

pplisting Transcrapts mill Exhibits, Etc.



# UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Braver 1857 Resuell, New Mexico RECALLY ROPER TO:
MAY 22 1961

D. C. C.
ATTERIA, OFFICE

May 18, 1961

Case " 2269

Great Western Drilling Company P.O. Box 1659 Midland, Tegns

Attention: Mr. John T. Hampton

### Contlemen:

Your letter of May 5 transmits additional information regarding the degree of corresiveness of sait water produced from your Federal "Ner" leave (leave New Maxico 01764), and asks that we reconsider year application to use the samular space between 7 5/8 inch and 4 1/2 inch easing in the Federal "NET" well No. 2, SWANN, sec. 8, T. 9 8., R. 37 E., W.M.P.M., to conduct said sait water into the San Andres formation for disposal.

The manner you have proposed for dually completing Federal "MC" well No. 2 to use the sammler space between 7 5/8 inch and 4 1/2 inch casing for disposal of salt water is estisfactory to this office.

Hery trely years,

MOVIN M. THOMASSON Acting Regional Oil and Gas Supervisor

Copy to: Hobbs

NMOCC, Santa Fe

### DEFORE THE OIL COMBERVATION CONCISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL COMBENVATION CONCISSION OF NEW MEXICO FOR THE PURPOSE OF COMBIDMENS:

> CASE No. 2269 Order No. R-1975

APPLICATION OF GREAT WESTERN DELLING COMPANY FOR AN OIL-SAME WATER BUAL COMPLETION, LEA COUNTY, NEW MEXICO.

### ORDER OF THE COMMISSION

#### BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 4, 1961, at Santa Fe, New Mexico, before Daniel S. Netter, Examiner duly appointed by the Oil Conservation Commission of New Nexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 25th day of May, 1961, the Commission, a quorum being present, having considered the application, the evidence addition, and the recommendations of the Rossiner, Daniel S. Nutter, and being fully advised in the premises,

### PIMDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Great Western Drilling Company, is the owner and operator of its Federal HM Well No. 2, located in the SE/4 HM/4 of Section 8, Township 9 South, Runge 37 East, HMPM, Lea County, New Memico.
- (3) That the applicant seeks permission to dually complete said Federal NM Well No. 2 in such a manner as to permit the disposal of sait water into the San Andree formation in the interval from approximately 4290 feet to approximately 5100 feet, and the production of oil from the Bough C formation adjacent to the East Allison-Fennsylvanian Pool at a depth of approximately 9675 feet. Sait water will be injected through the annulus between strings of 4 1/2-inch and 7 5/8-inch ensing to a depth of 4290 feet, thence through the annulus between the string of 4 1/2-inch casing and the open hole to approximately 5100 feet. The Pennsylvanian oil will be produced through 2-inch tubing set at 7000 feet installed within the string of 4 1/2-inch sasing set at total depth.
- (4) That coment on the string of 4 1/2-inch casing should extend from total depth to approximately 5100 feet.

-2-CASE No. 2269 Order No. R-1975

- (5) That the annulus between the 2 3/8-inch tubing and the 4 1/2-inch easing strings should be filled with sweet oil, naghtha, or other non-corrosive fluid.
- (6) That the machanics of the proposed completion are feasible and approval of the subject application will neither cause waste nor impair correlative rights.

### IT IS THEREPORE ORDERED:

- (1) That the applicant, Creat Western Drilling Company, is hereby authorized to dually complete its Federal MM Well No. 2, located in the SN/4 MM/4 of Section 8, Township 9 South, Range 37 East, MMPM, Lee County, New Mexico, in such a menner as to permit the disposal of salt water into the San Andree formation in an interval from approximately 4290 feet to approximately 5100 feet and the production of oil from the Bough C formation adjacent to the East Allison-Pennsylvanian Pool at a depth of approximately 9675 feet. Salt water shall be injected through the annulus between strings of 4 1/2-inch and 7 5/8-inch easing to a depth of 4290 feet, thence through the annulus between the string of 4 1/2-inch casing and the open hole to approximately 5100 feet. The Pennsylvanian oil shall be produced through 2-inch tubing set at 7000 feet installed within the string of 4 1/2-inch casing set at total depth.
- (2) That coment on the string of 4 1/2-inch casing shall extend from total depth to approximately 5100 feet.
- (3) That the annulus between the 2 3/8-inch tubing and the 4 1/2-inch casing strings shall be filled with sweet oil, naghtha, or other non-corrosive fluid.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DOME at Santa Fe, New Maxico, on the day and year hereinabove designated.

> STATE OF NEW MEXICO OIL CONSERVATION CONGISSION

EDWIN L. MECREM, Chairman

Elsveller

A. L. PORTER, Jr., Momber & Secretary



May 25, 1961

R. C. TUCKER, PRES.

PHONE MU 2-8241 ADDRESS REPLY TO SOX 1659 MIDLAND, TEXAS

Re: Water Disposal Federal "MM" No. 2 Well

New Mexico Oil Conservation Commission Box 871 Santa Fe, New Mexico

Gentlemen:

In compliance with your request to Mr. John Hampton for information on the subject well, we enclose herewith a copy of the letter from the United States Department of the Interior, Geological Survey, Roswell, New Mexico, indicating the approval of that office of the manner of water injection proposed for the Federal "MM" No. 2 well.

Should you desire further information, please so advise.

Yours very truly,

GREAT WESTERN DRILLING COMPANY

M. B. Wilson

Vice President, Production

MBW:fw Encl.



### DOCKET: EXAMINER HEARING - THURSDAY, MAY 4, 1961

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, as alternate examiner:

### CONTINUED CASE

### CASE 2234:

Application of Kay Kimbel! for an order force-pooling a 320-acre gas proration unit in the Basin-Dakota Pool. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin-Dakota Pool in the E/2 of Section 22. Township 29 North, Range 11 West, San Juan County, New Mexico, including those of Roy L. Cook as lessee and various other parties as lessors in the E/2 NW/4 NE/4 of said Section 22.

### NEW CASES

### CASE 2261:

Application of Continental Oil Company for two non-standard gas proration units. Applicant, in the above-styled cause, seeks the establishment of a 480-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the S/2 and the NE/4 of Section 24, Township 20 South, Range 37 East, Lea County. New Mexico. Said unit is to be dedicated to the SEMU Eumont Well No. 67, located 1980 feet from the South and West lines of said Section 24.

Applicant further seeks the establishment of a 480-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NW/4 of Section 24, and the SE/4, the SW/4 NE/4, the S/2 SW/4 and the NW/4 SW/4 of Section 13, all in Township 20 South Range 57 East. Lea County, New Mexico. Said unit is to be dedicated to the SEMU Eumont Well No. 69, located 1980 feet from the North and West lines of said Section 24.

#### CASE 2262:

Application of V. S. Welch for an unorthodox oil well location. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location in the Culwin-Yates Pool for a well to be urilled at a point 330 feet from the South line and 2590 feet from the West line of Section 29, Township 18 South, Range 31 East, Eddy County, New Mexico.

Docket No. 13-61 -2-

CASE 2263:

Application of Collier Drilling Company for an exception to Rule 309 (a). Applicant, in the above-styled cause, seeks an exception to Rule 309 (a) to permit the transportation of oil from the Western Yates Lease, comprising the SE/4 NW/4 of Section 20, Township 18 South, Range 28 East, Eddy County, New Mexico, to a separate tank battery located on its Amerada Lease, comprising the NE/4 NW/4 of said Section 20.

CASE 2264:

Application of United States Smelting Refining and Mining Company for an oil-gas dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks authorization to dually complete its Federal 11-20-34 Well No. 1, located 1980 feet from the North line and 2130 feet from the West line of Section 11, Township 20 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Bone Springs formation adjacent to the Lea-Bone Springs Pool and the production of gas from an undesignated Pennsylvanian pool through parallel strings of 2-inch tubing.

Applicant further proposes to commingle the production from both of said pools in said well after metering only the Pennsylvanian pool production.

CASE 2265:

Application of Nash, Windfohr and Brown for an unorthodox well location. Applicant, in the above-styled cause, seeks approval of an unorthodox location in an undesignated Abo pool for its Jackson Federal Well No. 23-B, located 1420 feet from the South line and 1980 feet from the East line of Section 24, Township 17 South, Range 30 East, Eddy County, New Mexico.

CASE 2266:

Application of Nearburg & Ingram for permission to commingle the production from two separate leases, and from two separate pools. Applicant, in the above-styled cause, seeks permission to commingle, after separate measurement, the Southwest Gladiola-Pennsylvanian Pool production from all wells on its Keating lease, comprising the NE/4 of Section 34 with Southwest Gladiola-Pennsylvanian and Southwest Gladiola-Devonian production from all wells on its Midhurst Lease, comprising the NW/4 of Section 35, all in Township 12 South, Range 37 East, Lea County, New Mexico.

Docket No. 13-61

CASE 2267:

Application of Byard Bennett for permission to institute a waterflood project in the Caprock-Queen Pool, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a waterflood project in the Caprock-Queen Pool in an area comprising the E/2 SE/4 of Section 20 and the SW/4 of Section 21, all in Township 14 South, Range 31 East, Chaves County, New Mexico, by the injection of water into the Stella Zimmerman Well No. 2, located in the SE/4 SE/4 of said Section 20.

CASE 2268:

Application of Humble Oil & Refining Company for an exception to Rule 303 (a). Applicant, in the above-styled cause, seeks an exception to Rule 303 (a) to permit commingling, without separate measurement, of the production from the Paddock, Penrose-Skelly and Drinkard Pools on the J. L. Creenwood Lease, comprising the S/2 of Section 9, Township 22 South, Range 37 East, Lea County, New Mexico.

CASE 2269:

Application of Great Western Drilling Company for an oil-salt water dual completion. Applicant, in the above-styled cause, seeks authorization to dually complete its Federal MM Well No. 2, located in the SE/4 NW/4 of Section 8, Town-ship 9 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Bough C formation adjacent to the East Allison-Pennsylvanian Pool and the injection of salt water into the San Andres formation.

CASE 2270:

Application of Pan American Petroleum Corporation for an oil-oil dual completion. Applicant, in the above-styled / cause, seeks authorization to dually complete its Greenwood Unit Well No. 3, located in Unit H, Section 27, Township / 18 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from an undesignated Bone Springs pool and the production of oil from an undesignated Wolfcamp pool through parallel strings of 2-inch tubing.

CASE 2271:

Application of Pan American Petroleum Corporation for two non-standard oil proration units and for an unorthodox oil well location. Applicant, in the above-styled cause, seeks the establishment of a 70.58-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool consisting of Lots 8 and 9 and the S/2 of that portion of the San Juan River channel lying in the S/2 NE/4, all in Section 18,

Docket No. 13-61

### CASE 2271 (Cont.)

Township 29 North, Range 14 West, San Juan County, New Mexico, said unit to be delicated to the Navajo Tribal "G" Well No. 7, at an unorthodox location 2545 feet from the North line and 1670 feet from the East line of said Section 18, and of a 46.75-acre non-standard oil propation unit in said pool consisting of Lot 6 and the S/2 of that portion of the San Juan River channel lying in the SE/4, all in Section 16, Township 29 North, Range 14 West, San Juan County, New Mexico, said unit to be dedicated to the Navajo Tribal "E" Well No. 10, located 660 feet from the South line and 1980 feet from the East line of said Section 16.

### CASE 2272:

Application of Pan American Petroleum Corporation for two non-standard oil proration units and for two unorthodox Applicant, in the above-styled cause, oil well locations. seeks the establishment of an 89.62-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool consisting of Lots 2, 3 and 4 of Section 8, Township 28 North, Range 13 West, San Jaun County, New Mexico, said unit to be dedicated to the C. J. Holder Well No. 11, at an unorthodox location 493 feet from the North line and 660 feet from the West line of said Section 8, and of an 89.22-acre non-standard oil proration unit in said pool consisting of Lot 1 of Section 8 and Lots 3 and 4 of Section 9, all in Township 28 North, Range 13 West, San Juan County, New Mexico, said unit to be dedicated to the C. J. Holder Well No. 12, at an unorthodox lossion 493 feet from the North line and 660 feet from the West line of said Section 9.

### CASE 2273:

Application of El Paso Natural Gas Company for an exception to Rule 309 (a). Applicant, in the above-styled cause, seeks an exception to Rule 309 (a) to permit the transportation of oil produced on Federal Lease LC-064198-A, comprising the SE/4 of Section 18, prior to measurement, to tank batteries located on Federal Lease No. 025566, comprising the E/2 of Section 19, all in Township 19 South, Range 32 East, Lea County, New Mexico.

Docket No. 13-61 -5-

CASE 2274:

Application of El Paso Natural Gas Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authoriging the dual completion of its Lusk Deep Unit Well No. 2, located in Unit O, Section 18, Township 19 Nouth, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Strawn formation adjacent to the Lusk-Strawn Pool and the production of gas from the Morrow formation in an undesignated pool through parallel strings of 2 3/8-inch tubing.



## UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY Drawer 1857 Roswell, New Mexico

a fin 1:17

April 28, 1961

Care 2269

Great Western Drilling Company Box 1659 Widland, Texas

Attention: Mr. John L. Hampton

#### Gentlemen:

Your letter of April 16 transmits copies of two New Mexico Gil Compervation Commission forms, one entitled "Application for Buni Completion"; and the other Application to Dispose of Salt Mater by Injection Into a Porous-Formation Not Productive of Oil or Gas: " Accompanying the two forms is a schematic diagram outlining your proposal to use the annular space between 7 5/8" and 4 1/2" casing in the yet undrilled Federal "MM" well No. 2, MANNIA No. 3, T. 9 S., R. 37 S., W.H.P.M., Lea County, New Maxico, lease New Mexico 01744, to conduct salt water produced on said lease Into the San Andres formation for disposal. You request our approval of this proposal.

The menner you have proposed for dually completing well No. 2 Federal "MM" is not setisfactory to this office. Accordingly, your request is denied.

Yery staly yours,

EDNIM M. INDIASCO

Acting Regional Oil and Gas Supervisor

Copy to: MOCC, Santa Fe

## OIL CONSERVATION COMMISSION P. O. BOX 871 SANTA FE, NEW MEXICO

May 23, 1961

Great Western Drilling Company P. O. Box 1659 Midland, Tomas

Attention: Mr. John Hampton

Re: Case 2269

### Contlemen:

At the hearing of Case 2269 on May 4, 1961, it was stated that the V.S.G.S. had approved the dual completion as proposed by Greet Mestern. Since the only correspondence from the V.S.G.S. which the Commission had received at that time was unfavorable to Great Mestern's proposal, it was requested that Great Mestern, or its Atterney, have the V.S.G.S. furnish the Commission with a letter indicating its approval of the proposed installation.

As of this date we have precived as correspondence from the U.S.G.S. indicating their approval of this installation, and until a letter is received to that effect, we can take so further action on this case. The Camincian would appreciate the congentation of all conserved in obtaining this letter in order that this case may be disposed of before June 1, 1961.

Very truly yours,

RICHARD S. MORRIS Attorney

MAN / DAY

se: Mr. S. B. Christy IV Rervey, Dow and Minkle P. O. Best 10 Resvell, New Messico SOVERNOR TOWIN L. MECHEM CHAIRMAN

## State of New Wexico Oil Conservation Commission

LAND COMMISSIONER E. S. JOHNNY WALKER



STATE GEOLOGIST

A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 871

May 26, 1961

Re:	CASE	NO. 2	269	
		NO. 3-1		
	APPLI	CANT:		
	Great	Western	Drilling	Company

Roswell, Hew Mexico

Mr. Sim Christy

Box 10

Dear Sir:

Hervey, Dow & Hinkle

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

A. L. PORTER, Jr.
Secretary-Director

ir/				
Carbon copy of	order	also	sent	to:
Hobbs OCC X				
Artesia OCC	_			
Aztec OCC	<del>-</del>			
OTHER				

## OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

Held order until letter Training			Date
Enter an order in the above numbered cases are as follows:  Enter an order approving 9th waters  Agrest for dual completion of their  Askeral MM #2 to dispose of salt  Water starough the annulus of the  42" and 7% " cag strings to 4290 thence  into again annulus of the 45" june  and the year hose fown to approximately  and the year hose fown to approximately  for Bourgh C Sand of the.  The Bourgh C Sand of the.  The many baring best in the  9175 through the sing best in the  45" production casing string. Court an  formal book to approximately 5100.  Pagine the 123" x 42" annulus  Pagine the 123" x 42" annulus  flink production string to be filled with  furest ail, keptha, or other non locrosing	CASE	2269	Hearing Date 120 5/4/61
Aguest for dual completion of them  Alderal MM # 2 to lispose of salt  Water through the annulus of the  Water through the annulus of the  42" and 78" esq strings to 4290 thence  into agen annulus of the 42" pper  and the eyen have down to approximately,  5100; also to produce all from  the Bourgh & Sand of the  General vanion from approximately,  9175 through thing ket in the  9175 through thing ket in the  9175 through thing string. Court on  45" production casing string. Court on  to come book to approximately, 5100,  Pagine the 123" x 42" annulus  glite production string to be filled with  lived ail, keptha, or other non lowowing  flind  Vandrum		My recommendations for an order in t	DSN (67) SF
Aguest for dual completion of them  Alderal MM # 2 to lispose of salt  Water through the annulus of the  Water through the annulus of the  42" and 78" esq strings to 4290 thence  into agen annulus of the 42" pper  and the eyen have down to approximately,  5100; also to produce all from  the Bourgh & Sand of the  General vanion from approximately,  9175 through thing ket in the  9175 through thing ket in the  9175 through thing string. Court on  45" production casing string. Court on  to come book to approximately, 5100,  Pagine the 123" x 42" annulus  glite production string to be filled with  lived ail, keptha, or other non lowowing  flind  Vandrum		Enter au order of	proving 91. Waters
Hederal MM # 2 to hispone of salt water through the animalise of the Water through the animalise of the 12" out 198" Osq strings to 4290 thence into approximately and the eyen hove down to approximately and the general of the form the Bourse C Sand of the the Bourse Vanima from approximately 9175" through the bidge bet in the 9175" whichion casing string best in the sold 15" copy thing share he sufficient to approximately 5100.  To come book to approximately 5100.  Require the \$23" x 42" annulus of the protection string to be filled with sweet ail, keptha, or other non lowowing think.		se est las dual	completion of their
into agen annulus of the 45" june and the eyen have down to approximately and the spence of from 5100; also to produce all from the Bough C Sand of the.  Oursey vanion from approximately 9675 through tubing bet in the 45" production casing string. Cut an oald 45 "cog tring slace be sufficient oald 45 "cog tring slace be sufficient to come book to approximately 5100.  Pagine the \$238" x 42" annulus of the production string to be filled with furces ail, keptha, or other non lorrowing flind.		30000 MM # 2	to lispose of salt
into agen annulus of the 45" june and the eyen have down to approximately and the spence of from 5100; also to produce all from the Bough C Sand of the.  Oursey vanion from approximately 9675 through tubing bet in the 45" production casing string. Cut an oald 45 "cog tring slace be sufficient oald 45 "cog tring slace be sufficient to come book to approximately 5100.  Pagine the \$238" x 42" annulus of the production string to be filled with furces ail, keptha, or other non lorrowing flind.		Weles a Through H	Ce annulus of the
but of the year have lown to approximately and the year to produce all from the Bounds C Sand of the the Demany various from approximately 9175 through tubing bet in the 9175 through taking string. Cut on 45" production casing string. Cut on sald 15 "csq thing slace be sufficient sald 15 "csq thing slace be sufficient to come book to approximately 5100.  Pequire the \$ 238" x 42" annulus of the production string to be filled with an and the production string to be filled with function, keptha, or other non lorrowing think.		42" and 7 % " esq	Strings to 4290 Thence
9675 through futing bet in the 9675 through futing string. Cut an 45" production cassing string. Cut an sold 45 "esq string shall be sufficient both to approximately 5100, to come both to approximately 5100, Pequire the 1238" x 42" annulus Pequire the 1238" x 42" annulus All the production string to be filled with lucet ail, keptha, or other non lorrown; fluid order and letter "Sandren		into segon annue	of the 42 for
9675 through tubing bet in the 9675 through Casing String. Cut on 45" production casing string lace be sufficient sald 45" cog string shace be sufficient 5100.  To come book to approximately 5100.  Require the \$238" x 42" annulus  Al The production string to be filled with sweet ail, keptha, or other non locrosing fluid.  You dreen		and the yen	have down to the from
9675 through futing bet in the 9675 through futing string. Cut on for production casing string. Cut on salid 45 "esq string share be sufficient sould 45 "esq string share be sufficient to come book to approximately 5100.  Pequire the 1 23 " x 42" annulus  Pequire the 1 23 " x 42" annulus  All the production string to be filled with  Surect ail, keptha, or other non lorrown;  Shirt wall letter "Sandren		5100; letso 2	Sand of the
pald 1/2 "cog string share be sufficient sald 1/2 "come book to approximately 5100,  to come book to approximately 5100,  Require the 1238" x 42" annulus  go the production string to be filled with  livest ail, repthe, or other non lorrow;  flind  Sandwen		the sain	from appropriately
pald 1/2 "cog string share be sufficient sald 1/2 "come book to approximately 5100, to come book to approximately 5100,  Require the 1238" x 42" annulus for the production string to be filled with dweet ail, repthe, or other non lorrow; think if he filled with flind in the filler than the same for some for some string to be filled with the filled w		9675 through	I taking bet in the
Require the \$238" x 42" annulus  Pequire the \$238" x 42" annulus  go the production string to be filled with  levest ail, keptha, or other non lowowire  flind  Sandwen  Mandwen		42" production	rasing string. Cut on
Require the \$238" x 42" annulus  Pequire the \$238" x 42" annulus  go the production string to be filled with  levest ail, keptha, or other non lowowire  flind  Sandwen  Mandwen		sald 45 cog st	shall be 5100,
Les order and letter . Sandan		to come bock	s 3 "x 15"
Held order until letter Examiner		Require the	a string to be filled with
Held order until letter Examiner		of the provide	a or other non lorrown
Held order until letter Examiner		Shind .	- 1/ 2— "
from USGS comes in approving	11-1	17	
22 - 22 - 22 - 24 - 25 - 25 - 26 - 26 - 26 - 26 - 26 - 26	fro	our USGS Comer in	approving denied approved, but



### STATE OF NEW MEXICO

### STATE ENGINEER OFFICE SANTA PE

S. E. REYNOLDS STATE ENGINEER

April 19, 1961

P. O. BOX 1079 SANTA FE, N. M.

Mr. A. L. Porter, Jr. Secretary-Director Oil Conservation Commission Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Great Western Drilling Company received in this office on April 19, 1961, which seeks to complete its Federal "MM" #2 well located in the SE1NW1 Section 8, Township 9 South, Range 37 East, for the production of oil and for the injection of salt water produced from such well into the non-producing formations of such well between the depths of 4860 feet and 5060 feet.

I have received assurance from Mr. John Hampton; Chief Production Engineer for the company that the surface casing which is anticipated to be 200 feet will be set into the red beds, at least one joint and the cement circulated thereon, even though the depth may require more than 200 feet. In view of this statement and the other construction specifications set forth in the application, I have concluded that the approval of this application would not constitute a threat of contamination to the fresh waters which may occur in the area. Therefore, this office offers no objection to the granting of this application.

Yours truly,

S. E. Reynolds State Engineer

Water Rights Division

FEI/ma

cc-F. H. Hennighausen

Great Western Drilling Co.

## BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

APPLICATION OF GREAT WESTERN DRILLING COMPANY TO DULY COMPLETE ITS FEDERAL MM NO. 2 WELL LOCATED IN THE SELNING SECTION 6, TOWNSHIP 9 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO (undesignated field) FOR THE PRODUCTION OF OIL FROM THE BOUGH C FORMATION AND FOR THE INJECTION OF SALT WATER PRODUCED FROM SUCH WELL INTO THE NON-PRODUCING FORMATIONS OF SUCH WELL RETWEEN THE DEPTIE OF 4860 FEET AND 5060 FEET.

CASE NO.

### APPLICATION

Comes now Great Western Drilling Company, whose address is Box 1659, Midland, Texas, and hereby makes Application to duly complete its Federal MM No. 2 Well proposed to be located in the SEXNWX Section 8, Township 9 South, Range 37 East, N.M.P.M., Lea County, New Mexico (undesignated field) for the production of oil from the Bough C Formation and for the injection of salt water produced from such well into the non-producing formations of such well between the depths of 4860 feet and 5060 feet.

- 1. That the above well will be located 1980 feet from the north line and 1980 feet from the west line of said Section 8. That said well will be drilled in conformity with the Rules of this Commission; the pay zone will be perforated between the interval of approximately 9670 feet and 9680 feet.
- 2. That in the drilling and completion of said well the following casing program will be followed:

	<u>Diameter</u>	Setting Depth	Sacks Cement	Top of Cement
Surface	10-3/4"	200 '	225 sacks	To be circulated
Intermediate	7-5/8 <sup>11</sup>	4300 <b>'</b> ±	regular 1700 sacks	To be circulated
Long String	4-1/2"	9800¹ <u>+</u>	350 sacks	5100' ±

3. Upon information and belief, all of the formations underlying said well and the immediately surrounding area, between the depths of 4860 feet and 5060 feet are non-oil or gas bearing.

4. That the only wells capable of producing oil or gas in paying quantities within the vicinity of two miles from the above described well, together with the name of the operator thereof, are set forth in the plat attached to this Application, and marked Exhibit "A". That there are no wells within such area or vicinity producing oil or gas in paying quantities from the formations expected to be encountered in Applicant's well from the depths of 4860 feet to 5060 feet.

That the name and address of all offset operators to the lease on which Applicant's well will be situated are as follows:

NAME	ADDRESS
Santa Fe Pacific Rwy. Co.	900 Polk Street, Amarillo, Texas
Union Oil of California	Union Oil Building, Midland, Texas
John Kelly	Box 5671, Roswell, New Mexico
Texaco Inc.	Box 3109, Midland, Texas
King, Warren & Dye	Box 1505, Midland, Texas
L. B. Hodges	Box 671, Roswell, New Mexico

That the name and address of the surface owner of the lands upon which Applicant's well is located is:

## NAME ADDRESS

Fred Baldridge Portales, New Mexico

5. That there are no other wells in the vicinity of Applicant's well which have been drilled, completed or abandoned which are susceptible to being used as a disposal well for the salt water which will be produced in Applicant's proposed well, and that it is infeasible, impracticable, and uneconomic to drill an additional well for the disposal of such salt water, or to truck or otherwise remove the same from the premises. That in order to protect the correlative rights of the various mineral owners in the lands on which Applicant's well is located, and to avoid waste, that it is necessary and proper to dispose of such salt water by the injection of the same down the annulus between the 7-5/8"

intermediate casing and the 4-1/2" producing casing into the non-producing formations under said well between the depths of 4860 feet and 5060 feet; such salt water will be confined to the aforesaid intervals between 4860 feet and 5060 feet. A schematic diagram of the casing and cementing program and the proposed method of disposing of such salt water, as aforesaid, is attached to this Application, and marked Exhibit "B".

Injection of such salt water will be by pressure pump at an estimated pressure of 1000 psi. This is a closed type system, and no filtration or chemical treatment is necessary to such salt water.

6. The above offset operators, surface owner, New Mexico State Engineer, and the U. S. Geological Survey of the Department of Interior, United States of America, have this date been furnished a copy of this Application by registered mail, due proof of which will be made at the hearing on this Application. The New Mexico State Engineer has further been furnished a copy of the water analysis of the salt water which it is believed will be produced from Applicant's well.

WHEREFORE, Applicant requests that this Application be set for an Examiner hearing after due notice, and for the granting of this Application after hearing.

GREAT WESTERN DELLLING COMPANY

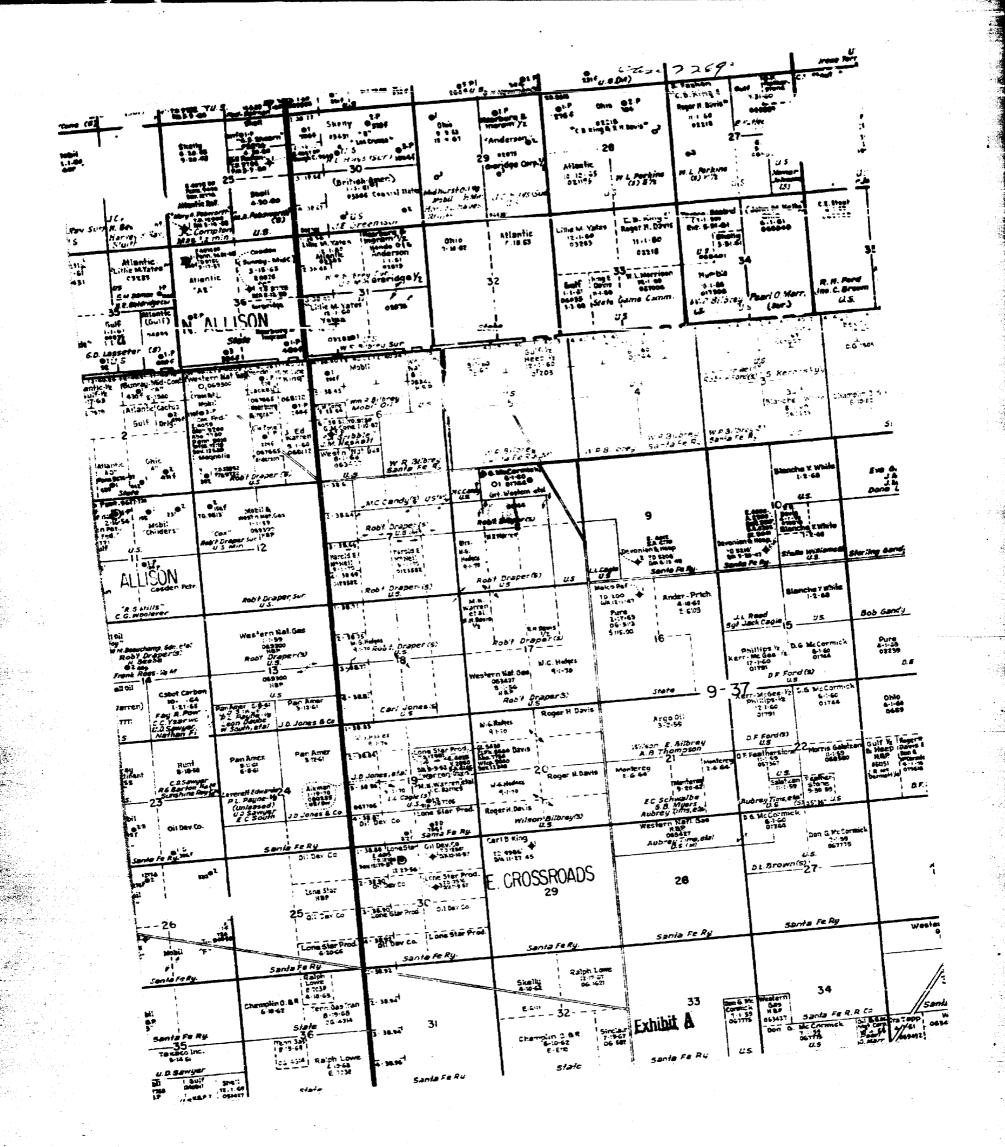
S. B. Christy, IV f

Dow & Hinkle

P. 0. Box 10

Roswell, New Mexico

Attorneys for Applicant



Case 2769 Oil Production ----Set 1034" 32 " H-40 Cag @ 200" w 225 sx reg + 2% CaCls. Gement to be circulated. 1000 Set 7% 24 \$ 26.4 J-55 Csg @ 4300'
Cement w approx. 200 sx reg cmt + 1500 sx trinity lite wate. Cmt to circulate. 4000 5000 5100'= 2" Tubing @ 7000' = 7000 8000 Set 4K" 11.6\*N-80 & J-55 Csq @ 9750' = . Cement w 150 sx req + 13 cuft Stratacrete 6 + 4% gel + 200 sx trinity lite wate. Top cement @ approximately 5100' 10000 SCHEMATIC DIAGRAM

PROPOSED CASING & CEMENTING PROGRAM

GREAT WESTERN DRILLING CO.

FEDERAL "MM" NO.2 T-9-S R-37-E SEC.8 LEA COUNTY, NEW MEXICO

Exhibit B

Exce 2269

Revised 9 16 58

## STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

## APPLICATION AT 1 05

TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS

	K minney M/T	Liles Company Ad	dress Den 1699, Midl	and, Same
Lease <b>Feder</b>	a Ter	Well No	County Les	
Init	_Section	Township	9-8 Rang	ge <b>37-8</b>
his is an appl	lication to disp	pose of salt water [	produced from the follow	ing pool (s):
The Configuration	<u> </u>			
Name of Inject	ion Formation	ı(s):	Andres	
Γop of injectio			Bottom of injection zon	
Jive operator,	lease, well n	io., and location of	any other well in this a	rea using this same
zone for dispos	sal purposes:_	Sakoous		·
	Diameter	CASING F Setting Depth	PROGRAM    Sacks Cement	1 Top of Cement
Surface	10-3/4"	200' - plus er		Circulate
Intermediate	7-5/0"	4300 - "	1700	Circulate
Long String	Aut /2"	*	350	5100
	4.5			
will injection i	oe through tub	ing, casing, or and	nulus? Accelus	
lize tubing:	Set	tting depth: 7000-	ples er misse Packer	set at: 7000 , plus or
Vame and Mod	el No. of pack	cer: <b>B. A.</b>		
Will injection 1	be through per	rforations or open l	hole? Open Hole	
Proposed inter	val(s) of injec	etion: 4000 - 5	<b></b>	
Well was origi	nally drilled f	for what purpose?_	Oil Production	
las well ever	been perforate	ed in any zone othe	r than the proposed injec	tion zone?
List all such p	erforated inte	rvals and sacks of	cement used to seal off	or squeeze each:
	ome will be p	erfocated from appr	eniasteky 9670° - 9686°.	
the restoring			·	
live depth of h	-	higher zone which	produces oil or gas:	leas
	oottom of next	higher zone which	·	
Give depth of t	op of next low	er zone which prod	·	
Give depth of t	op of next lower	er zone which prod	uces oil or gas: 9670' ne in area: Apprendentel	
Give depth of the Give depth of the Expected volumes	op of next lower	er zone which prod est fresh water zon	ne in area: Approximately	

	=		al formation mineralized to so /or other general use?
ist all of	ffset operators to the lea	se on which this well is lo	ocated and their mailing addre
	acific hay. Co.	900 Polk Street	Ausrille, Tems
nter Selly	of California	Box 3671	Ridland, Tolline Reguell, New Mexico
moo, le		Sex 3149	Midland, Torne
5. mag	50 4 7ye	200 134 200 130	Ridical, Tonce
ame and	address of surface own	er Pred Baldridge - Perte	alos, New Membes
i	on of this application has	a set by registered seri	an airean to all affact annuate
	wners, and to the New M		or given to all offset operato
a comp	lete electrical log of this	well attached?	
		Operator: Great West	tern Brilling Company
		Operator	1
			1 7/
		By:	J. Haylar
			, , , , , , , , , , , , , , , , , , ,
		Title: Chief Pro	résetion Ingineer
	STATE OF Teme	)	
		) ss.	
	County of Rectand	)	
	BEFORE ME, The u	ndersigned authority, on t	his day personally appeared
	John T. Harpton		me to be the person whose
			who being by me duly sworn ke the above report and that
		the facts stated therein an	•
	and correct.		•
	CIMCCNIDED AND C	WORN TO before me this	the lifthing of shorth.
	19 <b>4</b>	WORN TO before me this	the day of the
•			
tan e	4	~2 ()	
tur e e		Thalia Caby	Millia ROBY
		Shalia Calif Notary Public in and for	the County of Milland
en e	Ame 1. PAS	Molia Calif Notary Public in and for	the County of Millians
	My Commission I	· .	the County of Millens
	•	Expires	
OTE:	Should waivers from	Expires all offset operators, the	surface owner, and the State
OTE:	Should waivers from Engineer not accomp	Expires  all offset operators, the spany an application, the Ne	

fifteen-day period, no protest nor request for hearing is received by the

Santa Fe office, the application will then be processed.

### NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

Case 2269

### APPLICATION FOR DUAL COMPLETION

Field N	ame <b>Todosians</b>			County		Date April	1 13, 1961
Operato	Instant Brills	ne Company	Lease	band "bat"		Well No.	2
Location	n Unit	Section		Township		Range	37-8
of Well				7-0		1	
	the New Mexico Oil Co				npletion of a wel	l in these san	ie pools or in the same
	es within one mile of the					7-11 No.	•
an	iswer is yes, identify or	ie such instance. O		; Operat	er, Lease, and t	ven No.:	
. The	following facts are sub	mitted:	······································				<del></del>
			Upper	Zone		Lower	Zone
a. N	Name of reservoir	<b>S</b>	es deliver				
<b>5.</b> 7	Top and Bottom of						
	Pay Section		DGG - 3060			9670 -	9600
	(Perforations)					AIT	
	Type of production (Oil	or Gas)	off dense i	A COPPOSE AND A		OFI	
d. N	Method of Production	1:60	n lastica			Actible	iel Lift
4 The	(Flowing or Artificial following are attached.		or NO)				
4. IIIC	tottowing are attached.	(I lease mark 135	01 110)				
	been furnished co d. Electrical log of thereon. (If such t all offset operators to	pies of the applicati the well or other ac log is not available the lease on which t	npletion from each ion.* cceptable log wi at the time appl	th tops and bottoms o lication is filed, it sh ted together with thei	f producing zone	s and interval as provided to address.	said offset operators have s of perforation indicated by Rule 112-A.)
	s to reside the	- 60.				Mend to	
三	Selly	<del></del>					w Herrica
	Sec.			20			
Sies.	. Vacuus & Dyo		Dat	1905		Send. B	
b. 5.	. Brigger		900	671	De	evell, b	re Neutoo
	3						
				<del></del>		<del></del>	
	e all operators listed in uch notification	kem 5 above notifie	ed and furnished	a copy of this applica	ation? YES	NO I	f answer is yes, give date
CER Can	RTIFICATE: I, the und				of the		this report was prepared
mder m	y supervision and direc	tion and that the fac	cts stated therein	are true, entrect and	-0	best of my k	nowledge.
t .	Should (	1 -16			S	ignature	
	Should waivers from all Commission will hold a						
	The state of the s		-	· -			s Santa Fe office. If, ition will then be processe
NOTE:		mpletion will result	in an unorthodo	x well location and/o	r a non-standard	proration uni	in either or both of the

Che 2269 LAW OFFICES HERVEY, DOW & HINKLE HINKLE BUILDING HIRAM M. DOW CLARENCE E. HIMELE W. E. BONDURANT, JR. GEORDE M. MUNKER, JR. HOWARD C. BRATTON ROSWELL, NEW MEXICO April 17, 1961 CONRAD E. COFFIELD New Mexico Oil Conservation Commission P. O. Box 871 Great Western Drilling Company Santa Fe, New Mexico Federal MM No. 2 Well Supplementing Great Western's application to duly complete its Federal MM No. 2 Well in the SE\(\frac{1}{2}\)N\(\frac{1}{2}\) Section 8, which application was made by a letter to you of Mexico, which application was made by a letter to you of April 13, 1961, we hand you herewith three counterparts of the formal application with attached exhibits. We understand that the above case has been set for an Examiner hearing at Santa Fe, New Mexico, on May 4, 1961; if we are incorrect in this please advise. Respectfully, HERVEY, DOW & HINKLE SBC:mke Encls. cc: Great Western Drilling Company

J. M. MERVEY 1874-1953
MIRAM H DOW
CLARENDEE E MINKLE
W E BONDURANT. JR.
GEORGE H HUNKER JR.
HOWARD C. SRATTON
5. S. CHRISTY IV.
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD

### LAW OFFICES HERVEY, DOW & HINKLE

HINKLE BUILDING

ROSWELL, NEW MEXICO

April 13, 1961

Car 2269

TELEPHONE MAIN 2-6510 POST OFFICE BOX 10

AIR MAIL - SPECIAL DELIVERY

New Mexico Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico

> Re: Great Western Drilling Company Federal MM No. 2 Well

### Gentlemen:

Great Western Drilling Company hereby makes application to duly complete its Federal MM #2 Well in the SEXNW% Section 8, Township 9 South, Range 37 East, N.M.P.M., Lea County, New Mexico (undesignated field), for the production of oil from the Bough C Formation and for the injection of salt water from such well into the non-producing San Andres Formation of such well.

A supplement to this application will be filed within the next two or three days, but we request that the above be advertised for the examiner hearing on May 4, 1961.

Respectfully,

HERVEY, DOW & HINKLE

SBC:mke

cc: Great Western Drilling Co.

Memo

1. R. TRUJIL!.O. SUPERVISOR
ADMINISTRATIVE DIVISION

John Shriotic Care

Sim Christic Care

As said he submitted

as said he submitted

an encourse approxima

for Greek western 700

the may a hearing.

the may a hearing.

Le is sending a

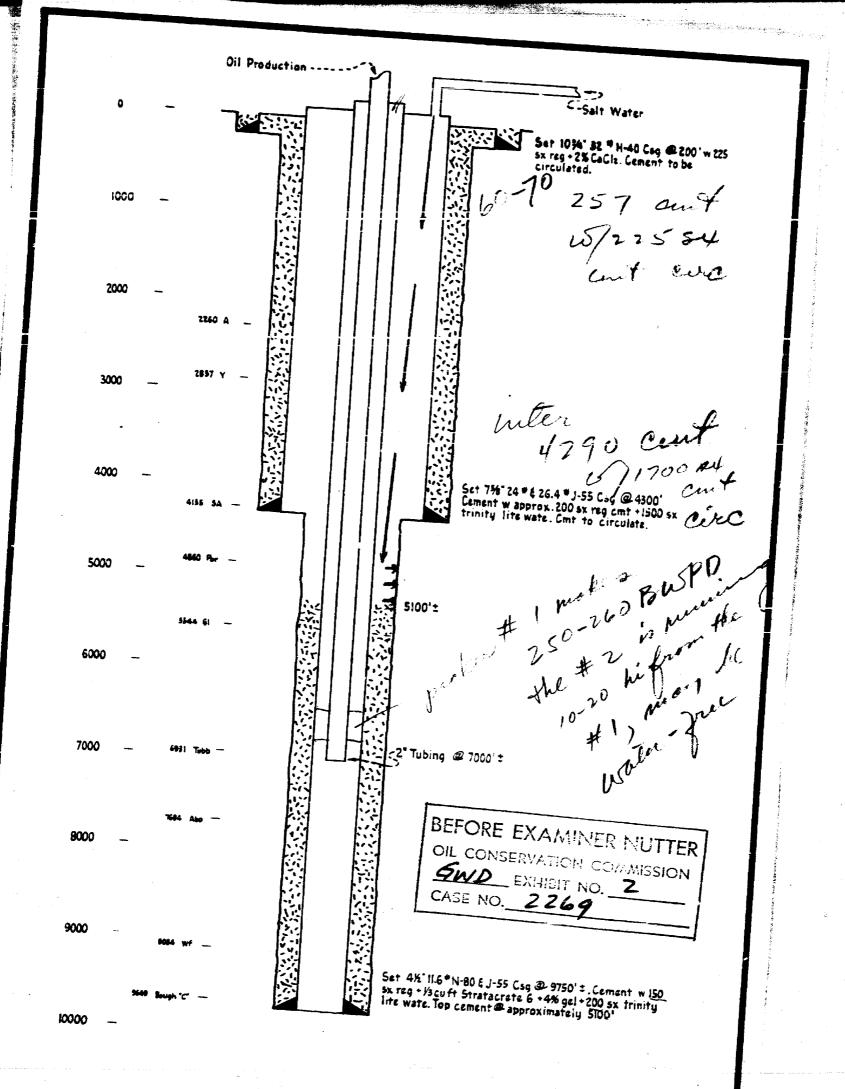
correct approximation charges

the well to be the # x

in Son w

Can 2769 LAW OFFICES HERVEY, DOW & HINKLE. ... HINKLE BUILDING HIRAM M. DOW ROSWELL, NEW MEXICO April 13, 1961 AIR MAIL - SPECIAL DELIVERY New Mexico Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico Great Western Drilling Company Federal MM #1 Well Gentlemen: Great Western Drilling Company hereby requests dismissal of its application to duly complete its Federal MM #1 Well in the NW\(\text{NE\(\text{L}\)}\) Section 8, Township 9 South, Range 37 East, in the NW\(\text{L}\)NE\(\text{L}\). Lea County, New Mexico (undesignated field), for N.M.P.M., Lea County, New Mexico (undesignated field), for the production of oil from the Bough C Formation and for the injection of salt water from such well into the non-producing injection of salt water from such well, which application was made San Andres Formation of such well, which application was made pursuant to a letter from this office to you of April 7, 1961. Respectfully, HERVEY, DOW & HINKLE SBC:mke cc: Great Western Drilling Company medertiget.

		initiation   S		-30	<b>.</b>	g ets15			_	_	
) 1. n	Manufec Bad.	90eFF 4-20-40	3:18:64 ( 6-38:67	British: Ameri) 1-1-01 03606 Countal Hole	Midhurst 0.7 %	granidae cautri	Aftantic 10-12-05 021196		ea m.t. Aurkine	105 L	
THE CONT.	Mac 's min.	9.5.	90m 1s/4	tys et Loreensiur:	Madl F.Mm. Har. L.L. Haves, Mush	J.C. M. SYS GUE MON	ü	W.L. Perkins	W. L. Perkins Co) 1172 U	S Abroar	
tlantic. e M.Vates " ruis games a <sub>m</sub>	Attentic  "AE"	Summer Midel 3-15-65 1 20076	Little Mt. York Little Mt. York atlantic Ottos E-36 48	Hends Of a	Ohio (* se-ez	Atlantic 6:18.63	Lillie M. Yalles 12-1-60 03363	C.B. King E'	Thomas - Septed Enc. 5-51-44 Shatta 3-91-4	(John M. Kethy) Wrote 6-1-81 8448-49	C.E. Wogs 040748
Minute (Gulf)	N. ALLI	C-minte	3-35-42 1 Little M. Ya 12-11-66 Ya Maa 4-36-67	31 overs	3	2	Graff hing 6 6:1-67 Oerre 04/95 H-1-69 1-1-69 SVe/6	W.L.Harrison 10-1-00 051006	Mertie		R. H. Pang
1	93		ONERN	anbrey sur			+ 0	•	Gar. V	(sur)	ino.C. Brown U.S.
E-1940 Fire Jachus	O 06 9900 Cracclet Mobil	Lecture   668172	3- 38.45 <sup>+</sup>	961 West 1	101		PVATIC	ANA ANA	ESIGN	12 et 6 1 1 et 2 1 2 et 6 1 1 et 2 1 2 et 6 2 2 e 6 2 2 e 7 2	1 19 67 0.6 1305
lf Indian	core of the core o	Mingram take Finitive J. Ed Warram	6: 38-51,79.9	6-16-19-19-19-19-19-19-19-19-19-19-19-19-19-	C.	AGE NO.	EXHIBIT 22		Robinicaria	S. Kerotskyly aust Stanches White	
40 t	The Man I do	COTGES CONTE	West n. No.	W.R. Sübrey Sente Fe Ry	WR 9 Senta	Fe Q Jun	WP Bilbrey	WP Bilbray Santa Fe Ry	W.P.B.: Drey S Santa Fa R <sub>3</sub>	8.: 69 062239 :s	6 10-62
tan 1. Iobil inders"	Cox" 04 Pob"/ Draper Suc	pil & LNet-Ges -59 9300 (PSP	2 - 38.64 A	MC.Candy(3) Using				_		Sinache Y While	five Coni
ON	Rabiti	Croper, sur	Percid EJ Percid EJ Percid EJ Perced	i Marold 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Bes. Markerre bil. Helpis 4:-70 Raby, Drup	`	Lucage Devoca	S. deril. E. deril. E. deril. E. deril. E. deril. TO Store Din U-19-40	transport	State Williams	
Adn. etal urča)	Wester I- ce	n Nat. Gos - Nat. Gos - Seo - Co	2-3456 9-6 Holyan		M.m. Warren eran Va	i i	Melco Ref 10-200   Melco-Colored Section	Ander-Prich	Janka Pe Ry.	Sianche Yafrida	1
of Carbon	064 H	3 nec sp (5. Pan Amer 3-11-61	3-76677	18	Western Naf. See 069427	7 1 W.S. Hedges 9-1-70		16	Phillips /s kerr-stc des / 12-1-60	15	806 Gand
myar Myar	han han Law han hand in man familie w South, etc.	3-11-61 J.D. Jones & Co.	C4	r/ Jones (s.	Roo's g	Preparti)	5.	<u>~~</u> 9-	37 —	ford (B) u.s.	4
Hunt 1-19-14 I Sangar Indon' No te home Roy I p	Pan Amer 9-11-cs 6-6-6:	Pan Amer 3-12-61	ы ў ўначея Я-1-7е <b>2-7-1€М</b>	- Grant Call gard.	N-C Rubes 9-10 C Sale GLA TRANS Servis Sectors	Reger H. Davis		rge (ii) 2-59	Phillips-lg 12:1-60 01791	2 3.6. McCormick 6-1-60 91744	Onio 6-1-66 0689
ev.Co.	(everall Edwards) P.L. Payme-16* (Unicesad) U.S. Sangar E.C. Booth	Aikmen 1-19-79 Oder OB UBJ Sw JD James & Co.	9- M of 21- 0-1706	18   PM.M.Warren chall Capte (9) C. Barnes (I.J. a. Pharms	ul-E. Hadeas 9-1-70	Reger K. Davis	Memberco 1.6.46	6. Ailbrey hompson 21   Menture   14.664   14.06421	U.S	22 Morres Galatzar Galatzar	Gulf % Reg 6. Heath Dev MAR Sen 86051 PC 8 not 0 TO Developed to 10
	\$ onle	SERY.		Si sand Fo me		<i>Bilbrayt</i> s	Aubrey	hne/be Years Dins, etc.	Aubrey Time et	5 90-89 5 35-35- 45	Dairent Jal
T	1	Dil Dev Co	I JA JA Jane Land Bas surries	540 Gil Day.Co. 71 4001	Cer18 King 13 4466'		Western	NOTI GOS LAP LAART	3.6. McCormick 6.1-60 01744		
me <sup>02</sup>	!		2- 36-10 2- 36-10 3-10-10	<b>&gt;56</b>	MA-11-37-45		Adbre	Time, elet	<b>*</b> (	Dan & McCormick	1



PROPOSED CASING & CEMENTING PROGRAM

GREAT WESTERN DRILLING CO.

FEDERAL "MM" NO.2

SEC. 8 T-9-S R-37-E

LEA COUNTY, NEW MEXICO-

### Treat-Rite Water Laboratories, Inc.

BOX 1486

MONAHAMS, TEXA

### REBULT OF WATER ANALYSES

_	ł	.ABGRATORY NO	N46127	
TO: Br. Juin !!maten			4-14-01	
P. C. Best 1659, Midland, To		RESULTS REPORTS	:0 4-21-61	-
COMPANY Great Western Brilling				
	Wildest	1000101		
FIELD OR POOL	48.00			
SECTIONBLOCKSUR	VEYCOU	NTY LOG	STATE	
SOURCE OF SAMPLE AND DATE TAKEN:				
NO. 1 Produced water - taken f	ron Pederal M.	#1 heater-tree	ter. 4-14	-61
NO. 2				
NO. 3				
NO. 4				
REMARKS:				
CHEMICA	L AND PHYSICA	L PROPERTIES		
	NO. 1	NO. 2	NO. 3	NO. 4
			-, 13. 5	1,40, 7
Specific Genetic at 66 dags, F pit When Samuled	1,0792			
of Was Resided	7.3	and a second		
Total Alimitaty as CaCO <sub>2</sub>	252			
Superculantine as Succe	36			
Underzeiterablen as CaCO <sub>4</sub>				
Tuni Burbass as CrCO <sub>2</sub>	19,274			
Children as CoCO <sub>3</sub>	14.066			
Magazatan sa CoCO <sub>3</sub>	A_208			
College and/or Polestical				
Statistics and SO <sub>4</sub>	477			
Chinetile of RoCl	113,834			
Allien as BIO <sub>2</sub>	12.8			
Zinessees Ib	64.7		<del> </del>	<del> </del>
Parison as The	-		<del> </del>	
Techidity Electric	none			
Geber as Pi	21.1	BEFORE		<del>                                     </del>
Missoubrad Ballids at 166 dag. C	2.3	CIL CONST		MONUSION
Total Suitide at 140 dag. C		1 1		3
June Splide, Calculated		GIND	anana kawa	
Temperature Degs. 2.		CASE NO.	2269	
Osahon Diestile, Colombated	25.2			
Dissolved Coppen, Wester				<u> </u>
Tytingen Salida	none			<del> </del>
Social Chiefes			<del></del>	
Businesty CEMM/CC at 90 Dags. T.	12-4			<del> </del>
Total Suspended CEL	173	<u> </u>		<del> </del>
	All Results Reported As Part	Per Million		
Additional Determinations And Benearins Takks				
Lette	r of recommends	tion attached.		
				<del> </del>
·				

Waylan C. Martin, M. A.

Treat-Rite Water Laboratories, Inc.

WATER CONSULTANTS SINCE 1836

BACTERIAL AND CHEMICAL ANALYSES

P. O. BOX 1466

PHONE WI 3-4761

MONAHANS. TEXAS

April 21, 1961

Mr. John Hampton Great Western Drilling Co. P. C. Ben 1659 Midland, Texas

Subject: Recommendations relative to analysis #Mi6127 (4-14-61), Federal MK #1.

Dear Mr. Hamptons

The attached analysis represents the water proposed for disposal through the enting annulus of the planned disposal well. This analysis is considered adequate evidence to use as a basis to establish the feasibility of an annular disposal well.

Of course, in any disposal through the annulum the primary concern is that of the corresiveness of the water. It is the opinion of this laboratory that this water would be moderate in its corresiveness. The type of correction is that of solvent action due to carbon disride with mild aggregation from electrolysis. The nature of this correctioness would be that of a comparatively even solvent action on the metal surface with minor or no localized deterioration.

It should be understood that the above designation of "mederate" correction is based on the chamical characteristics of the water itself and excludes the fact that there is suspended oil present. The presence of some suspended oil will be of significant benefit in that it will give substantial assistance in protecting the annular space in the disposal well by virtue of its tendency to film on and in initial correction products. The presence of suspended oil is anticipated to reduce the actual correction to a estagesy of "moderate to mild". The further addition of a correction inhibitor designed to pretect against mild carbonic acidity would be recommended to reduce the correctioness to the estagesy of mild.

In summary, it is the conclusion of this laboratory that the comparatively moderate corresiveness of this water, plus the presence of suspended oil and the artificial inclusion of a corresion inhibitor, should remder this water safe for disposal through the easing annulus.

# Tiggi-Rite Water Laboratories, Inc. WATER CONSULTANTS SINCE 1938 BACTERIAL AND CHEMICAL ANALYSES P. O. BOX 1489 PHONE WI 3-4761 MONAHANS, TEXAS

Great Mattern Brilling Co. - Federal M. #1 (A-21-61) - Page 2

Please feel free to contact me for any supplementary reports, further details, or discussions conserning this situation.

Yours very truly,

Waylan 6. Martin Temme-New Martino Div. Mgr.

WHI/sh

		NATION COMMIS.		7_3_58
	CONSER!			
HEW.	MEXICO OIL CONSERV	MEXICO		
FORE ENVIRONMENT	BANTA FE, NE"	ETI	ON	
IL CONLINAMINATION FOR	CAT ON FOR DU	IAL COMPLET	12-00	
A PARTITION OF	PARTION		Date Apr 11 13 15	161
SWD EXHIBIT NO. A	Cou	Les	Well No.	
ASE NO. ZZEG				
ame Undesignated	Lease	al "Met"	Range	
Comple	Town	ship	37-B	or in the same
Western Drilling Compa	ction	9-5	n of a well in these same poor	
on Unit	b corofore authoriz	ed the dual complete	11 No.	
II Conservation	Commission Bereton	. Operator, Le	and Well Hoss	_
or  At Western Drilling Complete  In Unit  It R  In the New Mexico Oil Conservation of the subject we can within one mile of the subject we can swer is yes, identify one such instants.	rell? TB3			
ones within one interpretation one such ins	stance.		Lower Zone	
answer is yes,				
	Upper Zon	e	Bough "C"	
The following facts are submitted:			9670 - 968	0
	San Andres		90/0 - 300	
a. Name of reservoir	4860 - 5060		011	
Top and Bottom		200881		* * * * * * * * * * * * * * * * * * *
Pay Section	Salt Water Di	Shoser	Artificia	Llie
(Perforations)  c. Type of production (Oil or Gas)				
d. Method of Production  d. Method of Artificial Lift)	Injection		· -	of cement, perforated in-
d. Method of Production  (Flowing or Artificial Lift)  (Flowing are attached. (Plea	es mark YES of NO)	-	luding size and setting, top	bakes, and such other
information ing the loca	ation of all wells on applicant		in lieu thereof, evidence that	foretion indicated
information as may be information as many	action of all wells on applicant is offsetting applicant's lease. to such dual completion from early such dual completion from	ach offset operator, or	in lieu thereof, evidence that i	foretion indicated
information as may be information as many	action of all wells on applicant is offsetting applicant's lease. to such dual completion from early such dual completion from	ach offset operator, or	in lieu thereof, evidence that i	foretion indicated
information as may be information as many	action of all wells on applicant is offsetting applicant's lease. to such dual completion from early such dual completion from	ach offset operator, or	in lieu thereof, evidence that i	foretion indicated
information as may be information as many	action of all wells on applicant is offsetting applicant's lease. to such dual completion from early such dual completion from	ach offset operator, or	in lieu thereof, evidence that i	s of perforation indicated by Rule 112-A.)  Texas
information as may be in the properties of all leases operators of all leases.  Waivers consenting to been furnished copies d. Electrical log of the thereon. (If such log thereon, to the	ation of all wells on applicant of serion of all wells on applicant's lease. To such dual completion from each of the application.  The well or other acceptable log well or other acceptable at the time application at the time application on the serion which this well is logger than the serion which the serion whic	with tops and bottoms oplication is filed, it so cated together with the cated	of producing zones and interval half be submitted as provided eir correct mailing address.  Midland,	ts of perforation indicated by Rule 112-A.)  Texas  Texas  New Mexico
information as may be in the second operators of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log 5. List all offset operators to the	ation of all wells on applicant of softsetting applicant's lease. To such dual completion from easier of the application.  The well or other acceptable log well or other acceptable at the time application which this well is log to the second which the second whit the second which the second which the second which the second w	with tops and bottoms oplication is filed, it so cated together with the cated	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo Midland, Roswell, Midland,	s of perforation indicated by Rule 112-A.)  Texas  Texas  New Mexico
information as may be in the second operators of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log the second of the	ation of all wells on applicant of softsetting applicant's lease. To such dual completion from easier of the application.  The well or other acceptable log well or other acceptable at the time application which this well is log to the soft which this well is log to the soft well as the time application.	with tops and bottoms opplication is filed, it so cated together with the complete of the comp	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo Midland, Roswell, Midland,	s of perforation indicated by Rule 112-A.)  Texas  Texas  New Mexico
information as may be in the second operators of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log 5. List all offset operators to the Santa Fe Pacific Rwy. Union Oil of Californ	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from early of the application.*  The well or other acceptable log well or other acceptable at the time application on the succession of the application of the succession which this well is log to the acceptable of the succession which this well is log to the succession which this well is log to the succession of the s	with tops and bottoms oplication is filed, it so cated together with the cated	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo Midland, Roswell, Midland,	ts of perforation indicated by Rule 112-A.)  Texas  Texas  New Mexico  Texas
b. Plat showing the local operators of all leases been furnished copies d. Electrical log of the thereon. (If such log 5. List all offset operators to the Santa Fe Pacific Rwy. Union Oil of Californ	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from early of the application.*  The well or other acceptable log well or other acceptable at the time application on the succession of the application of the succession which this well is log to the acceptable of the succession which this well is log to the succession which this well is log to the succession of the s	with tops and bottoms opplication is filed, it so cated together with the complete of the comp	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo Midland, Roswell, Midland,	s of perforation indicated by Rule 112-A.)  Texas  Texas  New Mexico
information as may be in the property of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log 5. List all offset operators to the Santa Fe Pacific Rwy. Union Oil of Californ Iohn Kelly Texaco, Inc. King. Marken & Dye R. Hodges	ation of all wells on applicant is offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application which this well is log to the application.	with tops and bottoms oplication is filed, it so cated together with the 100 Polk Streat Union 0:1 Bldg. Box 5671  Box 3109  Box 671	of producing zones and intervaluable submitted as provided eir correct mailing address.  Amerillo, Midland, Midland, Midland, Midland, Midland, Midland, Midland, Midland, Midland,	s of perforation indicated by Rule 112-A.)  Texas  Fexas New Mexico  Texas  New Mexico
information as may be in the property of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log 5. List all offset operators to the Santa Fe Pacific Rwy. Union Oil of Californ Iohn Kelly Texaco, Inc. King. Marken & Dye R. Hodges	ation of all wells on applicant is offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application which this well is log to the application.	with tops and bottoms oplication is filed, it so cated together with the 100 Polk Streat Union 0:1 Bldg. Box 5671  Box 3109  Box 671	of producing zones and intervaluable submitted as provided eir correct mailing address.  Amerillo, Midland, Midland, Midland, Midland, Midland, Midland, Midland, Midland, Midland,	s of perforation indicated by Rule 112-A.)  Texas  Fexas New Mexico  Texas  New Mexico
b. Plat showing the local operators of all leases been furnished copies d. Electrical log of the thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc. King. Warren & Dye L. B. Hodges	action of all wells on applicant is offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log with the well of a wailable at the time application of the application of the acceptable log with the such as a lease on which this well is log to the acceptable of the acceptable log with the such acceptable log with the acceptable log	with tops and bottoms oplication is filed, it scated together with the 100 Polk Streat Union 0:11 Bldg. Box 5671 Box 3109 Box 671	of producing zones and intervaluable submitted as provided eir correct mailing address.  Amerillo, Midland, Roswell, Midland, Mid	Is of perforation indicated by Rule 112-A.)  Texas  Fexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
b. Plat showing the local operators of all leases been furnished copies d. Electrical log of the thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc. King. Warren & Dye L. B. Hodges	action of all wells on applicant is offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log with the well of a wailable at the time application of the application of the acceptable log with the such as a lease on which this well is log to the acceptable of the acceptable log with the such acceptable log with the acceptable log	with tops and bottoms oplication is filed, it scated together with the 100 Polk Streat Union 0:11 Bldg. Box 5671 Box 3109 Box 671	of producing zones and intervaluable submitted as provided eir correct mailing address.  Amerillo, Midland, Roswell, Midland, Mid	Is of perforation indicated by Rule 112-A.)  Texas  Fexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
b. Plat showing the local operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Ruy.  Union Oil of Californ  John Kelly  Texaco, Inc.  King. Warren & Dye  L. B. Hodges	action of all wells on applicant is offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log with the well of a wailable at the time application of the application of the acceptable log with the such as a lease on which this well is log to the acceptable of the acceptable log with the such acceptable log with the acceptable log	with tops and bottoms oplication is filed, it scated together with the 100 Polk Streat Union 0:11 Bldg. Box 5671 Box 3109 Box 671	of producing zones and intervaluable submitted as provided eir correct mailing address.  Amerillo, Midland, Roswell, Midland, Mid	Is of perforation indicated by Rule 112-A.)  Texas  Fexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
b. Plat showing the local operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc. King. Warren & Dye L. B. Hodges	action of all wells on applicant as offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application are the sum of the sum o	with tops and bottoms oplication is filed, it s cated together with the 000 Polk Streat Union Oil Bldg. Box 5671 Box 3109 Box 1505 Box 671	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo, Midland, Roswall, Midland, Midland, Midland, Midland, Midland, Roswall, Poswall, Midland,	Is of perforation indicated by Rule 112-A.)  Texas  Iexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
b. Plat showing the local operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc. King. Warren & Dye L. B. Hodges	action of all wells on applicant as offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application are the sum of the sum o	with tops and bottoms oplication is filed, it s cated together with the 000 Polk Streat Union Oil Bldg. Box 5671 Box 3109 Box 1505 Box 671	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo, Midland, Roswall, Midland, Midland, Midland, Midland, Midland, Roswall, Poswall, Midland,	Is of perforation indicated by Rule 112-A.)  Texas  Iexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
b. Plat showing the local operators of all leases to the seen furnished copies d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc. King. Warren & Dye L. B. Hodges	action of all wells on applicant as offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application are the sum of the sum o	with tops and bottoms oplication is filed, it s cated together with the 000 Polk Streat Union Oil Bldg. Box 5671 Box 3109 Box 1505 Box 671	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo, Midland, Roswall, Midland, Midland, Midland, Midland, Midland, Roswall, Poswall, Midland,	Is of perforation indicated by Rule 112-A.)  Texas  Iexas  New Mexico  Texas  Hew Mexico  - If answer is yes, give
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc.  King. Warren & Dye  L. B. Hodges  6. Were all operators listed in of such notification Art.  CERTIFICATE: I, the union operators is the contract of th	action of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application of the second which this well is log to the second which the second wh	with tops and bottoms oplication is filed, it a cated together with the OO Polk Streat Union Oil Bldg. Box 5671 Box 3109 Box 1505 Box 671  which is a copy of this a cated together with the cated together with the OO Polk Streat Union Oil Bldg.  Box 5671  Solve 5671  Solve 671	of producing zones and interval hall be submitted as provided eir correct mailing address.  Amarillo, Midland, Roswall, Midland,	Texas  Texas  Texas  New Mexico  Texas  Texas  New Mexico  Texas  Texas  Hew Mexico  If answer is yes, give  that this report was preparationly my knowledge.
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application on which this well is log to be a successful to the	with tops and bottoms oplication is filed, it seated together with the cared together with the care together with the cared to	of producing zones and interval hall be submitted as provided eir correct mailing address.  Midland,  Midl	Texas Texas New Mexico Texas New Mexico Texas New Mexico  . If answer is yes, give that this report was preparationly in the property was preparation.
information as may be operators of all leases operators of all leases been furnished copies d. Electrical log of the thereon. (If such log sants Fe Pacific Rwy. Union Oil of Californ Iohn Kelly Texaco, Inc. King. Harren & Dye L. B. Hodges  6. Were all operators listed in of such notification Armonder my supervision and discontinuous and discontinuous contents.	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from earlies of the application.  The well or other acceptable log well or available at the time application of the application.  The well or other acceptable log well or available at the time application of the application.  The well or other acceptable log well is low the second which this well is low the second which this well is low the second with th	with tops and bottoms oplication is filed, it is cated together with the cated together cated together with the cated together cated to	of producing zones and intervaluable in the submitted as provided as provided as recorrect mailing address.  Amarillo, Midland, Roswell, Midland, Midland, Midland, Roswell,  Polication? YES X NO	Texas  Texas  Texas  New Mexico  Texas  New Mexico  If answer is yes, give  that this report was preparation in the control of
information as may be to person operators of all leases been furnished copies d. Electrical log of the thereon. (If such log thereon	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from earlies of the application.  The well or other acceptable log well or available at the time application of the application.  The well or other acceptable log well or available at the time application of the application.  The well or other acceptable log well is low the second which this well is low the second which this well is low the second with th	with tops and bottoms oplication is filed, it is cated together with the cated together cated together with the cated together cated to	of producing zones and intervaluable in the submitted as provided as provided as recorrect mailing address.  Amarillo, Midland, Roswell, Midland, Midland, Midland, Roswell,  Polication? YES X NO	Texas  Texas  Texas  New Mexico  Texas  New Mexico  If answer is yes, give  that this report was preparation in the control of
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc.  King. Harren & Dye  L. B. Hodges  6. Vere all operators listed in of such notification Armoder my supervision and discontinuation and	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application of the second which this well is located to the second which the second will be second with the second wil	with tops and bottoms oplication is filed, it seated together with the cated t	of producing zones and interval hall be submitted as provided eir correct mailing address.  Midland, M	Texas  Texas  Texas  New Mexico  If answer is yes, give that this report was preparation in with then be personal application will be personal applica
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc.  King. Harren & Dye  L. B. Hodges  6. Vere all operators listed in of such notification Armoder my supervision and discontinuation and	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application of the second which this well is located to the second which the second will be second with the second wil	with tops and bottoms oplication is filed, it seated together with the cated together with the OO Polk Street Union Cil Bldg.  Box 5671  Box 3109  Box 1505  Box 671  wished a copy of this a suthorized by said controlled therein are true commpany an application in the category (20) days for	of producing zones and interval hall be submitted as provided eir correct mailing address.  Midland, M	Texas  Texas  Texas  New Mexico  If answer is yes, give that this report was preparation in with then be personal application will be personal applica
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc.  King. Harren & Dye  L. B. Hodges  6. Vere all operators listed in of such notification Armoder my supervision and discontinuation and	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application of the second which this well is located to the second which the second will be second with the second wil	with tops and bottoms oplication is filed, it seated together with the cated together with the OO Polk Street Union Cil Bldg.  Box 5671  Box 3109  Box 1505  Box 671  wished a copy of this a suthorized by said controlled therein are true commpany an application in the category (20) days for	of producing zones and interval hall be submitted as provided eir correct mailing address.  Midland, M	Texas  Texas  Texas  New Mexico  If answer is yes, give that this report was preparation in with then be personal application will be personal applica
information as may be operators of all leases operators of all leases been furnished copies.  d. Electrical log of the thereon. (If such log thereon. (If such log Santa Fe Pacific Rwy. Union Oil of Californ Lohn Kelly Texaco, Inc.  King. Harren & Dye  L. B. Hodges  6. Vere all operators listed in of such notification Armoder my supervision and discontinuation and	ation of all wells on applicant of offsetting applicant's lease. To such dual completion from east of the application.  The well or other acceptable log well or available at the time application on which this well is log to be a successful to the	with tops and bottoms oplication is filed, it seated together with the cated together with the OO Polk Street Union Cil Bldg.  Box 5671  Box 3109  Box 1505  Box 671  wished a copy of this a suthorized by said controlled therein are true commpany an application in the category (20) days for	of producing zones and interval hall be submitted as provided eir correct mailing address.  Midland, M	Texas  Texas  Texas  New Mexico  If answer is yes, give that this report was preparation in with then be personal application will be personal applica

STATE OF NEW MEXICO CONSERVATION COMMISSION

NOT PRODUCTIVE OF OIL OR GAS

Revised 9 16 58

## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

Lease Federa	•	v v v		land, Texas
J	il "Mil" was to	Well No. 2 Cou	inty Lea	
Jnit <b>E</b>	Section / 8	Township	9-\$ Ran	ge <u>37-8 - (- ) - (</u>
	lication to disp	oose of salt water prod	luced from the follow	ing pool (s):
Undesignated				
Name of Inject	non Formation	(s): Sen Andres		
	14 1 m mg			5060
		860 Bo o., and location of any		
zone for dispo	eal nurnoses:	Unknown		<b>.</b>
some for dispos	sai puiposes			
د _	en de la companio de	CASING PRO		The state of Course
	Diameter	Setting Depth		Top of Cement
Surface	10-3/4"	200°- plus or minus	225	Circulate
Intermediate	7-5/8"	4300'- "	1700	Circulate
Long String	4-1/2"	9800'-	350	5100
Will injection	be through tub:	ing, casing, or annulu	s? Annulus	7
Size tubing: 2	<b>-3/8"</b> Set	ting depth: 7000'-plus	or minus Packer	r set at: <b>7000'- plus</b> or
·			); J. J. J.	minus
Name and Mad	lal No af na ak	EL: News		
	· · · · · · · · · · · · · · · · · · ·			
	· · · · · · · · · · · · · · · · · · ·	forations or open hole	? Open Hole	
Will injection	be through per			
Will injection	be through per		50	
Will injection by Proposed intermediate Well was original	be through per	tion: 4860 - 506	00 11 Production	ction zone? Yes
Proposed interwell was original was well ever	be through per rval(s) of injectinally drilled for been perforate	or what purpose? 01	an the proposed injec	4
Will injection in Proposed interwell was original Has well ever List all such p	be through per rval(s) of inject inally drilled for been perforate perforated inte	or what purpose? 01 ed in any zone other the	an the proposed injection in the proposed in	4
Will injection of Proposed interwell was original Has well ever been been been been been been been be	be through per rval(s) of injectionally drilled for been perforated erforated interpretable perforated into the consequent of the perforated into the consequent of the perforated into th	or what purpose? 01  ed in any zone other the  rvals and sacks of centrorated from approximate	in Production  an the proposed injection  ment used to seal off  ately 9670 - 9680'.	or squeeze each:
Will injection of Proposed interwell was original Has well ever been been been been been been been be	be through per rval(s) of injectionally drilled for been perforated erforated interpretable perforated into the consequent of the perforated into the consequent of the perforated into th	or what purpose? 01 ed in any zone other the	in Production  an the proposed injection  ment used to seal off  ately 9670 - 9680'.	or squeeze each:
Will injection in Proposed interwell was original Has well ever List all such producing zero Give depth of 1	be through per rval(s) of injectionally drilled for been perforated interpretated inte	or what purpose? 01  ed in any zone other the  rvals and sacks of centrorated from approximate	in Production  an the proposed injection that is a seal off the proposed of the proposed injection to seal off the proposed injection to seal off the proposed injection to seal off the proposed injection to seal of the proposed injection to sea	or squeeze each:
Will injection in Proposed interwell was original Has well ever List all such producing and Give depth of the producing of th	be through per rval(s) of injectionally drilled for been perforated interpretated inte	or what purpose? 01  ed in any zone other the  rvals and sacks of cent  rforated from approximately	in the proposed injection that used to seal off ately 9670 - 9680'.  Induces oil or gas:	or squeeze each:  None
Will injection in Proposed interproposed interproposed interproposed interproposed interproposed in the producing of the prod	be through per rval(s) of injectionally drilled for been perforated interpretated inte	or what purpose? 01 ed in any zone other the rvals and sacks of cen rforated from approxima higher zone which pro-	in Production  an the proposed injection that used to seal off the proposed injection that it is a seal of seal of seal of seal or gas:  soil or gas:  soil or gas:  area: Approximately	or squeeze each:  None  1 200'

Is system open or close type? Closed Is filtration or chemical treatment necessary?

Is the water to be disposed of mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? Yes Is any water occurring naturally within the proposed disposal formation mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? List all offset operators to the lease on which this well is located and their mailing address Santa Fe Pacific Rwy. Co. 900 Polk Street Amerillo, Texas Union Oil Bldg., Union Oil of California Midland, Texas John Kelly Box 5671 Roswell, New Mexico Texaco, Inc ... Box 3109 Midland, Texas King, Warren & Dye Box 1505 Midland, Texas L. B. Hodges Box 671 Roswell, New Mexico Name and address of surface owner Fred Baldrige - Portales, New Mexico Have copies of this application been sent by registered mail or given to all offset operators, surface owners, and to the New Mexico State Enginee:? Yes Is a complete electrical log of this well attached? Operator: Great Western Drilling Company Title: Chief Production Engineer Texas STATE OF ) ss. - ' County of Midland BEFORE ME, The undersigned authority, on this day personally appeared known to me to be the person whose John T. Hampton ... name is subscribed to the above instrument, who being by me duly sworn on oath states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein and that said report is true والأستان والمتشارين SUBSCRIBED AND SWORN TO before me this the 14thday of 19 **61** . Notary Public in and for the County of Midland 2000 2 June 1, 1961 My Commission Expires NOTE: Should waivers from all offset operators, the surface owner, and the State Engineer not accompany an application, the New Mexico Oil Conservation Commission will hold the application for a period of fifteen (15) days from date of receipt by the Commission's Santa Fe office. If at the end of said fifteen-day period, no protest nor request for hearing is received by the

Santa Fe office, the application will then be processed.

### BEFORE THE OIL CONSERVATION COMMISSION

### OF THE STATE OF NEW MEXICO

APPLICATION OF GREAT WESTERN DRILLING COMPANY TO DULY COMPLETE ITS FEDERAL MM NO. 2 WELL LOCATED IN THE SELENT SECTION 8, TOWNSHIP 9 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO (undesignated field) FOR THE PRODUCTION OF OIL FROM THE BOUGH C FORMATION AND FOR THE INJECTION OF SALT WATER PRODUCED FROM SUCH WELL INTO THE NON-PRODUCING FORMATIONS OF SUCH WELL BETWEEN THE DEPTHS OF 4860 FEET AND 5060 FEET.

CASE NO. 2269

### **AFFIDAVIT**

STATE OF NEW MEXICO ) ss County of Chaves

S. B. Christy, IV, a member of the law firm of Hervey, Dow & Hinkle, Box 10, Roswell, New Mexico, which firm is the attorney of record for Great Western Drilling Company in Case No. 2269 before the New Mexico Oil Conservation Commission, does hereby swear that he did on the 18th day of April, 1961, mail a true and correct copy of the Application in the above and foregoing case, postage prepaid, to each of the following addressees at the address stated, to-wit:

### NAME

Santa Fe Pacific Rwy. Co.
Union Oil of California
John Kelly
Texaco Inc.
King, Warren & Dye
I. B. Hodges
From Baldridge
U. S. Geological Survey
State Engineer

### **ADDRESS**

900 Polk Street, Amarillo, Texas Union Oil Building, Midland, Texas Box 5671, Roswell, New Mexico Box 3109, Midland, Texas Box 1505, Midland, Texas Box 671, Roswell, New Mexico Portales, New Mexico Box 1857, Roswell, New Mexico Capitol Building, Santa Fe, New Mexico

and that he did take such action for and in behalf of Great Western

DEILLING COMPANY.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

GWD EXHIBIT NO. 6

CASE NO. 2269

Subscribed and sworn to before me this

day of April, 1961.

My Commission Expires:

15-1962

Theory

Notary Public

OIL COMSERVATION COMMISSION SANTA FE, MEW MEXICO MAY 4, 1961

# EXAMINER HEARING

IN THE MATTER OF: CASE 2269

TRANSCRIPT OF HEARING

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO MAY 4, 1961

### EXYMINES HEVELAG

### IN THE MATTER OF:

CASE 2269 Application of Great Western Drilling Company: for an oil-salt water dual completion. Applicant, in the above-styled cause, seeks authorization to dually complete its Federal: NM Well No. 2, located in the SE/4 NW/4 of Section 8, Township 9 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Bough C formation adjacent to the East Alli-: son-Pennsylvanian Pool and the injection of salt water into the San Andres formation.

### BEFORE:

Daniel S. Mutter, Examiner.

### TRANSCRIPT OF PROCEEDINGS

MR. MUTTER: We will take next Case 2269.

MR. MORRIS: Case 2269. Application of Great Western Drilling Company for an oil-salt water dual completion.

MR. CHRISTY: Sim Christy, Hervey, Dow & Hinkle for the applicant, Great Western Drilling Company. We have one witness, Mr. Examiner.

(Witness sworn)

MR. CHRISTY: I might state to the Examiner initially,



ij

that portions of this case will be similar to the Commission's Case 2200, and I brought the file in, Mr. Examiner; it's right there, turned the other way.

JOHN HAMPTON,

called as a witness, having been first duly sworn, testified as follows:

### DIRECT EXAMINATION

## BY MR. CHRISTY:

- Would you please state your name, address and occupation?
- John Hampton. Chief production engineer, Great Western A Drilling Company, Midland, Texas.
- Mr. Hampton, have you previously testified before this ର Commission as a geologist and engineer and had your qualifications accepted?
  - Yes, sir, I have. Α
- Are you familiar with what is sought in Case No. 2269 before this Commission?
  - Yes, sir.
- Are you familiar with the area and the wells within the area?
  - Yes, sir.
- MR. CHRISTY: Does the Commission have any questions concerning the qualifications of the witness?
  - MR. NUTTER: No, sir. Proceed.
  - (By Mr. Christy) Will you briefly tell us what you seek



in the application in this case?

A The applicant seeks to dually complete our Federal MM No. 2 Well located in the southeast quarter of the northwest quarter of Section 3, 9, 37, Lea County, New Mexico.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification)

- Q I'll refer you to what has been marked as Exhibit 1, and ask you to please identify that Exhibit for us?
- A Exhibit l is a plat of the area showing the sublease outlined in yellow. It also shows the No. 1 Federal MM Well, and the No. 2 Federal MM Well, which is now drilling.
- Q The No. 1 Well you just spoke of was the subject of a prior hearing before this Commission in Case No. 2203, was it not?
  - A Yes, sir.
- You say the No. 2 Well is drilling. Could you tell us a little about the drilling of it, where it is now, and what your casing program, if any, is so far?
  - A Yes, sir.
  - Q Would you like to refer to Exhibit 2?
  - A Yes, let's refer to Exhibit 2.
  - Q Would you please identify the Exhibit for us initially?

(Whereupon, Applicant's Exhibit No. 2 was marked for identification)

A Exhibit 2 is a schematic diagram of the proposed casing and cementing program for the Federal MM No. 2. The surface pipe



# DEARNLEY-MEIER REPORTING SERVICE, Inc.

has been set in this well. It was set at 257 feet, and cemented with 225 sacks of cement. The cement circulated. Yesterday the intermediate string of casing was set at 4290 feet, and cemented with 1700 sacks of cement, and approximately 175 sacks circulated to the surface. Then we propose to set the production string of casing through the pay zone at approximately 9750 feet, and cement with approximately 350 sacks of cement in order to bring the top of the cement back up to 5100 feet.

- And you will bring the cement back up to that?
- Yes, we will. We will run a temperature survey to see that the cement is back up there, and if it is not, we will put some more cement in.
- So, in your final installation, you will have about 4,000 feet of cement?
  - I believe it's about 4,000.
  - From the bottom to the 5100 feet?
  - About 4600 feet, something on that order.
- I assume you don't yet have a log on this No. 2 Well. You do have a log on the No. 1 Well, do you not?
  - Yes. It was submitted in the previous case.
  - In the Case 2208?
  - A Yes.
- The drilling characteristics on the present well have been substantially the same as the No. 1 Well?
  - Yes. It's running, as I understand, about 10 to 20 feet



### high to the No. 1 Well.

- Of course, you haven't had a chance yet to test the San Andres and other formations at higher elevation from your proposed Bough C zone. Will you make those tests?
- A The formation will be evaluated when drilled and be tested, if necessary.
  - Q Do you expect to encounter anything in the sand?
  - A No, sir, we do not.
- Q Proceeding, again with Exhibit 2, will you tell us a little bit more how you propose to dually complete this No. 2 Well in order to permit the injection of salt water, as indicated on Exhibit 2?
- A Yes, sir. The production will be from the Bough C zone at approximately 9650 feet or so. Then the second part of the dual completion we propose to dispose of salt water down the annular space between the intermediate string of casing and the production string of casing, as depicted by red arrows on Exhibit No. 2.
- Q Let me stop you right there, Mr. Hampton. You say salt water. Do you expect to encounter salt water in the Bough C in this well?
- A If we continue running the 10 to 20 feet high that we are running now. We have a possibility of making a water from the completion on this well, but we would anticipate water production from it sooner or later.
  - Your proposed installation would not only be for that



water, but water in the Mo. 1 Well?

- A That is correct.
- Q How much water are you producing out of the No. 1 Well at the present time?
- A I would say that well is averaging about 250, 60 barrels of water a day.
- Now, if you would go on a little bit more about how the salt water is going to be injected; for example, is this a closed or open system?
- A It will be a closed system, and the salt water will be injected down the annular space. Initially, I believe the water will not require pressure to be disposed of. Eventually, we might have to put some pressure on it to dispose of it. It's something we don't know.
- Q Now, what kind of water is this with respect to its corrosive qualities? Do you have an analysis of that water?
  - A Yes, sir. I would refer to Exhibit No. 3 now.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification)

- Q Would you please identify that Exhibit for us?
- A Exhibit No. 3 is an analysis of the produced water from the Federal MM No. 1, which I had made by Treatright Laboratories in Monahans. I think they are well recognized as experts in their field of water conditioning of various sorts. The analysis of this water does show it to be quite salty, although it's not a



saturated water, but close to being saturated. The letter of recommendation, as attached by the water laboratory, in summary, it is the conclusion of this laboratory that the comparatively moderate corrosiveness of this water, plus the presence of suspended oil and the artificial inclusion of a corrosion inhibitor should render the water safe for disposal through the casing annulus. I think that is, in effect, what the letter said. They do consider it a mildly corrosive water, and do not think that it would be extremely difficult on our casing.

(Mhereupon, Applicant's Exhibits 4 and 5 were marked for identification)

- Mr. Hampton, would you identify for us Exhibits 4 and 5, which, I believe, are the Commission forms for Jual completion and salt water disposal?
- A Exhibit No. 4 is the Commission's form for application for dual completion. We have shown all of the proper information, I believe. The disposal zone is the San Andres, and the producing zone is the Bough C. The Exhibit No. 5 is the Commission's form zone is the Bough C. The Exhibit No. 5 is the Commission's form for application to dispose of salt water by injection into a porfor application not productive of oil or gas, and we have answered ous formation not productive of oil or gas, and we have answered those questions. This casing program is the proposed casing program as, obviously, we have not set the production string yet.
  - On Exhibit 5, I believe, it also shows the names of the offset operator and the surface owner, is that correct?



UQUERQUE, NEW MEXICO

- A Yes, it does.
- Q Was the State Engineer given notice of this application, and furnished copies of these Exhibits?
  - A Yes, he was. He has approved this disposal.
  - Q This is Federal land, is it not?
  - A Yes, it is.
- Geological Survey, and, if so, have you received any indication from them as to whether or not they might approve it?
- A Yes, we have proposed the disposal to the United States Geological Survey, and they have indicated they will approve the matter.

time, we talked to the U.S.G.S. yesterday, and they said that they would look with great favor upon it, and if you would like to call them, they will be glad to tell what they would like to do.

MR. NUTTER: Will they withdraw this letter?

MR. CHRISTY: Yes, sir. We talked to them. That's the reason we went to see them, because of the letter.

MR. MUTTER: I thought you might go see them.

- (By Mr. Christy) What are the economics of drilling a disposal well or otherwise disposing of the salt water from the Mo. 1 and possibly the Mo. 2 Well?
  - A Well, at this time we still do not know exactly what we



TO STATE OF

have in the way of an oil field operation out here. The Wo. I well, it looks like now, will make 60 to 70 barrels of oil a day. The No. 2 Well is still a question mark. We cannot at this time justify the economics of drilling a new disposal well. We would anticipate that if the area does develop as we think possibly it might, that at a future date we would either want to drill a disposal well or return this produced water to the producing formation.

- Q or pressure up the Bough C?
- A Yes, sir.
- Q I notice a well noted in Exhibit 1, down in the southeast, southwest quarter, Section 9. Could you utilize that as a disposal well?
- A I don't think it could be done practically, and I do not believe we have the lease on that Section either.
- Q Are there any other wells around that you might use for a disposal well?
  - A Not to my knowledge.
- Q What's been done with the salt water at the present time for the No. 1 Well?
  - A It's been disposed of in a surface pit.
- Q Were Exhibits 1 through 5 prepared by you or under your direct supervision?
- A Yes, sir, except for the water analysis, which was prepared by the laboratory, using their own methods.



MR. CHRISTY: Here is Exhibit C, which is my affidavit.

I did mail to the operators and surface owner a copy of the application. I believe that's all the direct questions we have from this witness.

MR. WUTTER: Does anyone have any questions from Mr. Hampton?

MR. MORRIS: Yes.

MR. MUTTER: Mr. Morris.

CROSS-EXAMINATION

### BY MR. MORRIS:

Inasmuch as the only communication that we have received thus far from U.S.G.S was a copy of the letter that I believe you received indicating that they would not go along with your application in this case, could you explain briefly, for the record, your understanding of the U.S.G.S.'s position on this at this time?

A The U.S.G.S, the supervisor told us yesterday that the reason he wrote the letter was that he did not quite understand what the application was all about, and he had not received a copy of the log on the No. 1 Well. After seeing the log on the No. 1 Well and answering a few more of his questions, and assuring him that we could bring the cement around the production casing back up to 5100 feet, he said he would approve this installation.

And you say he is furnishing us with a letter to that effect?

MR. CHRISTY: He said he would, and he said, in the mean-



while, if you had any questions, please feel free to call him. That was Mr. Tomlinson.

Q Inasmuch as we have a copy of the letter in our file,
I think it would be well if we had a copy superseding it.

MR. MORRIS: That's all I have.

MR. CHRISTY: We'll be sure that you get one, Mr. Morris.

### BY MR. NUTTER:

Q Mr. Hampton, Treatright Water Laboratories feel that the disposal of this water in the casing annulus won't present any particular corrosive problem, provided the water is treated. Do you plan to treat the water prior to disposal?

A Yes, sir. We will follow their recommendation on treating the water.

Q Will you have any way of determining whether corrosion is occurring or not? Will you run coupons in the annulus?

A Yes, we could run coupons. It would be certainly indirect. It would have to be right at the surface. It would give us some indication, I believe.

Q Do you intend to install a packer in the well?

A Yes, sir. This well will be produced under a packer, probably a Giberson hook-wall packer set at the bottom of the tubing, wherever the tubing is set. We anticipate right now at 7000 feet with a Kobe type installation, which does require a packer

- Q You will be lifting this well with a Kobe pump, then?
- A That's what we are contemplating right now.



- Where will your four-hole go? Will it go down the four and a half inch pipe?
  - Mo, sir. It will go down the tubing.
  - You will have another string of tubing for the pure oil?
  - Yes, sir.  $\mathbf{A}$
  - So you will have two strings of tubing in this four and a half inch pipe?
  - No, sir, that's not exactly right. Yes, sir, it is right.
  - Will there be any way in which you can fill the annulus outside the two strings of pipe and the four and a half inch pipe with any kind of a sweet oil or naptha or any kind of medium?
    - Inside the production string?
    - Yes. In other words, in the annulus outside the producing tubing, but within the production pipe?
      - Yes, sir, it could be done.
    - And pressure that up so that you'd be able to determine if any leak should result in the four and a half inch pipe as a result of the interval of salt water on the outside of the four and a half inch pipe?
      - That could be done.
      - You say that the Mo. 1 Well is now making from 60 to 70 barrels per day?
        - of oil.
        - And from 250 to 260 barrels of water per day?



LBUQUERQUE, NEW MEXICO

### A Yes, sir.

hm. NUTTER: Are there any further questions of Mr. Hampton?

MR. CHRISTY: I would like to ask one more question. I might state we would be perfectly happy to comply with that suggestion, if you would like to put it in the order, of putting the oil in the annulus and pressuring it up. We will be glad to do that.

### REDIRECT EXAMINATION

### BY MR. CHRISTY:

O Mr. Hampton, I didn't ask you, I don't believe, perhaps I missed your testimony on it. In connection with the surface casing, have you got a joint of pipe in the red beds up there?

A Yes. The 220 feet, like I said, we set 257 feet of pipe, so one joint and a few feet into the red beds.

MR. CHRISTY: No further questions.

MR. NUTTER: Does anyone have anything further they wish to offer in this case?

MR. MORRIS: Mr. Examiner, we have communications previously referred to by Mr. Hampton, one from the State Engineer's office, signed by Mr. Frank Irby, approving the application; the other letter being from the U.S.G.S., singed by Mr. Edwin M. Tomison denying the request. And these letters should be in the case file and be in the record of this case.

MR. CHRISTY: We will obtain the other letter for you



from U.S.G.S.

MR. NUTTER: You wish to offer these Emibits?

MR. CHRISTY: Yes, sir, we would like to offer Exhibits 1 to 5, inclusive. We would like to also offer in evidence the log on MM No. 1 Woll in Case 2208, referred to in this hearing.

MR. NUTTER: That log will be incorporated in this case. The Exhibits, without objection, will be admitted.

(Whereupon, Applicant's Exhibits 1 through 5 and the log were received in evidence)

MR. NUTTER: Does anyone have anything further to offer? We will take the case under advisement.



# DEARNLEY-MEIER REPORTING SERVICE, Inc.

STATE OF MEW MEXICO )
) as
COUNTY OF BERNALILLO )

I, ADA DEAR WLEY, Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 5th day of May, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

MOTARY PUBLAC

My Commission expires: June 19, 1963

Wexico Oil Conservation Commission

BUQUERGUE, NEW MEXICO