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19 83 between January

Southern Research Institute, an Alabama Non-Profit Corporation

of P. O. Box 3307-A

Birmingham, Alabama 35255

herein called Lessor (whether one or more), and

ATLANTIC RICHFIELD COMPANY, A PENNSYLVANIA CORPORATION

of P. O. Box 2819

Dallas, Texas 75221

WITNESSETH:

1. Lessor, in consideration of Ten Dollars (\$10.00), and other valuable consideration, cash in hand paid, receipt and sufficiency of which is hereby acknowledged, and of the royalties, and agreements of the Lessee, herein provided, hereby grants, leases and lets exclusively unto Lessee, for purposes of investigating, exploring by geophyiscal and other methods, prospecting, drilling and operating for and producing oil, gases (including without limitation casinghead gas, casinghead gasoline, gas condensate (distillate), hydrogen sulphide gas, helium and any other gas, whether combustible or not), liquid hydrocurbons and associated products, whether in gaseous, solid or liquid state, by any method, including, but not limited to, natural flow, scidizing, fracturing, combustion, steam soak, steam flood, water flood, and for injection of any substance; laying, constructing and maintaining pipelines, storing oil, and building tanks, ponds, power stations, roads, electric lines, telephone lines, and other structures upon said land to produce, save, treat, process and transport any product produced or made therefrom, the following described land (herein referred to as "said land")

She1by situated in

County, State of _ TOWNSHIP 19 SOUTH, RANGE 1 WEST, SECTION 32: Alabama

The WiNWi; SEinWi; NWiSWi; NEiSWi; containing in all 200.00 acres, more or less. and being the same lands described in Two (2) Deeds to Southern Research Institute, to-wit:

DEED (1) From Dorothy Newell Fulmer and husband, E.L. Fulmer, described in deed dated July 18, 1952, and recorded in Deed Book 154, Page 216, containing 100.00 acres, more or less.

DEED (2) From Mrs. Mary Joe Howlett, an unmarried woman, described in deed dated July 21, 1952, and recorded in Deed Book 154, Page 218, containing 100.00 acres, more or less.

Said lands being estimated to comprise 200.00 acres, more or less.

said land being estimated to comprise _____200.00 ____ acres, whether more or less, which acreage figure may be relied upon by Lessee in calculating rental or other

payments bereunder,

Notwithstanding the above specific description, it is nevertheless the intention of Lessor to include within this lesse, and Lessor does hereby lesse, all lands owned or claimed by Lessor up to the boundaries of any abutting landowner, together with any and all of Lessor's interest in any lands underlying lakes, streams, roads, easegpents and rights-of-way which cross or adjoin the said land, including all land added thereto by accretion. _ five (5) 🚄

2. Unless sooner teminated or longer kept in force under other provisions hereof, this lesse shall remain in force for a term of tem (10) years from the date hereof, hereinafter called "primary term," and as long thereafter as operations, as hereinafter defined, are conducted upon said land with no cessation for more than ninety (90) consecutive days.

3. As royalty, lessee covenants and agrees: (a) To deliver to the credit of lessor, in the pipe line to which lessee may connect its wells, the equal one-eighth part of all oil produced and saved by lessee from said land, or from time to time, at the option of lessee, to pay lessor the market price of such one-eighth part of such oil at the wells as of the day it is run to the pipe line or storage tanks, lessor's interest, in either case, to bear one-eighth of the cost of treating oil to render it marketable pipe line oil; (b) To pay Lessor on gas, including casinghead gas or other gaseous substances, produced from said land and sold or used off the premises for the extraction of gasoline or other product therefrom, one-eighth of the market value computed at the mouth of the well of the gas so sold or used; provided that on gas sold by Lessee the market value shall not exceed the cash proceeds received by the Lessee for such gas computed at the mouth of the well, and on gas sold at the well the royalty shall be one-eighth of the cash proceeds realized by Lessee from such sale. If, at the expiration of the primary term or at any time or times thereafter, there is any well on said land or on lands with which said land or any portion thereof has been pooled, capable of producing gas or any other mineral covered hereby, and all such wells are shut-in, this lease shall, nevertheless, continue in force as though operations were being conducted on said land for so long as said wells are shut-in, and thereafter this lease may be continued in force as if no shut-in had occurred. Lesses covenants and agrees to use reasonable diligence to produce, utilize, or market the minerals capable of being produced from said wells, but in the exercise of such diligence, lessee shall not be obligated to install or furnish facilities other than well facilities and ordinary lease facilities of flow lines, separator, and lease tank, and shall not be required to settle labor trouble or to market gas upon terms unacceptable to lessee. If, at any time or times after the expiration of the primary term, all such wells are shut-in for a period of ninety consecutive days, and during such time there are no operations on said land, then at or before the expiration of said ninety day period, lessee shall pay or tender, by check or draft of lessee, as royalty, a sum equal to the amount of annual delay rental provided for in this lesse. Lessee shall make like payments or tenders at or before the end of each anniversary of the expiration of said ninety day period if upon such anniversary this lesse is being continued in force solely by reason of the provisions of this paragraph. Each such payment or tender shall be made to the parties who at the time of payment would be entitled to receive the royalties which would be paid under this lease if the wells were producing, and may be deposited in a depository bank provided for below. Nothing herein shall impair lessee's right to release as provided in paragraph 5 hereof. In event of assignment of this lease and in whole or in part, liability for payment hereunder shall rest exclusively on the then owner or owners of this lease, severally as to acreage owned by each. If the price of any mineral or substance upon which royalty is payable hereunder is regulated by any law or governmental agency, the market value or market price of such mineral or substance for the purpose of computing royalty hereunder shall not be in excess of the price which Lessee may receive and retain.

4. Lessee is hereby granted the right, at its option, to pool or unitize all or any part of said land and of this lease as to any or horizons thereunder, with other lands, lease or leases, or portions or portions thereof, or mineral or horizon thereunder, so as to establish units containing not more than 80 surface acres plus 10% acreage tolerance; provided, however, a unit may be established or an existing unit may be enlarged to contain not more than 640 acres plus 10% acreage tolerance, if unitized only as to gas or only as to gas and liquid hydrocarbons (condensate) which are not a liquid in the subsurface reservoir. If larger units are prescribed or permitted under any governmental rule or order for the drilling or operation of a well at a regular location, or for the obtaining of a maximum allowable, from any well to be drilled, drilling, or already drilled, any such unit may be established or enlarged to conform to the size prescribed or permitted by such governmental order or rule. Lessee shall exercise said option as to each desired unit by executing an instrument identifying such unit and filing it for record in the public office in which this lease is recorded. Each of said options may be exercised by lessee from time to time, and whether before or after production has been established either on said land or on the portion of said land included in the unit or on other land unitized therewith and any such unit may include any well to be drilled, being drilled or already completed. A unit established hereunder shall be valid and effective for all purposes of this lease even though there may be land or mineral, royalty or leasehold interests in land within the unit which are not proceed or unitized. Any operations conducted on any part of such unitized land shall be considered, for all purposes, except the payment of royalty, operations conducted under this lease. There shall be allocated to the land covered by this lease included in any such unit that proportion of the total production of unitized minerals from wells in the unit, after deducting any used in lease or unit operations, which the number of surface acres in the land covered by this lease included in the unit bears to the total number of surface acres in the unit. The production so allocated shall be considered for all purposes, including the payment or delivery of royalty, overriding royalty, and any other payments out of production, to be the entire production of unitized minerals from the portion of said land covered hereby and included in such unit in the same manner as though produced from said land under the terms of this lease. The owner of the reversionary estate of any term royalty or mineral estate agrees that the accrual of royalties pursuant to this paragraph or of shut-in royalties from a well on the unit shall satisfy any limitation of term requiring production of oil or gas. The formation of such unit shall not have the effect of changing the ownership of any delay rental or shut-in production royalty which may become payable under this lease. Neither shall it impair the right of lease to release from this lease all or any portion of said land, except that lessee may not so release as to lands within a unit while there are operations thereon for unitized minerals unless all pooled leases are released as to lands within the unit. Lessee may dissolve any unit established hereunder by filing for record in the public office where this lease is recorded a declaration to that effect, if at that time no operations are being conducted thereon for unitized minerals. Subject to the provisions of this paragraph 4, a unit once established hereunder shall remain in force so long as any lease subject thereto shall remain in force. A unit may be so established, modified or dissolved during the life of this lease.

5. If operations are not conducted on said land on or before the first anniversary date hereof, this lease shall terminate as to both parties, unless lease on or before said date shall,

<u>First National</u> (Main Branch) subject to the further provisions hereof, pay or tender to lessor or to lessor's credit in the ... Bank at Birmingham, Alabama

or its successors, which shall continue as the depository, regardless of changes in ownership of delay rental, royalties, or other moneys, the sum of

\$200.00-----, which shall operate as delay rental and cover the privilege of deferring operations for one year from said date. In like manner and upon like payments or tenders, operations may be further deferred for like periods of one year each during the primary term. If at any time that lessee pays or tenders delay rental, royalties, or other moneys, two or more parties are, or claim to be, entitled to receive same, lessee may, in lieu of any other method of payment herein provided, pay or tender such rental, royaltits, or moneys, in the manner herein specified, either jointly to such parties or separately to each in accordance with their respective ownerships thereof, as lessee may elect. Any payment hereunder may be made by check or draft of lessee deposited in the mail or delivered to lessor or to a depository bank on or before the last date of payment. Said delay rental shall be apportionable as to said land on an acreage basis, and a failure to make proper payment or tender of delay rental as to any portion of said land or as to any interest therein shall not affect this lease as to any portion of said land or as to any interest therein as to which proper payment or tender is made. Any payment or tender which is made in an attempt to make proper payment, but which is erroneous in whole or in part as to parties, amounts, or depository, shall nevertheless be sufficient to prevent termination of this lease and to extend the time within which operations may be conducted in the same manner as though a proper payment had been made; provided, however, lessee shall correct such error within thirty (30) days after lessen has received written notice thereof from lessor. Lessee may at any time and from time to time execute and deliver to lessor or file for record a release or teleases of this lease as to any part or all of said land or of mineral or horizon thereunder, and thereby be relieved of all obligations as to the released acreage or interest. If this lease is so released as to all minerals and horizons under a portion of said land, the delay rental and other payments computed in accordance therewith shall thereupon be reduced in the proportion that the acreage released hears to the acreage which was covered by this lease immediately prior to such release.

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My Commission expires: _

This instrument was prepared by_

6. If at any time during the primary term operations are conducted on said land and if all operations are discontinued, this lease shall thereafter terminate on its anniversary date. next following the ninetieth day after such discontinuance unless on or before such anniversary date lessee either (1) conducts operations or (2) commences or resumes the payment or tender of delay rental; provided, however, if such anniversary date is at the end of the primary term, or if there is no further anniversary date of the primary term. this leave shall terminate at the end of such term or on the ninetieth day after discontinuance of all operations, whichever is the later date, unless on such later date either (1) lessee is conducting operations or (2) the shut-in well provisions of paragraph 3 or the provisions of paragraph 11 are applicable. Whenever used in this lease the word "operations" shall mean operations for and any of the following: drilling, testing, completing, reworking, recompleting, deepening, plugging back or repairing of a well in search for or in an endeavor to obtain production of oil, gas, sulphur or other minerals, excavating a mine, production of oil, gas, sulphur or other mineral, whether or not in paying quantities.

7. Lessee shall have the use, free from royalty of water, other than from lessor's wells, and of oil and gas produced from said land in all operations hereunder. Lessee shall have the right at any time to remove all machinery and fixtures placed on said land, including the right to draw and remove casing. No well shall be drilled nearer than 200 feet to the house or barn now on said land without the consent of the lessor. Lessee shall pay for damages caused by its operations to growing crops and timber on said land.

8. The rights and estate of any party hereto may be assigned from time to time in whole or in part and as to any mineral or horizon. All of the covenants, obligations, and considerations of this lease shall extend to and be binding upon the parties hereto, their heirs, successors, assigns, and successive assigns. No change or division in the ownership of said land, royalties, delay rental, or other moneys, or any part thereof, howsoever effected, shall increase the obligations or diminish the rights of lessee, including, but not limited to, the location and drilling of wells and the measurement of production. Notwithstanding any other actual or constructive knowledge or notice thereof or to lessee, its successors or assigns, no change or division in the ownership of said land or of the royalties, delay rental, or other moneys, or the right to receive the same, howsoever effected, shall be binding upon the then record owner of this lease until thirty (30) days after there has been furnished to such record owner at his or its principal place of business by lessor or lessor's heirs, successor, or assigns, notice of such change or division, supported by either originals or duly certified copies of the instruments which have been properly filed for record and which evidence such change or division, and of such court records and proceedings, transcripts, or other documents as shall be necessary in the opinion of such record owner to establish the validity of such change or division. If any much change in ownership occurs by zesson of the death of the owner, lessee may, nevertheless pay or tender such royalties, delay rental, or other moneys, or part thereof, to the credit of the decedent in a depository bank provided for above. In the event of assignment of this lease as to any part (whether divided or undivided) of said land, the delay rental payable hereunder shall be apportionable as between the several leasehold owners, ratably according to the surface area or undivided interests of each, and default in delay rental payment by one shall not affect the rights of other leasehold owners hereunder.

9. In the event lessor considers that lessee has not complied with all its obligations hereunder, both express and implied, lessor shall notify lessee in writing, setting out specifically in what respects lessee has breached this contract. Lessee shall then have sixty (80) days after receipt of said notice within which to meet or commence to meet all or any part of the breaches alleged by lessor. The service of said notice shall be precedent to the bringing of any action by lessor on said lease for any cause, and no such action shall be brought until the lapse of sixty (60) days after service of such notice on lessee. Neither the service of said notice nor the doing of any acts by lessee aimed to meet all or any of the alleged breaches shall be deemed an admission or presumption that leases has failed to perform all of its obligations hereunder. Should it be asserted in any notice given to the lesses under the provisions of this paragraph that lessee has failed to comply with any implied obligation or covenant hereof, this lease shall not be subject to cancellation for any such cause except after final judicial ascertainment that such failure exists and lessee has then been afforded a reasonable time to prevent cancellation by complying with and discharging as obligations as to which lessee has been judicially determined to be in default. If this lease is cancelled for any cause, it shall nevertheless remain in force and effect as to (1) sufficient acreage around each well as to which there are operations to constitute a drilling or maximum allowable unit under applicable governmental regulations, (but in no event less than forty acres), such acreage to be designated by lessee as nearly as practicable in the form of a square centered at the well, or in such shape as then existing spacing rules require; and (2) any part of said land included in a pooled unit on which there are operations. Lessee shall also have such easements on said land as are necessary to operations on the acreage so retained.

10. Exemple to by warrants and agrees to defead title to said lead against the claims of all parsons whomsoever. Lower's sights and interests hereunder shall be sharged primarily with any-mortgages, i axes as other liens, or interest and other charges on said land, but lessor agrees that lessor shall have the right at any-time to pay ar reduce some for luver, wither before or aftermisturity, and be subregated to the rights of the holder thereof and to-deduct amounts so paid from reyalties or other payments payable as which may be some payable to tener and to assigns under this lease. Lesses is hereby given the right to acquire for its own benefit, deeds, leases, or assignments covering any interest or claim in said land which leases or any other party contends is outstanding and not covered hereby and even though such outstanding interest or claim be invalid or adverse to lessor. If this lease covers a less interest in the oil, gas, sulphur, or other minerals in all or any part of said land than the entire and undivided fee simple estate (whether lessor's interest is herein specified or not), or no interest therein, then the royalties, delay rental, and other moneys accruing from any part as to which this lease covers less than such full interest, shall be paid only in the proportion which the interest therein, if any, covered by this lease, bears to the whole and undivided fee simple estate therein. All royalty interest covered by this lease (whether or not owned by lessor) shall be paid out of the royalty herein provided. This lease shall be binding upon each party who executes it without regard to whether it is executed by all those named herein as lessor. Lessor agrees that during the primary term of this lease it will not grant a top lease to any third party without first giving Lessee the right to acquire such top lease on the same terms, conditions and for the same consideration being afforded by the third party.

11. If, at, or after the expiration of the primary term hereof, and while this lease is in force, there is no well on said land, or on lands with which said land or any portion thereof has, been unitized, capable of producing oil or gas, and lessee is not conducting operations on said land by reason of (1) any law, order, rule or regulation, (whether or not subsequently determined to be invalid) or (2) any other cause, whether similar or dissimilar, (except financial) beyond the reasonable control of lessee, the primary term and the delay rental provisions hereof shall be extended until the first anniversary date hereof occurring ninety (90) or more days following the removal of such delaying cause, and this lease may be extended the realter by operations as if such delay had not occurred. SEE EXHIBIT "A" FOR FURTHER PROVISIONS OF THIS LEASE.

IN WITNESS WHEREOF, this instrument is executed on the date first above written.

Stephen E. Hasha

Southern Research Institute, an Alabama Non-Profit Corporation

500747	by: x Ochent Odelh
	Sabert Oglesby, /r., President Corporate I.D. No.:
	ATTEST: W. R. Pittman, Jr., Secretary
Sunny S	
TATE OF ALABAMA.	}**. ACKNOWLEDGMEN

COUNTY OF	ACKNOWLEDGMENT
1,	, a Notary Public in and for said County and State, hereby
certify that	,, · · · · · · · · · · · · · · · · · ·
whose name	known to me,
acknowledged before me on this day that, being informed of the contents of said instrument,	executed the same voluntarily on the day the same bears date.
GIVEN under my hand and seal of office this day of	
	Notary Public
My Commission expires:	
	•
COUNTY OF Jefferson Jefferso	
	CORPORATE ACKNOWLEDGMENT
Sabert Oglesby, Jr., President and W.R. Pittman, J	r., Secretary of Southern Research
Institute, an Alabama Non-Profit Corporation	, a corporation, is signed to the foregoing oil and gas
lease, and who is known to me, acknowledged before me on this day that, being informed of the contents of said of	Il and gas lease, he, as such officer, and with full authority) exceptions the
same voluntarily for and as the act of said corporation. ""	
GIVEN under my hand and official seal this 7th day of January	A.D. 19 .83
24a	rearly Land
My Commission expires: February 4. 1985	Notary Public Control of the Control

Address P. O. Box 35290, Houston,

Texas

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Attached to and by reference made a part of that certain Oil and Gas Lease made and entered into by and between Southern Research Institute, an Alabama

Non-Profit Corporation , as Lessor, and ATLANTIC RICHFIELD COMPANY, A

PENNSYLVANIA CORPORATION, as Lessee, under date of January 5, 1983

to-wit:

Notwithstanding any thing contained herein to the contrary, Lessee shall have the option to renew this lease, in whole or in part, and extend the primary term for an additional period equal to the initial primary term commencing on the expiration date of the initial primary term by paying or tendering to Lessor, as a bonus, the sum of Fifteen Dollars (\$15.00) per acre for each acre renewed, on or before the expiration of the initial primary term or, if drilling or reworking operations are being conducted on the leased premises or land pooled therewith on the expiration date of the initial primary term and such operations do not result in a commercial well and the well is plugged and abandoned, payment or tender may be made within thirty (30) days from the date on which the well is plugged and abandoned. Payment or tender of the renewal bonus may be made in the same manner and into the same depository provided for the payment of delay rental. If Lessor owns an interest in the land less than the entire fee simple estate, the renewal bonus shall be reduced proportionately to accord with interest actually owned by the Lessor. In event of assignment of this lease as to a segregated portion of the land, the renewal bonus payable hereunder shall be apportionable as between the several leasehold owners ratably according to the surface area of each and the renewal option shall be exercisable severally and separately as to each assigned portion. In the event the lease is renewed and extended in part only, Lessee shall promptly file for record an instrument in the county in which the land is situated, designating the acreage released and the acreage renewed and extended. The renewal bonus shall be in lieu of delay rental for the first year of the extended term.

Lessee agrees that it will be responsible for, indemnify Lessor against, hold Lessor harmless from, and defend Lessor against any and all liabilitites, damages, actions, claims, or demands arising out of or relating to or caused by activities conducted by Lessee or any other person under this lease, including any reasonable costs, expenses, or losses charged or claimed against Lessor in connection with any such liabilitites, damages. actions, claims, or demands.

Lessor hereby warrants and agrees to defend the title to said lands as against all persons, firms, agencies or corporations claiming by, through or under it but not otherwise and agrees that Lessee, at its option, may discharge any tax, mortgage or other lien upon said lands, either in whole or in part, and in the event Lessee does so, it shall subrogate to such lien with rights to enforce same and apply rentals and royalties accruing hereunder towards satisfying same. Without impairment of Lessee's rights under the warranty in the event of failure of title, it is agreed that if Lessor owns an interest in, and/or holds the executive leasing rights with respect to the oil, gas or minerals on, in or under said lands less that the entire fee simple estate, then the royalties and delay rentals to be paid to the Lessor shall be reduced proportionately.

STATE OF ALA. SHELBY CO.

I CERTIFY THIS

INSTRUMENT WAS FILED.

Jewal TOIX 4.00 1983 HAR 11 AM 10: 46

1.00 JUDGE OF PROBATE

30.00

SIGNED FOR IDENTIFICATION

Southern Research Institute, an Alabama Non-Profit Corporation

by: X Sabert Oglesby, or., President

ATTEST: X MANUAL W. R. Pittman, Jr., Secretary