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

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APP/icAtion, Transcripts, SMAll Exhibits ETC.

DOUBLE EAGLE CORPORATION OF NEW MEXICO

401 197 SAVINGS BLCG. MIDLAND, TEXAS



PHONE MUTUAL 3-2394

August 23, 1965

Cima Capitan, Inc. Drawer 1343 Artesia, Néw 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)

L. D. Crunly,

LDC:mj

RSMC-CimaEx18 Ce 3410

BEFORE EXAMINER NUTTER MONTHLY RECORD OF PRODU CTION CONSERVATION COMMISSION Operator CIMA CAPITAN, INC. IMA-EXHIBIT NO. Well No. LEASE KELLY, STATE & GRIGE CASE NO. Well Loc. Field Square Lane Remarks Composite TOTAL WELLS - OIL PRODUCTION County Locy 4 N. N. State __ 962 1965 1960 1963 1961 1964 OIL PROD .- BELS. GAR-PROD.-MCP WATER-OBLE. OIL PROD.-Bals. GLe-Page -HCF WAT 107 166 8/ 21 129 9 JAN. 40 JAN. 473 FEB. 90 173 FER. 3Z 28 170 147 314 206 MAR. 51 220 MAR. 42 94 12 1/4 96 APR. 200 APR. 196 20 MAY 60 MAY 109 JUNE 58 JUNE 100 9599817 JÚLY 70 94 235 186 JULY AUG. 242 90 78 236 AUG. <u>o</u> ġ 2/9 2/9 195 235 88 189 73 83 49 SEPT. SEPT. 209 200 137 2352 OCT. OCT. 61 78 84 1271 38 NOV. NOV. 63 DEC. 26 97 DEC. TOTAL 874 TOTAL 2109 210361 212713 20 8252 1956 276 206010 CUMU. CUMU. 20728 1957 1.95 913 642 1959 17 9 204 JAN. JAN. 9 13 168 236 309 FE8. FEB. 223 140 171 271 127 180 018 352 368 MAR. 217 MAR. 86 83 APR. APR. 368 268 282 3/3 290 217 185 716 489 569 169 269 MAY MAY 271 JUNE JUNE JULY 164 201 JULY 279 239 193 216 AUG. 49 191 AUG. 550 20 211 209 ġ SEPT. 6 SEPT. 524 401 358 402 OCT. ост. 115 2/6 196 3/8× NOV. NOV. 107 211 189 152 209 2818 DEC. DEC. 260 1848 7239 2912 TOTAL TOTAL 195760 1950 226 465 287 404 192848 185609 1948 CUMU. 1989 CUMU. 04/62 201762 UU 1770. 1952 239 199 320 69 152 1949 14 17 40 257 263 248 248 328 328 327 328 327 257 307 347 295 210 381 374 391 381 381 381 381 381 381 381 381 JAN. 163 304 JAN. 15 189 143 34 FEB. FEB. 284 MAR. MAR. APR. APR. 204 40 72 283 71 552 298 MAY MAY 66 JUNE JUNE 262 2 19 Ţ JULY JULY 65 152 677 208 AUG. AUG. 133 134 583 2 <u>DS</u> <u>o</u> SEPT. ð SEPT. 185 82 143 Ż 80 97 77 20 U 30 [OCT. OCT. 378 35.3 1475 9.3 Ž NOV. NOY. 150 460 362 78 6 DEC. DEC. 3/01 TOTAL 2869 888 3 TOTAL 3264 169561 166632 CUMU. CUMU. 18234 773-Co 173/24 80,457 7918 - ARTESIA PRINTING CO.

R - ARTESIA PRINTING

| WESTERN OILFIELDS, | INC. |
|--|------|
| WESTERU OIL | Van |
| UTS' | TOKI |
| | ela |
| PRODUCTION HIS Square Lake Fi 16 Wells | |
| 16 Wer | |

TAXABLE CONTRACT

BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION CASE NO.

| | | Cumulative |
|--|----------|------------|
| | Barrels | 2736 |
| Year | 2736 | 27150 |
| 1941 | 24414 | 107136 |
| 1942 | 79986 | 208606 |
| 1943 | 101470 | 277082 |
| 1944 | 68476 | 316090 |
| 1945 | 39008 | 338552 |
| 1946 | 22462 | 361618 |
| 1947 | 23066 | 382699 |
| 1948 | c. 21081 | 393487 |
| 1949 | 10788 | 405763 |
| 1950 | 12276 | 419320 |
| 1951 | 13557 | 430827 |
| 1952 | 11507 | 441543 |
| 1953 | 10716 | 451700 |
| 1954 | 10157 | 461661 |
| 1955 | 9961 | 46933 |
| 1956 · · · · · · · · · · · · · · · · · · · | 7676 | 47706 |
| 1957 | 7728 | 4845 |
| 1958 | 7492 | 490 |
| 1959 | 6088 | 502 |
| 1960 | 11769 | 51 |
| 1961 | 16683 | s 52 |
| 1962 | 8032 | 5 |
| 1963 | 5031 | |
| 1964 | | |

Exhibit No.

di.

- 13" CASING 30'= -11"HOLE Top SALT 500'= CEMENT BASKET W/ 50 SACKS - 71/8" Hoze - 412" (ASING. BEFORE EXAMINER NUTTER OH CONSERVATION COMMISSION CASE NO. 3310 14 CASE NO. CEMENT TO COVER RED SAND RED SAND Z400'= CIMA CAPITAN, INC. Schematic of TYPICAL INSECTOR SQUARE LAKE PROJECT > ZONE 5 3000'± ZONE 6 _ZONE 8 3200'İ EXHIBIT No.



| • • • | | Exhibit No. | | | | | |
|-------------------|---|-----------------------------|---------------------------------|---------------------------|----------------------------|--------------------------|----------------------------------|
| | | | CONSERVATION COMMISSION | CASE NO. | e Ø | | |
| | | | EXAMINER NUTTER | SEFORE EXAN | | | |
| | | | | | | - | |
| 174900 | | 3114 3815 DD 3121 (1944) | ઽૠ" @ 2804 | | 3-14-42 60 | 1 H-36-16-30 | Kelly-Tellyer 1 |
| | Shot 3080 - 98 | 3171 3782 PB 3098 | 7" @ 2838 W/100 | 8" ଡି 502 W/50 | 4-11-43 85 | L-31-16-31 | Grier No. 1 |
| 20113 | | 3040 3807 | 7" @ 28a W/100 | 60(NAT) 8" 500 W/50 Sx | 2-14-42 60(| (P & A-36-16-30 FN & | State No. 1 (1 A 1949) 660 FN |
| | | 24 | | | | C htt | 660 FN & 1300 FE |
| | Frac:LovingLou 1999 3 MG & # Prod.increase to \$0 B/D | 3035 3819 3220 (1953) | 7" @ 2795 Ŵ/100 | 300 NAT 33" 494 | 8-8-42 300 | B-36-16-30 | |
| 62132 | Frac:Straddle packers 3 zones 3MC & #1 zone | 3255 3807 | 7" @ 2815 W/100 | AF 10" 482 W/50 | 3-19-54 35 AF | A-36-16-30 | State No. 3- |
| 50854 | Shot 3128-48 80 Qts | 3332 | 6" @ 2815 W/100 | 10" 544 W/50 | 9-30-49 10 | 1 1310 FE) H-36-16-30 | Kelly State 1 (1330 FN & 13) |
| Recovery 13801 | Stimulation | T.D. Elev. | Casing | Surf. | Comp1. Date <u>I.P.</u> | Location | Leese & Well No. |
| Primary | | | SQUARE LAKE PROJECT - WELL LAND | CIMA CAPITAN, INC SQU | CIMA | | • |

KE PROJECT - WELL DATA

| | - | ETZ | | | | Grier | ETZ | | | | | 2 | | | | Grier | Lease & Well No. | |
|------------|-----|---------------|----------------------------|--|------------|-------------|---------------------------------------|---|-----------------|--|----------------|-----------------|----------------|------------------|-------------------------------------|------------------|---------------------|-------|
| | ~ | فبر | 14 | 13 | 10 | 9 | 2. | 12 | 11 | 7 | δ | С, | 4 | ω : | 2 | Ч | 11 No. | |
| · | | M-19-16-31 | I-20-16-31 | J-20-16-31 | 0-30-16-31 | A-31-16-31 | N-19-16-31 | J-30-16-31 | B-31-16-31 | H-31-16-31 | J-31-16-31 | G-31-16-31 | F-31-16-31 | C-31-16-31 | E-31-16-31 | D-31-16-31 | Location | ç |
| · · · · | | P & A | | • | P&A | Ρ&Α | 5-11-45 | 2-29-44 | 12-7-43 | 9-30-43 | 4-16-45 | 7-29-42 | 9-27-42 | 7-18-42 | 5-13-42 | 10-19-41 | Comp1. Date | |
| 1 | | | • | | | | 60 AS | 120 AS | 240 AS | 240 AS | 200 AF | 240 AS | 240 AS | 520 AS | 400 AS | 390 AS | L.P. | |
| | | Cunar (XHIBIT | OF CONSERVATION COMMISSION | היין אין אין אין אין אין אין אין אין אין | | | 7" @ 2978 W/100 | 2017 M C/62 D 112 | 7" @ 3018 W/100 | 5½ @ 3055 W/100 | ୍ବ | 7" @ 2985 W/100 | ₩7 2965 W/ 100 | 7" ල 2989 W/ 100 | 기 (월 2965 년 100 17 (월 2945 년 100 | 2% (g 2907 W/100 | Casing | |
| | 010 | | | | | | J J J J L | | 30.05 T 0.45 | 0 4 C J | 5 U F 5 0 U | 2000 | 3328 | | 2250 | | <u>T.D.</u> 3360 | |
| | | N | NOIS | | 1 | | | у С С С С С С С С С С | 3822 | ο ο ο ο ο ο ο ο ο ο ο ο ο ο | 3230 | 3807 | 3828 | 3811 | 3839 3839 | 3808 | Elev. 3822 | |
| Exhibit No | | | - - - - | · · · · · · · · · · · · · · · · · · · | | · · · · · · | · · · · · · · · · · · · · · · · · · · | 290 Qts | 210 Qts | 490 Ots | 170 Qts | Frag 3mgo & 3m# | ••• | 90 qts | ••• | 200 Qts | 200%Qts | |
| | • | 559518 | 10739 | 2756 | 17917 | 25805 | 15268 | 36157 | 54095 | 50135 | 25282 | 44345 | 40428 | 50652 | 56086 | 61429 | 68424 | Prim. |

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

| · · · · · · · · · · · · · · · · · · · | | | · · · · · · · · · · · · · · · · · · · | ······· | | |
|---|---|--|---|---|--|---|
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| | | | | • • • • | | |
| e benit Amer. | tist Voten 18 Stier | rwalt | 10 3 200 1 F | Shell Pita | • Mobil HBP | 0 Neill Fed. E1 4131 17 256 5/4.2-13- |
| 1er. 019445 f41 03 f455 f55 05 f43 00 141 541 543 05 543 05 545 | File Humble 18 667 106263 So. Un 6-5131 3-66 Beste 7-56 4-57 106263 So. Union 7-51 4-57 105260 | | u.s.;8 U.S. "Trigg-fed" | Trigg" Leonard Wobile8 U.S. Si Humble | 0442 - C* 681881 0442 - C* 681881 01-ATr 993 1-ATr 993 1-ATr 993 1-ATr 993 1-ATr 993 1-3 0-2 1-3 0-2 1 | 5+d.o 22: 24 "II |
| 1 Trisg 4 1 26 1 1 Tozaia 1 Mabil 26945 2 Ocade | 10 3025 t Shell i Yaney-Harris (a. 1 H BP 1 023423 463923 1 (Shell Byl) Steel | E.A. Hansan 🥜 👘 | Mabit (Shell,Sh) 1 - 1 - 61(2) 1 - 1 - 61(2) - 2 ⁶⁵²⁴⁵³ HBP - 1 - 51(2) - 51(2) | • 1 1:3 • 1 WUJ. Lecnard 2-1:67(0) Mobil Gil 026332 062483 FE | J FE 2 Mobil TD 3584 C exercised of Lowless C exercised of 026332 Mobil Texos 5 FE 4 | U Perm C 13420 29 3653 Std of |
| Stoblein" | | 5hell 12 | ses 31 17 autine Clahn 1 Trice | Buffett X R Hover, 13:1-73 Vidwest Toryled | F31 1°C" P10 9 Texos 1 Comptent 1 Dassi | 3 12541 15-10 -0 703719 |
| ////EAHanson 1-1-1-11 ////////////////////////////// | 12) 12) 18 right & Schiff | neli 13:58:12) 53322U.S. | 087483 U.g. 9994 Numble hacke etall HBP fore of E6833 1939124, State | 05:8782 8 agie Farmyinc. Numbit Buttett HBP 6:6533 9:174 05:6782 | "Gulf-Fed" 1 "Sulf-Fed" 1 US | Solsieh Fed. "DA" EL4 -\$* 183 548 |
| 6enil Amer. 4 ⁶ Premi HBP Stobie 969465 £1901 10139 | Kinnedy S(R) 12-10-51(28 12- 11-10-58 68511 1 683518 705355 61 | Shell Bright-Schiff 6. -3-58 (2) Kenzedy 13923 12-13-58 (2) 12-13-58 (2) 12-13-58 (2) 13923 12-13-58 (2) 13924 12-13-58 (2) 13923 12-13-58 (2) 12-13-58 (2) 12-13-58 (2) 13923 12-13-58 (2) 13923 12-13-58 (2) 1392423 12-13-58 (2) 10-23423 12-13-58 (2) | Acta G Sp.Petex S Parl Mar J M. S. 17 (S) M B Parl HBU Parl HBU Parl J M BU Parl J M BU P | a.Pet.Ex. Humble Mobil HBP HBP HBP 1-2721 State-1633 0441 | So.Pet.Expl. E.D.White HBP 7.21-74 B-2721 75276 75276 | Mot HB 244 |
| 15 Mobis 7-1-61(22 965641 | R. Niz NW 14 14 56 11 56 | Etz 3 M 6 hell Wetch, etal | 442) 775 3 Shett - 18 | Gulf I & Compton-Fed 2-1-67(2) E1335E 026332 T03513 | E.D.While So.Pet Expi. 7 • 21 • 74 HSP K • 4276 8• 2261 75 2 Fromste | |
| 16 30 | 5 hell 1 12 - 13 - 53 (2) U.S. US3523 Henst | Hewitten Distance | is i Wetch 1 Wetch ● - Fad S/R | US | store 16 | 50.96 31 52 0.5 |
| Statianes Mobil NBP 1.511(2) 511 029135 - - 1.611(2) 019135 - - 1.611(2) 019135 - - 1.611(2) 019135 - - 1.611(2) 019135 - - 1.611(2) 019135 - - 1.611(2) 019135 - - 1.611(2) 01913 - - 1.611(2) 01913 - - 1.611(2) 01913 - - - 01913 - - 1.611(2) 01913 - - - 01913 - - - 01913 - - - 01913 - - - 01913 - - - 01913 - - - 01913 - - - 01913 <td>Shell Shell 1009 10000 10000 5000 <</td> <td>hell μ. Pen-Diss 13372 HSP U. Pen-Diss 13372 HSP 19424 Fill Shell Henshow 1 194327 12-1-51(2) Units</td> <td>Shell Texas Cons. 211 y 5 - 213431 H 8 P 109250 02421 w 5 2 Wgngcogy</td> <td>1 Sheppard 1 193733</td> <td>PT: Cities G.T. Cities Marrell, Service Usamarik Service 31-73 HBP 10555754 KBP 1394400 B65544 060564 KGS 1 Nenderson & Grier</td> <td>Feather Stone HBP 1 04361 1</td> | Shell Shell 1009 10000 10000 5000 < | hell μ. Pen-Diss 13372 HSP U. Pen-Diss 13372 HSP 19424 Fill Shell Henshow 1 194327 12-1-51(2) Units | Shell Texas Cons. 211 y 5 - 213431 H 8 P 109250 02421 w 5 2 Wgngcogy | 1 Sheppard 1 193733 | PT: Cities G.T. Cities Marrell, Service Usamarik Service 31-73 HBP 10555754 KBP 1394400 B65544 060564 KGS 1 Nenderson & Grier | Feather Stone HBP 1 04361 1 |
| Shell 2 2-36.679- NBP #89 063496 1 029.1511 1 Shell 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 4 F 380 UNIT | ESS25 JA371 HUMSTE DESID | 4163.03 | Josa Kennedy 2 D Westin J: 668064 ren: (Cit.Sec) | 103835 21 | inerine ug |
| fed t 1996 U.S. 626 Geni Amer. I Shell HBP 1 HBP | Henshaw-Unit Henshaw-Unit H | RB.P. U.S. 0.5522 14424 Henshow Unif | S. Vickers Felr (Brever) Rewmeniz | Newmont 4 000 VII 21: 919457 1 1 21: 6 Grier U.S. TD3585 Newmont Newmont 01 5 1 029457 2 1 1 1 1 5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 | 265014 hBP 26310 U.S.065344 Kennedy Kennedy Newmon 51571 011577 2 26544 hBP 26544 hBP 26544 hBP 26544 hBP 26545 | t Kernedy |
| 429155 0653456 1 | | er & Shell Overal Prat A 33 Switte Los Scotter I | Upreview Witessoft C. C. Scott King TOTTAN Windward Upreview (Electrony) Vickers Pelr. | Neumint Cit.Serie Bruning D.D. | Sheldon Kennedy "Sheldon Kennedy | 9 04367 5 . F63 5 |
| shell 27 Gen Ami 663436 923135 | 26(Tenneco) Te 114200 J.C.Thompson | 163925 Stollworth | Seit 7 train 0211 Haf We Daniel 2 07 11 Fares | Newmont 1 101803 5 03" A" 1 10365 5 1 100000 1 Venment 010 | Annosti Pravit Standard Production Prod. Schefort Kennedy Scheford Prod. Schefort Kennedy Scheford Schefort Kennedy Scheford Scheford Kennedy Scheford | 0.5 Feat 6524 105719 5 |
| 5. U.S. "Kuniee" | 12 01 3 US 03 T02665 A.N Etz T/A3700 Newmont S/R Ne | | California (1997) | Texas Irad. Bruning Gree Newment | Johasan Ushasan Ushasan Johasan Ushasan Ushasan Ushasan MercuryNeament Mercury Nemran Prod. t. S. Prod. 1. 065548 1. A. | Vermant. |
| s 02427 E Newmont S/R | (Texos Cons) E L 8053374 4 11 13 13 1 17 12458 17 12458 18 12 18 12 19 | 101e 151etserd | | Newmont | Tex. Tr." Ushnstan Tex. Tr." | Cities Serv.pyl |
| 2.5 p ¹⁰ 9 p ¹⁰ (1eros C score) (1eros C | 77 | 5 6 7 5 5 (Texos:Cons.) Sverdan | 3339 J. KSST delays East J. Burn J. J. 192345 Williamaid, Gilies | (So. Pet. Expl.) Co. (So. Pet. Expl.) Co. * Kennedy OsiSof Letters 8-1121 West.Oct Triceofe Events Dob. Dob (1) Sorier ctal 2 (etal 1) | NewmontNiamauli 5 Newman 55 5 Mercury 5 55302: 5 Mercury 56 Frod. 7 Vekrsin 173836 | •8 Mercuryl Prod. 1 |
| 4 1 2 3 4 1 2 2 anord 4 5. Etz 1 1 1 5 7 2 1 5 5 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | Eiz 5 33 5 1 33 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | fe Jackson-State lidewater | Lac Fred Gri | 123116 F42 1 | Kennedy Tex, Jr. 39 94 (139 34 3139, 34 71 15 31 16 17 17 17 17 17 17 17 17 17 17 17 17 17 | |
| Anadarko Woterfield 121915 Unbressoor 123010 19339 Meinigre J Parke | Slate Lex Cons. (1) [X 1] | A l 1 1 b, Windfahr 1 2 brown Artesia Pet. | 1,71 51 Sincloir 023435 023435 | L L L Sincloir Oliais | L L L Sinctoir Sinctoir \$6 ^{*8*} •5; *****•6 029426 A 029426 | 4 8 |
| Anodorko 1.3. 3 (Gent Art KK' 068514 0148 | 2 2 5 4 5 5 burnham,etal | s •(t | 3:37 c ⁴ 6 ●73 ● ⁷⁴ 3:47 ⁷¹ | € 22 - 19 16 • • | • • • • • • • • • • • • • | |
| "Pocke" | State Velich & Welch | Jackson chill Nosh, l | 31.47 27 •15 •13 _{U.S.} 51.57 1 •14 •13 •13 •13 •12 •13 •12 | 11 5. 13 14 Keel 18 57 18 12 11 | 8 23 28 WI | • F1 |
| syr≥ Anoderko 0467931 "R" 1 103544 | Nosh, Windfshr & Brown, Prerson liters 074,339 etal 1023318 (1893) 16 57557 57557 | Brewn Strawn Brewn Strawn Brewn Strawn Josess 1 | 3/68 21 Sinclair 019425 0 | Sinclair B ¹¹ 6 stB 15 | Sincloir 10385 8- #18 013426 -12-0 | - • |
| Texaco I fient Am | R.F.Windfihr Wesh | Nesh, Windfohr S. Brown H S. Brown H S. Brown H S. Brown H S. Brown H | 0, y 3 ³ 7 ↓ 7 ↓ 8 ↓ 0 3, 63 7 y 10 | 9 5 <u>6</u> 29 827 528 TO 3700 153200 | an an an an ar br>An an | 1 |
| Anadarko S/R fLockh Gent A ys itisti | 45 U.S. 613338 G Gissier 613338 G | Gissier179336 Jackson | 5 Keel 5 U.S. \$ 5 5 Sinclair 5 Franklin, 5 Sinclair 5 Siglice | •4 • •1 elg: •5 1*A*eigl | West 22 Твалог 2 Твалог 2 С.В С. H. Randie Neol В-зна 8 вара | 5 S |
| 17 30 Texeco HBD OTASSS TASSS Anodorko | · · · · · · · · · · · · · · · · · · · | Nosh, Winsfohr & Brawn, et al 19358 2-8 2 2 18 2 3 19 2 4 19 2 4 | 629855 (fair 01) 3218 2 7 6 2 5 Russell 6 Hudson | Fair Oil •3 (54358) •3 (54358) •3 Faster [*] •3 •3 •3 •4 •5 •5 •5 •5 •5 •5 •5 •5 •5 •5 | TOJEDS Kersey Shell Honog Rond's A. S. E. 601. TO 2230 T. A. K. KII L. C. | on: |
| SA Seni And Sinclor 15 1220 (Si 6) r tosess SETCO 9 526577 performance p | | ~~ ¹ 13 2 •t 13.03 h.Windfohr, 6, 1 | 3r, te 3t | S a 2 1 2 1 4 1 1 | Murchison & Closuit S/R | " 7 31 [°] |
| | | a de la composición de la comp | | | | |
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1/2 MILE

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- PRODUCING OIL WELL A ABANDONED OIL WELL DRY HOLE * GAS WELL * ABANDONED GAS WELL
- S WATER INJECTION WELL
- O LOCATION-INJECTION O LOCATION-PRODUCTION

SQUARE LAKE FIELD EDDY COUNTY, NEW MEXICO





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

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

BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION RSMC EXHIBIT NO.

S.C.S.

6

į.s.

1

RYDER SCOTT COMPANY DETROLEUM ENGINEERS

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OIL PRODUCTION HISTORY

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

| Year | Month | Number of Wells | Oil Production Barrels | Cumulative Oil Production Barrels |
|----------------------------|--|---------------------------------|--|--|
| 1942-1949 P & A from 19 | 949 to 1964 | 11 | 288, 382 | 288, 382 |
| | | | | م معلیہ میں اور |
| 1964 | - | 2 | 7,293 | 295,675 |
| 1965 | January February March April May June July August | 2 2 3 3 3 4 4 | 1,391 1,423 1,719 2,092 2,136 2,005 2,417 2,413 | 297,066 298,489 300,208 302,300 304,436 306,441 308,858 311,271 |

BEFORE EXAMINER NUTTER CIL CONSERVATION COMMISSION <u>KONIC EXHIBIT NO.</u> CASE 1. 3310

RYDER SCOTT COMPANY PETROLEUM ENGINEERS

| | i i i i i i i i i i i i i i i i i i i |
|---|--|
| Martin Water Laboratorie | BEFORE EXAMINER NUTTE |
| BOX 1468 MONAHANS, TEXAS | VIDATE CONSTRUCTION COMMISSIO |
| RESULT OF WATER ANAL | YSES DE COMMISSION COMMISSION |
| LAB | ORATORY NO. MOS96 IPLE RECEIVED NO. 6-2-59 3510 |
| TO: Mr. L. D. Crumly SAM | IPLE RECEIVED 6-2-59 3 510 |
| 503 Oil & Gas Building, Midland, Texas RES | ULTS REPORTED 6-10-59 |
| COMPANY Caprock Water Co Waterflood LEASE | |
| FIELD OR POOL Division Caprock W | ater (Ogallala Formation) |
| SECTIONBLOCKSURVEYCOUNTY | Lea & Eddy STATE New Maxico |
| SOURCE OF SAMPLE AND DATE TAKEN : | |
| NO. 1 Water - taken from raw water supply at edge | of Cap. 6-2-59 |
| NO. 2 Nator - takan from Skelly Camp residence ap | |

NO. 3 Jater - 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.

| CHEMICA | L AND PHYSICA | L PROPERTIES | 5 | |
|------------------------------------|---------------|--------------|--------|---------------------------------------|
| | 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 Wbea Received | 7.7 | 7.6 | 7,5 | |
| Total Alkaliaity as CaOO3 | 176 | 156 | 169 | |
| Supersaturation as Ca003 | 4 | | 0 | |
| Undersaturatios as CaCOg | | 4 | | |
| Total Hardhess as CaOO3 | 188 | 162 | 164 | |
| Calcium as Ca003 | 147 | 127 | .128 | |
| Magnesium as CaOO3 | 41 | 35 | 36 | |
| Sodium and/er Potassium | | | | i |
| Selfste as BO4 | 35 | 32 | 29 | |
| Chlorido an NaCi | 42 | 45 | 47 | |
| from as Fe | 0.36 | 0,20 | 0.12 | |
| Manganese as Ma | | | | |
| Barlum 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 Bolids at 103 deg. C | | | | |
| Total Boilds at 103 deg. C | | | | |
| Total Solids, Calculated | | | | |
| Temperature Degs. F. | 68 | 75 | 75 | |
| Carbon Dioxide, Caloziated | 7.5 | | 10_1 | |
| Dissolved Oxygen, Winkler | 8,2 | 7.2 | 8.4 | · · · · · · · · · · · · · · · · · · · |
| Hydrogen Bulfide | 0.0 | <u>0.0</u> | 0.0 | |
| Resistivity OHMS/CC at 60 Degs. Y. | 2,000 | 2,100 | 2,100 | |
| Total Suspendes Oil | | | | |
| | | | | |
| | | | | |

Additional Determinations And Remarks The above analyses are considered sufficiently substantial evi--Conce that this water can be satisfactorily transferred through a bare steel line. -A thin protective calcium carbonate scale is anticipated which should greatly reduce -corresion. The transferred water should not require plant filtration but wellhead -filters are recommended, as a small amount of insoluble iron will undoubtedly be -corrected. 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.

 $\langle \gamma \rangle$

Waylan C. Martin, M. A.

Case No. 60719

Bradford

LABORATORIES

WATER ANALYSIS RESULTS

CLIENT: Yucca Water Company Sample No. X2 3/16/60 10:15 am X3 3/16/60 11:00 am X1 3/16/60 9:00 am <u>74</u> 3/16/60 Date Sampled Time Sampled 35 pm 1: Date Received Time Received Location: Loco Water Tank Tank Hills Supply Well #1 Fresh Water System Lea & Eddy Counties, Influent Effluent at Plant At Plant Meter Station New Mexico Hazy; Sl. Yell.Cast Hazy; Sl. Or. Sed. Appearance When Sampled Clear V. Sl. Hazy V. Sl. Hazy Fine Or.Sed Appearance After Standing <u>Sl. Hazy;</u> Yell. Sed Sl. Hazy; V.Sl.Hazy Sl.Oz.Sed. Yel. Sed. None Odor None None Nue None None Taste -None None. °F Temperature 58 64: 58 58 pH Carbon Dioxide 7.4 7.1 7.4 7.4 ppm CO. 13 27 13 10 Dissolved Oxygen ppm O. 6.0 4.7 1. ppm Ci. Residual Chlorine nd 2.9 nd 7,9 nd nd Turbidity ppm 1.6 14 ppm Mn Manganese 0 0 0 0 Iron (Total) ppm Fe 0.2 1.4 1.0 Alkalinity to Phenolphthalein ppm CaCO. 0 146 0 146 0 0 138 Alkalinity to Methyl Orange ppm CaCO, 144 ppm SO: Sulfates 26 25 24 23 Chlorides 27 160 ppm Cl 35 180 32 174 52 178 Total Hardness ppm CaCO, Silica ppm SiO₂ 30 58 <u>34.</u> 53 34 56 29 50 Calcium ppm Ca <u>33</u> <u>10</u> Magnesium ppm Mg 9 9 8 Complex Phosphate ppm 293 308 **Total Solids** 313 356 ppm 17.1 ppm equal 1 grain per U. S. gallon. - "nd" means not determined. Loco Hills Tank Tank Water Supply Meter COMMENTS Well #1 Influent Effluent Station 7.0 1.3 0.18 `Total Suspended Solids(ppm) 4.1 4.4 0.03 0.01 0.02 Soluble Iron ppm Fe BEFORE EXAMINER NUTTER CIL-CONSERVATION COMMISSION ESMC EXHIBIT NO. 8 3310 CASE NC.

· .

B-4102

| ease K | ELLY, ST | CAPITAN, | 26te | . W | /ell Lo | c | n. | |
|--------|---------------|-----------------|---|------------|----------|-----------------|-------------|-------------------|
| iald S | Salant | AKE | · | | | Company | - Tor | A . |
| | · | -AKC | | _ ((| emarks | COMPOSIT | -OIL PRO | |
| | EDRY_ | | | - | -7 | WELLS | -OIL PRO | DUCTIO |
| tate 🚅 | N. M. | | ·. | _ | <u>.</u> | | | .s." |
| | 1965- | 1964 | 1963 | - | | 1962 | 1961 | 190 |
| | OIL PRODBBLS. | GAS PROT MCF | Waxen-BLS, | 1 | [| OIL PROD,-BBLS, | GAR PRODUCT | |
| JAN. | 40 | 107 | 166 | [| JAN. | 8/ | 71 | 179 |
| FEB. | 41 | 90 | 17.3 | 1 | FEB. | 32 | 57 | 141 |
| MAR. | 15 | 51 | 220 | | MAR. | 170 | 72.8 | 127 |
| APR. | 43 | 42 | 200 | | APR. | 141 | 1/2 | 1112 |
| MAY | 60 | 94 | | | MAY | 214 | 120 | 96 |
| JUNE | | .58 | 196 | 1 | JUNE | 206 | 100 | 10 |
| JULY | | 70 | 235 | | JULY | | | 109 |
| AUG. | | | | | | /86 | 95 | $\Pi \mathcal{D}$ |
| SEPT. | | 94 | 242 | 0 | AUG. | 236 | 90 | 90 |
| OCT. | | $\frac{73}{83}$ | | · · · | SEPT. | 219 | 8/ | 7.8 |
| NOV. | | 49 | 209 | | ОСТ. | 195 | 4/ | 161 |
| | | | 200 | | NOV. | 235 | 38 | 78 |
| DEC. | i | 63 | 137 | · | DEC. | 88 | 26 | 84 |
| TOTAL | | 814 | 2352 | | TOTAL | 2109 | 971 | 1271 |
| CUMU. | | 212713 | 210361 | } | CUMU. | 208252 | 20728/ | 20601 |
| | 1959 | 1958 | 0.1957 | - | | 1956 | 1455 | |
| JAN. | 179 | 204 | 377 | · | JAN. | 276 | 413 | 913 |
| FEB. | 139 | 168 | 309 | | FE8. | 236 | 333 | 642 |
| MAR. | 217 | 223 | 127 | ·] | MAR. | 352 | 462 | 1018 |
| APR. | 86 | 140 | 180 | · | APR. | 368 | 431 | 835 |
| MAY | 187- | 171 | 169 | | MAY | 268 | 434 | 716 |
| JUNE | 156 | 2.71 | 269 | | JUNE | 282 | 406 | 489 |
| JULY | 164 | 2/2 | 20/ | | JULY | 3/3 | 316 | 569 |
| AUG. | 1119 | 191 | 279 | 1 | AUG. | 290 | 291 | 550 |
| SEPT! | 202 | 211 | 239 | 6 | SEPT. | 217 | 158 | 524 |
| ост. | 115 | 209 | 193 | | OCT. | 185 | 114 | 401 |
| NOV. | 115 | 211 | 216 | · | NOV. | 1 211 | 218 | 358 |
| DEC. | 152 | 189 | 209 | • | DEC. | 101 | 260 | 402 |
| TOTAL | 12/10 | | 2818 | · | TOTAL | 3184 | 20171 | 7239 |
| CUMU. | 1048 | 2400 | and the second secon | • | CUMU. | | 100011 | |
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| · | 1953 | 1956 | | - . | · | 1950 | | 194 |
| JAN. | 163 | 239 | 304 | | JAN. | 226 | 257 | 254 |
| FEB. | 154 | 199 | 347 | | FEB. | 465 | 345 | 1257 |
| MAR. | 189 | 320 | 295 | .] | MAR. | 287, | 284 | 263 |
| APR. | 143 | 69 | 210 | | APR. | 404 | 204 | 248 |
| MAY | 140 | 152 | 381 | | MAY | 298 | 72 | 431 |
| JUNE | 129 | 66 | 374 | 1 | JUNE | 262 | 283 | 328 |
| JULY | 119 | 145 | 291 | | JULY | 654 | 21 | 327 |
| AUG. | 152 | 174 | 70 | 1 1 | AUG. | 677 | 552 | 211 |
| SEPT. | 133 | 127 | 381 | <u> </u> | SEPT. | 208 | 134 | 205 |
| OCT. | 112 | 143 | 20 | · · | OCT. | 202 | 583 | 185 |
| NOV. | 353 | 9.3 | 297 | - | NOV. | 30/ | 378 | 82 |
| DEC. | 1475 | 11.1 | 17 | 1 | DEC. | 2.50 | 460 | 78 |
| TOTAL | 3264 | 1888 | 3/01 | 1 | TOTAL | 42321 | -3623 | 2869 |
| CUMU. | 107 211 | 10. Im | 11120 | • | CUMU. | 12012 | Mari | 1666 |
| | 12/ 48/ | 1 1 XALST | 1///.D.YA | L | 1 | VINUM | V14 7.501 | I PU D |

NEWMONT OIL COMPANY ROOM 303, FIRST NATIONAL BANK BUILDING ARTESIA, NEW MEXICO 888210 September 14, 1965

ÅH 51; DISTRICT OFFICE 55

00

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

Cara 3310

Herman J. Ledbetter Division Superintendent

/saf

15

200 Carper Building

construction the

8-2686 PHONE SHERWOOD XXXXXX

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

September 21, 1965

NEW MEXICO DISTRICT OFFICE

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 waterflood spacing.

sut.

Yours truly,

NEWMONT OIL COMPANY

hu um Herman J. Ledbetter

Division Superintendent

HJL/ggp



312 BOOKER BUILDING POST OFFICE DRAWER 1943

(N.S.L.) ARTESIA, NEW MEXICO

August 30, 1965

cima CAPITAN incorporated

AREA CODE 505 AREA CODE BOB

Cace 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.

al Pale

Hal Porter, Engineer

copies:

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

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DOCKET MAILED

OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

9/27/65 Date CASE NO. 3310 9 am 9/22 HEARING DATE DSN D My recommendations for an order in the above numbered case(s) are Enter an order approving a cooperative wake flood project for Rydel - Scott management Company, Stallwarthe Dil and gas Company, Cima Capitan, Duc., and western Oil Fielde, Duc. in the Deguare hake Pool, Elly Co. n. Mey. Sigletion is to lee into Grayburg - San Andres Formations through the factowing weeks Ryler Scott management Camp FSL \$ -2630' FEL of Sec 25 TIGN R30E A.A. Etz Well 405 10 LOE-Fed were to 3 330' FNL \$ 1995' FWL & See 30 T 16NR31E " 5 2630'FSL \$ 10' FWL " 6 2630' FNL \$ 2630' FEL 35 30 10' FNL \$ 10' FWL 117 30 31 " " & 10' FNL \$ 2630' FEL 25 30 Stallworth Cil and Gan Company U 6 R.N. Etz Well to 5.10' FSL & 2630' FEL & SE 25 TIGN R30E Ein. 10' FSL \$ 2630' FEL of " " Cima Capitan Duc 10 State WELL NO 4 10'FNL \$ 10'FEL of See 36'T 16 N R30E Staff Member

4 1.

cima CAPITAN incorporated

312 BOOKER BUILDING POST OFFICE DRAWER 1343

ARTESIA, NEW MEXICO

August 30, 1965

(N.S.L.)

AREA CODE 505 TELEPHONE 748-1125

Pan 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 cooperative 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. <u>Make-up water will be purchased from one of the commercial</u> 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, Engineer

copies;

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

----- 13" CASING 30'= -11"HOLE CEMENT BASKET W/SOSACKS - 71/8" Hozo - 412" CASING CEMENT TO LOVER RED SAND RED SAND 2400'= CIMA CAPITAN, INC. Schematic of T.YPICAL INJECTOR SBUARE LAKE PROJECT 3000'± ZONG 6 > ZONE 8 3200'I ESMC-Crima EXHIBIT No. 14 Ce 3:10



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A STATE AND A STAT

PAGE

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MR. UTZ: Case 3310.

MR. DURRETT: Application of Cima Capitan, Inc., Rydez-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.



CONVENTION

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY COPY,

dearnley-meier reporting service, inc.

ALBUQUERQUE, NEW MEXICO
ALBUQUERQUE, NEW MEXICO

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1120 SIMMS

PAGE 3 STATE OF NEW MEXICO SPECIALIZING IN. DEPOSITIONS, MEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS)) COUNTY OF BERNALILLO SS) I, ADA DEARNLEY, Court Reporter-Notary Public, do hereby • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO dearnley-meier reporting service, inc. 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. 1120 SIMMS BIDG. • P.O. BOX 1092 1213-FIRST NATIONAL BANK EAST • Court Reporter - Notary Public My Commission Expires: June 19, 1967. I do hereby certify that the foregoing is a complote report of the proceetings in the Marsing housing of Choo-Ho?33/-0heard by as 00.10 19.65 no Ce. W New Nexico Oll Conservation Commission .. Vraminer

OCTOBER 6, 1965 EXAMINER HEARING

- 2 -

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:

2.7

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 abovestyled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in its Navajo Tribal "U" Well No. 6 located in Unit 0 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 1630 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 PURFOSE 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 <u>7th</u> 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, 3MPM;
- Los-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
- Los-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. Btz Well No. 5, to be located 10 feet from the South line and 2630 feet from the Bast line of Section 25, Township 16 South, Range 30 East, NMPM. -3-CASE No. 3310 Order No. R-2977

Western Qil 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 Rast, HMPM; 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, Chairman

Mémbe

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

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. 2-2977, dated October 7, 1965, does not correctly state the intended order of the Commission,

IT IS THER FORE 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

Los-Federal Well No. 9, to be located in Unit B, 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.

Mestern 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 Bast 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 QIL CONSERVATION COMMISSION

Chairman

A. L. FORTER, Jr., Member & Secretary
GOVERNOR JACK M. CAMPBELL CHAIRMAN

State of New Mexico **Gil Conservation Commission**

LAND COMMISSIONER GUYTON B, HAYS MEMBER

P. O. BOX 2006

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

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 Oll & Gas Co.

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

Very truly yours,

E. L. Parter

A. L. PORTER, Jr. Secretary-Director

ALP/ir

Carbon copy of order also sent to:

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Hobbs OCC × Artesia OCC × Aztec OCC

Other Mr. Paul White

Cima Capitan Inc

Stan Wee ON 5, to be located in thick B 1220 feet from the Dorth line and 1420 feet from the East line of Section \$ 36 Township 16 South fange 30 East

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to Siler wree to 3, to be located in Unich K 1330 feet from the South line and 3950 feet from the South line of Section # 31 Township 16 South. Aange 31 East.

write nunc protune on R-2977 to authorize the facening unor thoday locations for producing wells. (These were inallvertully omitted from (2-2977.) 5 ci Jusert: That the applicants are hereby anthorned. to driel the producing weeks at the months and a fallowing described and a fallowing described and a set unorthoday locations in Eddy County, hew this Ryden - Sott humagement Company Loe - Federal Wree no. 9, to be located inlinit E 1325 feet from the Worth line and 1010 feet from the West line of section 30, Township He South Range 31 East Stacemente Oil al goor Campany indit P A.N.E+Z, wree no 6, lo be located 1315 beetfrom the Southline and 1315 fortfrom The East line of Dection 25, Township 14 South Range 30 East tern Oilfields Suc Wier wree no 18, 15 be located 1310 peet Western Gilfields, Suc nom the heath line and 1310 faithern the west live of Lection 31, Township He South Lang 31 East Grier Wree no 19, to be located in thirt A 1310 bet from the horth line and 1310 feet from the East Quil of Section 31, Verschip le South Lary 31 East Quil of Section 31, Verschip le South Lary 31 East Quier weel 40 20, to be located 1330 feetfrom the South Quie and 1330 Beet from the East line of Section 31 Dire and 1330 Beet from the East line of Section 31

GOVERNOR JACK M. CAMPBELL CHAIRMAN

State of New Mexico Oil Conservation Commission



LAND COMMISSIONER GUYTON B. HAYS MEMBER

> P. O. BOX 2088 SANTA FE

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

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,

In DA. 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



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.



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STATE MENTS, EXPERT TESTIMONY, DAILY

DEPOSITIONS, HEARINGS.

SPECIALIZING IN

NEW MEXIC

Albuquerque, h
 Albuquerque, new

• PHONE 243-6691 PHONE 256-1294 •

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AS BLDG. + P.O. B

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| 2 | (Witnesses sworn.) |
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| CONVENTIONS | |
| CONV | WILLIAM E. FICKERT |
| Y COPY | called as a witness herein, having been first duly sworn on |
| ONY, DAILY VEW MEXICO MEXICO | oath, was examined and testified as follows: |
| ESTIMON DUE, NEV NEW M | DIRECT EXAMINATION |
| rs, expert t Albuquero buqueroue, | BY MR. KELLAHIN: |
| : MENTS, E 91 - ALB - ALBUQU | Q Would you state your name, please? |
| IGS, STATI DNE 243-66 256-1294 | A William E. Fickert. |
| SPECIALIZING IN DEPOSITIONS, HEARINGS, STATEM 1120 SIMMS BLDC. • P.O. BOX 1092 • PHONE 243-6491 1213 FIRST NATIONAL BANK EAST • PHONE 266-1294 • | Q By whom are you employed, Mr. Fickert? |
| | A Ryder-Scott Company, Petroleum Engineer. |
| | Q Have you ever testified before the Oil Conservation |
| IG IN. SLDG. • | Commission of New Mexico? |
| SPECIALIZING 1120 SIMMS B 1213 FIRST NA | A Yes, sir, I have. |
| | Q Your qualifications have been made a matter of reco |
| Х ⁷ т | A Yes. |
| t. | MR. KELLAHIN: Are the witness' qualifications |
| 2 | acceptable? |
| | MR. NUTTER: Yes, sir, they are. |
| CLUBSCOM | 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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The first exhibit is a County map on a one to four А thousand scale. COPY, (Whereupon, Applicant's Exhibits DAILY MEXICO Nos. 1 through 8 marked for identification.) TESTIMONY, NEW J Now referring to what has been marked as Exhibit No. Service. ALBUQUERQUE, h
 ALBUQUERQUE, NEW Q EXPERT 1, would you identify that exhibit? STATE MENTS. This is a County map of the immediate area on a one Α dearnley-meier reporting 243-6 to four thousand scale. The area shaded in yellow represents • PHONE 2 PHONE 256-1 HEARINGS, the acreage owned by Stallworth and Ryder-Scott Management DEPOSITIONS, § • Company, and to which I will testify. In the area shaded in BOX 1(EAST P.O. B BANK red is the area to be testified to by Mr. Porter. Q_{2n} SPECIALIZING IN S BLDG. Is this area being unitized in any fashion? 0 SIMMS FIRST N The area shadded in yellow is not. It will be a Α 1213 5 cooperative waterflood. I mean as between the area shaded in yellow and the Q area shaded in red. 1:1 No, it's a cooperative waterflood project. Α 0 Do you have line agreements? We are working them out right now. Α Would you continue with the discussion of the exhibit, 0 or have you completed that? That's it. Α Referring to what has been marked as Exhibit No. 2, Q will you identify that exhibit?

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



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HEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY

ALBUQUERQUE, NEW MEXICO
 ALBUQUERQUE, NEW MEXICO

• PHONE 243-6691 PHONE 256-1294 •

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| ell | Ls? | |
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| | A | Yes, sir. |
| () | Q | Have they been drilled? |
| | A | No, sir. |

Q

These would all be new wells?

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These would all be new wells. What's the situation as to Well No. 3 in the Ryder-Α Q Scott acreage? This well was drilled in the Spring of this year, Albuquerque, New MEXICO
 Albuquerque, New MEXICO I believe it was in March or April, and it will be converted A to an injection. What is the casing on that well? The casing is four and a half J-55 set through the --Q 2 • PHONE 243-6691 PHONE 256-1294 • A A we'll get to that in a later exhibit. Yes. Now are the well locations of each of your Q injection wells proposed to be ten feet out of the corner? • 002 I SIMMS BIDG. . P.O. BOX 1 FIRST NATIONAL BANK EAST Yes, sir. А With the exception of Number 3? Q Number 3. 1120 Α Which you will convert to injection? Q Yes. А What is its location? 330 from the northeast corner of that quarter section. Q Α Now referring to what has been marked as Exhibit No. 3, would you identify that exhibit and discuss it, please? Q This Exhibit 3 is a typical log section from the -retraced from the Federal Lowe No. 1. It's a gamma ray sonic A log and the zones of interest are indicated. We are proposing to waterflood the upper Premier zone, the lower Premier zone,

SPECIALIZING IN DEPOSITIONS, HEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS reporting service, dearnley-meier

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and the Lovington zone.

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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.

PAGE

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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.

PAGE

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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.



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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.

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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.

PAGE

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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.



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EXPERT TESTIMONY

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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?

PAOE 11 This is a water analysis from the now Double Eagle Α CONVENTION Water Company, which was at that time Caprock Water Company, STATE MENTS. EXPERT TESTIMONY, DAILY COPY, showing the analysis of their water. NEW MEXICO And Exhibit No. 8, what is it? Q Exhibit 8 is an analysis of the Yucca Water Company's Α ALBUQUERQUE, N
 ALBUQUERQUE, NEW SELVICE. water. We have included both of these because we have not yet made a contract with either company, but it does show that dearnley-meier reporting 243-6691 -1294 • we have water available for our injection purposes. PHONE 2 IN. DEPOSITIONS, HEARINGS, Is this fresh water, according to these two analyses? Q 9<u>3</u> Yes, sir. Α BOX 10 P.O. BANK It's from the Ogalalla formation, is that right? Q S BLDG. • NATIONAL Yes, sir. Α SPECIALIZING SIMMS And is that true as to both companies? 0 1120 Yes, sir. Α And is the water available for the purposes of this Q 1.5 1 injection program? . Yes, sir, we have sufficient water. Α What volume of water do you anticipate you will Q inject? We are anticipating we will inject in the neighborhood Α of 250 barrels per day per well to maybe 350 barrels per day per well. How many injection wells will you have? Q Our project, we will use five -- or six injection Α

wells, excuse me. CONVENTIONS What anticipated life do you expect this project to Q COT, have? Somewhere from six to ten years. AIBUQUERQUE, NEW MEXICO
 AIBUQUERQUE, NEW MEXICO EXPERT TESTIMONY, DAILY A In your opinion, will it result in the recovery of Q Service oil that would not otherwise be recovered? HEARINGS, STATE MENTS Yes, sir. Α reporting Would it prevent waste and will correlative rights 243-6 Q PHONE 2
 PHONE 256-1 be protected? 8.• Yes, sir. DEPOSITIONS, Α P.O. BOX 10 BANK EAST dearnley-meler Will the water injection be under pressure? Q 1120 SIMMS BLDG. Ï Yes, sir. А SPECIALIZING What pressure would you anticipate? Q We anticipate that injection pressures will be in Α the neighborhood of 2,000 to 2200 pounds surface. Will the casing be tested prior to the injection? Q Yes, sir. This will be 3,000 pound test casing we A will be using. And it's all new casing, is that correct? Q All new casing, J-55, four and a half. A Were Exhibits 1 through 8 prepared by you or under Q your supervision? Yes, sir. A MR. KELLAHIN: At this time I would like to offer in

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evidence Exhibits 1 through 8, inclusive. MR. NUTTER: Applicant's Exhibits 1 through 8 will CONVENTIONS be admitted in evidence. COPY, (Whereupon, Applicant's Exhibits ALBUQUERQUE, NEW MEXICO
 ALBUQUERQUE, NEW MEXICO Nos. 1 through 8, both inclusive, SPECIALIZING INI DEPOSITIONS, HEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY offered and admitted in evidence. dearn'ey-meier reporting service, MR. KELLAHIN: I have no further questions of the witness. MR. NUTTER: Does anyone have any questions of Mr. ŝ 243-66 • PHONE 256-1 Fickert? MR. IRBY: I have one. 1092 1. EAST EAST CROSS EXAMINATION IS BLDG. • P.O. P. NATIONAL BANK I BY MR. IRBY: C Mr. Fickert, did you state in your testimony that any 1120 SIMMS B water which came in contact with the casing -- I don't find the size of it, four and a half inch, is that right? Yes, sir. A J-55. -- any water that comes in contact with that ⁶⁰.Q.s. casing will be fresh water? If it's above the Premier zone it will. A Above the packer? Q $\zeta \leq \frac{1}{2}$ Above the packer, yes, sir. А MR. IRBY: Thank you. And we will cement the four and a half inch casing А above the Red Sand back to and above --

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PAGE 14

Q -- which is above the packer? Α Yes, sir. MR. IRBY: That's all I have. Thank you. NEW MEXICO BY MR. NUTTER: Now, Mr. Fickert, the application, the advertisement Q ALBUQUERQUE, N ALBUQUERQUE, NEW of the case was for the injection of water through sixteen wells in Sections 25 and 36 of 16, 30; and Sections 31 and 243-6691 32 of 16, 31. By the elimination of Newmont from the case, has PHONE 2
 PHONE 256-1 this narrowed down to just this acreage that's colored yellow, • 8 and in addition the two water injection wells shown on Exhibit EAST 1 P.O. E BANK 2, being the Capitan No. 4 in Section 36 and the Western Oil BLDG. Fields No. 15 in Section 1? SIMMS | FIRST N А Our Exhibit 2 indicates only the wells which will 1120 be adjacent to our property. Mr. Porter will testify to the other additional wells to be drilled to the south. You are testifying only to the Ryder-Scott; this Q is just a portion of the flood then? Yes, sir. Α Q I see. Α Those two wells on the Cima Capitan and the Western Oil Fields will give us the 160-acre pattern for lease line equity. You are talking only about the yellow acreage? Q

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Yes, sir.

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HEARINGS, STATE MENTS.

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PAGE 15 On the yellow acreage, you will have the No. 3 CONVENTIONS Q going from right to left across the top? COPY, Â. Yes. ALBUQUERQUE, NEW MEXICO
ALBUQUERQUE, NEW MEXICO EXPERT TESTIMONY, DAILY The No. 3, No. 7 and No. 8, and the 6 and the 5 and Q the other No. 5? Α Correct. STATE MENTS. For water injection wells? Q 13-6 Α Yes, sir. PHONE 256-HEARINGS, And all of these are to be drilled, with the Q • 032 DEPOSITIONS. BOX 10 EAST exception of the No. 3 which has been drilled? P.O. Α Yes, sir. ž BLDG. It is a 330 - 330 out of that quarter quarter section? Q SPECIALIZING IRST Yes, approximately that. А 1120 Now this Exhibit No. 4, which is a diagram of Q. proposed well completion for injection wells is for the wells that are to be drilled. Now how about the one that has been drilled? It is completed essentially this way. In other words, Α 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. You went in with a string of one-inch on the outside Q

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PAGE 16

Α Yes, sir. And what's the base of the cement there, that upper Q NEW MEXICO portion of it? ALBUQUERQUE, N It would be approximately 450. Α

of the pipe?

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EXPERT TESTIMONY,

HEARINGS, STATE MENTS.

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On up to the surface then? 0

It's a 50-sack plug. Α

Now, the sketch is for a packer to be set above the 0 upper Premier, but you indicated in all probability --

That was part of our change, --Α

Q Yes.

Α -- 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.

0 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.

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

A No, sir.

I see. Now, for allowable purposes, Mr. Fickert, I Q 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 guarter guarter is it in? It's in the lower Southeast Quarter of that guarter. Α MEXICO And the No. 6 south of that would be where? Q ALBUQUERQUE, NEW A ALBUQUERQUE, NEW MEXI On the Management Company lease. Α On the Etz lease? Q On the Etz lease. The No. 5 would be in the same Α 243-6691 -1294 • quarter as the No. 2. PHONE 2
 PHONE 256-1 It would be in the Southwest Quarter --Q. Yes, sir. Α BOX 10 AS BLDG. . P.O. B -- of the --Q Southeast Quarter. Α 1120 SIMMS Of the Southeast Quarter? Q Yes, sir. Α Now up here in the Northwest of Section 30, that Q No. 9, where is it? We have a problem here. This is a narrow section and А 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,

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EXPERT TESTIMONY, DAILY

HEARINGS, STATE MENTS.

SPECIALIZING IN: DEPOSITIONS,

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dearniey-meier reporting service,

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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

| | PAGE 18 |
|----------|--|
| producin | ng 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 dril | l it up we'll make an application for the proper quarter |
| forite | to be in. |
| Q | That No. 2 hasn't been drilled yet? |
| Α | It is drilled, and from the numbers that I have it |
| should l | be in the it looks like it should be in the Southeas |
| 40. | |
| Q | Yes. |
| A | If it is, then the No. 9 would be in one or the othe |
| either (| the Northwest or the Southwest 40. There's not quite |
| 40 acres | s 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 and | Down on the Federal Lowe lease in the South Half of |
| 30, whe | re is that, do you know? |
| A | I believe it is in the Northeast 40 of that Southwes |
| Quarter | . The No. 5 will be drilled in the Northwest 40, but |
| any time | e that we have two wells in a 40, we'll expect to come |
| under th | he rules of the allowable. |
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Q Do you expect to reactivate these eleven old wells that

have been plugged and abandoned? 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. So you'll only have four producing wells then, is that right? Yes, sir. The No. 2 by that time will probably be plugged. It's off pattern. Oh, and to balance the flood over on the east side you are depending on the Newmont Federal Vickers No. 3 injection

PAGE

19

Yes, sir, we will have a line agreement with them. Α It's slightly off pattern for your remaining wells, 0 but it's close enough that you will rely on it?

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

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

Α Probably tomorrow.

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• PHONE 256

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BOX 1 EAST

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well?

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

PAGE 20 Α All right. CONVENTIONS MR. NUTTER: Are there any other questions of Mr. STATE MENTS, EXPERT TESTIMONY, DAILY COPY, Fickert? He may be excused. ALBUQUERQUE, NEW MEXICO ALBUQUERQUE, NEW MEXICO SELVICE, INC (Witness excused.) HAROLD C. PORTER called as a witness herein, having been first duly sworn on oath, was examined and testified as follows: reporting 503 243-DIRECT EXAMINATION PHONE 256-HEARINGS, BY MR. KELLAHIN: DEPOSITIONS, • 062 dearniey-meier Shall we proceed? State your name, please. BOX JO Q P.O. P Harold C. Porter. Α IS BLDG. . SPECIALIZING IN What business are you engaged in? Q SIMMS FIRST N I am an Engineer for Cima Capitan, Inc. in Artesia. Α 1120 Have you ever testified before the Oil Conservation Q 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: Would you state your name, please? Q Harold C. Porter. Α By whom are you employed and what position, Mr. 0 Porter? Cima Capitan, Inc. as a Petroleum Engineer. А Have you ever testified before the Commission and 0 made your qualifications a matter of record? Yes. Α MR. KELLAHIN: Are the witness' qualifications acceptable? MR. NUTTER: They are. (By Mr. Kellahin) Would you refer to what has been Q

marked as Exhibit No. 9 and identify that exhibit and state

what's shown on it?

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

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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?



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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

(BY)

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.



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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.

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

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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

PAGE 25

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?

CEALDER OF TOTALET FOR UT TOTAL SET VICE, TOTAL SPECIALIZING IN. DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, 1120 SIMMS BLOG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO

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PAGE 26 Α That's right. MR. IRBY: Which one is 11? MR. KELLAHIN: That's the graph. (By Mr. Kellahin) Now referring to what has been Q marked as Exhibits No. 12 and 13, would you identify those exhibits, please? А 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. It would be your testimony that this area is also substantially depleted on primary production? А 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? Α The one you have there is 12, Mr. Irby. MR. IRBY: Which one? I have two. The one on your right; that's 13. Q (By Mr. Kellahin) Now referring to what has been

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marked as Exhibit No. 14, that's the schematic diagram; would you identify that exhibit, please?

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This is a schematic diagram of a typical injector that we propose. The completion will be exactly the same CONVENTIONS as testified to by Mr. Fickert. We will drill large hole, set 13-inch one joint approximately 30 feet long, cemented CON. at the surface, to drill ll-inch hole to the top of the salt ALBUQUERQUE, NEW MEXICO
 ALBUQUERQUE, NEW MEXICO SPECIALIZING IN. DEPOSITIONS, HEARINGS, STATE MENTS. EXPERT TESTIMONY, DAILY 2 which occurs at approximately 500 feet. Then if we don't lose reporting service, circulation, we'll reduce hole size and drill to TD which will be approximately 3200 feet. We'll cement our 4-1/2 with 2 • PHONE 243-6691 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 P.O. BOX 1092 dearnley-meler of the salt through one-inch tubing. 0 SIMMS BLDG. 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 1120 5 casing unless we have the problem of having to have selective injection due to the permeability variations. In any event, 10 we will not inject other than fresh water down the casing or ţį 104 Your injection program then is substantially the the annulus. 1 1 1 0 same as that testified to by Mr. Fickert? - -That is correct. Are all of your injection wells to be drilled, Mr. Α 0 Porter? Yes, they will all be new wells.

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PAGE 28 CONVENTIONS Α Yes. There are no old wells to be converted, is this Q HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, correct? , NEW MEXIC W MEXICO A No. ALBUQUERQUE, I
 ALBUQUERQUE, I Now referring to what has been marked as Exhibit No. Q 15, will you identify that exhibit? Exhibit 15 is a type log, it's a gamma ray neutron 243-6691 log of the productive sections. Zone 5 occurs about 3,040 PHONE 2/
PHONE 26-1 feet, Zone 6 at about 3,080 feet, and the Lovington at 3220, • 33 DEPOSITIONS, thereabouts. BOX | EAST P.O. You heard Mr. Fickert's testimony as to the Q IS BLDG. SPECIALIZING IN permeabilities of these zones. Are you in agreement with him 1120 SIMMS on that testimony? Yes, I am. We have very little data, actually, as A: 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. Do you anticipate that you will have to selectively Õ inject that zone? We think we will probably have to. A But you are going to attempt to inject down the 0 casing first, is that right? Yes, and then we'll run a survey and see where the А water is going and in what proportions, and determine if we are

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getting a suitable profile.

Referring to what have been marked Number 16 and 17, 0 would you identify those two exhibits, please?

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

Does that give a history of the well completion? Q Yes, it does. It shows the necessary statistics А as to how the wells were completed.

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

Yes, they will be used. Α

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

MR. IRBY: No testimony on 17?

MR. KELLAHIN: I am sorry.

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

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

А Yes, sir.

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

Α That's correct.

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PAGE 30 Now referring to what has been marked as Exhibit No. 0 18, would you identify that exhibit? Exhibit 18 is a letter from Double Eagle Corporation Α NEW MEXIC to Cima Capitan, saying they have water in the area for the TESTIMONY FROUE, ... E, NEW flood. Also Yucca Water Company has a pipeline near here Service. EXPERT which they have called on the phone and offered to sell water. STATE MENTS. This is fresh water which comes from the Ogalalla formation. 294 0 That would be the same analyses as the two exhibits PHONE 256-HEARINGS, presented by Mr. Fickert, is this right? • 8 DEPOSITIONS, Α Yes. BOX) dearnley-meier P.O. Q For the Yucca Water Company and the Double Eagle? ÿ That's correct. Α SPECIALIZING SIMMS FIRST N What volumes of water do you anticipate that you will Q 1120 inject in this project? We think that we'll probably be able to inject 300 А 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? Yes, sir, it will be tested to at least 3,000. Α 0 Now what disposition will be made of the produced water? Α The produced water will be reinjected. We have to

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.

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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?

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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
- 33 PAGE 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? SPECIALIZING IN. DEPOSITIONS, HEARINGS, STATE MENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS Yes, sir, I believe I have the circles drawn on the - ALBUQUERQUE, NEW MEXICO ALBUQUERQUE, NEW MEXICO Α And then the No. 15 is 2630 from the East and ten injectors in the correct 40. reporting service, inc. from the North; it's in the same 40 with Well No. 11, ten feet فتنه out of the corner? 2 • PHONE 243-6691 PHONE 256-1294 • A Your No. 18 producer is 1310 from the North and Yes. Α 1120 SIMMS BLDG: • P.O. BOX 1092 1213 FIRST NATIONAL BANK EAST • P Q West lines of the section? dearnley-meier yes. In the same 40 as No. 1? Α Q Your No. 19 is 1310 from the North and East lines That's right. Α of the section in the same quarter quarter as No. 9? 14 : 18 Your No. 16 injector down here is ten from the West That is correct. A Ħ Q and 2630 from the North? 1.5 Your No. 20 is in the same 40 as the Greer 1 and Yes. A would be 2630 from the South and West? You are referring to the Capitan No. 2? Oh, yes, it's the 2, not the 20. A Q /

PAGE 34 ^{*} A Yes, it's in the same 40 with Capitan No. 1. CONVENT And then the last well -- oh, then you have a No. 3 Q COPY. down here on your Greer Lease? DAILY W MEXICO dearnley-meier reporting service, inc. Ά HEARINGS, STATE MENTS, EXPERT TESTIMONY, Yes. Albuquerque, Nev And what's the distance there, it would be 1330 from Q the --1330 from the South and 3950 from the East, A 243-6691 reason I measured from the East is that this is a correction PHONE 256section. DEPOSITIONS, • 1092 EAST Because the section is short? Q P.O. But it will be in the same 40 acres as Capitan No. 1. · A ž BLDG. SPECIALIZING So it's 1330 from the South and 3950 from the East? Q SIMMS А 1120 Yes. And then the No. 17 is ten from the South and 2630 Q from the East? A Yes. And the No. 20 unorthodox producer would be 1310 from Q the South and 1330 from the East? I have it as 1330 from the South and East. Λ Well, it would be in the same quarter quarter with Q the No. 6? Yes, sir. I might point out that the Capitan Kelly Α No. 1 is a producer which is presently an unorthodox location. Let me see, where is that one? Q

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In Section 36. Α

Ch, yes. 0

That's approved ten feet out of the corner of that Α 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.

Which 40 would the No. 5 be in? Q

The same 40 with Kelly State No. 2. A

So it would be 1330 from the East and 1310 from the 0 North, probably?

No, sir. I got that moved a little farther to stay Ά 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.

1220 and 1420. Well, now, did you state -- now you Q 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?

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

3, 5, and 20? Q les.

Α

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

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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



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Oil Fields, and slightly over 200,000 barrels for Çima Capitan. Q And that one and a quarter would probably be applicable to the Ryder property too?

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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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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 SS COUNTY OF BERNALILLO 1 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.

My Commission Expires:

June 19, 1967.

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

Jda Deamley-Jult Reporter - Notary Public

I do hereby certify that the foregoing is a complete record of the proceed the Bassiver hearing board by

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PAGE 39 INDEX SPECIALIZING IN DEPOSITIONS, MEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS PAGE WITNESS WILLIAM E. FICKERT 1 3 Direct Examination by Mr. Kellahin 1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 1213 FIRST-NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO dearnley-meier reporting service, inc. 13 Cross Examination by Mr. Irby 14 Cross Examination by Mr. Nutter HAROLD C. PORTER 20 Direct Examination by Mr. Kellahin *,*< 32 Cross Examination by Mr. Irby 32 Cross Examination by Mr. Nutter 3 EXHIBITS esarq OFFERED AND MARKED FOR ADMITTED IDENTIFICATION NUMBER 13 4 Applicant's 1-8 31 Applicant's 9-18 20

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August 30, 1965

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MAIN OFFIC

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 cooperative 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, Tl6 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.

Jac Pa

Hai Porter, Engineer

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

GOVERNOR IN L. MECHEM ALRMAN State of New Wexico **G** il Conservation Commission STATE GEOLOGIST LAND COMMISSIONER A. L. PORTER, JR. E. S. JOHNNY WALKER SECRETARY - DIRECTOR MEMBER P. O. BOX 2088 njection unto the of the anthorn where shall be through the ection a packer set unnediatel ale zone, Provided, however, Hid packer will be set between Yhe. We yower Frencer, injection of fr Mr. Jason Kellahin Hirongh the ta Caring Kellahin (he wale the Former of fresh wat re-cycled water will be under the pocker Kellahin & Fox Harringh Attorneys at Law Post Office Box 1769 into the face er Premier an 2 the Santa Fe, New Mexico Rovington zener Gentlemer make to herewith is Commission Order No. Rand constant Square No. 3310, approving the= , Ryder Scott Flood Project to lie piereted Oby Cima Capit du, La and Co., State worth Oil and Gas Company, and Wes coording to our calculations, when all of the authorized injection Water Flogd and western Oil Fields Inc. 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 to berrets por day. wice an as faccowe: see att 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, ind in order that the operator may fully benefit from the allowable provisions f Rule 701, it behooves him to promptly notify both of the aforementioned mmission offices by letter of any change in the status of wells in the project 98, 1.e., when active injection commences, when additional injection or ducing wells are drilled, when additional wells are acquired through purchase mitization; when wells have received a response to water injection, etc. Your cooperation in keeping the Commission so informed as to the status e project and the wells therein will be appreciated. Very truly yours, r. Frank Irby C - Hobbs and Artesia A. L. PORTER, Jr. Secretary-Director . Paul White

Ryter Scott Management Company Loe Federal Lease 242 Etz Lease 124 242 BOPD 42 24 2 12 4 BOPD Stallworth Oil and Gas Company Etz Rease 84 BOPD Western Oil Fields duc. Strier Rease 242 BOPD Cima Capitan Inc. 84 BOPD State Rease 56 BOPD 42 14

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

Potober 19, 1965

Mr. Jason Kellahin Kellahin & Fox Attorneys at Lew 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 Froject 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 sone. 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 | MAN/AGEMENT | <u>CO</u> | IPANY |
|-------------|-------------|-----------|--------------|
| Loe Federal | Lease | 242 | BOPD |
| Etz Lease | | 126 | Bopd |
| STALLWORTH | OIL AND GAS | CO | <u>IPANY</u> |
| Etz Lease | | 34 | BOPD |

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

-2-October 19, 1965

WESTERN OIL FIREDS, INC. 242 BOPD Grier Lease

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

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,

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/1r

- CC1
- Oil Conservation Commission offices in Hobbs and Artesia Mr. Frank Irby
 - Mr. Paul White

OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE. NEW MEXICO

November 3, 1965

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

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

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MAINOF

Ulu.E. Fickert

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 Manageto be drilled at unit and the monte Company Stallworth Oil and Gae

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.

16 South, Range 30 East, NMPM. Grier Well 10. 2 to be located 2630 feet from the South Line and 2650 feet from the East sine of Section 31, Township 16 South, Range 31 East NMPM (SEE UNDER)

-2-

<u>DRAFT</u> 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

Spice the rega

Order No. R-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 ö'clock a.m. on October 6____, 1965_, at Santa Fe, New Mexico, before Examiner Elvis A. Utz_____.

NOW, on this _____day of <u>October</u>, 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:

wells.

(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 Management 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

| a an an an an an an an an an an an an an | in-the-unit | |
|--|---|-----------------------------|
| Square Lake | | tion of water into the |
| Grayburg-San Andres | to be dri formations through <u>te</u> | led at unorthodox locations |
| Sections 25 and 36, | Township 16 South, Range | e 30 East, and |
| Sections 30, 31 and | 22, Township 16 | Maxta, Range_ |
| · · · | · · · · · | South |

31 Wark, 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"

(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 CIL 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.

1965.

DONE at Santa Fe, New Mexico, on this_____day of October,