

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Sun Exploration and Production Company
Address: P.O. Box 1861, Midland, Texas 79702
Contact party: Dee Ann Kemp Phone: 915 688-0374
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project WFX-518
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating ail plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: Dee Ann Kemp Title: Associate Acct.
Signature: Dee Ann Kemp Date: 7-10-84
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

III. WELL DATA (This part is typed on same page as VII. part on front page.)

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.



Oil + Water - GOR

BWPD Cum. wtr. inj. THDS

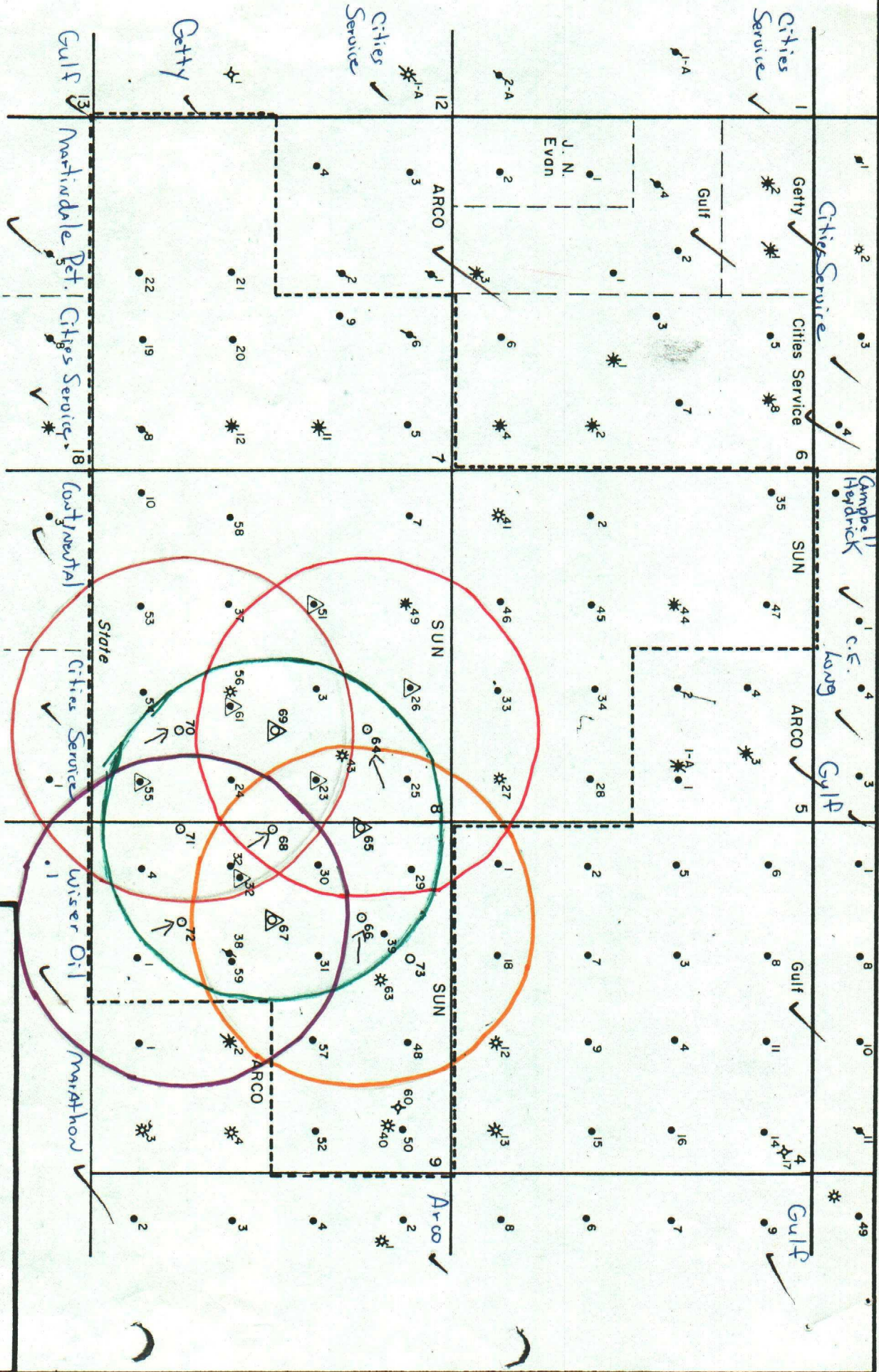
PSI

SUN PRODUCTION CO.

STATE "A" ACCT. NO. 2

T-22-S R-36-E

Lea County, New Mexico



WELL NAME: Arco (Sinclair) State 157A #2
FIELD: South Eunice
LOCATION: 1980' FSL and 1980' FEL, Section 9, Unit Letter J, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 3-17-55
TD: 3850'

COMPLETION DATE: 4-19-55
PBSD:

CASING AND CEMENTING DATA:
SURFACE CASING: 10-3/4", C. S. @ 316', cmt circ. to surface with
275 sx.

INTER. CASING:

PROD. CASING: 7", C. S. 3849, cmt with 300 sx, 9-5/8" open hole, top of
cement 2380' calculated.

COMPLETION RECORD:
INITIAL COMP: Dual to 7 Rivers and Yates gas pay

INITIAL POTENTIAL: 3472 MCF

PRESENT COMP: Plugged 12-4-75.

PRESENT WELL CLASS: Plugged 12-4-75.

WELL

FIELD

DATE _____

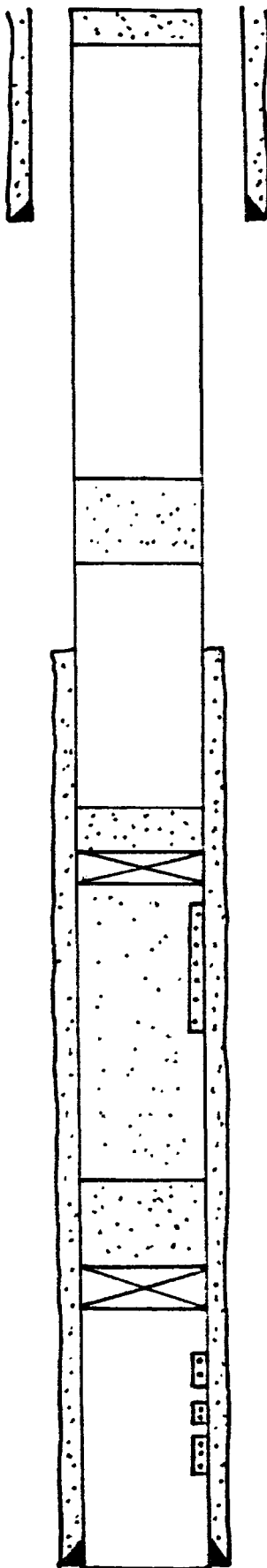
☒ PRESENT COMPLETION

SUGGESTED COMPLETION

DATA ON THIS COMPLETION

PERMANENT WELL BORE DATA

Prod. Csg: 7", 20",
C.S. @ 3849', cmt.
with 300 sx., 8 $\frac{3}{4}$ " hole
TD. 3850'



Perfs: 3712-44, 3749-55
3759-74

WELL NAME: Cities Service State "H" #1
FIELD: South Eunice
LOCATION: 660' FNL and 660' FEL of section 17, Unit Letter A, T22S,
R36E, Lea County, New Mexico

SPUD DATE: 8-14-37
TD: 3914'

COMPLETION DATE: 9-28-37
PBSD: 3914

CASING AND CEMENTING DATA:

SURFACE CASING: 13", C-S @ 245', cmt to surface with 250 sx.

INTER. CASING: 9-5/8", C-S @ 1471', cmt to surface with 450 sx.

PROD. CASING: 7", C-S @ 3680', set in 8-3/4" hole, cmt. 200 sx, top
of cement 2220' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3680-3914.

INITIAL POTENTIAL: F 60 BOPD, 12000 MCFD, 90 BWPD.

PRESENT COMP: Open hole Queen 3680 - 3914

PRESENT WELL CLASS: Oil well

WELL NAME: Gulf Janda State "F" #1
FIELD: South Eunice
LOCATION: 660' FSL and 660' FWL, section 4, Unit letter M, T22S,
R36E, Lea County, New Mexico

SPUD DATE: 5-26-43
TD: 3870

COMPLETION DATE: 6-30-43
PBD: 3870

CASING AND CEMENTING DATA:

SURFACE CASING: 9", C.S. @ 295', cmt to surface with 250 sx. cmt.

INTER. CASING:

PROD. CASING: 5½", C. S. @ 3725', set in 7-7/8" hole, cmt with 450 sx,
top of cement @ 1035' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole 3725 - 3870 Queen.

INITIAL POTENTIAL: F 129 BOPD

PRESENT COMP: Open hole 3725 - 3870 Queen

PRESENT WELL CLASS: Oil well

WELL NAME: Wiser Oil Company (Oil well drilling "A") State A #1
FIELD: South Eunice
LOCATION: 660' FNL and 660' FWL, Section 16, Unit Letter D, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 2-25-37
TD: 3804

COMPLETION DATE: 5-16-37
PSTD: 3804

CASING AND CEMENTING DATA:

SURFACE CASING: 12½", C. S. @ 243', cmt with 100 sx.

INTER. CASING: 9-5/8", C. S. @ 1467', cmt to surface with 450 sx.

PROD. CASING: 7", C.S. @ 3675', set in 8-3/4" hole, cmt. with 250 sx,
top of cement 1850' calculated.

COMPLETION RECORD:

INITIAL COMP: Open hole 3675' - 3804' Queen

INITIAL POTENTIAL: F 108 BOPD and 2240 MCFD

PRESENT COMP: Open hole Queen 3675' - 3804'

PRESENT WELL CLASS: Oil well

WELL NAME: Sun State A Account 2 #1
FIELD: South Eunice
LOCATION: 660' FSL and 1974' FWL, Section 9, Unit Letter N, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 7-1-35
TD: 3835

COMPLETION DATE: 8-29-35
PBD: 3775

CASING AND CEMENTING DATA:
SURFACE CASING: 12½", C.S. @ 249', cmt. to surface with 200 sx.

INTER. CASING: 9-5/8", C.S. @ 1498' cmt. to surf with 600 sx.

PROD. CASING: 7", 24#, CS @ 3689', set in 8-3/4" hole, cmt with 800
sx to surf. circ.

COMPLETION RECORD:
INITIAL COMP: Open hole 3689' - 3835' Queen.

INITIAL POTENTIAL: F 264 BOPD

PRESENT COMP: Open hole Queen 3689 - 3775

PRESENT WELL CLASS: Oil Well

WORKOVERS:
#1 8-8-56 PD to 3775 with pea gravel, acidize with 500 gal, Sand oil treat
with 20,000 gel oil and 2000' # sand.
Before WO. 616 BWPB, Ø BO - After WO 47 BOPD, OBW.

WELL NAME: Sun State A Account 2 #3
FIELD: South Eunice
LOCATION: 1980' FNL & 1980' FEL, Section 8, Unit Letter G, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 12-17-36
TD: 3885

COMPLETION DATE: 2-3-37
PBD: 3880

CASING AND CEMENTING DATA:

SURFACE CASING: 12½", 50#, C.S. @ 274', cmt to surf with 250 sx.

INTER. CASING: 9-5/8", 36#, C. S. @ 1509', cmt to surf. with 600 sx.

PROD. CASING: 7#, 24#, C.S. @ 3690', set in 8-3/4" hole, cmt. with 250 s..
top of cmt. at 1860' calc.
Liner: 5 1/2", 14# slotted liner from 3655-3880.

COMPLETION RECORD:

INITIAL COMP: Open hole 3690 - 3880 Queen
Shot with 300 quarts nitro.

INITIAL POTENTIAL: No test made.

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: Oil well

WORKOVERS: #1 9-16-59 - Ran 5½" 14# slotted liner from 3655 - 3880.

WELL NAME: Sun, State A Account 2 #4
FIELD: South Eunice
LOCATION: 660' FSL and 660' FWL, Section 9, Unit Letter M, T22S, R36E,
Lea County, New Mexico.

SPUD DATE: 5-31-37
TD: 3879'

COMPLETION DATE: 7-14-37
PSTD: 3799'

CASING AND CEMENTING DATA:

SURFACE CASING: 12½", 50#, C.S. @ 251', cmt to surf with 200 sx.

INTER. CASING: 9-5/8", 36#, C.S. @ 1505', cmt to surf with 600 sx.

PROD. CASING: 7", 24#, C. S. @ 3642' set in 8 5/4" hole cmt 150 Sxs
top of cmt. at 2544'
Liner 4 1/2" from 3497'-3799'

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3642-3799 shot 260 quarts nitro.

INITIAL POTENTIAL: 110 BOPD, 3000 MCFD

PRESENT COMPLETION: Same as W. O. #1. Perfs 3618-3778.

PRESENT WELL CLASS: Oil Well

WORKOVERS: #1 2-6-65 Ran 4½" liner from 3497-3799, Perf Seven Rivers Queen
from 3618 to 3778. Sand oil treat with 40,000 gal oil and
40,000#sand.
Before W.O.: 11 BOPD, 50 MCFD, 106 BW - After W.O. 12 BOPD,
1048 MCFD, 1 BWPD.

WELL NAME: Sun State A Account 2 #23
FIELD: South Eunice
LOCATION: 1980' FNL and 660' FEL, Section 8, Unit Letter H, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 11-4-42
TD: 3870'

COMPLETION DATE: 11-27-42
PBD: 3826'

CASING AND CEMENTING DATA:

SURFACE CASING: 10", 40#, C.S. @ 313', cmt to surf. with 200 sx.

INTER. CASING:

PROD. CASING: 7", 24#, C.S. @ 3706', cmt. with 500 sx, 8-3/4" hole, top of
cement 52' calc. Liner: 4½", 9.5# liner from 3619-3826, cmt
with 50 sx.

COMPLETION RECORD:

INITIAL COMP: Open hole 3706-3870 Queen.

INITIAL POTENTIAL: 192 BOPD, 1651 MCFD

PRESENT COMP: Converted to injection 3780-3813 Queen Perfs PKR @ 3762

PRESENT WELL CLASS: TA'd injection well.

WORKOVERS:

- #1 2-6-59 PD to 3822 with lead wool & pea gravel sand oil treat 3706-3822
with 30,000 gal oil and 50,000# sand.
- 2 Ran 4½" liner from 3619 to 3826 1 cmt with 50sx, perf. 3780-3813.

WELL NAME: Sun State A Account 2 #24
FIELD: South Eunice
LOCATION: 1980' FNL and 660' FEL, Section 8, Unit Letter I, T22S,
R36E, Lea County, New Mexico.

SPUD DATE: 12-15-42
TD: 3889

COMPLETION DATE: 1-13-43
PBTD: 3863

CASING AND CEMENTING DATA:

SURFACE CASING: 10", 40#, C.S. @ 418' cmt to surf. with 200 sx.

INTER. CASING:

PROD. CASING: 7", 24#, C.S. @ 3727', set in 8-3/4" hole, cmt with 250 sx,
top of cement @ 1900' calc.
Liner: 4½" liner from 3612 -3886, cmt. 50 sx.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3727 - 3889.

INITIAL POTENTIAL: 72 BOPD, 214 MCFD, 4 BWPD.

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: Oil well.

WORKOVERS:

=1 1-24-65 ran 4½" liner from 3612-3886. Perf: 3666-3741 Seven Rivers-
Queen. Sanioil treat with 35,000 gal oil and 35,000# sand.

WELL NAME: Sun State A Account 2 #25
FIELD: South Eunice
LOCATION: 660' FNL and 660' FEL, Section 8, Unit Letter A, T22S, R36E,
Lea County, New Mexico.

SPUD DATE: 1-23-43
TD: 3855

COMPLETION DATE: 2-11-43
PBTD: 3855

CASING AND CEMENTING DATA:
SURFACE CASING: 10", 40#, C. S. @ 456', cmt with 200 sx to surf.

INTER. CASING:

PROD. CASING: 5½", 17# C.S. @ 3701', set in 7-7/8" hole, cmt with 300 sx,
top of cement @ 1910' calc.

COMPLETION RECORD:
INITIAL COMP: Open hole Queen 3701-3855.

INITIAL POTENTIAL: 264 BOPD, 2376 MCFD.

PRESENT COMP: Same as initial

PRESENT WELL CLASS: Oil well

WORKOVERS:

=1 9-9-55 Sand oil treat 3701-3855 with 20,000 gal oil and 20,000 sand.
Before W. O. 15 BOPD, 123 MCFD After W.O. 48 BOPD, 170 MCFD.

WELL NAME: Sun State A Account 2 #26
FIELD: South Eunice
LOCATION: 660 FNL and 1980' FEL, Section 8, Unit Letter B, T22S,
R36E, Lea County, New Mexico

SPUD DATE: 2-19-43
TD: 3890

COMPLETION DATE: 3-13-43
PBD: 3849'

CASING AND CEMENTING DATA:

SURFACE CASING: 10", 40#, C.S. @ 524', Cmt to surf with 200 sx.

INTER. CASING:

PROD. CASING: 7", 24#, C.S. @ 3702', set in 8-3/4" hole, cmt with
250 sx, top of cement @ 1873' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3702-3890

INITIAL POTENTIAL: 186 BOPD, 204 MCFD.

PRESENT COMP: Same as W.O. #2, Injection 3702-3849'.

PRESENT WELL CLASS: TA'd Injection Well

WORKOVERS:

=1 5- -57 PB to 3849 and sand oil treated with 20,000 gal oil
and 20,000# sand. Converted to water injection, Pkr.
@ 3659'.

WELL NAME: Sun State A Account 2 #27
FIELD: South Eunice
LOCATION: 660' FSL and 660' FEL, Section 5, Unit Letter P,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 3-23-43
TD: 3872

COMPLETION DATE: 4-24-43
PBD: 3865

CASING AND CEMENTING DATA:
SURFACE CASING: 10", 40#, C.S. @ 416', cmt to surf. with 200 sx.

INTER. CASING:

PROD. CASING: 7", 24#, C. S. @ 3089', set in 8-3/4" hole, cmt with 400sx.
top of cement calc. 163'. Liner #1 5½", 14&17#, from 3063'-
3725', cmt. 60 sx. Liner #2 4" F.J. from 3675-3865', slotted
from 3772-3803.

COMPLETION RECORD:
INITIAL COMP: Open hole 3725-3872 Queen

INITIAL POTENTIAL: 624 BOPD, 1167 MCFD.

PRESENT COMP: Same as W. O. #2 Dual Jalmat - South Eunice

PRESENT WELL CLASS: Dual Jalmat gas, South Eunice oil.

WORKOVERS:

- #1 7-6-62 Ran 4" F.J. liner from 3675-3865 sand oil treated with
20,000 gal oil and 40,000# sand.
- #2 12-23-64 Dualled as Jalmat gas and South Eunice oil. Perfed Jalmat
3055-3355, pkr @ 3495'

WELL NAME: Sun State A Account 2 #29
FIELD: South Eunice
LOCATION: 660' FNL and 660' FWL, Section 9, Unit Letter D, T22S, R36E,
Lea County, New Mexico

SPUD DATE: 6-5-43
TD: 3860

COMPLETION DATE: 7-3-43
PBSD: 3802

CASING AND CEMENTING DATA:

SURFACE CASING: 10" - 40 #, C.S. @ 466' cmt to surf. with 200 sx.

INTER. CASING:

PROD. CASING: 5½", 17#, C.S. @ 3717, set in 7-7/8" hole, cmt with 250 sx,
top of cement @ 2225' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole 3717-3850 Queen

INITIAL POTENTIAL: 192 BOPD, 976 MCFD

WORKOVERS:

#1 3-23-61 PB to 3802 - Sand oil treat with 20,000 gal oil, 40,000# sand.

PRESENT COMP: Same as W.O. #1 - open hole 3717 - 3802

PRESENT WELL CLASS: Oil well

WELL NAME: Sun State A Account 2 #30
FIELD: South Eunice
LOCATION: 1980' FNL and 660' FWL, Section 9, Unit Letter E, T22S, R36E,
Lea County, New Mexico.

SPUD DATE: 9-19-45
TD: 3840

COMPLETION DATE: 10-27-45
PBD: 3829

CASING AND CEMENTING DATA:

SURFACE CASING: 10", 40#, C.S. @ 307', cmt to surf. with 225 sx.

INTER. CASING: 7-5/8", 26.4#, C. S. @ 1548', cmt. with 200 sx, top of
cement @ 288' calc.

PROD. CASING: 5½", 14 & 15.5#, C.S. @ 3700', set in 6-3/4" hole, cmt
with 200 sx., top of cmt. @ 1065' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3700-3840

INITIAL POTENTIAL: F 114 BOPD, 935 MCFD

PRESENT COMP: Same as W. O. #2 open hole 3700-3829.

PRESENT WELL CLASS: Oil well

WORKOVERS:

- #1 4-24-56 Sand oil treat 3700-3840 with 20,000 gal oil and 20,000#
sand. Before W.O.-50 BOPD, 0 BWPD - After W.O. - 50 BOPD,
375 MCF, 4 BWPD
- #2 10-15-56-PD to 3829' with pea gravel

WELL NAME: Sun State A Account 2 #31
FIELD: South Eunice
LOCATION: 1980' FNL and 1980' FWL, Section 9, Unit Letter F,
T22S, R36E, Lea County, New Mexico

SPUD DATE: 11-3-45
TD: 3845

COMPLETION DATE: 11-26-45
PBD: 3782

CASING AND CEMENTING DATA:

SURFACE CASING: 10", 40#, C.S. 309', cmt. to surf with 175 sx.

INTER. CASING: 7-5/8", 26.4#, C.S. @ 1532', cmt with 200 sx, top of
cement @ 282' calc.

PROD. CASING: 5½", 15.5#, C.S. @ 3714', cmt with 200 sx, 6-3/4" hole,
top of cmt. @ 1080' calc.
Liner: 4½", 12.6#, from 3576-3802, cmt 50 sx.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3714-3845'.

INITIAL POTENTIAL: 120 BOPD, 660 MCFD, ØBWPD.

PRESENT COMP: Same as W. O. #2 Perfs 3644-3768.

PRESENT WELL CLASS: Oil well

WORKOVERS:

- #1 4-24-56 PD to 3834' and sand oil treat with 20,000 gal oil and
20,000# sand.
Before W.O. 3 BOPD, 33 BWPD - After W.O. 47 BOPD, 469 MCFD,
ØBWPD.
- #2 Ran 4½" liner from 3576-3802, cmt with 50 sx. Perf 3644-3768'.

WELL NAME: Sun State A Account 2 #32
FIELD: South Eunice
LOCATION: 1980' FSL and 660' FWL, Section 9, Unit Letter L, T22S, R36E,
Lea County, New Mexico.

SPUD DATE: 12-8-45
TD: 3843

COMPLETION DATE: 12-21-45
PBTD: Surface P&A

CASING AND CEMENTING DATA:

SURFACE CASING: 12½", 50#, C.S. @ 208', cmt. to surf with 150 sx

INTER. CASING: 8-5/8", 32# C. S. @ 1540', cmt with 150 sx, top of cement
@ 800' calc.

PROD. CASING: 5½", 14#, C.S. @ 3704', cmt with 150 sx, top of cement @
2700' calc.

COMPLETION RECORD:

INITIAL COMP: Open hole Queen 3704-3843.

INITIAL POTENTIAL: 40 BOPD, 220 MCFD, 0 BHPD.

PRESENT COMP:

PRESENT WELL CLASS: P&A 8-19-70

WORKOVERS: #1 9-16-63 Vibro fraced and sand oil treated wit 20,000 gal
oil & 40,000# sand, PB to 3743.

PLUGGING RECORD: Set cmt. retainer @ 3675' pumped 75 bbls injectrol L + 7 bbls
fresh water, then pumped 100 sx cmt. Set 10 sack cement plug
at surface.

WELL NAME: Sun State A Account 2 #32Y
FIELD: South Eunice
LOCATION: 2050' FSL and 760' FWL, Section 9, Unit Letter L,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 7-9-70
TD: 3900'

COMPLETION DATE: 7-28-70
PBD: 3870'

CASING AND CEMENTING DATA:

SURFACE CASING: 7-7/8", 26#, C.S. @ 357', cmt. to surf. with 175 sx.

INTER. CASING:

PROD. CASING: 4½", 9.4#, C.S. @ 3900', cmt. with 300 sx, top of cement @
2655 temp survey.

COMPLETION RECORD:

INITIAL COMP: Perf. Queen 3702 - 82

INITIAL POTENTIAL: P 18 BOPD, 126 BWPD

PRESENT COMP:

PRESENT WELL CLASS: TA'd injection well

WORKOVERS:

9-14-70 Converted to water injection pkr @ 3655, Injection into Queen
perfs 3702 - 82.

COUNTY Lea New SP
FIELD or POOL South Eunice

660 FNL & 1980 FSL

EL. DF 3566 'GL
COMPL. 12-21-45
IP: 40 0 5500
OIL WTR GCR
RE-COMPL

10 5/8 cmt. @ 900

12-17-45 "Csg. set @ 208
w/ 150 sxs. cmt.
cmt. re surf.

Tool. Behind 8 1/2" @ 800 cmt.

8-5/8 "Csg. set @ 1540
w/ 150 sxs. cmt.

TREATMENTS

12-27-45	A/1000 gals ON 3704-3843
1-30-54	Acid frac w/4000 gals - 6000# sd. CO to 3843'
5-15-63	Vibrofraced w/3 no. 3 snags - 3773-e
SCT w/20000 gals + 40000# sd. PB 374.	

Tool. behind 5 1/2" @ 2700 cmt.

Set cement return to 3775
10 5/8 cmt. @ 900
5 1/2" @ 3704 w 150 sxs. cmt.

PB 3743

TD 3843

Plugging Records:

Set cement return to 3775
pumped 75 bbls. mixture and
7 bbls fresh water. Then
pumped 100 ex. cmt.

Set 10 5/8 cmt plug at surf.

Well Name: Sun-State "A" A/C 2 #33
Field: South Eunice 7 Rvr. Queen
Location: 660' FSL & 1980' FEL, Unit Ltr. 0,
Section 5,T-22-S, R-36-E, Lea County, NM

Spud date: 10-8-45 Completion date: 12-30-45
TD: 3890' PBTD: 3878'

Casing & Cementing Data:

Surface casing: 12½", 50# at 242', 150 sxs cmt. TOC Surface

Inter. casing: 8-5/8", 32#, at 1514', 150 sxs cmt.

Prod. casing: 5½", 14#, at 3696', 150 sxs cmt
4½", 12#, Hydril slotted liner set at 3878' w/ slot
from 3828' to 3863'.

Completion record-

Initial Comp: 3720-3890 Open hole

Initial Potential: 51 BO, 0 BW, 273 MCF

Present Comp: Same as Initial Completion

Present well class: Oil Well

Workovers: 12-3-45 2000 gals acid
7-5-52 5000 gals acid
10-14-61 SOT w/ 20,000 gals oil & 40,000# sand-
Vibro fraced 3842-46'.

WELL NAME: Sun State A Account 2 #37
FIELD: South Eunice
LOCATION: 1980' FSL and 1980' FWL, Section 8,
Unit Letter K, T22S, R36E, Lea County, New Mexico

SPUD DATE: 11-12-46
TD: 3912

COMPLETION DATE: 12-21-46
PSTD: 3850

CASING AND CEMENTING DATA:

SURFACE CASING: 15½", 70#, C.S. @ 205', cmt to surf. with 350 sx.

INTER. CASING: 10-3/4", 40.5#, C.S. @ 1492', cmt to surf. with 800 sx.

PROD. CASING: 5½" 14#, C. S. @ 3812', Cmt with 200 sx, top of cmt. @
2615 calc.
Liner: 4½", 12.24# FJ, from 3116-3874, cmt. 35sx.

COMPLETION RECORD:

INITIAL COMP: Perfs 3200-3799 & open hole from 3812 - 3901

INITIAL POTENTIAL: 5690 MCFD

PRESENT COMP:

PRESENT WELL CLASS: Oil Well

WORKOVERS: #1 - 12-1-54 Dual complete to separate oil and gas zones.
#2 - 2-22-55 Perf & sand oil treat 3230 - 3400 with 6,000 gal oil
and 12,000# sand.
#3 - 5-1-57 Sand oil treat 3230-3400 with 20,000 gal oil & 20,000#
sand.
#4 - 11-14-62 All perfs squeezed 4½" liner run from 3116-3874. Perf
3841-44 and sand oil treat with 20,000 gal oil & 40,000# sand.

WELL NAME: Sun State A Account 2 #38
FIELD: South Eunice
LOCATION: 1980' FSL and 1980' FWL, Section 9,
Unit Letter K, T22S, R36E, Lea County, New Mexico.

SPUD DATE: 11-28-46
TD: 3845

COMPLETION DATE: 3-13-47
PBD: 3823

CASING AND CEMENTING DATA:

SURFACE CASING: 12½", 50#, C.S. @ 242', cmt to surf. with 200 sx.

INTER. CASING: 8-5/8", 24#, C.S. @ 1494', cmt to surf. with 800 sx.

PROD. CASING: 5½", 14#, C. S. @ 3794', cmt with 200 sx., top of cmt.
@ 2598' calc.

COMPLETION RECORD:

INITIAL COMP: Perfs 3160 - 3780
open hole 3794-3823

INITIAL POTENTIAL: 3870 MCFD

PRESENT COMP: Same as W.O. #1 Perfs 3105 - 3200

PRESENT WELL CLASS: Gas Well

WORKOVERS: #1 5-10-53 Perf 3105-3200, 3510-40, 3650-3715
#2 6-16-55 Set pkr @ 3400'. Sand oil treat with 10,000 gal oil
and 20,000# sand.

WELL NAME: Sun State A Account 2 #39
FIELD: South Eunice
LOCATION: 990' FNL and 1650' FWL, Section 9, Unit Letter C,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 2-14-48
TD: 11045

COMPLETION DATE: 8-19-48
PBTD: 3842

CASING AND CEMENTING DATA:

SURFACE CASING: 13-3/8", 48#, C. S. @ 233', cmt to surf with 250 sx.

INTER. CASING: 9-5/8", 36#, C. S. 3020', cmt to surf. with 2,000 sx.

PROD. CASING: 7", 20#, C.S. @ 3929', cmt with 200 sx, top of cement @ 2650'
temp survey. Old prod. Csg: 5½" cut @ 3954 goes to 11,020'.
cmt 400 sx.

COMPLETION RECORD:

INITIAL COMP: Perfs 10,891 - 10,880

INITIAL POTENTIAL: 8 BOPD

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: T. A. Oil well

WORKOVERS: =1 6-17-49 set cmt plug from 10,398 - 10,818
cut 5½" csg. @ 3954' and pulled.
Ran 7" csg string to 3929 and cmt. with 200 sx
Perf 3680 - 3842.

WELL NAME: Sun State A Account 2 #43
FIELD: South Eunice (Jalmat Pool)
LOCATION: 1650' FNL and 990' FEL, Section 8, Unit Letter H,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 10-14-57
TD: 3640'

COMPLETION DATE: 10-30-57
PBD: 3323

CASING AND CEMENTING DATA:
SURFACE CASING: 8-5/8", 28#, C.S. @ 328', cmt with 300 sx to surf.

INTER. CASING:

PROD. CASING: 5½", 14#, C. S. @ 3327' cmt with 250 sx, top of cmt @ 1833' calc.

COMPLETION RECORD:
INITIAL COMP: Perf Yates - Seven Rivers 3180-3320.

INITIAL POTENTIAL: AOF 4250 MCFD

PRESENT COMP: Same as initial

PRESENT WELL CLASS: Gas well Jalmat

Well Name: Sun-State "A" A/C 2 #48
Field: South Eunice 7 Rvrs. Queen
Location: 660' FNL & 1980' FEL, Unit Ltr. B
Section 9,T-22-S, R-36-E, Lea County, NM

Spud date: 8-22-60 Completion date: 9-2-60
TD: 3818' PBTD:

Casing & Cementing Data:

Surface casing: 8-5/8", 24# at 330', 300 sx's cmt TOC Surface

Inter. casing: _____

Prod. casing: 5½", 14# at 3770', 250 sx's cmt. TOC 2250'.

Completion record-

Initial Comp: 3770-3817 Open hole

Initial Potential: 60 BO, 20 BW

Present Comp: Same as initial comp.

Present well class: Oil well

Workovers: 1965- Acids w/ 1000 gal acid
SOT w/ 50,000 gal lse oil & 40,000# 10/20 sand
and 1/20 adomite

Well Name: Sun-State "A" A/C 2 #49
Field: South Eunice 7 Rvrs Queen
Location: 660' FNL & 1980' FWL, Unit Ltr. C,
Section 8, T-22-S, R-36-E, Lea County, NM

Spud date: 9-13-60 Completion date: 9-28-60
TD: 3870' PBTD:

Casing & Cementing Data:

Surface casing: 8-5/8", # at 316', w/ 300 sxs cmt
TOC Surface

Inter. casing: _____

Prod. casing: 5½", # at 3775', w/ 250 sxs cmt.

Completion record-

Initial Comp: 3775-3870 Open hole

Initial Potential: 113 BO + 40 BW in 12 hrs.

Present Comp: 3074-3383' Perfs
3775-3870 Open Hole

Present well class: Oil Well

Workovers: 9-25-60 Vibra Frac 3855'-60' w/ 3 #3 charges,
Frac w/ 20,000 gals + 20,000# sand.
1-3-65 3074'-3383' acdz w/ 2500 gals, SOT w/ 25,000
gals oil + 25,000# sand.

WELL NAME: Sun State A Account 2 #51
FIELD: South Eunice
LOCATION: 1980' FNL and 1980' FWL, Section 8, Unit Letter F, T22S,
R36E, Lea County, New Mexico

SPUD DATE: 11-9-60
TD: 3867

COMPLETION DATE: 11-16-60
PBD: 3867

CASING AND CEMENTING DATA:

SURFACE CASING: 9-5/8", 36#, C. S. @ 312', cmt to surf with 300 sx.

INTER. CASING:

PROD. CASING: 7", 20#, C.S. @ 3778', cmt. with 250 sx, top of cmt
@ 2370' temp survey.

COMPLETION RECORD:

INITIAL COMP: O. H. 3778 - 3867 Queen-Seven Rivers

INITIAL POTENTIAL: 50 BOPD, 4 BWPD

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: TA'd dual gas and injection well.

WORKOVERS: #1 - Dual complete as Jalmat gas well and South Eunice injection well. Jalmat perfs 3192-3370, pkr @ 3753, open hole 3778-3867-South Eunice injection.

Well Name: Sun-State "A" A/C 2 #53
Field: South Eunice 7 Rvrs Queen
Location: 660' FSL & 1980' FWL, Unit Ltr. N,
Section 8, T-22-S, R-36-E, Lea County, NM

Spud date: 2-4-61 Completion date: 2-20-61
TD: 3886' PBTD:

Casing & Cementing Data:

Surface casing: 8-5/8", 24#, at 330', w/ 300 sx's cmt TOC Surface

Inter. casing: _____

Prod. casing: 5½", 14#, at 3785', w/ 250 sx's cmt TOC 2550

Completion record-

Initial Comp: 3785'-3886' Open hole

Initial Potential: 90 BO, 30 BW, 77.71 MCF

Present Comp: 3785'-3886' Open hole

Present well class: Shut-in

Workovers: 2- -61, Vibro-frac 3847'-3851' w/ 3 charges.
SOT w/ 20,000 gal oil + 20,000# sand, 500# adomite
at 3785'-3886'.

WELL NAME: Sun State A Account 1 #54
FIELD: South Eunice
LOCATION: 660' FSL and 1980' FEL, Section 8, Unit Letter O,
T22S, R36E, Lea County, New Mexico

SPUD DATE: 2-12-61
TD: 3863

COMPLETION DATE: 2-19-61
PBD: 3863

CASING AND CEMENTING DATA:

SURFACE CASING: 9-5/8", 32#, C.S. @ 309', cmt. to surf. with
300 sx.

INTER. CASING:

PROD. CASING: 7", 20#, C. S. 3791', cmt 250 sx, top of cement @
2660' temp. survey.

COMPLETION RECORD:

INITIAL COMP: Open hole 3791 - 3863

INITIAL POTENTIAL: 338 BOPD, 716 MCFD, 112 BWPD

PRESENT COMP: Same as initial open hole 3791-3863

PRESENT WELL CLASS: Oil well

WELL NAME: Sun State A Account 2 #55
FIELD: South Eunice
LOCATION: 660' FSL and 660' FEL, Section 8, Unit Letter P,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 3-29-61
TD: 3850'

COMPLETION DATE: 4-5-61
PBD: 3845'

CASING AND CEMENTING DATA:

SURFACE CASING: 8-5/8", 24#, C.S. @ 330', cmt to surf. with 300 sx.

INTER. CASING:

PROD. CASING: 5½", 14#, C.S. @ 3850', cmt. with 250 sx., top of cmt.
@ 2590' temp. survey.

COMPLETION RECORD:

INITIAL COMP: Perfs 3774 - 3835.

INITIAL POTENTIAL: 135 BOPD, 346 MCFD, Ø BWPD

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: TA'd Injection well.

WORKOVERS: #1 Converted to water injection well. Ran tubing and pkr to
3739'. Injection into Queen perfs 3774-3835'.

WELL NAME: Sun State A Account 2 #56
FIELD: South Eunice
LOCATION: 1980' FSL and 1980 FEL, Section 8, Unit Letter J,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 8-6-61
TD: 3853

COMPLETION DATE: 8-12-61
PBSD: 3646

CASING AND CEMENTING DATA:

SURFACE CASING: 8-5/8", 24#, C.S. @ 333', cmt. to surf. with 300 sx.

INTER. CASING:

PROD. CASING: 5½", 14#, C.S. @ 3853', cmt with 300 sx, top of cement
@ 2535' temp survey.

COMPLETION RECORD:

INITIAL COMP: Perfs 3782-3838 non productive-perfed then sqzed 3182-3353
Jalmat.

INITIAL POTENTIAL: 1865 MCFD

PRESENT COMP: Same as initial Jalmat

PRESENT WELL CLASS: Gas Well

WELL NAME: Sun State A Account 2 #57
FIELD: South Eunice
LOCATION: 1980' FNL and 1980' FEL, Section 9, Unit Letter G,
T22S, R36E, Lea County, New Mexico.

SPUD DATE: 1-21-64
TD: 3806

COMPLETION DATE: 1-29-64
PBD: 3785'

CASING AND CEMENTING DATA:

SURFACE CASING: 8-5/8", 24#, C.S. @ 335', cmt to surf. with
300 sx.

INTER. CASING:

PROD. CASING: 5½", 14-17#, C.S. @ 3806, cmt with 300 sx, top of cmt. @
2009' calc.

COMPLETION RECORD:

INITIAL COMP: Perfs 3755-80 Queen

INITIAL POTENTIAL: 70 BOPD, 62 MCFD, 8 BWPD

PRESENT COMP: Same as initial

PRESENT WELL CLASS: Oil well

WELL NAME: Sun State A Account 2 #59
FIELD: South Eunice
LOCATION: 1980' FSL and 2080 FWL, Section 9, Unit Letter K, T22S,
R36E, Lea County, New Mexico

SPUD DATE: 10-9-64
TD: 3870'

COMPLETION DATE: 10-22-64
PBD: 3760 CIBP

CASING AND CEMENTING DATA:

SURFACE CASING: 7-7/8", 26#, C.S. @ 328', cmt to surf. with 250 sx.

INTER. CASING:

PROD. CASING: 4½", 9.5#, C.S. @ 3870', cmt with 300 sx, top of cmt.
@ 1480' calc.

COMPLETION RECORD:

INITIAL COMP: Perf 3670 - 3822 Queen.

INITIAL POTENTIAL: 24 BOPD, 65 BWPD

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: Oil Well

WORKOVERS: #1 10-27-64 Set CIBP @ 3760 with 1 sk cmt perfs
3670-3737, sand oil treated with 25,000 gal oil and
25,000# sand.

WELL NAME: Sun State A. Account 2 #61
FIELD: South Eunice
LOCATION: 1980' FSL and 1780' FEL, Section 8, Unit Letter J,
T22S, R36E, Lea County, New Mexico

SPUD DATE: COMPLETION DATE: 7-25-70
TD: 3949' PBTD: 3897'

CASING AND CEMENTING DATA:

SURFACE CASING: 7-5/8", 24#, C.S. @ 340', cmt to surf. with 175 sx.

INTER. CASING:

PROD. CASING: 4½", 9.5#, C.S. @ 3949', cmt with 300 sx, top of cmt.
@ 1559' calc.

COMPLETION RECORD:

INITIAL COMP: Perf Queen 3793 - 3876.

INITIAL POTENTIAL: 12 BOPD, 24 BWPD.

PRESENT COMP: Same as W. O. #1

PRESENT WELL CLASS: TA'd injection well

WORKOVERS:

#1 9-14-70 Converted to water injection- ran tubing and pkr.
to 3754. Injection into Queen Perfs 3793-3876.

WELL NAME: Sun State A Account 2 #63
FIELD: South Eunice
LOCATION: 990' FNL and 2310' FWL, Section 9, Unit Letter C,
T22S, R36E, Lea County, New Mexico

SPUD DATE: 5-29-77
TD: 3700'

COMPLETION DATE: 9-14-77
PBTD: 3700'

CASING AND CEMENTING DATA: 8-5/8", 24#, C.S. @ 819', cmt with
SURFACE CASING: 500 sx to surf.

INTER. CASING:

PROD. CASING: 5½", 14#, C.S. @ 3700' cmt 1425 sx . D.V. tool @ 2727'.
cmt. circ both stages.

COMPLETION RECCRD:
INITIAL COMP: Perf - Yates - Seven Rivers
3183 - 3584

INITIAL POTENTIAL: AOF 836 MCFD

PRESENT COMP: Same as initial

PRESENT WELL CLASS: Gas Well

Well Name: Sun-State "A" A/C 2 #69
Field: Eunice Seven Rivers Queen
Location: 2615' FSL & 1295' FEL, Unit Ltr I.
Section 8, T-22-S, R-36-E, Lea County, NM

Spud date: 9-8-83 Completion date: 10-8-83
TD: 3900' PBTD: 3897'

Casing & Cementing Data:

Surface casing: 8-5/8", 24#, Cs at 577', cmt w/ 375 sxs,
TOC surface

Inter. casing: _____

Prod. casing: 5½", 14#, Cs at 3900, cmt w/ 800 sxs

Completion record-

Initial Comp: 3750-3862 perfs

Initial Potential: Injection test 2-3/4 BPM at 1500 psi.

Present Comp: same as initial

Present well class: Water injection well

Well Name: Sun-State "A" A/C 2 #65
Field: Eunice Seven Rivers Queen
Location: 1345' FNL & 25' FWL, Unit Ltr. E,
Section 9, T-22-S, R-36-E, Lea County, NM

Spud date: 9-4-83 Completion date: 10-8-83
TD: 3900' PBTD: 3886'

Casing & Cementing Data:

Surface casing: 8-5/8", 24#, Cs at 598', cmt w/ 375sxs
TOC surface

Inter. casing: _____

Prod. casing: 5½", 14#, Cs at 3900', cmt w/ 950 sxs

Completion record-

Initial Comp: 3751-3872 perfs

Initial Potential: Injection test- 2½BPM at 1500 psi

Present Comp: same as initial

Present well class: Water injection well

Well Name: Sun- State "A" A/C 2 #67
Field: Eunice Seven Rivers Queen
Location: 2615' FSL & 1345' FWL, Unit Ltr. K,
Section 9, T-22-S, R-36-E, Lea County, NM

Spud date: 9-14-83 Completion date: 10-12-83
TD: 3900' PBTD: 3890'

Casing & Cementing Data:

Surface casing: 8-5/8", 24#, Cs at 598', cmt to surface w/ 375sxs

Inter. casing: _____

Prod. casing: 5½", 14#, Cs at 3900', cmt w/ 950sxs

Completion record-

Initial Comp: 3772-3834 perfs

Initial Potential: flowing, 24 hrs. 99 BO, 0 BW, 22 MCF

Present Comp: same as initial

Present well class: Oil well

Well Name: Sun- State "A" A/C 2 #71
Field: Eunice Seven Rivers Queen South
Location: 1295' FSL & 25' FWL, Unit Ltr. M,
Section 9, T-22-S, R-36-E, Lea County, NM

Spud date: 9-18-83 Completion date: 10-29-83
TD: 3900' PBTD: 3890'

Casing & Cementing Data:

Surface casing: 8-5/8", 24#, Cs at 588', cmt to surf w/ 375 sxs

Inter. casing: _____

Prod. casing: 5½", 14#, Cs at 3900, cmt w/ 950 sxs cmt, top
of cmt at _____.

Completion record-

Initial Comp: 3763-3877 perfs

Initial Potential: Injection rate w/ 100 bbls lse wtr at ½ BPM at 0 press.

Present Comp: same as initial

Present well class: Water injection well

III. Well Data - Attached well sketch

A.

1. Lease name: State "A" A/C 2
Well No's & Locations:
 - #64- Unit Ltr. A, Sec. 8, T-22-S, R-36-E,
1250' FNL & 1250' FEL.
 - #66- Unit Ltr. F, Sec. 9, T-22-S, R-36-E,
1345' FNL & 1345' FWL
 - #68- Unit Ltr. E, Sec. 9, T-22-S, R-36-E,
2570' FNL & 70' FWL
 - #70- Unit Ltr. P, Sec. 8, T-22-S, R-36-E,
1295' FSL & 1295' FEL
 - #72- Unit Ltr. K, Sec. 9, T-22-S, R-36-E,
1410' FSL & 1440' FWL
2. Casing Data:
 - 8-5/8", 24#, 570', 375 sxs cmt, top of cmt surface,
hole size 12 1/4".
 - 5-1/2", 14#, 3900' w/ 950 sxs cmt, top of cmt surface,
hole size 7-7/8".
3. Tubing Data:
 - 2-3/8", at 3700' (cmt lined)
4. Packer Data Baker AD-1 3700'±.

- #### B.
1. Injection formation- Seven Rivers, Queen.
 2. Injection interval- 3750'± - 3890'± perfs.
 3. These wells are oil wells to be converted to WIW.
 4. There have been no perfs sealed off with cement or bridge plugs.
 5. Higher depth- Yates at 3150'±
Lower depth- Grayburg at 4000'±

VII.

1. Proposed average and maximum daily rate and volume of fluids to be injected at 300 barrels (average) and 600 barrels (maximum).
2. System is closed.
3. Proposed average and maximum injection pressure- 800# (average) and 1500# (maximum).
4. The only fluid that will be injected is San Andres and some produced water from nearby wells.
5. The water will be injected into a zone that is productive of oil or gas.

VIII.

The Basal Seven Rivers and Queen formation (zone of water injection) 3600-3870. The lithology is a finely crystalline to sucrosic dolomite, sometimes sandy with interbedded sandstones fine- very fine grained sometimes dolomitic. The State "A" A/C 2 have 8-5/8" casing set to preserve the fresh water aquifers found in the Ogallala formation. There is no known fresh water aquifers below the proposed water injection in this area.

IX. There will be no stimulation before conversion.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. 1183-934

To Sun Production CompanyDate 8-8-83Box 1255Eunice, New MexicoATTN: Mr. Elmer Teel

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by _____ Date Rec. 3-8-83Well No. Water Well #1 Depth _____ Formation _____

County _____ Field _____ Source _____

Resistivity _____ 8.25 @ 74°F.Specific Gravity _____ 1.004pH _____ 7.6Calcium (Ca) _____ 70

*MPL

Magnesium (Mg) _____ 24Chlorides (Cl) _____ 200Sulfates (SO₄) _____ 650Bicarbonates (HCO₃) _____ 230Soluble Iron (Fe) _____ NilRemarks: Water Well located near State "A" 41C 2 #1 *Milligrams per liter

Respectfully submitted,

Analyst: BrewerDee Ann Kemp - Sun Prod. Co.CC: Drawer 1861Midland, Texas

HALLIBURTON COMPANY

By W. L. Brewer

CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

Subject

Water Compatibility: State A A/C 2 Lease
Eunice Field, Southwestern District

Interoffice
Correspondence



Date February 10, 1983
Location Richardson
From Johnny Reinschmidt, Production Service Laboratory
To Cody Osborne
Midland, Texas

Enclosed water analyses were performed on water samples collected from five water stations (batteries) and the No. 60 WSW on the subject lease. Analyses were requested for compatibility for a proposed WPMS.

Water Analysis No. C-7730 represents San Andres supply water and is probably representative of the water produced from the No. 60 well. Field sheet indicates 140 BBLS of water was allowed to flow from the idle well before a sample was collected for analysis.

The supply water appears to be compatible with the commingled produced waters collected from Water Station Nos 1, 2 and 5. Mixing the supply water with commingled produced waters collected from Station Nos. 7 and 8 could increase the barium sulfate scaling tendencies the waters already have.

All the waters, produced and supply, appear to have calcium carbonate scaling tendencies.

If the San Andres supply water is used for injection in the whole unit, chemical treatments can be recommended to control both the calcium carbonate and barium sulfate scaling tendencies.

Should you wish to discuss these analyses and comments further, please contact the Lab.

A handwritten signature in cursive script, reading "Johnny M. Reinschmidt".
Johnny Reinschmidt
Chemical Engineering Section

JR/js

Attachments

cc: F. Brandes
T. Fox
E. Teel
R. McWright
Corrosion Engr. Sec.
File 23-230

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7730

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 #60 (WSW)
Formation EUNICE SAN ANDRES
Perfs To ; T.D. OH
Method of Collecting Sample WELLHEAD

District SOUTHWESTERN
Field SOUTH EUNICE
County LEA
State NEW MEXICO

Treatment
Date of last acid job

Collected by
Date 1-31-83 2-8-83
Collected Analyzed

Total Prod.	BOPD	BWPD	MCFPD

Sample No. 09972
Analyst PPI

Description of Sample 1 PT. BLACK OILY WATER

CONSTITUENTS	ppm
Sodium	<u>1880</u>
Calcium	<u>577</u>
Magnesium	<u>260</u>
Barium	<u>0</u>
Strontium	<u> </u>
Potassium	<u> </u>
Iron	<u>0</u>
Chloride	<u>3520</u>
Sulfate	<u>726</u>
Carbonate	<u>0</u>
Bicarbonate	<u>1070</u>
	<u> </u>
	<u> </u>
	<u> </u>
	<u> </u>
	<u> </u>
TOTAL DISSOLVED SOLIDS	<u>8033</u>

OTHER PROPERTIES	
pH	<u>7.0</u>
Specific Gravity	<u>1.0065</u>
Resistivity ohm-mtr. @ 75° F	<u>.950</u>
Loss on Ignition, ppm	<u> </u>
Total Solids by Evap., ppm	<u> </u>
Organic acids, ppm	<u> </u>
Hardness as CaCO ₃ , ppm	<u> </u>
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	<u> </u>
Fluoride, ppm	<u> </u>
Silica, ppm	<u> </u>
Total Iron, ppm	<u>78</u>
Nitrates, ppm	<u> </u>
Phosphate, ppm	<u> </u>
	<u> </u>
	<u> </u>

REMARKS:

Possible supply water for
proposed WPMS State A A/C2.

Johnny M Reinschmidt
REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7731

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 BATTERY#1
Formation SEVEN RIVERS QUEEN
Perfs _____ To _____ T.D. _____
Method of Collecting Sample WATER LEG
ON TREATER
Treatment _____
Date of last acid job _____

District SOUTHWESTERN
Field EUNICE SRQ SOUTH
County LEA
State NEW MEXICO

Collected by _____
Date 1-31-83 2-8-83
Collected Analyzed

Sample No. 09978
Analyst _____ PPI _____

Total Prod.	BOPD	BWPD	MCFPD

Description of Sample 1 PT. GREY CLOUDY WATER

CONSTITUENTS	ppm
Sodium	<u>3990</u>
Calcium	<u>337</u>
Magnesium	<u>181</u>
Barium	<u>1</u>
Strontium	
Potassium	
Iron	<u>0</u>
Chloride	<u>5900</u>
Sulfate	<u>333</u>
Carbonate	<u>0</u>
Bicarbonate	<u>1930</u>
TOTAL DISSOLVED SOLIDS	<u>12672</u>

OTHER PROPERTIES	
pH	<u>8.0</u>
Specific Gravity	<u>1.0095</u>
Resistivity ohm-mtr. @ 75° F	<u>.608</u>
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as CaCO ₃ , ppm	
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	<u>20</u>
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Commingle produced water from
State A A/C2 Well Nos. 1, 24, 30 and 59.

REPORTED BY:

Johnny M Reinschmidt
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7732

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 BATTERY#2
Formation SEVEN RIVERS QUEEN
Perfs _____ To _____; T.D. _____
Method of Collecting Sample WATER LEG
ON TREATER
Treatment _____
Date of last acid job _____

District SOUTHWESTERN
Field EUNICE SRQ SOUTH
County LEA
State NEW MEXICO
Collected by _____
Date 1-31-83 2-8-83
Collected Analyzed
Sample No. 09976
Analyst _____ PPI _____

Total Prod.	BOPD	BWPD	MCFPD

Description of Sample 5/6 PT. GREY CLOUDY WATER WITH A FEW PARTICLES
OF BLACK PRECIPITATE

CONSTITUENTS	ppm
Sodium	<u>15400</u>
Calcium	<u>777</u>
Magnesium	<u>824</u>
Barium	<u>2</u>
Strontium	
Potassium	
Iron	<u>0</u>
Chloride	<u>25800</u>
Sulfate	<u>1220</u>
Carbonate	<u>0</u>
Bicarbonate	<u>1370</u>
TOTAL DISSOLVED SOLIDS	<u>45393</u>

OTHER PROPERTIES	
pH	<u>7.4</u>
Specific Gravity	<u>1.0320</u>
Resistivity ohm-mtr. @ 75° F	<u>.177</u>
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as CaCO ₃ , ppm	
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	<u>156</u>
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Commingled produced waters from State
A A/C 2 Well Nos. 45, 46 and 47.

REPORTED BY:

Johnny Reinschmidt
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION

Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7733

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 BATTERY#5
Formation SEVEN RIVERS QUEEN
Perfs _____ To _____ ; T.D. _____
Method of Collecting Sample WATER LEG
ON TREATER
Treatment _____
Date of last acid job _____

District SOUTHWESTERN
Field EUNICE SRO SOUTH
County LEA
State NEW MEXICO

Collected by _____
Date 1-31-83 2-8-83
Collected Analyzed

Sample No. 09985
Analyst _____ PP! _____

Total Prod.	BOPD	BWPD	MCFPD

Description of Sample 1 PT. LIGHT TAN SLIGHTLY CLOUDY WATER WITH
SETTLED DARK PRECIPITATE

CONSTITUENTS	ppm
Sodium	<u>2490</u>
Calcium	<u>339</u>
Magnesium	<u>157</u>
Barium	<u>0</u>
Strontium	
Potassium	
Iron	<u>0</u>
Chloride	<u>3880</u>
Sulfate	<u>353</u>
Carbonate	<u>0</u>
Bicarbonate	<u>1290</u>
TOTAL DISSOLVED SOLIDS	<u>8509</u>

OTHER PROPERTIES	
pH	<u>7.6</u>
Specific Gravity	<u>1.0063</u>
Resistivity ohm-mtr. @ 75° F	<u>.943</u>
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as CaCO ₃ , ppm	
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	<u>2</u>
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Commingled produced waters from
State A A/C 2 Well Nos. 25, 28, 29
33 and 34.

Johnny M. Reinschmidt
REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7734

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 BATTERY#7
Formation SEVEN RIVERS QUEEN
Perfs _____ To _____; T.D. _____
Method of Collecting Sample WATER LEG
ON TREATER
Treatment _____
Date of last acid job _____

District SOUTHWESTERN
Field EUNICE SRQ SOUTH
County LEA
State NEW MEXICO
Collected by _____
Date 1-31-83 2-8-83
Collected Analyzed
Sample No. 09981
Analyst _____ PPI _____

Total Prod.	BOPD	BWPD	MCFPD

Description of Sample 1 PT. LIGHT BROWN CLOUDY WATER

CONSTITUENTS	ppm
Sodium	<u>2140</u>
Calcium	<u>343</u>
Magnesium	<u>203</u>
Barium	<u>51</u>
Strontium	
Potassium	
Iron	<u>0</u>
Chloride	<u>3520</u>
Sulfate	<u>11</u>
Carbonate	<u>0</u>
Bicarbonate	<u>1700</u>
TOTAL DISSOLVED SOLIDS	<u>7948</u>

OTHER PROPERTIES	
pH	<u>7.4</u>
Specific Gravity	<u>1.0061</u>
Resistivity ohm-mtr. @ 75° F	<u>1.05</u>
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as CaCO ₃ , ppm	
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Commingle produced waters from
State A A/C 2 Well Nos. 31, 48 50, 52
and 59.

Johnny M. Reinschmidt
REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7735

FILE 23-230

Operator SUN PRODUCTION 668954
Lease or Well STATE A A/C2 BATTERY#8
Formation SEVEN RIVERS QUEEN
Perfs _____ To _____; T.D. _____
Method of Collecting Sample WATER LEG
ON TREATER
Treatment _____
Date of last acid job _____

District SOUTHWESTERN
Field EUNICE SRQ SOUTH
County LEA
State NEW MEXICO
Collected by _____
Date 1-31-83 2-8-83
Collected Analyzed
Sample No. 09975
Analyst _____ PPI _____

Total Prod.	BOPD	BWPD	MCFPD
-------------	------	------	-------

Description of Sample 1 PT. CLEAR YELLOW WATERWITH SMALL AMOUNT OF BLACK PRECIPITATE

CONSTITUENTS	ppm
Sodium	<u>2430</u>
Calcium	<u>311</u>
Magnesium	<u>162</u>
Barium	<u>26</u>
Strontium	_____
Potassium	_____
Iron	<u>0</u>
Chloride	<u>3570</u>
Sulfate	<u>41</u>
Carbonate	<u>0</u>
Bicarbonate	<u>2030</u>
_____	_____
_____	_____
_____	_____
_____	_____
TOTAL DISSOLVED SOLIDS	<u>8570</u>

OTHER PROPERTIES	
pH	<u>7.5</u>
Specific Gravity	<u>1.0064</u>
Resistivity ohm-mtr. @ 75° F	<u>1.00</u>
Loss on Ignition, ppm	_____
Total Solids by Evap., ppm	_____
Organic acids, ppm	_____
Hardness as CaCO ₃ , ppm	_____
Sulfide	<u>PRESENT</u>
Mixed Oxides (Qualitative)	_____
Fluoride, ppm	_____
Silica, ppm	_____
Total Iron, ppm	<u>3</u>
Nitrates, ppm	_____
Phosphate, ppm	_____
_____	_____
_____	_____


REMARKS:

Commingle produced waters from
State A A/C 2 well Nos. 3, 10, 37 and
54.

Johnny M Reinschmidt
REPORTED BY: Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

XII. Application Inject State "A" A/C 2 #'s 64,66,68,70 & 72

I, Bob Walker, have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.



Bob Walker
Area Geologist
SUN EXPLORATION & PRODUCTION CO.

July 9, 1984
DATE

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

1, _____

Robert L. Summers

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period

of _____

One weeks.

Beginning with the issue dated

June 13, 19 84

and ending with the issue dated

June 13 19 84

Robert L. Summers
Publisher.

Sworn and subscribed to before

me this 14 day of

Jane Paulowsky
Notary Public.

My Commission expires _____

3-24 19 87

(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.





July 10, 1984

**Sun Exploration and
Production Company**
No 24 Smith Road
ClayDesta Plaza
PO Box 1861
Midland TX 79702 9970
915 688 0300

Offset Operators
(List attached)

Re: Application to inject water
State "A" A/C 2
Well #'s 64,66,68,70 & 72
Sec. 8 & 9, T-22-S, R-36-E
Lea County, New Mexico

Gentlemen:

Sun Exploration & Production Company is requesting for administrative approval to inject water into the referenced wells. The New Mexico Oil Conservation requests that the Offset Operators be notified of the application. Attached for your records is a copy of the applications. If you need additional information, please contact Mr. Coby Osborne, Segment Engineer, at (915) 688-0418.

Very truly yours,

Dee Ann Kemp
Senior Accounting Assistant

DAK:js

*Mailed to offset operators
by certified mail. 7-10-84.
Dee Ann Kemp*

Offset Operators
State "A" A/C 2

Arco Oil and Gas Company ✓
P.O. Box 1610
Midland, Texas 79702

Cities Service Company ✓
Midland Nat'l Bank Tower
Box 1919
Midland, Texas 79702

Continental Emsco Company ✓
P.O. Box 519
Hobbs, New Mexico 88240

Campbell and Hendrick ✓
Box 401
Midland, Texas 79701

Getty Oil Company ✓
Box 730
Midland, Texas 79701

Gulf Oil Exploration and Production Co. ✓
P.O. Box 1150
Gulf Bldg.
Midland, Texas 79702

C.E. Long ✓
Box 1943
Midland, Texas 79702

Marathon Oil Company ✓
125 W. Missouri Street
Midland, Texas 79702

Martindale Petroleum Corp. ✓
Box 2403
Hobbs, New Mexico 88241-2403

Wiser Oil Company ✓
Box 192
Sisterville, West Virginia 26175



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

July 13, 1984

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC	_____
DHC	_____
NSL	_____
NSP	_____
SWD	_____
WFX	<u> X </u>
PMX	_____

Gentlemen:

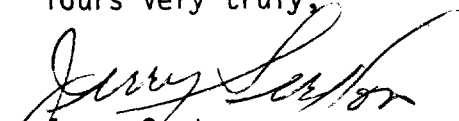
I have examined the application for the:

<u>Sun Expl. & Prod. Co.</u>	<u>State A A/C 2 #64,66,68,70 & 72</u>	<u>8 & 9-22-36</u>
<u>Operator</u>	<u>Lease & Well No. Unit</u>	<u>S-T-R</u>

and my recommendations are as follows:

P & A well should be re-entered and a solid plug from formation to center of
hole should be required above the salt---J.S.

Yours very truly,


Jerry Sexton
Supervisor, District 1

/mc

Sept. 4, 1984
Jerry called and confirmed
that the well had been
plugged.
JPP