

CASE 3310: Appli. of CIMA CAPITAN,
RYDER-SCOTT, STALLWORTH OIL & GAS
& NEWMONT for a waterflood project

CASE No.
33/0

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

DOUBLE EAGLE CORPORATION OF NEW MEXICO

(N. S. L.)

401 1ST SAVINGS BLDG.
MIDLAND, TEXAS



PHONE
MUTUAL 3-2394

August 23, 1965

Cima Capitan, Inc.
Drawer 1343
Artesia, New Mexico

Attention: Mr. Hal Porter

Dear Mr. Porter:

In your letter of July 27, 1965, you stated you were planning on water flooding in Sections 25 and 36, T-16S, R-30E, and Sections 30 and 36, T-16S, R-31E, Square Lake Pool, Eddy County, New Mexico.

We would like to furnish you water for these projects, and we have a distribution line running through the above mentioned sections with available water supply that we bring from approximately five miles back from the edge of the Cap.

Please let me know at such time that you are ready to take water and we will make the necessary connections available for you.

Yours very truly,

DOUBLE EAGLE CORPORATION
OF NEW MEXICO (NSL)

By

L. D. Crumly, Jr.
L. D. Crumly, Jr.

LDC:mj

RSMC-Cima EX 18
CE 3310

MONTHLY RECORD OF PRODUCTION

Operator CIMA CAPITAN, INC.
 Lease KELLY, STATE & GRISSE
 Field SQUARE LAKE
 County EDDY
 State N. M.

Well No. _____

Well Loc. _____

Remarks COMPOSITE TOTAL
4 WELLS - OIL PRODUCTION

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 10

CASE NO. 3310

	1965	1964	1963
	OIL PROD. - BBLs.	GAS PROD. - MCF	WATER - GALS.
JAN.	40	107	166
FEB.	47	90	173
MAR.	15	51	220
APR.	43	42	200
MAY	60	94	196
JUNE		58	185
JULY		70	235
AUG.		94	242
SEPT.		73	189
OCT.		83	209
NOV.		49	200
DEC.		63	137
TOTAL		874	2352
CUMU.		212 713	210 361

	1959	1958	1957
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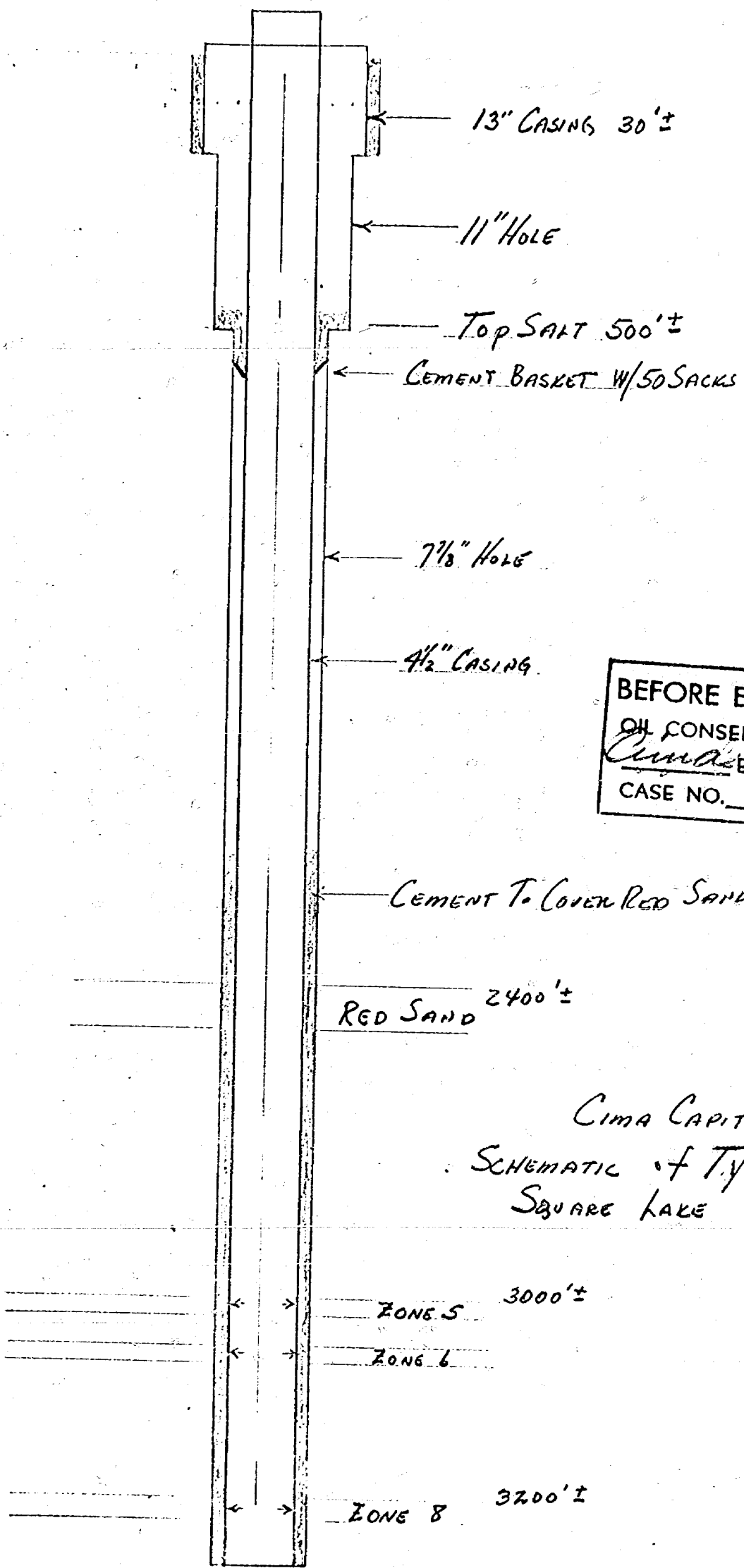
WESTERN OILFIELDS, INC.

PRODUCTION HISTORY
Square Lake Field
16 Wells

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Cumulative EXHIBIT NO. 12
CASE NO. 3310

<u>Year</u>	<u>Barrels</u>	<u>Cumulative</u>
	2736	2736
1941	24414	27150
1942	79986	107136
1943	101470	208606
1944	68476	277082
1945	39008	316090
1946	22462	338552
1947	23066	361618
1948	21081	382699
1949	10788	393487
1950	12276	405763
1951	13557	419320
1952	11507	430827
1953	10716	441543
1954	10157	451700
1955	9961	461661
1956	7676	469337
1957	7728	477065
1958	7492	484557
1959	6088	490645
1960	11769	502414
1961	16683	519097
1962	8032	527129
1963	5031	532160
1964		

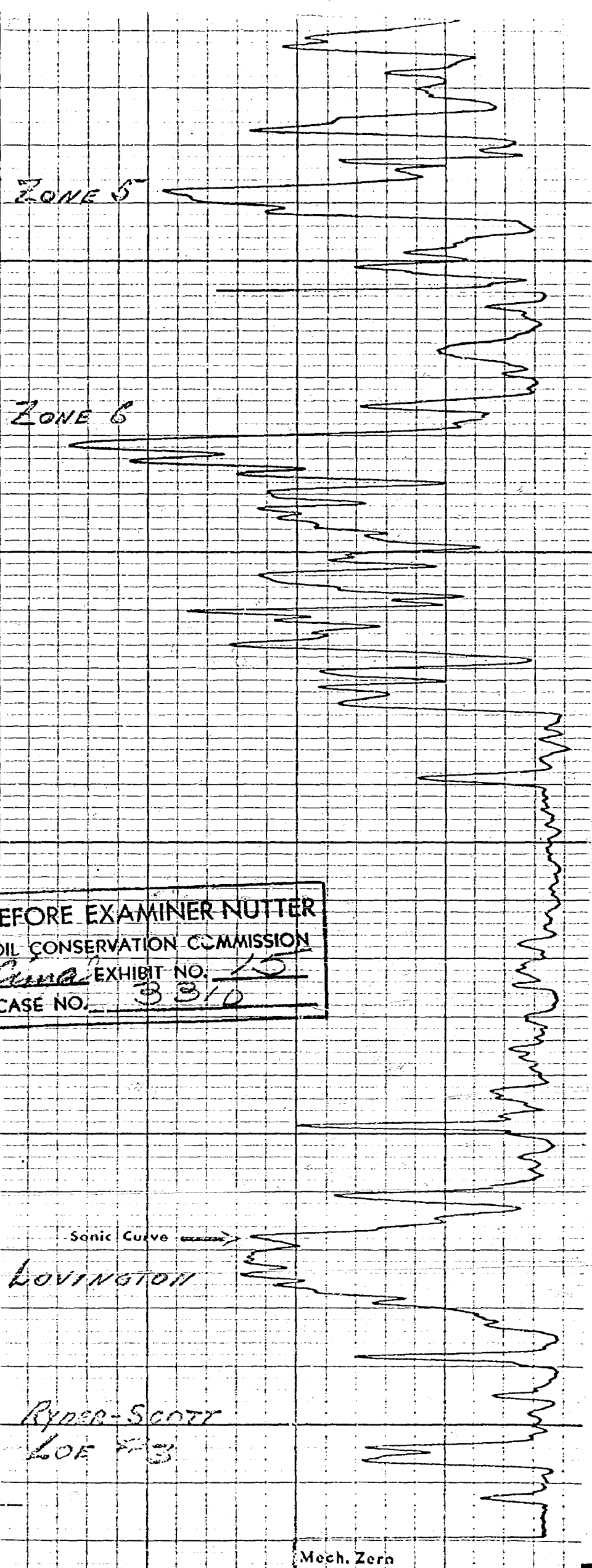
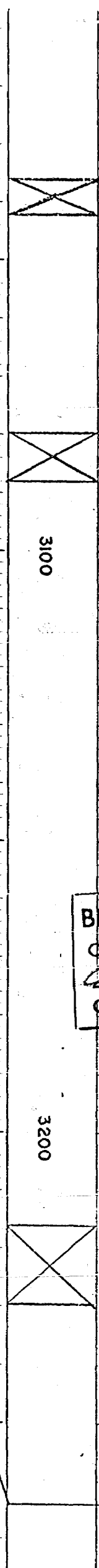
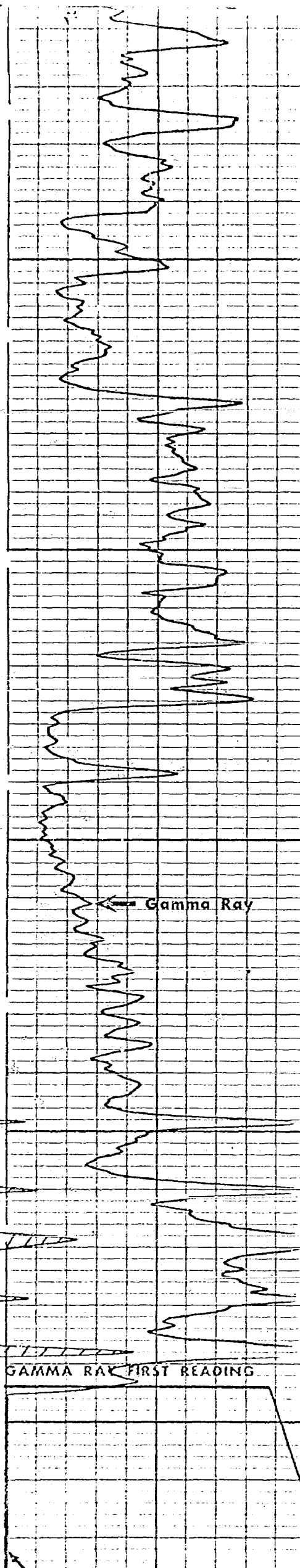
Exhibit No.



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Cima EXHIBIT NO. 14
CASE NO. 3310

CIMA CAPITAN, INC.
SCHEMATIC of TYPICAL INJECTOR
SQUARE LAKE PROJECT

EXHIBIT No. _____



ZONE 5

ZONE 6

3100

3200

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Anna EXHIBIT NO. 15
CASE NO. 3310

Sonic Curve

LOVINGTON

Ryder-Scott
LOF #3

GAMMA RAY FIRST READING

GR Zero

Mech. Zero

CIMA CAPITAN, INC. - SQUARE LAKE PROJECT - WELL DATA

<u>Lease & Well No.</u>	<u>Location</u>	<u>Compl. Date</u>	<u>I.P.</u>	<u>Surf. Csg.</u>	<u>Casing</u>	<u>T.D.</u>	<u>Elev.</u>	<u>Stimulation</u>	<u>Primary Recovery</u>
Kelly State 1 (1330 FN & 1310 FE)	H-36-16-30	9-30-49	10	10" 544 W/50	6" @ 2815 W/100	3332		Shot 3128-48 80 qts	13801
State No. 3- 810 FN & 600 FE	A-36-16-30	3-19-54	35 AF	10" 482 W/50	7" @ 2815 W/100	3255	3807	Frac: Straddle packers 3 zones 3MG & #1 zone	59854
State No. 2 660 FN & 1980 FE	B-36-16-30	8-8-42	300 NAT	3" 494 50	7" @ 2795 W/100	3035 3220 (1953)	3819	Frac: Lovington 1953 3 MG & # Prod. increase to 50 B/D	62132
State No. 1 (P & A-36-16-30 A 1949) 660 FN & 660 FE		2-14-42	60 (NAT)	8" 500 W/50 Sx	7" @ 28a W/100	3040	3807		
Crier No. 1	L-31-16-31	4-11-43	85	8" @ 502 W/50	7" @ 2838 W/100	3171 PB 3098	3782	Shot 3080 - 98	39113
Kelly-Tellyer 1	H-36-16-30	3-14-42	60		5 1/2" @ 2804	3114 DD 3121 (1944)	3815		174900

BEFORE EXAMINER NUTTER
OF CONSERVATION COMMISSION
CASE NO. 3316

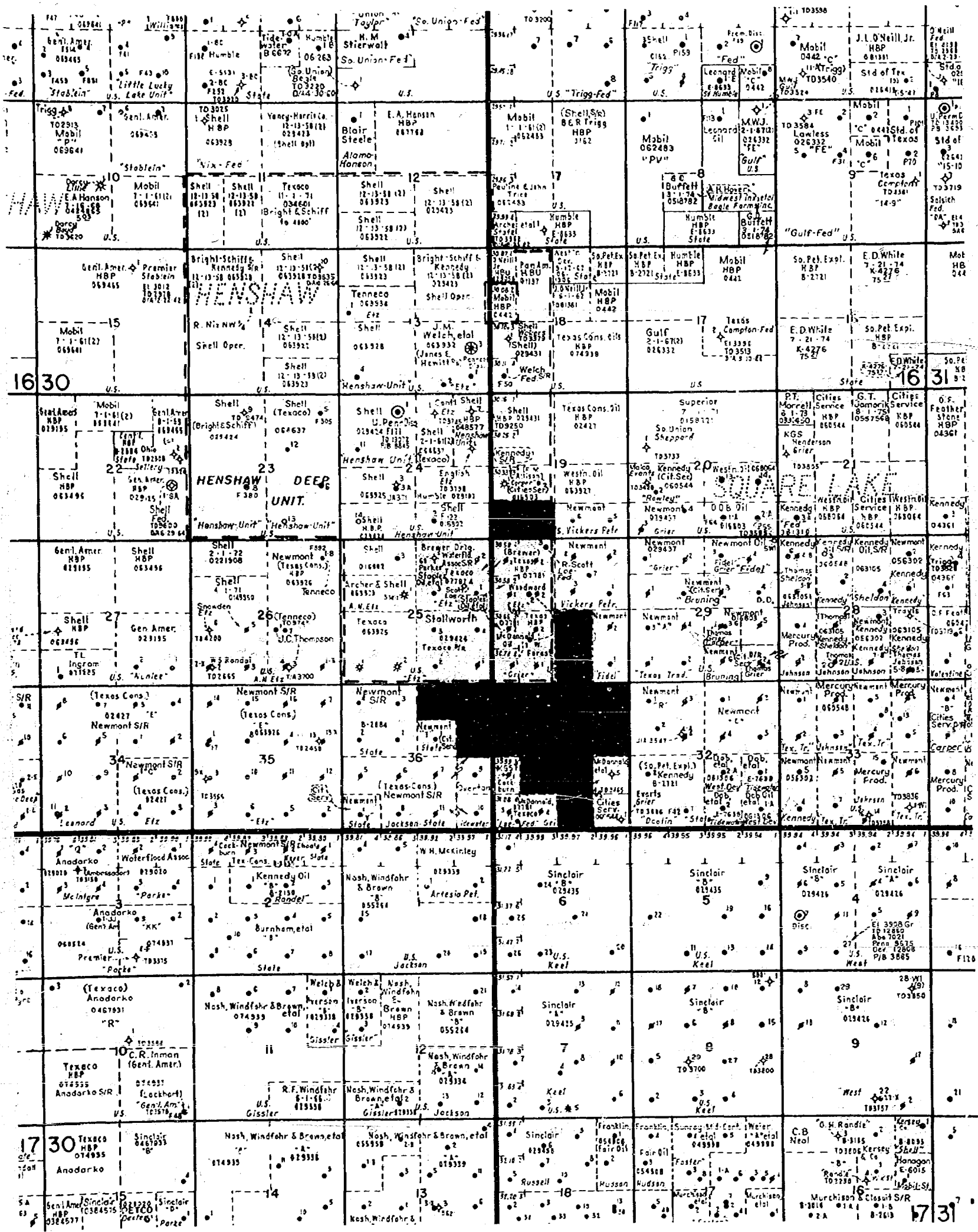
Exhibit No. _____

WESTERN OIL FIELDS, INC - SQUARE LAKE PROJECT - WELL DATA

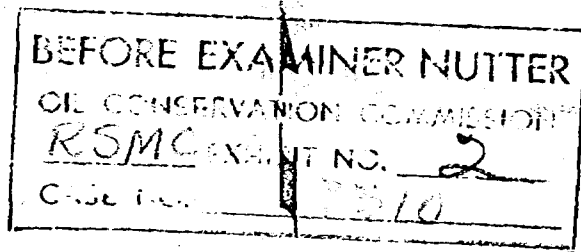
<u>Lease & Well No.</u>	<u>Location</u>	<u>Compl. Date</u>	<u>I.P.</u>	<u>Casing</u>	<u>T.D.</u>	<u>Elev.</u>	<u>Stimulation</u>	<u>Prim. Recovery</u>
Grier	1 D-31-16-31	10-19-41	390 AS	5½ @ 2967 W/100	3360	3822	200 qts	68424
	2 E-31-16-31	5-13-42	400 AS	7" @ 2945 W/100	3222	3808	200 qts	61429
	3 C-31-16-31	7-18-42	520 AS	7" @ 2989 W/100	3252	3839	?	56086
	4 F-31-16-31	9-27-42	240 AS	7" @ 2965 W/100	3270	3811	90 qts	50652
	5 G-31-16-31	7-29-42	240 AS	7" @ 2985 W/100	3238	3828	?	40428
	6 J-31-16-31	4-16-45	200 AF	7" @ 2988 W/100	3185	3807	Frags 3mgo & 3m#	44345
	7 H-31-16-31	9-30-43	240 AS	5½ @ 3055 W/100	3285	3852	170 qts	25282
	11 B-31-16-31	12-7-43	240 AS	7" @ 3018 W/100	3401	3832	490 qts	50135
	12 J-30-16-31	2-29-44	120 AS	7" @ 2975 W/100	3228	3822	210 qts	54095
	ETZ 2 N-19-16-31	5-11-45	60 AS	7" @ 2978 W/100	3302	3865	290 qts	36157
	Grier 9 A-31-16-31	P & A						15268
	10 O-30-16-31	P & A						25805
ETZ	13 J-20-16-31							17917
	14 I-20-16-31							2756
	1 M-19-16-31	P & A						10739
								559518

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Carter EXHIBIT NO. 17
3310

Exhibit No. _____



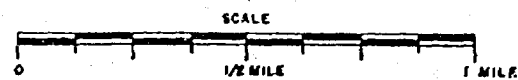
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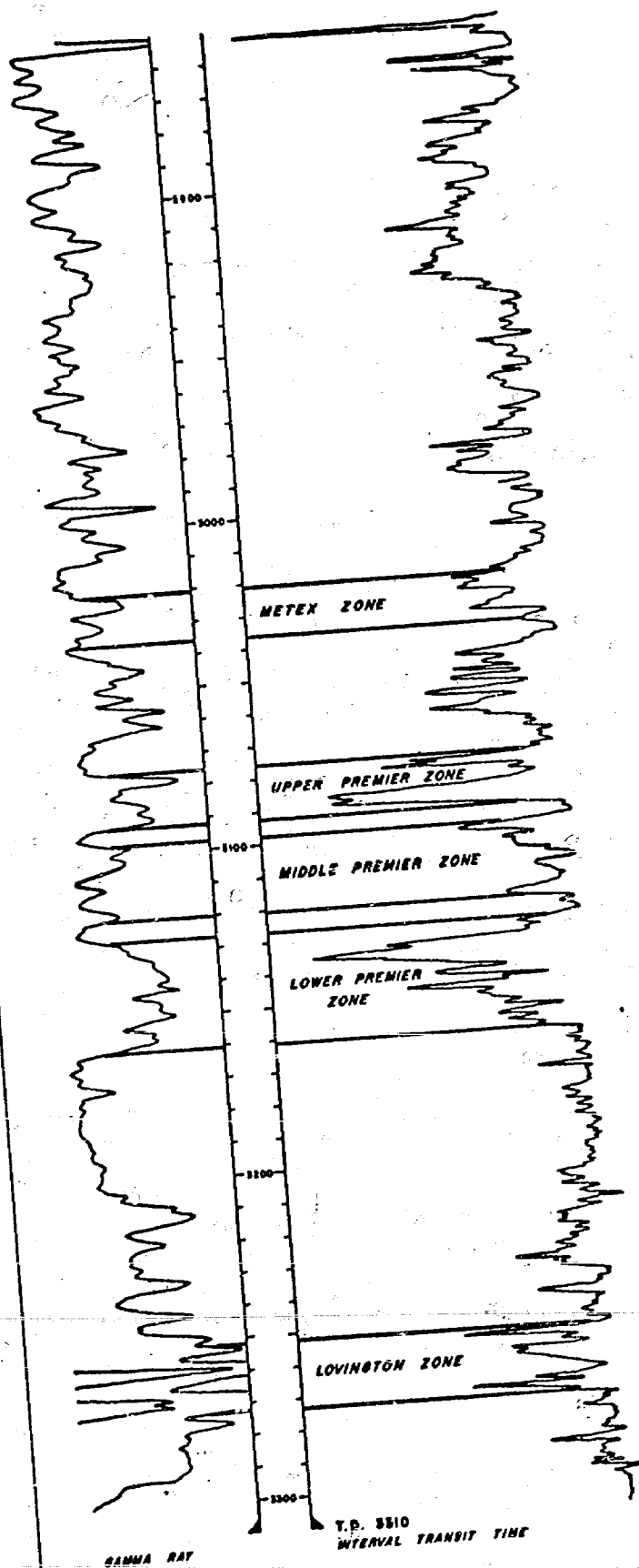


SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

- PRODUCING OIL WELL
- ✱ ABANDONED OIL WELL
- ✱ DRY HOLE
- ✱ GAS WELL
- ✱ ABANDONED GAS WELL

(C) WATER INJECTION WELL
 (C) LOCATION-INJECTION
 O LOCATION-PRODUCTION



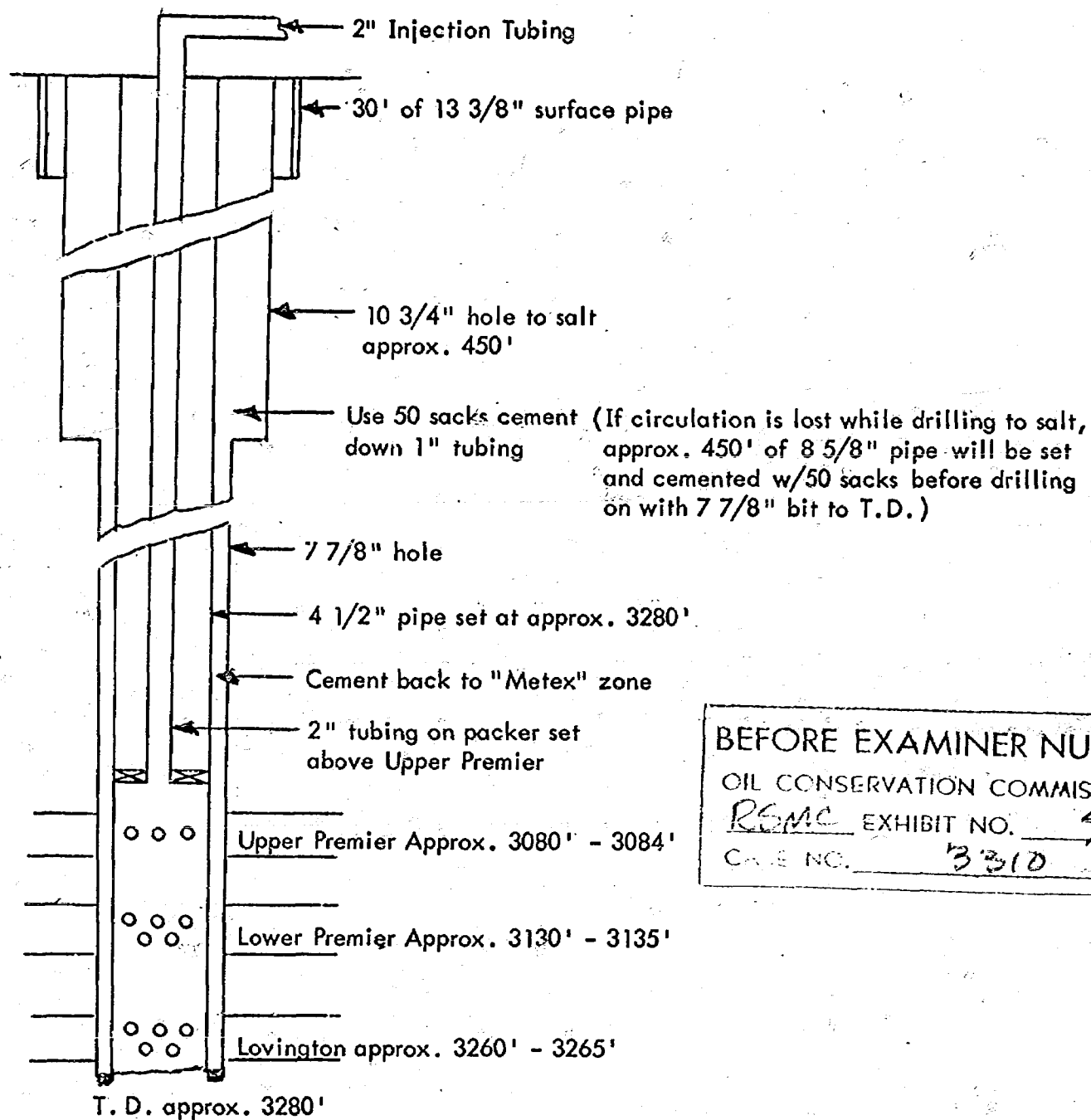


BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
RSMC EXHIBIT NO. 3
CASE NO. 3310

TYPICAL LOG SECTION
FEDERAL-LOE NO. 1

Ryder Scott Management Company
AND
Stallworth Oil and Gas

SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO



BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
REMC	EXHIBIT NO. 4
CASE NO.	3310

Diagram of Proposed Well Completion
for Injection Wells

Ryder Scott Management Company
and
Stallworth Oil and Gas

Square Lake Field
Eddy County, New Mexico

OIL PRODUCTION HISTORY

A. N. Etz Lease
Square Lake Field
Eddy County, New Mexico

<u>Year</u>	<u>Month</u>	<u>Number of Wells</u>	<u>Oil Production Barrels</u>	<u>Cumulative Oil Production Barrels</u>
1942-1959		4	206,574	206,574
1960		4	5,014	211,588
1961		4	5,940	217,528
1962		4	3,871	221,399
1963		4	3,114	224,513
1964		4	3,085	227,598
1965	January	4	318	227,916
	February	4	334	228,250
	March	4	369	228,619
	April	4	189	228,808
	May	4	308	229,116
	June	4	299	229,415
	July	4	223	229,638
	August	4	165	229,803

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
RSMC EXHIBIT NO. 5
Case No. 3310

RYDER SCOTT COMPANY PETROLEUM ENGINEERS

OIL PRODUCTION HISTORY

Loe-Federal Lease
Square Lake Field
Eddy County, New Mexico

<u>Year</u>	<u>Month</u>	<u>Number of Wells</u>	<u>Oil Production Barrels</u>	<u>Cumulative Oil Production Barrels</u>
1942-1949		11	288,382	288,382
P & A from 1949 to 1964				
1964		2	7,293	295,675
1965	January	2	1,391	297,066
	February	2	1,423	298,489
	March	2	1,719	300,208
	April	3	2,092	302,300
	May	3	2,136	304,436
	June	3	2,005	306,441
	July	4	2,417	308,858
	August	4	2,413	311,271

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
RSMC EXHIBIT NO. 6
CASE NO. 3310

Martin Water Laboratories
BOX 1488 MONAHANS, TEXAS W 13-4781
RESULT OF WATER ANALYSES

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
RSMC EXHIBIT NO. 7
LABORATORY NO. M6596
CASE NO. 6-2-59 3510
SAMPLE RECEIVED 6-2-59
RESULTS REPORTED 6-10-59

TO: Mr. L. D. Crumly
503 Oil & Gas Building, Midland, Texas

COMPANY Caprock Water Co. - Waterflood LEASE Caprock Water Co.
FIELD OR POOL Division Caprock Water (Ogallala Formation)

SECTION BLOCK SURVEY COUNTY Lea & Eddy STATE New Mexico

SOURCE OF SAMPLE AND DATE TAKEN:

- NO. 1 Water - taken from raw water supply at edge of Cap. 6-2-59
NO. 2 Water - taken from Skelly Camp residence approxi. midpoint of 3" line. 6-2-59
NO. 3 Water - taken from truck loading storage at Loco Hills at end of 3" line. 6-2-59
NO. 4

REMARKS: Analyses performed under the name of Treat-Rite Water Labs. by the undersigned.

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60 degs. F	1.0008	1.0006	1.0007	
pH When Sampled	7.7	7.6	7.5	
pH When Received	7.7	7.6	7.5	
Total Alkalinity as CaCO ₃	176	156	160	
Supersaturation as CaCO ₃	4	-	0	
Undersaturation as CaCO ₃	-	4	-	
Total Hardness as CaCO ₃	188	162	164	
Calcium as CaCO ₃	147	127	128	
Magnesium as CaCO ₃	41	35	36	
Sodium and/or Potassium				
Sulfate as SO ₄	35	32	29	
Chloride as NaCl	42	45	47	
Iron as Fe	0.36	0.20	0.12	
Manganese as Mn				
Barium as Ba	0.0	0.0	0.0	
Turbidity Electric	1.3	1.9	1.3	
Color as Pt	1.5	1.5	0.8	
Dissolved Solids at 103 deg. C				
Total Solids at 103 deg. C				
Total Solids, Calculated				
Temperature Degs. F.	68	75	75	
Carbon Dioxide, Calculated	7.5	8.0	10.1	
Dissolved Oxygen, Winkler	8.2	7.2	8.4	
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity OHMS/CC at 60 Degs. F.	2,000	2,100	2,100	
Total Suspended Oil				

All Results Reported As Parts Per Million

Additional Determinations And Remarks: The above analyses are considered sufficiently substantial evidence that this water can be satisfactorily transferred through a bare steel line. A thin protective calcium carbonate scale is anticipated which should greatly reduce corrosion. The transferred water should not require plant filtration but wellhead filters are recommended, as a small amount of insoluble iron will undoubtedly be encountered. These conclusions are based on anticipated reasonable similarity of the above with the water from the wells to be drilled. Contact me for any further details or discussions.

BY
Waylan C. Martin, M. A.

Case No. 60T19**Bradford**

LABORATORIES

WATER ANALYSIS RESULTS

CLIENT: Yucca Water Company

Sample No.	X1	X2	X3	X4
Date Sampled	3/16/60	3/16/60	3/16/60	3/16/60
Time Sampled	9:00 am	10:15 am	11:00 am	1:35 pm
Date Received				
Time Received				
Location:				
Fresh Water System Lea & Eddy Counties, New Mexico	Water Supply Well #1	Tank Influent at Plant	Tank Effluent At Plant	Loco Hills Meter Station
Appearance When Sampled	Clear	V. Sl. Hazy; Fine Or. Sed.	V. Sl. Hazy	Hazy; Sl. Yell. Cast
Appearance After Standing	V. Sl. Hazy Sl. Or. Sed.	Sl. Hazy; Yell. Sed.	Sl. Hazy; Yel. Sed.	Hazy; Sl. Or. Sed.
Odor	None	None	None	None
Taste	None	None	None	None
Temperature °F	64	58	58	58
pH	7.1	7.4	7.4	7.4
Carbon Dioxide ppm CO ₂	27	13	13	10
Dissolved Oxygen ppm O ₂	6.0	4.7	6.7	1.1
Residual Chlorine ppm Cl ₂	nd	nd	nd	nd
Turbidity ppm	1.6	14	2.9	7.9
Manganese ppm Mn	0	0	0	0
Iron (Total) ppm Fe	0.2	1.4	1.0	1.2
Alkalinity to Phenolphthalein ppm CaCO ₃	0	0	0	0
Alkalinity to Methyl Orange ppm CaCO ₃	146	146	144	138
Sulfates ppm SO ₄	23	26	25	24
Chlorides ppm Cl	35	32	52	27
Total Hardness ppm CaCO ₃	180	174	178	160
Silica ppm SiO ₂	30	34	34	29
Calcium ppm Ca	58	53	56	50
Magnesium ppm Mg	8	10	9	9
Complex Phosphate ppm				
Total Solids ppm	313	308	356	293

17.1 ppm equal 1 grain per U. S. gallon. - "nd" means not determined.

COMMENTS

Total Suspended Solids (ppm)
Soluble Iron ppm Fe

Water Supply
Well #1

Tank
Influent

Tank
Effluent

Loco Hills
Meter
Station

1.3
0.18

4.1
0.03

4.4
0.01

7.0
0.02

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 8CASE NO. 3310

MONTHLY RECORD OF PRODUCTION

Operator CIMA CAPITAN, INC.

Well No. _____

Lease KELLY, STATE & GRIGG

Well Loc. _____

Field SQUARE LAKE

Remarks COMPOSITE TOTAL

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7012 - ARTERIA PRINTING CO.

RSMK-Cima 10 1310

NEWMONT OIL COMPANY

ROOM 303, FIRST NATIONAL BANK BUILDING

ARTESIA, NEW MEXICO 88210

September 14, 1965

SEP 15 AM 8
NEW MEXICO
DISTRICT OFFICE

Case 3310

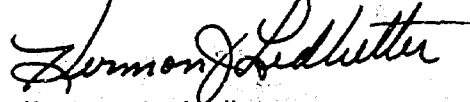
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Gentlemen:

Newmont Oil Company was included in Case 3310 as an applicant due to a misunderstanding. Would you please delete Newmont Oil Company as an applicant in this case.

Yours truly,

NEWMONT OIL COMPANY



Herman J. Ledbetter
Division Superintendent

/saf

200 Carper Building
~~XXXXXXXXXXXXXXXXXXXX~~

8-2686
PHONE SHERWOOD ~~XXXX~~

Kennedy Oil Company

— OIL PRODUCERS —

P. O. Box 151

Artesia, New Mexico

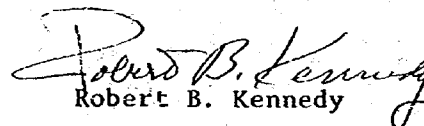
September 20, 1965

Cima Capitan, Inc.
P. O. Box 1343
Artesia, New Mexico

Gentlemen:

We have no objection to the granting of your application
for waterflood permit and unorthodox well locations in the
Square Lake Pool.

Very truly yours,


Robert B. Kennedy

RBK/ed

NEWMONT OIL COMPANY

ROOM 303, FIRST NATIONAL BANK BUILDING

ARTESIA, NEW MEXICO 88210

NEW MEXICO
DISTRICT OFFICE

September 21, 1965

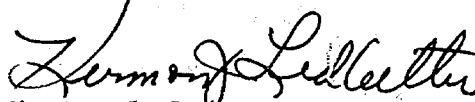
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico

Gentlemen:

In Case No. 3310, Newmont Oil Company supports
the application of Cima Capitan, Ryder-Scott and Stallworth
in their application to waterflood and for 160 acre water-
flood spacing.

Yours truly,

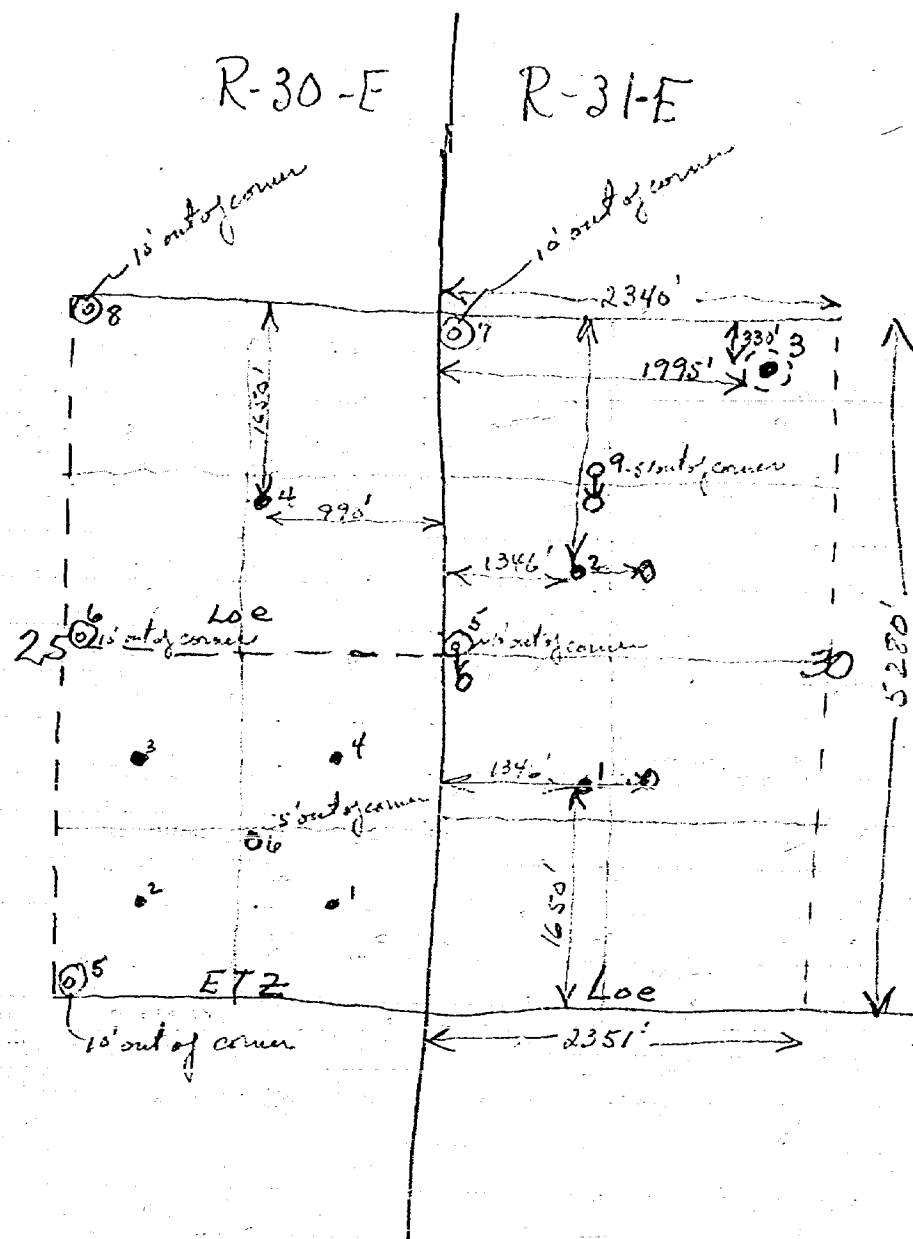
NEWMONT OIL COMPANY



Herman J. Ledbetter
Division Superintendent

HJL/ggp

T
16
S



Loe Federal

#1	1650' FSL + 1346' FWL	Sec 20	T-16-S	R-31-E
#2	1980' FNL + 1346' FWL	"	"	"
#3	330' FNL + 1995' FWL	"	"	"
#4	1650' FNL + 999' FEL	Sec. 25	"	R-30-E

cima **CAPITAN** incorporated

(N.S.L.)

ARTESIA, NEW MEXICO

August 30, 1965

312 BOOKER BUILDING
POST OFFICE DRAWER 1343

MAIN OFFICE
'65 SEP 1 AM 7 44
'65 SEP

AREA CODE 503
TELEPHONE 748-1125

Case 3310

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

Please consider this letter as the application of Ryder-Scott Management Company, Stallworth Oil and Gas Company, Newmont Oil Company, and Cima Capitan, Inc., for a water-flood permit and approval of a co-operative waterflood. Injection will be into the Grayburg - San Andres formations at approximately 3,100 feet through sixteen (16) injection wells to be drilled in sections 25 and 36, T16 S, R 30E and Sections 30, 31 and 32, T 16S, R 31E, Square Lake Pool, Eddy County. Location of the new injection wells will be unorthodox and generally drilled 10 feet from the corners of 160-acre tracts as shown on the attached plat.

Application is also made for 10 producers on unorthodox locations generally located 10 feet from the centers of 160 - acre tracts as shown on the attached plat.

Water to be injected will be fresh make-up water and re-injected produced water at an estimated rate of 250 barrels per day per well at 2,000 psi. Make-up water will be purchased from one of the commercial water pipelines in the area.

A copy of this application is being forwarded to the State Engineer in Santa Fe.

Please set this matter for hearing at the second hearing date in September if possible.

Very truly yours,

Cima CAPITAN Inc.

Hal Porter

Hal Porter, Engineer

copies: Ryder-Scott
Stallworth
Newmont
Texaco
Kennedy Oil Co.
State Engineer

DOCKET MAILED

Date 9-24-65

DOCKET MAILED

Date 9-10-65

R

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 9/27/65

CASE NO. 3310

HEARING DATE 9 am 9/22

DSN 25

My recommendations for an order in the above numbered case(s) are as follows:

Enter an order approving a cooperative water flood project for Ryder-Scott Management Company, Stallworth Oil and Gas Company, Cima Capital, Inc., and Western Oil Fields, Inc. in the Square Lake Pool, Eddy Co., N. Mex. Injection is to be into Grayburg-San Andres formations through the following wells

Ryder Scott Management Company

1. A.N. Etz Well No. 5 10' FSL & 2630' FEL of Sec 25 T16N R30E
2. Loe-Fel Well No. 3 330' FNL & 1995' FWL of Sec 30 T16N R31E
3. " " " " 5 2630' FSL & 10' FWL of " " " "
4. " " " " 6 2630' FNL & 2630' FEL of " 35 " 30
5. " " " " 7 10' FNL & 10' FWL of " 30 " 31
6. " " " " 8 10' FNL & 2630' FEL of " 25 " 30

Stallworth Oil and Gas Company

6. A.N. Etz Well No. 5 10' FSL & 2630' FEL of Sec 25 T16N R30E

Western Oil Fields, Inc.

7. Drier Well No. 15 2610' FNL & 2630' FEL of Sec 31 T16N R31E
8. 16 2630' FNL & 10' FWL of " " " "
9. 17 10' FSL & 2630' FEL of " " " "

Cima Capital, Inc.

10. State Well No. 4 10' FNL & 10' FEL of Sec 36 T16N R30E

Staff Member

cima **CAPITAN** incorporated
(N.S.L.)

312 BOOKER BUILDING
POST OFFICE DRAWER 1343

ARTESIA, NEW MEXICO

AREA CODE 505
TELEPHONE 748-1125

August 30, 1965

SEP 1 1965

Case 3310

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

Please consider this letter as the application of Ryder-Scott Management Company, Stallworth Oil and Gas Company, Newmont Oil Company, and Cima Capitan, Inc., for a water-flood permit and approval of a co-operative waterflood. Injection will be into the Grayburg - San Andres formations at approximately 3,100 feet through sixteen (16) injection wells to be drilled in sections 25 and 36, T16 S, R 30E and Sections 30, 31 and 32, T 16S, R 31E, Square Lake Pool, Eddy County. Location of the new injection wells will be unorthodox and generally drilled 10 feet from the corners of 160-acre tracts as shown on the attached plat.

Application is also made for 10 producers on unorthodox locations generally located 10 feet from the centers of 160 - acre tracts as shown on the attached plat.

Water to be injected will be fresh make-up water and re-injected produced water at an estimated rate of 250 barrels per day per well at 2,000 psi. Make-up water will be purchased from one of the commercial water pipelines in the area.

A copy of this application is being forwarded to the State Engineer in Santa Fe.

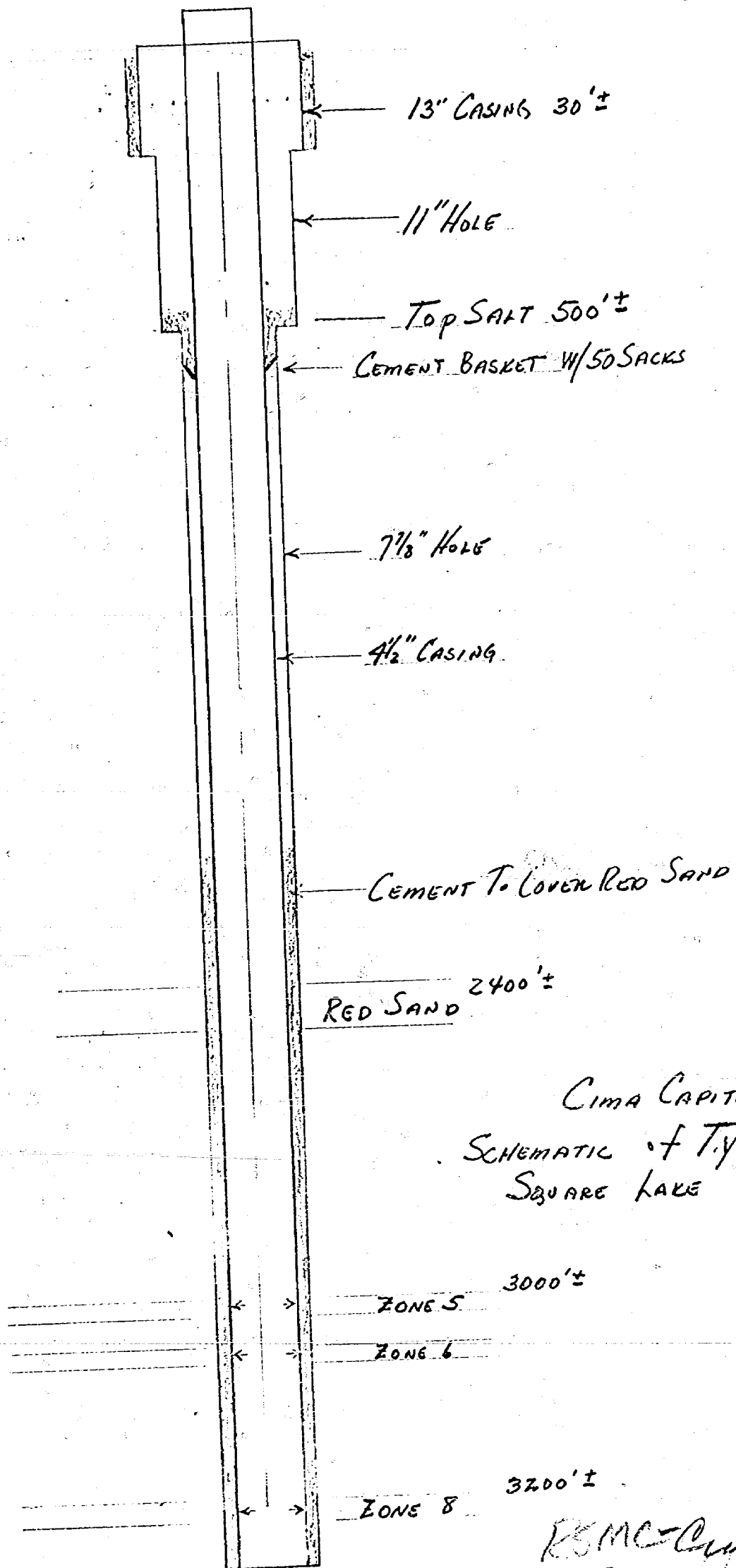
Please set this matter for hearing at the second hearing date in September if possible.

Very truly yours,

Cima CAPITAN Inc.

Hal Porter
Hal Porter, Engineer

copies: Ryder-Scott
Stallworth
Newmont
Texaco
Kennedy Oil Co.
State Engineer



CIMA CAPITAL, INC.
SCHEMATIC OF TYPICAL INJECTOR
SQUARE LAKE PROJECT

BSMC-CIMA
EXHIBIT No. 14
CE 3310

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



PAGE 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 6, 1965

EXAMINER HEARING

IN THE MATTER OF: (Continued from September 22, 1965 Examiner Hearing)
Application of Cima Capitan, Inc., Ryder-
Scott Management Company, and Stallworth
Oil and Gas Company for a waterflood
project, Eddy County, New Mexico.

Case No. 3310

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3310.

MR. DURRETT: Application of Cima Capitan, Inc., Rydex-Scott Management Company, and Stallworth Oil and Gas Company for a waterflood project, Eddy County, New Mexico.

If the Examiner please, I would like to state for the record that there was also an error in advertising this case; that it was heard on September 22, 1965, continued to this docket for the purpose of readvertising the case. It has been properly advertised and we would ask the Examiner to incorporate the record of the September 22nd hearing and take the case under advisement if there is no objection.

MR. UTZ: The September 22nd record will be incorporated in the record today. Are there any other appearances or comments regarding this case? If there are none, the case will be taken under advisement.

* * * *

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



PAGE 3

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ADA DEARNLEY, Court Reporter-Notary Public, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 9th day of October, 1965.

Ada Dearnley
Court Reporter - Notary Public

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 33-2 heard by me on 10-14-1965.

Thurston
Examiner
New Mexico Oil Conservation Commission

OCTOBER 6, 1965 EXAMINER HEARING

CASE 3316: In the matter of the hearing called by the Oil Conservation Commission on its own motion for the creation of a new oil pool for Yates and Seven Rivers production in Sections 12, 13, and 24, Township 26 South, Range 36 East, and Sections 7, 18, 19, 30, 31, 32, and 33, Township 26 South, Range 37 East, Lea County, New Mexico, said pool to be designated the Scarborough Yates-Seven Rivers Pool. Further, to consider the establishment of a procedure whereby a special allowable would be assigned to said pool which would permit equalized per-acre withdrawal rates from wells on 40-acre spacing in New Mexico to the per-acre withdrawal rates from 20-acre wells located immediately south in the Scarborough Pool, Winkler County, Texas.

CASE 3317: Application of Jake L. Hamon for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Owl Draw Unit Area comprising 8,916 acres, more or less, of Federal, State and Fee lands in Township 25 South, Range 27 East, Township 26 South, Range 26 East, Township 26 South, Range 27 East, Eddy County, New Mexico.

CASE 3318: Application of Pan American Petroleum Corporation for salt water disposal, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in its Navajo Tribal "U" Well No. 6 located in Unit O of Section 22, Township 26 North, Range 18 West, San Juan County, New Mexico.

CASE 3107 (Reopened):

In the matter of Case No. 3107 being reopened pursuant to the provisions of Order No. R-2779, which order established 80-acre spacing units for the North Bagley-Middle Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

Docket No. 28-65

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 6, 1965

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

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

- CASE 3307: (Continued from September 22, 1965 Examiner Hearing)
Application of Arwood Stowe & Company for the creation of a pool, special pool rules, and a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the creation of an oil pool for Mesaverde production in Section 33, Township 18 North, Range 3 West, Sandoval County, New Mexico, and the establishment of special pool rules governing well spacing of less than 40 acres and special well locations; or in the alternative, for the extension of the San Luis-Mesaverde Pool to include portions of said Section 33. Applicant further seeks authority to institute a waterflood project in said Section 33 by the injection of water into the Mesaverde formation through four wells.
- CASE 3310: (Continued from September 22, 1965 Examiner Hearing)
Application of Cima Capitan, Inc., Ryder-Scott Management Company, and Stallworth Oil and Gas Company for a waterflood project, Eddy County, New Mexico. Applicants, in the above-styled cause, seek authority to conduct a cooperative waterflood project by the injection of water into the Grayburg-San Andres formations through 16 injection wells to be drilled at unorthodox locations in Sections 25 and 36, Township 16 South, Range 30 East, and Sections 30, 31 and 32, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.
- CASE 3313: Application of Tenneco Oil Company for a non-standard location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce its Omler "A" Well No. 2 at a non-standard undesignated Gallup oil well location 1525 feet from the North line and 1650 feet from the East line of Section 35, Township 28 North, Range 10 West, San Juan County, New Mexico.
- CASE 3314: Application of Sinclair Oil & Gas Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Order No. R-2040, which created a non-standard gas proration unit comprising the SW/4 of Section 14 and the SE/4 of Section 15, Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its Matkins Well No. 1 located in Unit P of said Section 15. Applicant proposes to dedicate said unit to its Matkins Well No. 4 located in Unit K of Section 14 in addition to said Well No. 1.
- CASE 3315: Application of Sun Oil Company for a unit agreement, Catron and Socorro Counties, New Mexico. Applicant, in the above-styled cause, seeks approval of the San Augustin Plains Unit Area comprising 404,293 acres, more or less, of Federal, State and Fee lands in Townships 1, 2, 3, 4, and 5 South, Ranges 7, 8, 9, 10, 11, and 12 West, Socorro and Catron Counties, New Mexico.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3310
Order No. R-2977

APPLICATION OF CIMA CAPITAN, INC.,
RYDER-SCOTT MANAGEMENT COMPANY,
STALLWORTH OIL AND GAS COMPANY, AND
WESTERN OIL FIELDS, INC., FOR A WATER-
FLOOD PROJECT, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 6, 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 7th day of October, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(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 applicants, Cima Capitan, Inc., Ryder-Scott Management Company, Stallworth Oil and Gas Company, and Western Oil Fields, Inc., seek permission to institute a cooperative waterflood project in the Square Lake Pool by the injection of water into the Grayburg-San Andres formations through eleven injection wells to be drilled at unorthodox locations in Sections 25 and 36, Township 16 South, Range 30 East, and Sections 30 and 31, Township 16 South, Range 31 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

-2-

CASE No. 3310

Order No. R-2977

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicants, Cima Capitan, Inc., Ryder-Scott Management Company, Stallworth Oil and Gas Company, and Western Oil Fields, Inc., are hereby authorized to institute a cooperative waterflood project in the Square Lake Pool by the injection of water into the Grayburg-San Andres formations through the following-described wells to be drilled at unorthodox locations in Eddy County, New Mexico:

Ryder-Scott Management Company

Loe-Federal Well No. 3, to be located 330 feet from the North line and 1995 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM;

Loe-Federal Well No. 5, to be located 2630 feet from the South line and 10 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM;

Loe-Federal Well No. 6, to be located 2630 feet from the North line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM;

Loe-Federal Well No. 7, to be located 10 feet from the North line and 10 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM; and

Loe-Federal Well No. 8, to be located 10 feet from the North line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM.

Stallworth Oil and Gas Company

A. N. Etz Well No. 5, to be located 10 feet from the South line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM.

-3-

CASE No. 3310
Order No. R-2977

Western Oil Fields, Inc.

Grier Well No. 15, to be located 10 feet from the North line and 2630 feet from the East line of Section 31, Township 16 South, Range 31 East, NMPM;

Grier Well No. 16, to be located 2630 feet from the North line and 10 feet from the West line of Section 31, Township 16 South, Range 31 East, NMPM; and

Grier Well No. 17, to be located 10 feet from the South line and 2630 feet from the East line of Section 31, Township 16 South, Range 31 East, NMPM.

Cima Capitan, Inc.

State Well No. 4, to be located 10 feet from the North line and 10 feet from the East line of Section 36, Township 16 South, Range 30 East, NMPM; and

Grier Well No. 2, to be located 2630 feet from the South line and 2650 feet from the East line of Section 31, Township 16 South, Range 31 East, NMPM.

(2) That the subject waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

enr/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE No. 3310
ORDER No. R-2977-A

IN THE MATTER OF THE APPLICATION OF
CIMA CAPITAN, INC., RYDER-SCOTT MAN-
AGEMENT COMPANY, STALLWORTH OIL AND
GAS COMPANY, AND WESTERN OIL FIELDS,
INC., FOR A WATERFLOOD PROJECT, EDDY
COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,
Order No. R-2977, dated October 7, 1965, does not correctly state
the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That Order No. R-2977, dated October 7, 1965, is hereby
corrected by addition of the following paragraph:

(1-A) That the applicants are hereby authorized to
drill producing wells at the following-described unorthodox
locations in said cooperative waterflood project area:

Ryder-Scott Management Company

Loe-Federal Well No. 9, to be located in Unit E,
1325 feet from the North line and 1010 feet from
the West line of Section 30, Township 16 South,
Range 31 East, NMPM.

Stallworth Oil and Gas Company

A. N. Etz Well No. 6, to be located in Unit F,
1315 feet from the South line and 1315 feet
from the East line of Section 25, Township 16
South, Range 30 East, NMPM.

Western Oil Fields, Inc.

Grier Well No. 18, to be located in Unit C,
1310 feet from the North line and 1310 feet

-2-

CASE No. 3310

Order No. R-2977-A

from the West line of Section 31, Township 16
South, Range 31 East, NMPM.

Grier Well No. 19, to be located in Unit A,
1310 feet from the North line and 1310 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

Grier Well No. 20, to be located in Unit J,
1330 feet from the South line and 1330 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

Cima Capitan, Inc.

State Well No. 5, to be located in Unit B,
1220 feet from the North line and 1420 feet
from the East line of Section 36, Township 16
South, Range 30 East, NMPM.

Grier Well No. 3, to be located in Unit K,
1330 feet from the South line and 3930 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

(2) That the correction set forth above shall be effective
nunc pro tunc as of October 7, 1965.

DONE at Santa Fe, New Mexico, on this 27th day of October,
1965.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guston B. Hays
GUSTON B. HAYS, Member

A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2068
SANTA FE

October 27, 1965

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico
Dear Sir:

Re: Case No. 3310
Order No. R-2977-A
Applicant:

Cima Capitan, Inc., Ryder-Scott
Management Co. & Stallworth Oil
& Gas Co.

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Mr. Paul White

Cima Capitan, Inc

Stam Well No 5, to be located in
Block B 1220 feet from the North line
and 1420 feet from the East line of
Section ~~36~~ 36 Township 16 South
Range 30 East

Stam Well No 3, to be located in
Block K 1330 feet from the South line
and 3950 feet from the East line
of Section ~~31~~ 31, Township 16 South
Range 31 East.

2640
1310

3950

10/7

write mine provision on R-2977
to authorize the following unorthodox
locations for producing wells. (These
were inadvertently omitted from
R-2977.)

Insert:

(1-A)

That the applicants are hereby authorized
to drill ~~the~~ ^{producing wells at the} following described ~~at the~~
unorthodox locations in ~~Edley County, Kansas~~
8-8 N 27 W 20

Ryder - Scott Management Company

Loc - Federal Well No. 9, to be located in Unit E
1325 feet from the North line and 1010
feet from the West line of Section 30, Township
16 South Range 31 East

Staceworth Oil and Gas Company

A.N.E.G. Well No 6, to be located in Unit P
1315
feet from the South line and 1315 feet from
the East line of Section 25, Township 16
South Range 30 East

Western Oilfields, Inc

Grier Well No 18, to be located in Unit C
1310 feet
from the North line and 1310 feet from the West
line of Section 31, Township 16 South Range 31 East

Grier Well No 19, to be located in Unit A 1310
feet from the North line and 1310 feet from the East
line of Section 31, Township 16 South Range 31 East

Grier Well No 20, to be located in Unit J
1330 feet from the South
line and 1330 feet from the East line of Section 31
Township 16 South Range 31 East

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

October 7, 1965

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 3310
Order No. R-2977
Applicant:
Cima Capitan, Inc., Ryder-Scott
Management Co. & Stallworth Oil
& Gas Co.

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC

OTHER Mr. Paul White

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 22, 1965

EXAMINER HEARING

IN THE MATTER OF:

Application of Cima Capitan, Inc., Ryder-
Scott Management Company, Stallworth Oil
and Gas Company, and Newmont Oil Company
for a waterflood project, Eddy County,
New Mexico.

Case No. 3310

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will take Case 3310.

MR. DURRETT: Application of Cima Capitan, Inc.,
Ryder-Scott Management Company, Stallworth Oil and Gas Company,
and Newmont Oil Company for a waterflood project, Eddy County,
New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin,
Kellahin and Fox, representing the Applicants. I will now get
to refer to the letter from Newmont Oil Company, who has
withdrawn from participation in this application; and at this
time I would like to move that Western Oil Fields, Inc. be
joined as an Applicant in this case, Western Oil Fields. I
will represent them, and one of their engineers is in the
hearing room.

MR. NUTTER: You are trading Newmont for Western?

MR. KELLAHIN: That is correct.

MR. NUTTER: I would also like to state that the
Santa Fe New Mexican goofed in advertising the case, and we
have re-advertised the case for hearing on October 6th.
However, we did include Newmont but we didn't include Western
Oil Fields, but we'll join them anyway. We will proceed to
hear the case, but it will be reopened again on October 6th
for further appearances.

MR. KELLAHIN: We will have two witnesses I would
like to have sworn at this time.

(Witnesses sworn.)

WILLIAM E. FICKERT

called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A William E. Fickert.

Q By whom are you employed, Mr. Fickert?

A Ryder-Scott Company, Petroleum Engineer.

Q Have you ever testified before the Oil Conservation Commission of New Mexico?

A Yes, sir, I have.

Q Your qualifications have been made a matter of record?

A Yes.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

Q (By Mr. Kellahin) Are you familiar with the application in Case No. 3310?

A Yes, sir.

Q What's proposed in this application?

A I would like to refer to our list of exhibits.

MR. KELLAHIN: Let's get them marked here.

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A The first exhibit is a County map on a one to four thousand scale.

(Whereupon, Applicant's Exhibits Nos. 1 through 8 marked for identification.)

Q Now referring to what has been marked as Exhibit No. 1, would you identify that exhibit?

A This is a County map of the immediate area on a one to four thousand scale. The area shaded in yellow represents the acreage owned by Stallworth and Ryder-Scott Management Company, and to which I will testify. In the area shaded in red is the area to be testified to by Mr. Porter.

Q Is this area being unitized in any fashion?

A The area shaded in yellow is not. It will be a cooperative waterflood.

Q I mean as between the area shaded in yellow and the area shaded in red.

A No, it's a cooperative waterflood project.

Q Do you have line agreements?

A We are working them out right now.

Q Would you continue with the discussion of the exhibit, or have you completed that?

A That's it.

Q Referring to what has been marked as Exhibit No. 2, will you identify that exhibit?

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A This shows the development and the proposed development of the Stallworth and Ryder-Scott Management Company leases. On the Stallworth lease, we propose to drill a well ten feet out of the corner of the southeast 160-acre tract for injection purposes. We ask a permit for drilling a producer in the five feet from the northwest corner of the Southwest Quarter of the Southwest Quarter of Section 30 -- Section 25, excuse me, on the Stallworth lease, to be used as a producer. Shown there on the map is Number 6.

On the Ryder-Scott Management Company leases we propose to drill four injection wells as shown, 5, 6, 7, and 8. We propose to convert Number 3 in Section 30, and we propose to drill Number 9 approximately in the middle of that northwest 160 acres as a producer.

Q Now you show on the Stallworth acreage a Well No. 6 in the center. Would that be drilled as a producer, too?

A Yes.

Q Are each of the wells designated by circles and in the corner of the Quarter Sections proposed to be injection wells?

A Yes, sir.

Q Have they been drilled?

A No, sir.

Q These would all be new wells?

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A These would all be new wells.

Q What's the situation as to Well No. 3 in the Ryder-Scott acreage?

A This well was drilled in the Spring of this year, I believe it was in March or April, and it will be converted to an injection.

Q What is the casing on that well?

A The casing is four and a half J-55 set through the -- we'll get to that in a later exhibit.

Q Yes. Now are the well locations of each of your injection wells proposed to be ten feet out of the corner?

A Yes, sir.

Q With the exception of Number 3?

A Number 3.

Q Which you will convert to injection?

A Yes.

Q What is its location?

A 330 from the northeast corner of that quarter section.

Q Now referring to what has been marked as Exhibit No. 3, would you identify that exhibit and discuss it, please?

A This Exhibit 3 is a typical log section from the -- retraced from the Federal Lowe No. 1. It's a gamma ray sonic log and the zones of interest are indicated. We are proposing to waterflood the upper Premier zone, the lower Premier zone,

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and the Lovington zone.

Q Is this zone fairly uniform throughout the area involved in this application?

A Yes, sir.

Q Have you examined the logs in other wells and found that the zones you've referred to are present in each of them?

A Yes, sir.

Q Referring to what has been marked as Exhibit No. 4, would you identify and discuss that exhibit, please?

A This is our diagram of proposed well completions for injection wells. We will have to make one correction on here after talking to Mr. Irby. We will cement back to above the Red Sand zone on the four and a half inch casing, instead of the Metex as shown on the diagram. We propose to use fresh water as our injection medium and we propose to inject down the casing; and with the experience that Newmont has had on their waterflood, we will more than likely have to set tubing on a packer to separate injection into the upper Premier and into the two lower zones. We will in all cases only inject fresh water down the casing. Any produced water which is to be handled separately will be injected down tubing when this time arrives.

Q Will each of these zones take the water to the same degree, in your opinion?

A No, sir. The upper Premier permeability is possibly fifteen to twenty times that of permeability in the lower Premier and the Lovington.

Q Do you have any approximate figures on the porosities and permeabilities of the formation?

A In our Well No. 4 which was recently completed, Lowe Federal No. 4, the permeability of the upper Premier has a streak of 1,000 millidarcies, whereas the permeability in the lower zones was approximately 50 millidarcies.

Q Does that indicate that you may have to selectively inject them?

A Yes, sir, it does.

Q How would that be done?

A We would set a two-inch tubing on a packer between the upper Premier and the lower Premier, and inject down the casing for the upper Premier; and the lower Premier and the Lovington would be flooded through the tubing.

Q In the event it is necessary to selectively inject, is there any other way this could be done than utilizing the the casing tubing annulus?

A I don't quite understand.

Q Could you selectively inject in any other fashion than utilizing the annulus?

A I don't believe so.

Q In other words, this type of completion is essential to your program, is that correct?

A Yes, sir.

Q But you do not propose to use tubing unless it is necessary, is this correct?

A No, but we're fairly certain it is going to be necessary.

Q Referring to what has been marked as Exhibit No. 5, would you identify that exhibit and discuss it?

A This is a tabulation of production history from the Stallworth A. N. Etz Lease from 1942 to 1959. The four wells produced 206,574 barrels, and then it shows the yearly production through 1964 and then monthly production for 1965 through August. The cumulative production to the end of August was 229,803 barrels. The four wells are now producing near two barrels a day per well.

Q Is this field in an advanced stage of depletion, in your opinion?

A Yes, sir.

Q And this would be a secondary recovery project you propose now?

A Yes, sir.

Q Would it come under the provisions of Rule 701?

A Yes.

Q Referring to what has been marked as Exhibit 6, would you identify and discuss that exhibit?

A Exhibit 6 is a tabulation of production history for the Lowe Federal Lease from 1942 to 1949. There were eleven producing wells which were plugged and abandoned sometime in 1949. In 1964, two wells were drilled on the Lowe Federal Lease, and in 1965 two additional wells have been drilled. The monthly production for 1965 is shown. The cumulative production for all of the oil produced from this lease amounts to 311,271 barrels. The daily production per well is approximately twenty barrels of oil per day. This producing rate is, we believe, due to some response from the Newmont flood to the east.

Q In other words, your present production in this particular area in your opinion is not primary production, is that right?

A Well, it's been stimulated by the neighboring waterflood.

Q In your opinion, then, is this area also at a substantial stage of depletion on primary recovery?

A Yes, sir, as attributed to, or exhibited by the eleven wells which were plugged and abandoned.

Q Now referring to what has been marked as Exhibit No. 7, will you identify that exhibit, please?

A This is a water analysis from the now Double Eagle Water Company, which was at that time Caprock Water Company, showing the analysis of their water.

Q And Exhibit No. 8, what is it?

A Exhibit 8 is an analysis of the Yucca Water Company's water. We have included both of these because we have not yet made a contract with either company, but it does show that we have water available for our injection purposes.

Q Is this fresh water, according to these two analyses?

A Yes, sir.

Q It's from the Ogalalla formation, is that right?

A Yes, sir.

Q And is that true as to both companies?

A Yes, sir.

Q And is the water available for the purposes of this injection program?

A Yes, sir, we have sufficient water.

Q What volume of water do you anticipate you will inject?

A We are anticipating we will inject in the neighborhood of 250 barrels per day per well to maybe 350 barrels per day per well.

Q How many injection wells will you have?

A Our project, we will use five -- or six injection

wells, excuse me.

Q What anticipated life do you expect this project to have?

A Somewhere from six to ten years.

Q In your opinion, will it result in the recovery of oil that would not otherwise be recovered?

A Yes, sir.

Q Would it prevent waste and will correlative rights be protected?

A Yes, sir.

Q Will the water injection be under pressure?

A Yes, sir.

Q What pressure would you anticipate?

A We anticipate that injection pressures will be in the neighborhood of 2,000 to 2200 pounds surface.

Q Will the casing be tested prior to the injection?

A Yes, sir. This will be 3,000 pound test casing we will be using.

Q And it's all new casing, is that correct?

A All new casing, J-55, four and a half.

Q Were Exhibits 1 through 8 prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in

evidence Exhibits 1 through 8, inclusive.

MR. NUTTER: Applicant's Exhibits 1 through 8 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 8, both inclusive, offered and admitted in evidence.)

MR. KELLAHIN: I have no further questions of the witness.

MR. NUTTER: Does anyone have any questions of Mr. Fickert?

MR. IRBY: I have one.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Fickert, did you state in your testimony that any water which came in contact with the casing -- I don't find the size of it, four and a half inch, is that right?

A Yes, sir.

Q J-55. -- any water that comes in contact with that casing will be fresh water?

A If it's above the Premier zone it will.

Q Above the packer?

A Above the packer, yes, sir.

MR. IRBY: Thank you.

A And we will cement the four and a half inch casing above the Red Sand back to and above --

Q -- which is above the packer?

A Yes, sir.

MR. IRBY: That's all I have. Thank you.

BY MR. NUTTER:

Q Now, Mr. Fickert, the application, the advertisement of the case was for the injection of water through sixteen wells in Sections 25 and 36 of 16, 30; and Sections 31 and 32 of 16, 31. By the elimination of Newmont from the case, has this narrowed down to just this acreage that's colored yellow, and in addition the two water injection wells shown on Exhibit 2, being the Capitan No. 4 in Section 36 and the Western Oil Fields No. 15 in Section 1?

A Our Exhibit 2 indicates only the wells which will be adjacent to our property. Mr. Porter will testify to the other additional wells to be drilled to the south.

Q You are testifying only to the Ryder-Scott; this is just a portion of the flood then?

A Yes, sir.

Q I see.

A Those two wells on the Cima Capitan and the Western Oil Fields will give us the 160-acre pattern for lease line equity.

Q You are talking only about the yellow acreage?

A Yes, sir.

Q On the yellow acreage, you will have the No. 3 going from right to left across the top?

A Yes.

Q The No. 3, No. 7 and No. 8, and the 6 and the 5 and the other No. 5?

A Correct.

Q For water injection wells?

A Yes, sir.

Q And all of these are to be drilled, with the exception of the No. 3 which has been drilled?

A Yes, sir.

Q It is a 330 - 330 out of that quarter quarter section?

A Yes, approximately that.

Q Now this Exhibit No. 4, which is a diagram of proposed well completion for injection wells is for the wells that are to be drilled. Now how about the one that has been drilled?

A It is completed essentially this way. In other words, it is completed with a joint of 13-3/8ths to surface. We did not lose circulation by the time we hit the salt, so we reduced hole size and drilled to TD, set four and a half inch casing and cemented, and then, using one-inch tubing we cemented from the salt on back up behind the four and a half pipe.

Q You went in with a string of one-inch on the outside

of the pipe?

A Yes, sir.

Q And what's the base of the cement there, that upper portion of it?

A It would be approximately 450.

Q On up to the surface then?

A It's a 50-sack plug.

Q Now, the sketch is for a packer to be set above the upper Premier, but you indicated in all probability --

A That was part of our change, --

Q Yes.

A -- that we will have to make after talking to Mr. Irby, that's part of our change that we will be able to, if we have to separate the injection well, move the packer down to below the upper Premier and inject fresh water.

Q Through the annulus into the upper Premier?

A And fresh water or brine, as the time comes, produced water will be injected down the tubing into the lower Premier and the Lovington.

Q But in no event would produced water be injected down the casing?

A No, sir.

Q I see. Now, for allowable purposes, Mr. Fickert, I have to know which of these various forties these wells are in.

They're in the Northeast Quarter of Section 25, the Well No. 4 is there. What quarter quarter is it in?

A It's in the lower Southeast Quarter of that quarter.

Q And the No. 6 south of that would be where?

A On the Management Company lease.

Q On the Etz lease?

A On the Etz lease. The No. 5 would be in the same quarter as the No. 2.

Q It would be in the Southwest Quarter --

A Yes, sir.

Q -- of the --

A Southeast Quarter.

Q Of the Southeast Quarter?

A Yes, sir.

Q Now up here in the Northwest of Section 30, that No. 9, where is it?

A We have a problem here. This is a narrow section and it's approximately 304 feet short of being a full section, so that's why I haven't referred to distances from a section line, but the No. 9 will be drilled in a, I hope to have drilled in a quarter section that does not have a producing or an injection well on it. It would probably be in the Southeast 40 acres of that Northwest Quarter if we can --

Q How about the Little Well No. 2 there, isn't it a

producing well?

A I believe we mislocated it.

Q It's in the Southwest?

A We didn't drill it but I believe it's -- at the time we drill it up we'll make an application for the proper quarter for it to be in.

Q That No. 2 hasn't been drilled yet?

A It is drilled, and from the numbers that I have it should be in the -- it looks like it should be in the Southeast 40.

Q Yes.

A If it is, then the No. 9 would be in one or the other, either the Northwest or the Southwest 40. There's not quite 40 acres in those.

Q So you really don't know where that No. 9 is going to be yet; you'll have to measure the No. 2 first?

A I'll have to find out where it is.

Q Down on the Federal Lowe lease in the South Half of 30, where is that, do you know?

A I believe it is in the Northeast 40 of that Southwest Quarter. The No. 5 will be drilled in the Northwest 40, but any time that we have two wells in a 40, we'll expect to come under the rules of the allowable.

Q Do you expect to reactivate these eleven old wells that

have been plugged and abandoned?

A No, sir. As far as we know, they are properly plugged and will stay that way. We have researched the records in the United States Geological Survey and believe that they're all plugged properly.

Q So you'll only have four producing wells then, is that right?

A Yes, sir. The No. 2 by that time will probably be plugged. It's off pattern.

Q Oh, and to balance the flood over on the east side you are depending on the Newmont Federal Vickers No. 3 injection well?

A Yes, sir, we will have a line agreement with them.

Q It's slightly off pattern for your remaining wells, but it's close enough that you will rely on it?

A And it has had enough injection into it that it will balance up.

Q Mr. Fickert, when do you think that you will be able to let me know which quarter quarter section No. 2 is in, and which quarter quarter section No. 9 will be in?

A Probably tomorrow.

Q I would appreciate it because we'll need that in order to make that allowable determination for the transmittal letter.

A All right.

MR. NUTTER: Are there any other questions of Mr. Fickert? He may be excused.

(Witness excused.)

HAROLD C. PORTER

called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Shall we proceed? State your name, please.

A Harold C. Porter.

Q What business are you engaged in?

A I am an Engineer for Cima Capitan, Inc. in Artesia.

Q Have you ever testified before the Oil Conservation Commission and made your qualifications a matter of record?

A Yes, sir.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

(Whereupon, Applicant's Exhibits Nos. 9 through 18, both inclusive, marked for identification.)

MR. NUTTER: How long will this witness take, Mr. Kellahin?

MR. KELLAHIN: I imagine about twenty minutes.

MR. NUTTER: We will recess for lunch. The hearing will resume at 1:15.

(Whereupon, the hearing was recessed until 1:15 o'clock P.M.)

AFTERNOON SESSION

(Whereupon, the hearing was resumed at 1:15 o'clock P.M.)

MR. NUTTER: The hearing will come to order. Would you proceed, Mr. Kellahin?

DIRECT EXAMINATION (Continued)

BY MR. KELLAHIN:

Q Would you state your name, please?

A Harold C. Porter.

Q By whom are you employed and what position, Mr. Porter?

A Cima Capitan, Inc. as a Petroleum Engineer.

Q Have you ever testified before the Commission and made your qualifications a matter of record?

A Yes.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: They are.

Q (By Mr. Kellahin) Would you refer to what has been marked as Exhibit No. 9 and identify that exhibit and state what's shown on it?

A This is a plat showing the lease ownership and the location and proposed unorthodox location injection wells and producing wells.

Q Now this is in the same area that was testified to by the previous witness, is that correct?

A That is correct. You can see the wells that Mr. Fickert testified are in Sections 25 and 30, and I would like to point out the locations, proposed locations of the injection wells.

Q Just before we do that, would you state whether you are testifying in behalf of Cima Capitan Corporation and Western Oil Fields, Inc.?

A Yes, I am.

Q And Western Oil Fields is participating in this application, is this correct?

A That's correct.

Q Would you discuss the well locations of the injection wells?

A Yes, sir. The Capitan State No. 4 will be located ten feet from the North and ten feet from the East lines of Section 36, 16 South, 30 East. The Western Oil Fields Greer No. 15 will be located ten feet from the North and 2630 from the East of Section 31, 16 South, 31 East. Western Oil Fields Greer No. 16 will be located ten feet from the west and 2630

from the North of Section 31, 16 South, 31 East; and Western Oil Fields Greer No. 17 will be located ten feet from the South and 2630 from the East of that same section. The unorthodox-- let me get this other one injection well. Cima Capitan Inc. Greer No. 2 will be located 2630 from the South and 2650 from the East of Section 31, 16 South, 31 East.

The unorthodox producers, Cima Capitan State No. 5 will be located 1220 from the North and 1420 from the East of Section 36, 16 South, 30 East. Cima Capitan Greer No. 3 will be located 1330 from the South and 3950 from the East of Section 31, 16 South, 31 East. Western Oil Fields Greer No. 18 will be 1310 from the North and West of Section 31; Greer No. 19 will be 1310 from the North and East of Section 31; and Western Oil Fields Greer No. 20 will be 1330 from the South and East of Section 31.

MR. NUTTER: What well was that, the last one?

A Number 20.

MR. NUTTER: Oh, yes.

A Now these producers, Capitan No. 5, Capitan Greer No. 3, and Western Oil Fields Greer No. 20 will be drilled only if those 160 acres are unitized and become common ownership.

Q (By Mr. Kellahin) Are they common ownership at the present time?

A No, they're not. You can see that they're not on



the map.

Q Are there other wells completed in the zone which are producing at the present time?

A Yes, there are.

Q Will they continue on production during the course of this waterflood project?

A Our plans are to continue producing these wells and to take the oil out until they start cutting water pretty heavily, and then probably they will be plugged at that time and these unorthodox center locations drilled to drain that center area.

Q Does the Exhibit No. 9 also show some Newmont wells which are not presently involved in the waterflood project?

A Yes, it does. Newmont was originally an Applicant in this matter, and we have several wells here that you can see are the wells that they were going to apply for. Subsequent to the application they withdrew and said after they got certain technical legal matters straightened out they would re-apply for their wells at a separate hearing.

Q Will the withdrawal of Newmont in any way affect the operation of your waterflood project as a successful waterflood project?

A No, sir, it won't, except that they will be needed for backup, and negotiations will be continued and they will

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apply for their wells later.

Q Are you at the present time attempting to negotiate a line agreement with them?

A Yes, we are.

Q Now referring to what has been marked as Exhibit No. 10, would you identify that exhibit, please?

A Number 10 is a tabulation of the production over the years from the four wells owned by Cima Capitan Inc., and Number 11, you may refer to it, too, is just the same thing on a graphic presentation.

As you can see, the production from these leases has declined. At the present time it is on the order of a barrel per well per day. It has been a primary decline and you might say that these wells have had a decline to the point that it would apply as a waterflood project rather than pressure maintenance.

Q In other words, it is substantially depleted on primary production, is that correct?

A That is correct.

Q And you are at a level of stripper production at the present time?

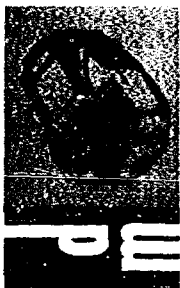
A That is correct.

Q And you say Exhibit 11 reflects the same information as shown on Exhibit 10, in graphic form, is that correct?

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A That's right.

MR. IRBY: Which one is 11?

MR. KELLAHIN: That's the graph.

Q (By Mr. Kellahin) Now referring to what has been marked as Exhibits No. 12 and 13, would you identify those exhibits, please?

A Exhibits 12 and 13 are graphic and tabular presentations of the production history from the sixteen wells owned by Western Oil Fields. Their production has declined to the point where it's about the same on a per well basis as ours. They're making about one barrel per well per day.

Q It would be your testimony that this area is also substantially depleted on primary production?

A That is correct.

Q In referring to what has been marked as Exhibit No. 14 --

MR. IRBY: May I have the identification on which is 12 and 13, please?

A The one you have there is 12, Mr. Irby.

MR. IRBY: Which one? I have two.

A The one on your right; that's 13.

Q (By Mr. Kellahin) Now referring to what has been marked as Exhibit No. 14, that's the schematic diagram; would you identify that exhibit, please?

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A This is a schematic diagram of a typical injector that we propose. The completion will be exactly the same as testified to by Mr. Fickert. We will drill large hole, set 13-inch one joint approximately 30 feet long, cemented at the surface, to drill 11-inch hole to the top of the salt which occurs at approximately 500 feet. Then if we don't lose circulation, we'll reduce hole size and drill to TD which will be approximately 3200 feet. We'll cement our 4-1/2 with sufficient cement to cover the Red Sand and perforate zones 5, 6, and 8, which are the Premier and Lovington zones. Then approximately 50 sacks of cement will be spotted at the top of the salt through one-inch tubing.

Our casing will be new J-55 4-1/2 casing which is mill tested to 3,000 pounds, and we propose to inject down the casing unless we have the problem of having to have selective injection due to the permeability variations. In any event, we will not inject other than fresh water down the casing or the annulus.

Q Your injection program then is substantially the same as that testified to by Mr. Fickert?

A That is correct.

Q Are all of your injection wells to be drilled, Mr. Porter?

A Yes, they will all be new wells.

A Yes.

Q There are no old wells to be converted, is this correct?

A No.

Q Now referring to what has been marked as Exhibit No. 15, will you identify that exhibit?

A Exhibit 15 is a type log, it's a gamma ray neutron log of the productive sections. Zone 5 occurs about 3,040 feet, Zone 6 at about 3,080 feet, and the Lovington at 3220, thereabouts.

Q You heard Mr. Fickert's testimony as to the permeabilities of these zones. Are you in agreement with him on that testimony?

A Yes, I am. We have very little data, actually, as to permeabilities, but we've seen from offset operations by Newmont that the Zone 5 does have a relatively higher permeability than the rest of the zones.

Q Do you anticipate that you will have to selectively inject that zone?

A We think we will probably have to.

Q But you are going to attempt to inject down the casing first, is that right?

A Yes, and then we'll run a survey and see where the water is going and in what proportions, and determine if we are

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getting a suitable profile.

Q Referring to what have been marked Number 16 and 17, would you identify those two exhibits, please?

A Number 16 is the presentation of Cima Capitan well data which shows the casing, the completion methods, and so forth.

Q Does that give a history of the well completion?

A Yes, it does. It shows the necessary statistics as to how the wells were completed.

Q Now are these the producing wells that will be utilized in connection with the waterflood project?

A Yes, they will be used.

Q Referring to what has been marked as Exhibit No. 18, would you identify that exhibit?

MR. IRBY: No testimony on 17?

MR. KELLAHIN: I am sorry.

A Number 17 is the same well data presentation for Western Oil Fields, Inc.

Q (By Mr. Kellahin) That covers the history of those wells and their completion information?

A Yes, sir.

Q And there again, those are the wells that will be used in the waterflood project for producing?

A That's correct.

Q Now referring to what has been marked as Exhibit No. 18, would you identify that exhibit?

A Exhibit 18 is a letter from Double Eagle Corporation to Cima Capitan, saying they have water in the area for the flood. Also Yucca Water Company has a pipeline near here which they have called on the phone and offered to sell water. This is fresh water which comes from the Ogallala formation.

Q That would be the same analyses as the two exhibits presented by Mr. Fickert, is this right?

A Yes.

Q For the Yucca Water Company and the Double Eagle?

A That's correct.

Q What volumes of water do you anticipate that you will inject in this project?

A We think that we'll probably be able to inject 300 or 350 barrels a day at approximately 2,000 pounds of pressure.

Q Will the casing be tested to 2,000 pounds, or in excess of that?

A Yes, sir, it will be tested to at least 3,000.

Q Now what disposition will be made of the produced water?

A The produced water will be reinjected. We have to buy the make-up water and it's fairly expensive. It's our plan to reinject the produced waters through a split system.

The produced water will be injected, however, through tubing which will be either cement lined or plastic coated, and beneath a packer.

Q Were Exhibits 9 through 18 prepared by you or under your supervision?

A Yes, sir.

Q With the exception of Exhibit 18, which is a letter received by you?

A That is correct.

MR. KELLAHIN: At this time I offer in evidence Exhibits 9 through 18, inclusive.

MR. NUTTER: Exhibits 9 through 18 are admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 9 through 18, both inclusive, were offered and admitted in evidence.)

MR. KELLAHIN: That's all I have on direct examination from this witness. However, I do have two letters I would like to offer for the consideration of the Commission from the Newmont Oil Company and from Kennedy Oil Company, which approve the application for the waterflood project.

MR. NUTTER: Are there any questions of Mr. Porter?

MR. IRBY: Yes.

MR. NUTTER: Mr. Irby.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Porter, as testified by Mr. Fickert for the other participants in this matter, can you state that the only water which will contact the casing wall above the packer in your wells will be fresh water?

A Yes, sir, I can. I thought I did mention that. I will state that, yes, sir.

MR. IRBY: Thank you. That's all I have.

BY MR. NUTTER:

Q Mr. Porter, let me see if I've got the right forties for these various wells. First of all, your original application was for sixteen wells, and Newmont has withdrawn from this, and as I look at your Exhibit 9 it appears that five wells were on their property.

A Yes, sir, I believe that's what I count.

Q So we have a total of eleven wells, six of them were Ryder-Scott wells and you have five injection wells left on yours?

A Yes, sir.

Q So the hearing will be for a total of eleven injection wells?

A Yes, sir.

Q Now starting with your various injection wells, you

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gave those footage descriptions, but I want to be sure I have got them right. The No. 4 appears in the extreme corner of Section 26; that is ten feet out of the corners?

A Yes, sir, I believe I have the circles drawn on the injectors in the correct 40.

Q And then the No. 15 is 2630 from the East and ten from the North; it's in the same 40 with Well No. 11, ten feet out of the corner?

A Yes.

Q Your No. 18 producer is 1310 from the North and West lines of the section?

A Yes.

Q In the same 40 as No. 1?

A That's right.

Q Your No. 19 is 1310 from the North and East lines of the section in the same quarter quarter as No. 9?

A That is correct.

Q Your No. 16 injector down here is ten from the West and 2630 from the North?

A Yes.

Q Your No. 20 is in the same 40 as the Greer 1 and would be 2630 from the South and West?

A You are referring to the Capitan No. 2?

Q Oh, yes, it's the 2, not the 20.

A Yes, it's in the same 40 with Capitan No. 1.

Q And then the last well -- oh, then you have a No. 3 down here on your Greer Lease?

A Yes.

Q And what's the distance there, it would be 1330 from the --

A 1330 from the South and 3950 from the East. The reason I measured from the East is that this is a correction section.

Q Because the section is short?

A But it will be in the same 40 acres as Capitan No. 1.

Q So it's 1330 from the South and 3950 from the East?

A Yes.

Q And then the No. 17 is ten from the South and 2630 from the East?

A Yes.

Q And the No. 20 unorthodox producer would be 1310 from the South and 1330 from the East?

A I have it as 1330 from the South and East.

Q Well, it would be in the same quarter quarter with the No. 6?

A Yes, sir. I might point out that the Capitan Kelly No. 1 is a producer which is presently an unorthodox location.

Q Let me see, where is that one?

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A In Section 36.

Q Oh, yes.

A That's approved ten feet out of the corner of that 40-acre tract in 19--I believe it was 1949. Anyway, it was, and the only reason we might possibly want to drill that No. 5 is that this is an open hole type completion. If we have any pipe problem, we might want to replace it with a new well.

Q Which 40 would the No. 5 be in?

A The same 40 with Kelly State No. 2.

Q So it would be 1330 from the East and 1310 from the North, probably?

A No, sir. I got that moved a little farther to stay at least 100 feet from the old well in case we want to drill. I have it located 1220 from the North and 1420 from the East.

Q 1220 and 1420. Well, now, did you state -- now you are going to go ahead and drill the 18 and the 19, but the No. 3 and the No. 20 down here won't be drilled unless it's unitized?

A 3, 5, and 20 will be unitized before it is drilled because it's too close to the lease line otherwise.

Q 3, 5, and 20?

A Yes.

Q But the 18 and 19 will be drilled, since they are in the center of your lease?

A These others will, too, as soon as we get the unitization.

Q Will any of these wells indicated as being abandoned be reactivated?

A I rather doubt it.

Q So for instance, there in the case of the Northeast Northeast of 31, we would have one well there for allowable purposes, being the No. 19?

A Yes.

Q Now in the event that the selective injection is necessary, you would equip your well in the same manner that Mr. Fickert was speaking of this morning where you would set a packer between the upper and the lower zone of the Premier?

A Yes, sir.

Q And go down the casing into the upper zone and then down the tubing into the other two zones, the Lovington and the lower Premier?

A Yes, sir, that's correct.

Q Now, Mr. Porter, has any estimate been made of the secondary recovery for this project, over-all?

A I made an estimate from reviewing the flood east of us, and I would estimate that we will recover on the order of one and a quarter times primary production. The primary production has been over a half a million barrels for Western

Oil Fields, and slightly over 200,000 barrels for Cima Capitan.

Q And that one and a quarter would probably be applicable to the Ryder property too?

A Yes, I think it would be applicable. It would be on that order, somewhere between there and two times, at least.

MR. NUTTER: Are there any other questions of Mr. Porter? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all we have, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3310?

MR. WHITE: With the permission of the Examiner, I would like to make a closing statement.

MR. NUTTER: Yes, sir. Would you identify yourself?

MR. WHITE: My name is Paul White, Division Engineer with Western Oil Fields, Inc., Hobbs, New Mexico. I have testified before, before the Examiner; and for the protection of correlative rights in this area I want, on behalf of Western Oil Fields, Inc., to assure the Oil Conservation Commission that we will give our full support to Ryder-Scott and Cima Capitan in their request for the approval of this project.

Both for the conservation and efficient recovery of

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PAGE 38

the crude oil in this area, I know that Western Oil Fields, Inc. will exercise the necessary cooperation and we will fulfill any obligations we have toward the expansion of this waterflood. We will also abide by any rules and regulations which are set down by the Oil Conservation Commission concerning this application; and, lastly, I would respectfully request that the Oil Conservation Commission act as hurriedly as possible on the case herewith presented. Thank you.

MR. NUTTER: Thank you. Does anyone else have anything for this case? We'll take the case under advisement.

* * * *

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ADA DEARNLEY, Court Reporter - Notary Public, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 27th day of October, 1965.

Ada Dearnley
Court Reporter - Notary Public

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive hearing of Case No. 3310 heard by me on 9/22/65.

[Signature] Examiner
New Mexico Oil Conservation Commission

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<u>NUMBER</u>		
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cima **CAPITAN** incorporated

(N.S.I.)

ARTESIA, NEW MEXICO

August 30, 1965

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POST OFFICE DRAWER 1343

AREA CODE 505
TELEPHONE 748-1125

MAIN OFFICE

'65 SEP 1 AM

Case 3310

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

Please consider this letter as the application of Ryder-Scott Management Company, Stallworth Oil and Gas Company, Newmont Oil Company, and Cima Capitan, Inc., for a water-flood permit and approval of a co-operative waterflood. Injection will be into the Grayburg - San Andres formations at approximately 3,100 feet through sixteen (16) injection wells to be drilled in sections 25 and 36, T16 S, R 30E and Sections 30, 31 and 32, T 16S, R 31E, Square Lake Pool, Eddy County. Location of the new injection wells will be unorthodox and generally drilled 10 feet from the corners of 160-acre tracts as shown on the attached plat.

Application is also made for 10 producers on unorthodox locations generally located 10 feet from the centers of 160 - acre tracts as shown on the attached plat.

Water to be injected will be fresh make-up water and re-injected produced water at an estimated rate of 250 barrels per day per well at 2,000 psi. Make-up water will be purchased from one of the commercial water pipelines in the area.

A copy of this application is being forwarded to the State Engineer in Santa Fe.

Please set this matter for hearing at the second hearing date in September if possible.

Very truly yours,

Cima CAPITAN Inc.

Hai Porter

Hai Porter, Engineer

copies: Ryder-Scott
Stallworth
Newmont
Texaco
Kennedy Oil Co.
State Engineer

GOVERNOR
FRANK L. MECHAM
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE, N.M. 87501

*Injection into each of the authorized water in-
jection wells shall be through tubing and under
a packer set immediately above the upper Premier
zone. Provided, however, that if ^{selective} injection is required,
the packer will be set between the upper Premier and
the lower Premier, injection of fresh water will be
through the casing-tubing annulus, and
injection of fresh water and re-cycled water
will be through tubing under the packer
into the lower Premier and the
Rovington zones.*

Gentlemen:

Reference is made to
~~Enclosed herewith~~ is Commission Order No. R- 2977, *recently* entered in Case
No. 3310, approving the ~~Amador~~ *Square Lake Cooperative*
Water Flood Project *to be operated by Lima Capital, Inc., Ryder Scott*
Management Co., Stallworth Oil and Gas Company, and Western Oil Fields,
As to calculations, indicate that
According to our calculations, when all of the authorized injection
wells have been placed on active injection, the maximum allowable which this
project will be eligible to receive under the provisions of Rule 701-E-3
~~is barrels per day.~~ *will be as follows: see attached*

Please report any error in this calculated maximum allowable immediately, *yellow*
both to the Santa Fe office of the Commission and the appropriate District
proration office. *sheet*

In order that the allowable assigned to the project may be kept current,
and in order that the operator may fully benefit from the allowable provisions
of Rule 701, it behooves him to promptly notify both of the aforementioned
Commission offices by letter of any change in the status of wells in the project
as, i.e., when active injection commences, when additional injection or
producing wells are drilled, when additional wells are acquired through purchase
or initialization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status
of the project and the wells therein will be appreciated.

Very truly yours,

r. Frank Irby
TC - Hobbs and Artesia
Paul White

A. L. PORTER, Jr.
Secretary-Director

42
6
242

Ryder Scott Management Company

Loe Federal Lease 242 BOPD
Etz Lease 124 BOPD

1

Stearns Oil and Gas Company

Etz Lease 84 BOPD

Western Oil Fields Inc.

Griner Lease 242 BOPD

Cima Capital, Inc.

42
14
56

Stace Lease 84 BOPD
Griner Lease 56 BOPD

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

October 19, 1965

C
O
P
Y

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Dear Sir:

Reference is made to Commission Order No. R-2977, recently entered in Case No. 3310, approving the Square Lake Cooperative Waterflood Project to be operated by Cima Capitan, Inc., Ryder-Scott Management Company, Stallworth Oil and Gas Company, and Western Oil Fields, Inc.

Injection into each of the authorized water injection wells shall be through tubing and under a packer set immediately above the Upper Premier zone. Provided, however, that if selective dual injection is required, the packer will be set between the Upper Premier and the Lower Premier, injection of fresh water will be through the casing-tubing annulus, and injection of fresh water and re-cycled water will be through tubing under the packer into the Lower Premier and the Lovington zones.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 will be as follows:

RYDER SCOTT MANAGEMENT COMPANY

Lee Federal Lease	242 BOPD
Etz Lease	126 BOPD

STALLWORTH OIL AND GAS COMPANY

Etz Lease	34 BOPD
-----------	---------

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

-2-
October 19, 1965

WESTERN OIL FIELDS, INC.
Grier Lease 242 BOPD

CIMA CAPITAN, INC.
State Lease 84 BOPD
Grier Lease 56 BOPD

C
O
P
Y

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned commission office by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/lr

cc: Mr. Frank Irby
Oil Conservation Commission offices in Hobbs and Artesia
Mr. Paul White

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

November 3, 1965

C
O
P
Y

Mr. William E. Fickert
Ryder Scott Company
Petroleum Engineers
306 Wilkinson-Foster Building
Midland, Texas

Dear Mr. Fickert:

Reference is made to your letter of November 1, 1965, regarding the maximum allowable which the Stallworth Oil & Gas Company Etz Lease will be eligible to receive as the result of waterflood operations which will be conducted under authority of Order No. R-2977.

You are correct in your computation of 194 bopd maximum allowable for this lease.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/ir

cc: Oil Conservation Commission
Artesia, New Mexico

RYDER SCOTT COMPANY
PETROLEUM ENGINEERS
MIDLAND, TEXAS

MAILED
65 NOV 3 PM 1 25

November 1, 1965


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

Dear Mr. Porter:

In your letter to Mr. Kellahin of October 19, 1965 you tabulated maximum allowables for the leases involved in Case No. 3310 resulting in Commission Orders No. R-2977 and No. R-2977-A. We understand and agree with the allowable assigned to the Ryder Scott Management Company-Loe Federal Lease but we are not sure how the allowable was determined for the Stallworth Oil & Gas-Etz Lease. It appears to us that the maximum allowable due Stallworth should be 194 BOPD (4X42+2X13).

Yours very truly,

RYDER SCOTT COMPANY
PETROLEUM ENGINEERS



William E. Fickert

WEF:ab

cc: Oil Conservation Commission-Hobbs, New Mexico
Oil Conservation Commission-Artesia, New Mexico
Stallworth Oil & Gas, 407 W. Missouri, Midland, Texas

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED: Cima Capitan, Inc., Ryder-Scott Management Company, Stallworth Oil and Gas

Ryder-Scott Management Company

Loe-Federal Well No. 3, to be located 330 feet from the North line and 1995 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM;

Loe-Federal Well No. 5, to be located 2630 feet from the South line and 10 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM;

Loe-Federal Well No. 6, to be located 2630 feet from the North line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM;

Loe-Federal Well No. 7, to be located 10 feet from the North line and 10 feet from the West line of Section 30, Township 16 South, Range 31 East, NMPM; and

Loe-Federal Well No. 8, to be located 10 feet from the North line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM.

Stallworth Oil and Gas Company

A. N. Etz Well No. 5, to be located 10 feet from the South line and 2630 feet from the East line of Section 25, Township 16 South, Range 30 East, NMPM.

Western Oil Fields, Inc.

Grier Well No. 15, to be located 10 feet from the North line and 2630 feet from the East line of Section 31, Township 16 South, Range 31 East, NMPM;

Grier Well No. 16, to be located 2630 feet from the North line and 10 feet from the West line of Section 31, Township 16 South, Range 31 East, NMPM; and

Grier Well No. 17, to be located 10 feet from the South line and 2630 feet from the East line of Section 31, Township 16 South, Range 31 East, NMPM.

Cima Capitan, Inc.

State Well No. 4, to be located 10 feet from the North line and 10 feet from the East line of Section 36, Township 16 South, Range 30 East, NMPM.

Grier Well No. 2, to be located 2630 feet from the South line and 2650 feet from the East line of Section 31, Township 16 South, Range 31 East NMPM (SEE UNDER)

DRAFT
JMD/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3310

Order No. R-2977

CIMA CAPITAN, INC., RYDER-SCOTT MANAGEMENT COMPANY,
APPLICATION OF STALLWORTH OIL AND GAS COMPANY, AND WESTERN OIL FIELDS,
FOR A WATERFLOOD PROJECT, EDDY COUNTY, INC.,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
October 6, 1965, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this _____ day of October, 1965, the Commission,
a quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

- (1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof. Cima Capitan, Inc., Ryder-Scott Manage-
ment Company, Stallworth Oil and Gas
- (2) That the applicants, Company, and Western Oil Fields, Inc.,
cooperative
seeks permission to institute a/waterflood project in the _____

Square Lake ~~in the _____ Unit Area~~ Pool by the injection of water into the
to be drilled at unorthodox locations
Grayburg-San Andres formations through ~~ten~~ injection wells/in
Sections 25 and 36, Township 16 South, Range 30 East, and
Sections 30, 31, and 32, Township 16 ~~North~~, Range
South

31 ~~West~~, NMPM, Eddy County, New Mexico.
East

- (3) That the wells in the project area are in an advanced
state of depletion and should properly be classified as "stripper"
wells.

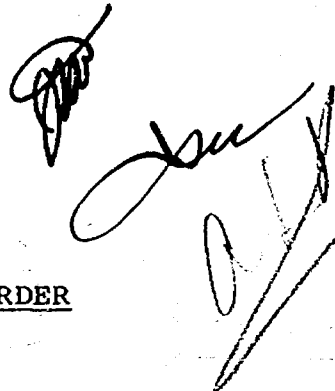
- (4) That the proposed waterflood project should result in the
recovery of otherwise unrecoverable oil, thereby preventing waste.

DRAFT
JMD/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE No. 3310
Order No. R-2977-A

IN THE MATTER OF THE APPLICATION OF
CIMA CAPITAN, INC., RYDER-SCOTT MAN-
AGEMENT COMPANY, STALLWORTH OIL AND
GAS COMPANY, AND WESTERN OIL FIELDS,
INC., FOR A WATERFLOOD PROJECT, EDDY
COUNTY, NEW MEXICO.



NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,
Order No. R-2977, dated October 7, 1965, does not correctly state
the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That Order No. R-2977, dated October 7, 1965, is hereby
corrected by addition of the following paragraph:

(1-A) That the applicants are hereby authorized to
drill producing wells at the following-described unorthodox
locations in said cooperative waterflood project area:

Ryder-Scott Management Company

Loe-Federal Well No. 9, to be located in Unit E,
1325 feet from the North line and 1010 feet from
the West line of Section 30, Township 16 South,
Range 31 East, NMPM.

Stallworth Oil and Gas Company

A. N. Etz Well No. 6, to be located in Unit P,
1315 feet from the South line and 1315 feet
from the East line of Section 25, Township 16
South, Range 30 East, NMPM.

Western Oil Fields, Inc.

Grier Well No. 18, to be located in Unit C,
1310 feet from the North line and 1310 feet
from the West line of Section 31, Township 16
South, Range 31 East, NMPM.

Grier Well No. 19, to be located in Unit A,
1310 feet from the North line and 1310 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

-2-

CASE No. 3310
Order No. R-2977-A

Grier Well No. 20, to be located in Unit J,
1330 feet from the South line and 1330 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

Cima Capitan, Inc.

State Well No. 5, to be located in Unit B,
1220 feet from the North line and 1420 feet
from the East line of Section 36, Township 16
South, Range 30 East, NMPM.

Grier Well No. 3, to be located in Unit K,
1330 feet from the South line and 3950 feet
from the East line of Section 31, Township 16
South, Range 31 East, NMPM.

(2) That the correction set forth above shall be effective
nunc pro tunc as of October 7, 1965.

DONE at Santa Fe, New Mexico, on this _____ day of October,
1965.