to Gas, a gas that is commercially free of dust, sand, dirt, gum-forming constituents, natural gasoline, liquid hydrocarbons, water, inerts, and any other substances that may become separated from the gas during handling thereof and may be injurious to utility facilities, industrial, commercial, and/or residential users that would cause the gas to be unmarketable or require additional treating and/or processing to be ready for use and consumption (sale and use), and (ii) with respect to Oil, a crude oil, condensate, and other liquid hydrocarbons recovered in liquid form from any hydrocarbon production (oil or gas) produced on or from the Leased Premises that is suitable for normal refinery processing, sufficiently free of foreign contaminants or chemicals, and meets the appropriate pipeline or truck haul specifications for sediment and water.
- i. **“Natural Gas Liquids (NGLs)”** means those hydrocarbons liquefied, removed, recovered, or condensed from natural gas at the surface in field production facilities as oil or condensate or in natural gas processing plants as oil or stabilized condensate and as raw mix liquids prior to separation down to their base components. Natural gas liquids that are not recovered or removed as condensate in plant systems located on or off the Leased Premises or in a Processing Plant consist of either: (i) Raw Mix, or (ii) component plant products consisting of merchantable and marketable commercial grades and/or blends of each of the individual components, after fractionation, of ethane, propane, iso-butane, normal butane, and natural gasoline that include pentanes plus (iso-pentane, normal pentane and hydrocarbon components of higher molecular weight).
- j. **“Non-Processed Gas”** means all hydrocarbons and gaseous substances not defined as oil, that are not processed in plant systems located on or off the Leased Premises or in a Processing Plant to remove or extract Natural Gas Liquids to produce a Pipeline-Quality Natural Gas or Residue Gas (although the term includes such substances that have been removed from the Gas that include, but are not limited to, carbon dioxide, sulphur, water, or any other constituent or component necessary to produce a Pipeline-Quality Natural Gas).
- k. **“Oil”** means all hydrocarbons produced in a liquid form at the mouth of the well and also all condensate, distillate and other liquid hydrocarbons recovered in liquid form from any hydrocarbon production (oil or gas) produced on or from the Leased Premises when run through a separator or other equipment that is stored at pressures less than or equal to 15 pounds per square inch gauge, and that is not extracted in the form of Raw Mix in plant systems located on or off the Leased Premises or in a Processing Plant prior to fractionation. All Oil volumes shall be corrected from the measurement condition to report the produced volume of Oil in Stock Tank Barrels at Stock Tank Conditions per the applicable API MPMS standards.
- l. **“Pipeline-Quality Natural Gas”** means a natural gas that is merchantable and marketable that meets an interstate or intrastate transmission company’s minimum specifications with respect to (i) delivery pressure, (ii) delivery temperature, (iii) BTU content, (iv) mercaptan sulfur, (v) total sulfur, (vi) moisture and/or water content, (vii) carbon dioxide, (viii) oxygen, (ix) total inerts (the total combined carbon dioxide, helium, nitrogen, oxygen, and any other inert compound percentage by volume), (x) hydrocarbon dew point limits, (xi) merchantability, (xii) content of any liquids at or immediately downstream of the delivery point into a pipeline, and (xiii) interchangeability with the typical composition of the gas in the pipeline with respect to the following indices: Wobbe Number, Lifting Index, Flashback Index, and Yellow Tip Index per AGA Bulletin No. 36.
- m. **“Processed Gas”** means natural gas processed in a Processing Plant(s) located on or off the Leased Premises where Gas is processed to remove or extract liquefiable hydrocarbons or Raw Mix from the natural gas stream to produce a Pipeline-Quality Natural Gas or Residue Gas, NGLs, and other products, and as used herein includes the Residue Gas, the Raw Mix (and resulting NGLs), and other products.
- n. **“Processing Plant”** means plant systems, located on or off the Leased Premises, that include a gas processing plant, natural gasoline plant, gasoline plant, or other plant where raw unprocessed natural gas is processed to remove or extract Raw Mix from the natural gas stream to produce a Pipeline-Quality Natural Gas or Residue Gas and other products, and the Raw Mix is then either (i) separated by fractionation down to its base components prior to storage and/or transport that meets or conforms to all applicable Gas Processors Association (GPA) Standards and/or Specifications for the commercial sale of each liquefiable hydrocarbon product, or (ii) transported to another plant for separation down to its base components by fractionation prior to storage and/or transport for the commercial sale of each liquefiable hydrocarbon product. Any deductions, costs, or processing fees associated with the removal or recovery of Natural Gas Liquids is strictly limited to only that part of any Processing Plant or facility where Raw Mix is recovered, and if applicable at that plant, also fractionated to their component parts.
- o. **“Raw Mix”** means a mixture of Natural Gas Liquids (NGLs) that has a true vapor pressure greater than fifteen (15) pounds per square inch gauge at 100 degrees Fahrenheit (°F) prior to separation down to its base components by fractionation, typically consisting of a mixture of liquefiable hydrocarbons, including but not limited to, the natural gas liquids ethane, propane, iso-butane, normal butane, and natural gasoline that include pentanes plus (iso-pentane, normal pentane and hydrocarbon components of higher molecular weight).

- p. **“Ready for Sale and Use”** means the following:
 - i. **For Oil:** Oil that is merchantable and marketable and otherwise in a condition such that the Oil is suitable for transfer of ownership and will be accepted by a purchaser under a sales contract typical for the field or area.
 - ii. **For Non-Processed Gas:** A Pipeline-Quality Natural Gas that is merchantable and marketable and otherwise in a condition suitable for transfer of ownership such that the natural gas or other gas product will be interchangeable with and accepted by a purchaser under an interstate and/or intrastate gas sales contract typical for the field or area for use by an industrial, commercial, and/or residential user.
 - iii. **For Residue Gas:** A Pipeline-Quality Natural Gas at the tailgate of the only or last stage of gas processing to remove Natural Gas Liquids that is merchantable and marketable and otherwise in a condition suitable for transfer of ownership such that the natural gas or other gas product will be interchangeable with and accepted by a purchaser under an interstate and/or intrastate gas sales contract typical for the field or area for use by an industrial, commercial, and/or residential user.
 - iv. **For Natural Gas Liquids:** (A) merchantable and marketable Raw Mix at the point sold as such to a third party at arms' length, or (B) merchantable and marketable Natural Gas Liquids at the tailgate of a Processing Plant after fractionation that are suitable for transfer of ownership that will be interchangeable with and accepted by a purchaser for sale or use by an industrial and/or commercial user.
 - v. **For Other Products:** Products that are in a condition that will be accepted by a purchaser under a sales contract typical for the field or area for use by an industrial or commercial user.
- q. **“Residue Gas”** means (i) the material that remains after a separation, treatment, or gas conditioning process, and (ii) that gas remaining after the recovery of Natural Gas Liquids to produce a Pipeline-Quality Natural Gas. If the gas is processed to remove liquefiable hydrocarbons in a series of Processing Plants, then the Residue Gas is that gas remaining after the recovery of Natural Gas Liquids to produce a Pipeline-Quality Natural Gas at the last Processing Plant in the series.
- r. **“Stock Tank Barrel”** means the volume of liquid hydrocarbons that is equivalent to the volume of forty-two (42) U.S. gallons at atmospheric pressure and 60 °F.
- s. **“Stock Tank Conditions”** means a stock tank meeting all applicable API specifications and requirements at atmospheric pressure and 60°F.

31. LEASE FILING: Pursuant to Chapter 9 of the Tex. Bus. & Com. Code, this lease must be filed of record in the office of the County Clerk in any county in which all or any part of the Leased Premises is located, and certified copies thereof must be filed in the GLO. The prescribed filing fee shall accompany the certified copies sent to the GLO.

32. EXECUTION: This Oil and Gas Lease must be signed and acknowledged by the Lessee before it is filed of record in the county records and in the GLO.

LESSEE
 BY: _____
 TITLE: _____
 DATE: _____

IN TESTIMONY WHEREOF, witness the signature of the Commissioner of the General Land Office of the State of Texas under the seal of the General Land Office.

**COMMISSIONER OF THE GENERAL LAND OFFICE
 OF THE STATE OF TEXAS**

APPROVED

Contents _____
Legal _____
GC _____
Exec _____

STATE OF _____

(LESSEE ACKNOWLEDGMENT)

COUNTY OF _____

BEFORE ME, the undersigned authority, on this day personally appeared _____,
known to me to be the person whose name is subscribed to the foregoing instrument, as _____ of
_____, a _____, and acknowledged to me that he executed the same
for the purposes and consideration therein expressed, in the capacity stated, and as the act and deed of said _____.

Given under my hand and seal of office _____, 20_____.

Notary Public in and for the State of _____