

REPORT ON THE GEOLOGY OF THE PROPOSED
WEST McDONALD UNIT
LEA COUNTY, NEW MEXICO

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SUMMARY

The proposed West McDonald Unit consists of 2,320 acres in T 14 S. R 35 E, north central Lea County, New Mexico. Within the limits of the unit, it is believed that a structural closure exists at the Strawn datum. One well has been drilled within the unit outline to date, the Union Oil Co. of Calif. No. 1-17 State which was completed as an Upper Strawn oil discovery after reaching a total depth of 11,576 feet in the Strawn. In order to develop and evaluate this discovery and to test for additional deeper and/or shallower pays, the Union Oil Company of California intends to drill a 13,700-foot Chester exploratory well $3\frac{1}{4}$ miles northeast of the Union No. 1-17 State. The purpose of the requested Unit is to insure orderly development of the Strawn and any oil or gas production subsequently found within the unit.

INTRODUCTION

The West McDonald Unit is located in T 14 S, R 35 E, Lea County, New Mexico, in a sparsely explored synclinal depression of the Permian Basin Northwestern Shelf. This synclinal depression, referred to as the Tatum Basin, is bounded to the east and west by two prominent anticlinal trends, the Saunders-Bagley and the Denton-Gladiola trends, respectively. The southern flank of the Tatum Basin is formed by a series of deep-seated anticlines plunging northward from the Central Basin Platform into the center of the Basin. The northern limit of the basin is poorly defined but approximates the northern edge of the Permian Basin. The Basin is filled by Pennsylvanian and early Permian (Wolfcamp) shelf and shallow basinal sediments. The overlying younger Permian strata consist entirely of shelf facies, and dip gently to the south and southeast, into the San Simon Channel, a later depositional feature located approximately twenty miles south of the Tatum Basin.

The closest developed oil fields to the Unit are Caudill (Wolfcamp and Devonian) Field, ten miles to the southeast and Ranger Lake (Upper Pennsylvanian) Field, ten miles to the northwest. A recent Wolfcamp oil discovery has been made four miles to the southwest (Sinclair and Texas Crude No. 1-23 State) and an exploratory well six miles to the east was completed in 1957 as a Chester (Upper Mississippian) gas well; neither of these discoveries has been developed to date.

GEOLOGY

Attached to this report is a structure map contoured on the top of the Strawn. Although extensive seismic surveys have been carried out in the region by Union Oil Company, no consistent mappable reflection has been found at the Strawn level. Consequently, this map is based largely on well data. Locally, however, seismic dip components have been honored in the contouring.

As shown on this map, the West McDonald Unit is centered on a structural closure formed by the intersection of a deep-seated, low relief, north-south anticline and the east-west Strawn shelf edge. This shelf edge is a relatively steep basinward slope which separates thick (800' \pm) Strawn shelf carbonates in the West McDonald area and northward from thin (250' \pm) basinal limestones to the south. This slope forms the south flank of the structure.

Within the proposed Unit outline, one well has been drilled to date. The Union No. 1-17 State was completed on April 16, 1963 for 326 barrels of oil per day, plus 9% water, from perforations between 11,478 and 11,490 feet, near the top of the Strawn. This well was drilled to a total depth of 11,576 feet in the Upper Strawn. The section encountered was as follows:

0	-	2,037 feet	Undifferentiated Tertiary, Triassic and Upper Permian continental deposits
2,037-		3,000 feet	Upper Permian Rustler and Salado anhydrite, redbeds, dolomite and salt
3,000-		6,445 feet	Upper Permian Tansill, Yates, Seven Rivers, Queen and San Andres dolomite and sand.
6,445-		8,200 feet	Lower Permian (Leonard) Yeso dolomite and sand
8,200-		9,720 feet	Lower Permian (Leonard) Abo dolomite and shale
9,720-		10,330 feet	Lower Permian (Upper Wolfcamp) limestone and variegated shale
10,330-		10,755 feet	Lower Permian (Lower Wolfcamp) dark shale and limestone, in part porous
10,755-		11,465 feet	Upper Pennsylvanian (Cisco and Canyon) Limestone and dolomite, cavernous or porous in part
11,465-		11,567 feet	Lower Pennsylvanian (Upper Strawn) limestone, porous and oil productive between 11,478 and 11,520 feet

PROPOSED WELL

Upon approval of the West McDonald Unit, Union Oil Company of California intends to drill a 13,700-foot Upper Mississippian (Chester) test in the SW NW of Section 9, T 14 S, R 35 E. three-quarters of a mile northeast of the Union No. 1-17 State. This well is expected to extend and evaluate the Upper Strawn production discovered in the No. 1-17 State. Other objectives include

the porous limestones and dolomites in the Lower Wolfcamp and Upper Pennsylvanian which were water-bearing in the No. 1-17 State but which are potentially oil productive higher structurally. The proposed well is to be drilled through the Lower Pennsylvanian section--not penetrated in the No. 1-17 State for mechanical reasons--to test Atoka and Morrow sands and the Chester (Upper Mississippian) limestone, potentially gas productive in this region.

The proposed Unit is necessary to ensure orderly development of the Strawn production discovered in the No. 1-17 State, and any additional oil or gas production found by the planned deeper exploratory well. The information required to establish proper well spacing is not as yet available, and unnecessary wells or poor drainage patterns might result from unco-ordinated development drilling.

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE
WEST McDONALD UNIT AREA
LEA COUNTY, NEW MEXICO

THIS AGREEMENT, entered into as of the 28th day of June, 1963, by and between the parties subscribing, ratifying or consenting hereto, and herein sometimes referred to as the "parties hereto",

W I T N E S S E T H:

WHEREAS, the parties hereto are the owners of working, royalty or other oil and gas interest in the unit area subject to this agreement; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 7, Art. 11, Sec. 39, N.M. Statutes 1953 Annot.), to consent to and approve the development and operation of State lands under agreements made by lessees of State land jointly or severally with other lessees where such agreements provide for the unit operation or development of part of or all of any oil or gas pool, field or area; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 7, Art. 11, Sec. 41, N.M. Statutes 1953 Annot.) to amend with the approval of lessee, evidenced by the lessee's execution of such agreement or otherwise, any oil and gas lease embracing State lands so that the length of the term of said lease may coincide with the term of such agreements for the unit operation and development of part or all of any oil or gas pool, field or area; and

WHEREAS, the Oil Conservation Commission of the State of New Mexico (hereinafter referred to as the "Commission") is authorized by an Act of the Legislature (Chap. 65, Art. 3, Sec. 14, N.M. Statutes 1953 Annot.) to approve this agreement and the conservation provisions hereof; and

WHEREAS, the parties hereto hold sufficient interests in the West McDonald Unit Area covering the land hereinafter described to give reasonably effective control of operations therein; and

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent waste and secure other benefits obtainable through development and operation of the area subject to this agreement under the terms, conditions and limitations herein set forth;

NOW, THEREFORE, in consideration of the premises and the promises herein contained, the parties hereto commit to this agreement their respective interests in the below defined unit area, and agree severally among themselves as follows:

1. UNIT AREA: The following described land is hereby designated and recognized as constituting the unit area:

Township 14 South, Range 35 East, N.M.P.M.

Section 4:	$W\frac{1}{2}SE\frac{1}{4}$, $SW\frac{1}{4}$
Section 5:	$SE\frac{1}{4}$
Section 8:	All
Section 9:	All
Section 16:	$N\frac{1}{2}$
Section 17:	$N\frac{1}{2}$

containing 2,320 acres, more or less.

Exhibit A attached hereto is a map showing the unit area and the boundaries and identity of tracts and leases in said area to the extent known to the unit operator.

Exhibit B attached hereto is a schedule showing, to the extent known to the unit operator, the acreage, percentage and kind of ownership of oil and gas rights in all lands in the unit area. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown on said map or schedule as owned by such party. Exhibits A and B shall be revised by the unit operator whenever changes in the unit area render such revisions necessary or when requested by the Commissioner of Public Lands of the State of New Mexico, hereinafter referred to as "Commissioner".

All lands committed to this agreement shall constitute land referred to herein as "unitized land" or "land subject to this agreement".

2. UNITIZED SUBSTANCES: All oil, gas and associated hydrocarbon substances in any and all formations of the unitized lands are unitized under the terms of this agreement and herein are called "unitized substances".

3. UNIT OPERATOR: Union Oil Company of California, with offices at Roswell, New Mexico, is hereby designated as unit operator and by signature hereto commits to this agreement all interest in unitized substances vested in it as set forth in Exhibit B, and agrees and consents to accept the duties and obligations of unit operator for the discovery, development and production of unitized substances as provided herein. Whenever reference is made herein to the unit operator, such reference means the unit operator acting in that capacity and not as an owner of interests in unitized substances, and the term "working interest owner" when used herein shall include or refer to unit operator as the owner of a working interest when such an interest is owned by it.

4. RESIGNATION OR REMOVAL OF UNIT OPERATOR: Unit operator shall have the right to resign at any time but such resignation shall not become effective until a successor unit operator has been selected and approved in the manner provided for in Section 5 of this agreement. The resignation of the unit operator shall not release the unit operator from any liability or any default by it hereunder occurring prior to the effective date of its resignation.

Unit operator may, upon default or failure in the performance of its duties or obligations hereunder, be subject to removal by the same percentage vote of the owners of working interests determined in like manner as herein provided for the selection of a new unit operator. Such removal shall be effective upon notice thereof to the Commissioner.

The resignation or removal of the unit operator under this agreement shall not terminate his right, title or interest as the owner of a working interest or other interest in unitized substances, but upon the resignation or removal of unit operator becoming effective, such unit operator shall deliver possession of all equipment, materials and appurtenances used in conducting the unit operations and owned by the working interest owners to the new duly qualified successor unit operator, or to the owners thereof if no such new unit operator is elected, to be used for the purpose of conducting unit operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment and appurtenances needed for the preservation of any wells.

5. SUCCESSOR UNIT OPERATOR: Whenever the unit operator shall resign as unit operator or shall be removed as hereinabove provided, the owners of the working interests according to their respective acreage interests in all unitized land shall by a majority vote select a successor unit operator; provided that, if a majority but less than seventy-five percent (75%) of the working interests qualified to vote is owned by one party to this agreement, a concurring vote of sufficient additional parties, so as to constitute in the aggregate not less than seventy-five percent (75%) of the total working interests, shall be required to select a new operator. Such selection shall not become effective until (a) a unit operator so selected shall accept in writing the duties and responsibilities of unit operator, and (b) the selection shall have been approved by the Commissioner. If no successor unit operator is selected and qualified as herein provided, the Commissioner at his election may declare this unit agreement terminated.

6. ACCOUNTING PROVISIONS: The unit operator shall pay in the first instance all costs and expenses incurred in conducting unit operations hereunder, and such costs and expenses and the working

interest benefits accruing hereunder shall be apportioned among the owners of the unitized working interests in accordance with an operating agreement entered into by and between the unit operator and the owners of such interests, whether one or more, separately or collectively. Any agreement or agreements entered into between the working interest owners and the unit operator as provided in this section, whether one or more, are herein referred to as the "Operating Agreement". No such agreement shall be deemed either to modify any of the terms and conditions of this unit agreement or to relieve the unit operator of any right or obligation established under this unit agreement and in case of any inconsistencies or conflict between this unit agreement and the operating agreement, this unit agreement shall prevail.

7. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR: Except as otherwise specifically provided herein, the exclusive right, privilege and duty of exercising any and all rights of the parties hereto which are necessary or convenient for prospecting for, producing, storing, allocation and distributing the unitized substances are hereby delegated to and shall be exercised by the unit operator as herein provided. Acceptable evidence of the title to said rights shall be deposited with said unit operator and, together with this agreement, shall constitute and define the rights, privileges and obligations of unit operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this agreement the unit operator, in its capacity as unit operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

8. DRILLING TO DISCOVERY: The unit operator shall, on or before July 10, 1963, commence operations upon an adequate test well for oil and gas upon some part of the lands embraced within the unit area and drill said well with due diligence to a depth sufficient to

test the Chester Series of the Mississippian period or to such a depth as unitized substances shall be discovered in paying quantities at a lesser depth or until it shall, in the opinion of unit operator, be determined that the further drilling of said well shall be unwarranted or impracticable; provided, however, that unit operator shall not, in any event, be required to drill said well to a depth in excess of 13,700 feet. Until a discovery of a deposit of unitized substances capable of being produced in paying quantities (to-wit: quantities sufficient to repay the costs of drilling and producing operations with a reasonable profit) unit operator shall continue drilling diligently, one well at a time, allowing not more than six months between the completion of one well and the beginning of the next well, until a well capable of producing unitized substances in paying quantities is completed to the satisfaction of the Commissioner, or until it is reasonably proven to the satisfaction of the unit operator that the unitized land is incapable of producing unitized substances in paying quantities in the formation drilled hereunder.

The Commissioner may modify the drilling requirements of this section by granting reasonable extensions of time when in his opinion such action is warranted. Upon failure to comply with the drilling provisions of this article the Commissioner may, after reasonable notice to the unit operator and each working interest owner, lessee and lessor at their last known addresses, declare this unit agreement terminated, and all rights, privileges and obligations granted and assumed by this unit agreement shall cease and terminate as of such date.

In the event the initial test well is completed as a dry hole or well not capable of producing unitized substances in paying quantities, the well heretofore completed by unit operator in the NE $\frac{1}{4}$ of Section 17, Township 14 South, Range 35 East, N.M.P.M., shall not be considered for the purposes of this agreement as a discovery of unitized substances which would continue this agreement in effect or relieve unit operator from the further drilling obligations hereinabove provided in order to continue this agreement in effect.

9. OBLIGATIONS OF UNIT OPERATOR AFTER DISCOVERY OF

UNITIZED SUBSTANCES: Should unitized substances in paying quantities be discovered upon the unit area the unit operator shall on or before six (6) months from the time of the completion of the initial discovery well and within thirty (30) days after the expiration of each twelve-month period thereafter file a report with the Commissioner and the Commission of the status of the development of the unit area and the development contemplated for the following twelve-month period.

It is understood that one of the main considerations for the approval of this agreement by the Commissioner of Public Lands is to secure the orderly development of the unitized lands in accordance with good conservation practices so as to obtain the greatest ultimate recovery of unitized substances.

After discovery of unitized substances in paying quantities, unit operator shall proceed with diligence to reasonably develop the unitized area as a reasonably prudent operator would develop such area under the same or similar circumstances; provided, however, a well shall be commenced on Tract No. 2 described on Exhibit "B" within one year from the effective date of this agreement.

If the unitoperator should fail to comply with the above covenant for reasonable development, this agreement may be terminated by the Commissioner as to all lands of the State of New Mexico embracing undeveloped regular well spacing or proration units but in such event the basis of participation by the working interest owners shall remain the same as if this agreement had not been terminated as to such lands; provided, however, the Commissioner shall give notice to the unit operator and the lessees of record in the manner prescribed by Sec. 7-11-14, N.M. Statutes 1953 Annotated, of intention to cancel on account of any alleged breach of said covenant for reasonable development and any decision entered thereunder shall be subject to appeal in the manner prescribed by Sec. 7-11-17, N.M. Statutes 1953 Annotated and, provided further, in any event the unit operator shall be given a reasonable opportunity after a final

determination within which to remedy any default, failing in which this agreement shall be terminated as to all lands of the State of New Mexico embracing undeveloped regular well spacing or proration units.

10. PARTICIPATION AFTER DISCOVERY: Upon completion of a well capable of producing unitized substances in paying quantities, the owners of working interests shall participate in the production therefrom and in all other producing wells which may be drilled pursuant hereto in the proportions that their respective leasehold interests covered hereby on an acreage basis bears to the total number of acres committed to this unit agreement (unless otherwise provided by the unit operating agreement), and such unitized substances shall be deemed to have been produced from the respective leasehold interests participating therein. For the purpose of determining any benefits accruing under this agreement and the distribution of the royalties payable to the State of New Mexico and other lessors, each separate lease shall have allocated to it such percentage of said production as the number of acres in each lease respectively committed to this agreement bears to the total number of acres committed hereto.

Notwithstanding any provisions contained herein to the contrary, each working interest owner shall have the right to take such owner's proportionate share of the unitized substances in kind or to personally sell or dispose of the same, and nothing herein contained shall be construed as giving or granting to the unit operator the right to sell or otherwise dispose of the proportionate share of any working interest owner without specific authorization from time to time so to do.

11. ALLOCATION OF PRODUCTION: All unitized substances produced from each tract in the unitized area established under this agreement, except any part thereof used for production or development

purposes hereunder, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of the unitized land, and for the purpose of determining any benefits that accrue on an acreage basis, each such tract shall have allocated to it such percentage of said production as its area bears to the entire unitized area; subject, however, to such reallocation among the working interest owners as may be provided by the unit operating agreement. It is hereby agreed that production of unitized substances from the unitized area shall be allocated as provided herein, regardless of whether any wells are drilled on any particular tract of said unitized area.

12. PAYMENT OF RENTALS, ROYALTIES AND OVERRIDING ROYALTIES:

All rentals due the State of New Mexico shall be paid by the respective lease owners in accordance with the terms of their leases.

All royalties due the State of New Mexico under the terms of the leases committed to this agreement shall be computed and paid on the basis of all unitized substances allocated to the respective leases committed hereto; provided, however, the State shall be entitled to take in kind its share of the unitized substances allocated to the respective leases, and in such case the unit operator shall make deliveries of such royalty oil in accordance with the terms of the respective leases.

All rentals, if any, due under any leases embracing lands other than the State of New Mexico, shall be paid by the respective lease owners in accordance with the terms of their leases and all royalties due under the terms of any such leases shall be paid on the basis of all unitized substances allocated to the respective leases committed hereto.

If the unit operator introduces gas obtained from sources other than the unitized substances into any producing formation for the purpose of repressuring, stimulating or increasing the ultimate

recovery of unitized substances therefrom, a like amount of gas, if available, with due allowance for loss or depletion from any cause may be withdrawn from the formation into which the gas was introduced royalty free as to dry gas but not as to the products extracted therefrom; provided, that such withdrawal shall be at such time as may be provided in a plan of operation consented to by the Commissioner and approved by the Commission as conforming to good petroleum engineering practice; and provided further, that such right of withdrawal shall terminate on the termination of this unit agreement.

If any lease committed hereto is now, or hereafter becomes, burdened with an overriding royalty, payment out of production or other charge in addition to the usual royalty, the owner of each such lease shall bear and assume the same out of the unitized substances allocated to the lands embraced in each such lease as provided herein.

13. LEASES AND CONTRACTS CONFORMED AND EXTENDED INsofar AS THEY APPLY TO LANDS WITHIN THE UNITIZED AREA: The terms, conditions and provisions of all leases, subleases, operating agreements and other contracts relating to the exploration, drilling, development or operation for oil or gas of the lands committed to this agreement, shall as of the effective date hereof, be and the same are hereby expressly modified and amended insofar as they apply to lands within the unitized area to the extent necessary to make the same conform to the provisions hereof and so that the respective terms of said leases and agreements will be extended insofar as necessary to coincide with the term of this agreement and the approval of this agreement by the Commissioner and the respective lessors and lessees shall be effective to conform the provisions and extend the term of each such lease as to lands within the unitized area to the provisions and term of this agreement; but

otherwise to remain in full force and effect. Each lease committed to this agreement, insofar as it applies to lands within the unitized area, shall continue in force beyond the term provided therein so long as this agreement remains in effect provided drilling operations upon the initial test well provided for herein shall have been commenced or said well is in the process of being drilled by the unit operator prior to the expiration of the shortest term lease committed to this agreement. Termination of this agreement shall not affect any lease which pursuant to the terms thereof or any applicable laws would continue in full force and effect thereafter. The commencement, completion, continued operation or production of a well or wells for unitized substances on the unit area shall be construed and considered as the commencement, completion, continued operation or production on each of the leasehold interests committed to this agreement and operations or production pursuant to this agreement shall be deemed to be operations upon and production from each leasehold interest committed hereto and there shall be no obligation on the part of the unit operator or any of the owners of the respective leasehold interests committed hereto to drill offsets to wells as between the leasehold interests committed to this agreement, except as may be provided in Section 9 hereof.

Any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto shall be segregated as to the portion committed and as to the portion not committed and the terms of such leases shall apply separately as to such segregated portions commencing as of the effective date hereof. Notwithstanding any of the provisions of this agreement to the contrary, any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease, if oil and gas, or either of them, are discovered and

are capable of being produced in paying quantities from some part of the lands embraced in such lease committed to this agreement at the expiration of the secondary term of such lease; or if, at the expiration of the secondary term, the lessee or the unit operator is then engaged in bona fide drilling or reworking operations on some part of the lands embraced therein, said lease shall remain in full force and effect so long as such operations are being diligently prosecuted, and if they result in the production of oil or gas, said lease shall continue in full force and effect as to all of the lands embraced therein, so long thereafter as oil and gas, or either of them, are being produced in paying quantities from any portion of said lands.

14. CONSERVATION: Operations hereunder and production of unitized substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to State laws or regulations.

15. DRAINAGE: In the event a well or wells producing oil or gas in paying quantities should be brought in on land adjacent to the unit area and draining unitized substances from the lands embraced therein, unit operator shall drill such offset well or wells as a reasonably prudent operator would drill under the same or similar circumstances.

16. COVENANTS RUN WITH LAND: The covenants herein shall be construed to be covenants running with the land with respect to the interests of the parties hereto and their successors in interest until this agreement terminates, and any grant, transfer, or conveyance of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee or other successor in interest. No assignment or transfer of any working, royalty or other interest subject hereto shall be binding upon unit operator until the first day of the calendar month after the unit operator is furnished with

the original, photostatic or certified copy of the recorded instrument of transfer.

17. EFFECTIVE DATE AND TERM: This agreement shall become effective upon approval by the Commissioner and shall terminate in two years after such date unless (a) such date of expiration is extended by the Commissioner, or (b) a valuable discovery of unitized substances has been made on unitized lands during said initial term or any extension thereof in which case this agreement shall remain in effect so long as unitized substances can be produced from the unitized land in paying quantities, and, should production cease, so long thereafter as diligent operations are in progress for the restoration of production or discovery of new production and so long thereafter as the unitized substances so discovered can be produced as aforesaid. This agreement may be terminated at any time by not less than seventy-five percent (75%) on an acreage basis of the owners of the working interest signatory hereto with the approval of the Commissioner. Likewise, the failure to comply with the drilling requirements of Section 8 hereof may subject this agreement to termination as provided in said section.

18. RATE OF PRODUCTION: All production and the disposal thereof shall be in conformity with allocations, allotments and quotas made or fixed by the Commission and in conformity with all applicable laws and lawful regulations.

19. APPEARANCES: Unit operator shall, after notice to other parties affected, have the right to appear for and on behalf of any and all interests affected hereby before the Commissioner of Public Lands and the New Mexico Oil Conservation Commission, and to appeal from orders issued under the regulations of the Commissioner or Commission or to apply for relief from any of said regulations or in any proceedings on its own behalf relative to operations pending before the Commissioner or Commission; provided, however,

that any other interested party shall also have the right at his own expense to appear and to participate in any such proceeding.

20. NOTICES: All notices, demands or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given, if given in writing and sent by postpaid registered mail, addressed to such party or parties at their respective addresses set forth in connection with the signatures hereto or to the ratification or consent hereof or to such other address as any such party may have furnished in writing to the party sending the notice, demand or statement.

21. UNAVOIDABLE DELAY: All obligations under this agreement requiring the unit operator to commence or continue drilling or to operate on or produce unitized substances from any of the lands covered by this agreement shall be suspended while, but only so long as, the unit operator despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, war, acts of God, Federal, State or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the unit operator whether similar to matters herein enumerated or not.

22. LOSS OF TITLE: In the event title to any tract of unitized land or substantial interest therein shall fail and the true owner cannot be induced to join the unit agreement so that such tract is not committed to this agreement or the operation thereof hereunder becomes impracticable as a result thereof, such tract may be eliminated from the unitized area, and the interest of the parties readjusted as a result of such tract being eliminated from the unitized area. In the event of a dispute as to the title to any royalty, working or other interest subject hereto, the unit operator may withhold payment or delivery of the allocated portion

of the unitized substances involved on account thereof without liability for interest until the dispute is finally settled, provided that no payments of funds due the State of New Mexico shall be withheld. Unit operator as such is relieved from any responsibility for any defect or failure of any title hereunder.

23. SUBSEQUENT JOINDER: Any oil or gas interest in lands within the unit area not committed hereto prior to the submission of this agreement for final approval by the Commissioner may be committed hereto by the owner or owners of such rights subscribing or consenting to this agreement or executing a ratification thereof, and if such owner is also a working interest owner, by subscribing to the operating agreement providing for the allocation of costs of exploration, development and operation; provided, however, after operations are commenced hereunder, the right of subsequent joinder, as provided in this section, by a working interest owner is subject to such requirements or approvals, if any, pertaining to such joinder, as may be provided for in the unit operating agreement. A subsequent joinder shall be effective as of the first day of the month following the filing with and approval by the Commissioner of duly executed counterparts of the instrument or instruments committing the interest of such owner to this agreement, but such joining party or parties before participating in any benefits hereunder shall be required to assume and pay to unit operator their proportionate share of the unit expense incurred prior to such party's or parties' joinder in the unit agreement, and the unit operator shall make appropriate adjustments caused by such joinder, without any retroactive adjustment of revenue.

24. COUNTERPARTS: This agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties or may be ratified or consented to by separate instruments in writing specifically referring hereto, and shall

be binding upon all those parties who have executed such a counter-
part, ratification or consent hereto with the same force and effect
as if all such parties had signed the same document and regardless
of whether or not it is executed by all other parties owning or
claiming an interest in the lands within the above described unit
area.

IN WITNESS WHEREOF, the undersigned parties hereto have
caused this agreement to be executed as of the respective dates set
forth opposite their signatures.

UNION OIL COMPANY OF CALIFORNIA

By *John H. Hannon* Attorney in fact *PH*

Address: *619 West Texas*
Dillard, Texas

UNIT OPERATOR AND WORKING INTEREST
OWNER.

BRITISH-AMERICAN OIL PRODUCING COMPANY

By _____

Address: _____

LOUISIANA LAND & EXPLORATION COMPANY

By _____

Address: _____

SUNRAY DX OIL COMPANY

By _____

Address: _____

ATTEST:

Secretary
July 3, 1963
Date

ATTEST:

Secretary

Date

ATTEST:

Secretary

Date

ATTEST:

Secretary

Date

Marion V. Harris

L. C. Harris

WORKING INTEREST OWNERS.

Date

STATE OF Texas)
COUNTY OF Dallas) ss.

The foregoing instrument was acknowledged before me this 3rd day of March, 1963, by John Hansen, Attorney in fact of UNION OIL COMPANY OF CALIFORNIA, a corporation, on behalf of said corporation.

My Commission Expires:

John W. Sloan
Notary Public

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of BRITISH-AMERICAN OIL PRODUCING COMPANY, a corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of LOUISIANA LAND & EXPLORATION COMPANY, a corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of SUNRAY DX OIL COMPANY, a corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

be binding upon all those parties who have executed such a counter-
part, ratification or consent hereto with the same force and effect
as if all such parties had signed the same document and regardless
of whether or not it is executed by all other parties owning or
claiming an interest in the lands within the above described unit
area.

IN WITNESS WHEREOF, the undersigned parties hereto have
caused this agreement to be executed as of the respective dates set
forth opposite their signatures.

UNION OIL COMPANY OF CALIFORNIA

By _____

Address: _____

ATTEST:

Secretary

Date

UNIT OPERATOR AND WORKING INTEREST
OWNER.

BRITISH-AMERICAN OIL PRODUCING COMPANY

By _____

Address: _____

ATTEST:

Secretary

Date

LOUISIANA LAND & EXPLORATION COMPANY

By *[Signature]*

Vice President

Address: 1500 American Bank Building

New Orleans 12, Louisiana

ATTEST:

[Signature]
Asst. Secretary

Date June 28, 1963

SUNRAY DX OIL COMPANY

By _____

Address: _____

ATTEST:

Secretary

Date

Marion V. Harris

L. C. Harris

WORKING INTEREST OWNERS.

Date

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of UNION OIL COMPANY OF CALIFORNIA, a _____ corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of BRITISH-AMERICAN OIL PRODUCING COMPANY, a _____ corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF LOUISIANA
PARISH OF ORLEANS

On this 28th day of June, 1963, before me appeared E.L.WILLIAMSON, to me personally known, who, being by me duly sworn, did say that he is VICE PRESIDENT of THE LOUISIANA LAND AND EXPLORATION COMPANY, a Maryland corporation and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said appearer acknowledged said instrument to be the free act and deed of said corporation.

MY COMMISSION EXPIRES:

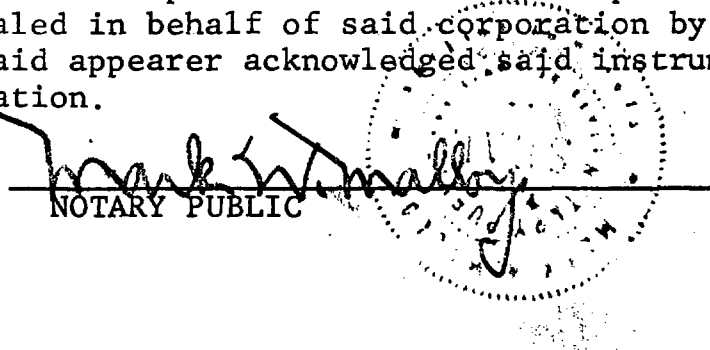
At my death.

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1963, by _____ of SUNRAY DX OIL COMPANY, a _____ corporation, on behalf of said corporation.

My Commission Expires:

Notary Public



be binding upon all those parties who have executed such a counter-
part, ratification or consent hereto with the same force and effect
as if all such parties had signed the same document and regardless
of whether or not it is executed by all other parties owning or
claiming an interest in the lands within the above described unit
area.

IN WITNESS WHEREOF, the undersigned parties hereto have
caused this agreement to be executed as of the respective dates set
forth opposite their signatures.

UNION OIL COMPANY OF CALIFORNIA

By _____

Address: _____

ATTEST:

Secretary

Date

UNIT OPERATOR AND WORKING INTEREST
OWNER.

THE BRITISH-AMERICAN OIL PRODUCING COMPANY

By J. L. Harris

ATTORNEY-IN-FACT

Address: P. O. BOX 749
DALLAS, TEXAS

APPROVED	
LAND	<u>JD</u>
LEGAL	<u>JD</u>
PROD.	
ACCTG	
OTHER	

ATTEST:

Secretary

Date

LOUISIANA LAND & EXPLORATION COMPANY

By _____

Address: _____

ATTEST:

Secretary

Date

SUNRAY DX OIL COMPANY

By _____

Address: _____

ATTEST:

Secretary

Date

Marion V. Harris

Date

L. C. Harris

WORKING INTEREST OWNERS.

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
of UNION OIL COMPANY OF CALIFORNIA, a _____
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF Texas }
COUNTY OF Dallas } ss.

The foregoing instrument was acknowledged before me this 8th
day of July, 1963, by J. L. HOLLIS,
ATTORNEY-IN-FACT of BRITISH-AMERICAN OIL PRODUCING COMPANY, a
Delaware corporation, on behalf of said corporation.

My Commission Expires:

Patsy Gant

Notary Public

PATSY GANT, Notary Public
In and for Dallas County, Texas
My Commission Expires June 1, 1965

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
of LOUISIANA LAND & EXPLORATION COMPANY, a
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
of SUNRAY DX OIL COMPANY, a _____
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

Marion V. Harris
Marion V. Harris

L. C. Harris
L. C. Harris

June 21, 1963
Date

WORKING INTEREST OWNERS.

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
_____ of UNION OIL COMPANY OF CALIFORNIA, a _____
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
_____ of BRITISH-AMERICAN OIL PRODUCING COMPANY, a _____
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
_____ of LOUISIANA LAND & EXPLORATION COMPANY, a _____
corporation, on behalf of said corporation.

My Commission Expires:

Notary Public

STATE OF _____ }
COUNTY OF _____ } ss.

The foregoing instrument was acknowledged before me this _____
day of _____, 1963, by _____,
_____ of SUNRAY DX OIL COMPANY, a _____
corporation, on behalf of said corporation.

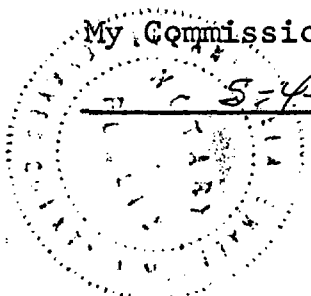
My Commission Expires:

Notary Public

STATE OF NEW MEXICO }
COUNTY OF CHAVES } ss.

The foregoing instrument was acknowledged before me this 21st
day of June, 1963, by L. C. Harris and Marion V. Harris, his
wife.

My Commission Expires:



Eleanor K. Wilson
Notary Public

EXHIBIT "B"

TOTAL: 9 TRACTS COMPRISING 2,320 ACRES.

T-14-S
R-35-E

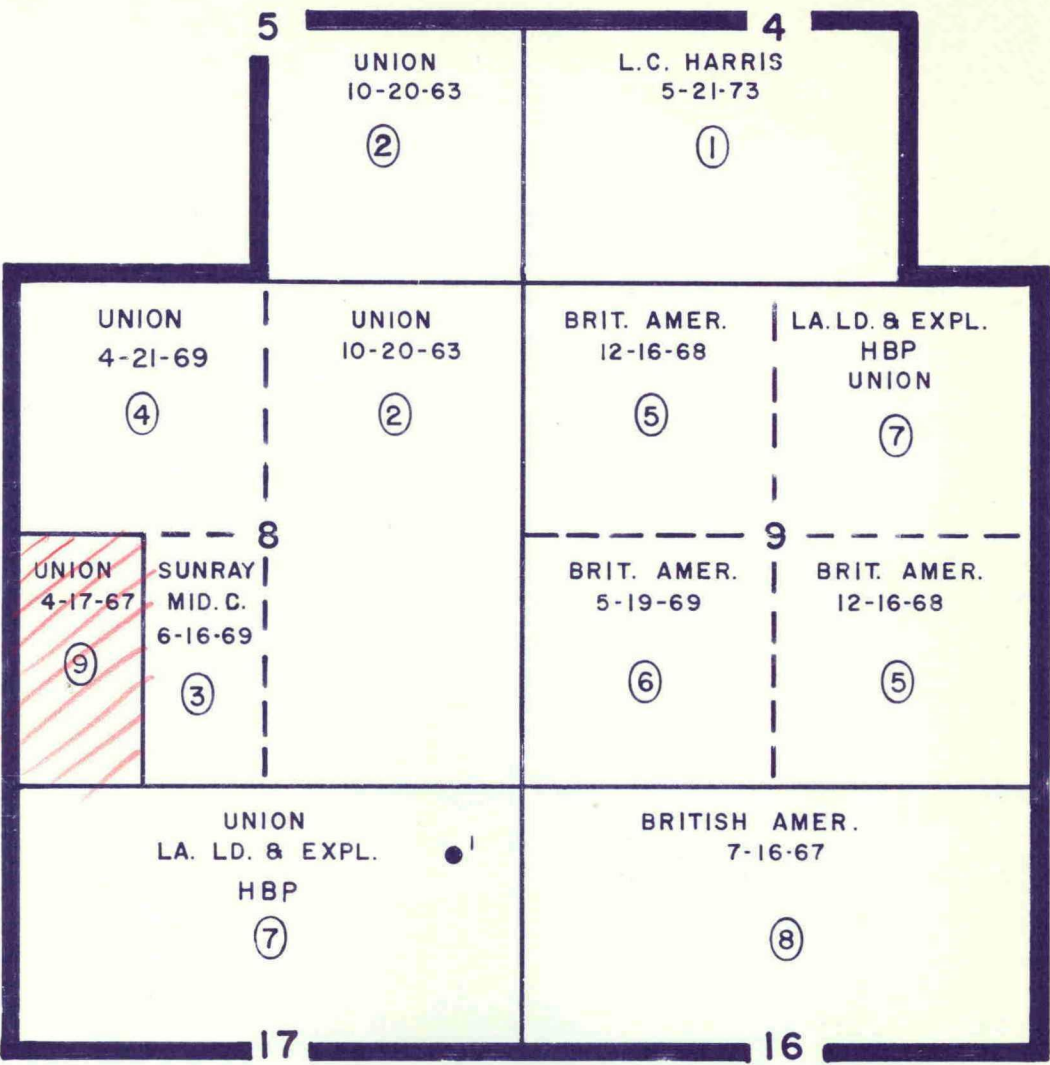


EXHIBIT "A"

WEST McDONALD UNIT

LEA COUNTY, NEW MEXICO

LEGEND

SCALE 1"=2000'

TRACT NUMBER AS LISTED ON
EXHIBIT "B"

(1)

UNIT OUTLINE

2240 ACRES OF STATE LAND &
80 ACRES OF FEE LAND

Free
land
all the
rest is
state

verbal agreements
do commit from
all about tract
no. 3. still
may come in,

EX 2

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE