STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] 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? [X] yes [ ] no
If yes, give the Division order number authorizing the project WFX-522 R-4819.

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 all 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 Sr. Acct. Asst.

Signature: Dee Ann Kemp Date: 4-3-84

* 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.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

III. WELL DATA

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.

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

Well Name: Sun State A Account 1 #10
Field: Jalmat Tansill Yates 7 Rvrs.
Location: 1980' FSL & 660' FWL, Section 9, Unit. Ltr L,
T-23-S, R-36-E, Lea County, New Mexico.

Spud date: October 2, 1943 Comp. date: October 22, 1943
TD: 3718' PBTD: 3513'

Casing & Cementing Data:
Surf. casing: 10", c.s. at 459', cmt 200sxs.
Prod. casing: 8½", c.s. at 3718', cmt 400sxs.

Completion record:
Initial potential: 3606'-3708' perfs. Seven Rivers formation

Workovers:
Plugged back to 3513' on 7/14/45. Shot w/ 71 shots from 3480' to 3495'. Well put on pump 10/5/45. Flow valve installed 12/1/47 after pump removed. Two attempts to acidize in April and June, 1950. Well watered out.

Present Completion- 3480' to 3495' perfs.

Present Well Class- TA'd.

Well Name: Sun State A Account 1 #35
Field: Jalmat Tansill Yates 7 Rvrs Gas
Location: 1650' FSL & 990' FWL, Section 3, Unit Ltr. L,
T-23-S, R-36-E, Lea County, New Mexico.

Spud date: 10-15-52 Comp. date: 11-4-52
TD: 3625' PBTD:

Casing & Cementing Data:
Surf. Casing: 9-5/8", 32#, c.s. at 338', 300sxs cmt.
Prod. Casing: 7", 20#, c.s. at 3017', 851 sxs cmt.

Completion record- 3017'-3625' open hole Tansill Yates Seven Rivers zone.

Workovers- None

Present completion- 3017' - 3625' open hole

Present well class- Gas well.

Well name: Sun State A Account 1 #37
Field: Jalmat Tansill Yts. 7 Rvrs. Gas
Location: 1650' FNL & 1650' FWL, Section 10, Unit Ltr. F,
T-23-S, R-36-E, Lea County, New Mexico.

Spud date: 2-28-53 Comp. date: 3-15-53
TD: 3290' PBTD:

Casing & cementing data:
Surf. casing: 9-5/8", 32#, c.s. at 342', cmt. w/ 300sxs.
Prod. casing: 7", 20#, c.s. at 2959', cmt w/ 1150 sxs.

Completion record:

Workovers- none

Present completion:

Present well class- gas well.

Well Name: Sun State A Account 1 #38
Field: Jalmat Tansill Yates 7 Rvrs. Gas
Location: 990' FSL & 990' FWL, Section 10, Unit Ltr. M,
T-23-S, R-36-E, Lea County, New Mexico.

Spud date: 3-19-53 Comp. date: 4-4-53
TD: 3250 PBTD:

Casing & Cementing data:
Surf. Casing: 9-5/8", 32#, CS at 335', 300sxs
Prod. Casing: 7", 20#, CS at 2931', 1125 sxs

Completion record: Initial comp: open hole 2942'-3250' Yates zone.

Workovers-
5-2-69 perforated plugged tubing to acidize and placed well back on prod.

Present completion- open hole 2942-=3250'

Present well class- Gas well.

Well Name: Sun State A Account 1 #41
Field:Langlie Mattix
Location:660' FNL and 660' FEL, Section 9,
Unit letter A, T23S, R36E, Lea County, New Mexico

Spud Date:11-4-57 Comp date:11-22-57
TD: 3800' PBTD: 3800'

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C.S. @ 309', cmt to surf with 300 sx.

Prod Csg: 7", 20#, C.S. @ 3800', cmt with 200sx, top of cmt. 2810' temp. survey

Completion Record:
Initial Comp: Perf 3738-64 Queen sand oil treated with 10,000 gal oil and 10000# sand.

Initial Potential: 200 BOPD, 0 BWPD, 648 MCFD

Workovers:
#1 3-25-60: Dual complete. Jalmat- Langlie Mattix. Perf Yates 3276-3400,. Set mod DA packer @ 3440 and run dual strings.

Present Completion: Same as W.O. #1

Present Well Class: TA'd both zones.

Well Name: Sun State A Account 1 #43
Field:Langlie Mattix
Location:660' FSL and 660' FWL, Section 3,
Unit letter M, T23S, R36E, Lea County, New Mexico

Spud Date:12-10-57 Comp date: 12-23-57
TD: 3825 PBTD: 3825

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C.S. @ 316', cmt to surf with 300 sx.

Prod Csg: 7", 20#, C.S. @ 3824', cmt with 200sx, top of cmt @ 2875' temp survey.

Completion Record:
Initial Comp: Perfs 3698-3778 Langlie Mattix. Sand oil treated with 20000 gal oil and 20000# sand.

Initial Potential: 248 BOPD, 28 BWPD, 110 MCFD

Present Completion: same as initial

Present Well Class: Oil Well

Well Name: Sun State A Account 1 #46
Field:Langlie Mattix
Location:1980' FSL and 660' FWL, Section 3,
Unit letter L, T23S, R36E, Lea County, New Mexico

Spud Date:2-11-59 Comp date: 2-18-59
TD: 3800 PBTD: 3785

Casing and Cementing Data:
Surf Csg: 8-5/8", 28#, C.S. @ 337', cmt to surf. with 300sx.

Prod Csg: 5½", 14#, C.S. @ 3799', cmt with 250 sx, 7-7/8" hole, top of cmt @ 2302' calc.

Completion Record:
Initial Comp: Perf 3704-3748 Seven Rivers Queen. Sand oil treated with 25000 gal oil and 40000# sand.

Initial Potential: 268 BOPD, 71 BWPD, 91 MCFD.

Workovers: 1 1/13/70 Add perfs 3646-3704' and reperf 3704-3748' and acidize.

Present Completion: Perfs 3646- 3748

Present Well Class: Oil well

Well Name: Sun State A Account 1 #47
Field:Langlie Mattix
Location:1980' FSL & 1980' FWL, Section 3,
Unit letter K, T23S, R36E, Lea County, New Mexico

Spud Date:2-22-59 Comp date: 3-4-59
TD: 3800' PBTD: 3790'
PBTD: 3790

Casing and Cementing Data:
Surf Csg: 8-5/8", 24-28#, C.S. @ 324', cmt to surf with 300 sxs.

Prod Csg: 5½", 14#, C.S. @ 3799', cmt with 250sx, 7-7/8" hole, top of cmt @ 2302' calc.

Completion Record:
Initial Comp: Perfs 3650-3740 Seven Rivers-Queen

Initial Potential: 280 BOPD, 28 BWPD, 179 MCFD

Workovers:
#1 Converted to a water injection well, set pkr @ 3565'. Injection into Seven Rivers-Queen perfs 3650-3740.

Present Completion: Same as W.O. #1

Present Well Class: T.A. Injection well

Well Name: Sun State A Account 1 #48
Field: Langlie Mattix
Location:1980' FSL and 1980' FWL, Section 3,
Unit Letter K, T23S, R36E, Lea County, New Mexico

Spud Date:2-22-59 Comp. Date: 3-4-59
Comp date: 3-4-59
TD: 3800 PBTD: 3790

Casing and Cementing Data:
Surf Csg: 8-5/8", 28#, C.S. @ 325', cmt. to surf with 300 sxs.

Prod Csg: 5½", 14# C.S. @ 3799', cmt with 250 sx., top of cmt @ 2575 temp. survey.

Completion Record:
Initial Comp: Perf 3670-3760 Seven Rivers-Queen Sand oil treated with 25000 gal oil and 40000 #sand.

Initial Potential: 398 BOPD, 136 BWPD, 562 MCF.

Present Completion: same as initial

Present Well Class: Oil well

Well Name: Sun State A Account 1 #49
Field: Langlie Mattix
Location: 660' FNL and 660' FWL, Section 10, Unit Letter D, T23S, R36E, Lea Co., New Mexico

Spud Date: 3/16/79 Comp date: 3/23/59
TD: 3800' PBTD: 3789'

Casing and Cementing Data:
Surf Csg: 8-5/8", 24#, C. S. @ 330', cmt to surf with 300 sx.

Prod Csg: 5-1/2", 14#, C. S. @ 3799', cmt with 250 sx, top of cmt @ 2665' temp survey.

Completion Record:
Initial Comp: Perfs 3690-3766 Seven Rivers Queen Sand Oil treated with 25,000 gal oil and 50,000# sand

Initial Potential: 77 BOPD, 11 BWPD, 237 MCFD

Present Completion: Same as initial

Present Well Class: Oil Well

Well Name: Sun State A Account 1 #55
Field: Langlie Mattix
Location: 1980' FNL and 660' FWL, Section 10, Unit Letter E, T23S, R36E, Lea Co., New Mexico

Spud Date: 3/25/59 Comp date: 4/3/59
TD: 3800' PBTD: 3725 mod k ret

Casing and Cementing Data:
Surf Csg: 8-5/8", 24#, C. S. @ 333', cmt to surf with 300 sx.

Prod Csg: 5-1/2", 14#, C. S. @ 3799', cmt with 250 sx, 7-7/8" hole, top of cmt @ 2302' calc.

Completion Record:
Initial Comp: Perf. Seven Rivers-Queeen 3678-3754
Sand oil treated with 25,000 gal oil and 50,000# sand
Set mod.k ret. @ 3725 and sqz perfs 3730-54 with 17 sx cmt.

Initial Potential: 63 BOPD, 94 BWPD

Present Completion: Perfs 3678-3718

Present Well Class: T.A.'d oil well

Well Name: Sun State A Account 1 #56
Field: Langlie Mattix
Location: 1980' FSL and 660' FWL, Section 10, Unit Letter L, T23S, R36E, Lea Co., New Mexico

Spud Date: 4/5/59 Comp date: 4/13/59
TD: 3765' PBTD: 3688' ref

Casing and Cementing Data:
Surf Csg: 8-5/8", 24#, C. S. @ 340', cmt to surf with 300 sx.

Prod Csg: 5-1/2", 14#, C. S. @ 3764', cmt. with 250 sx., top of cmt @ 2635' temp survey.

Completion Record:
Initial Comp: Perfs 3638-3682
Sand oil treated with 25,000 gal oil and 50,000 # sand set ret @ 3688 and sqzd perfs 3693-3721

Initial Potential: 75 BOPD, 245 BWPD

Present Completion: Perfs 3638-3682

Present Well Class: T.A.'d oil well

Well Name: Sun State A Account 1 #64
Field: Langlie Mattix
Location: 710' FSL and 1880' FEL, Section 3, Unit Letter O, T23S, R36E, Lea Co., New Mexico

Spud Date: 8/5/59 Comp date: 8/17/59
TD: 3682' PBTD: 3682'

Casing and Cementing Data:
Surf Csg: 9-5/8", 36#, C. S. @ 340', cmt to surf with 300 sx.

Prod Csg: 7", 20#, C. S. @ 3639', cmt with 250 sx, top of cmt @ 2260 temp survey

Completion Record:
Initial Comp: Open hole 3639'-3682' Queen Sand oil treated with 15,000 gal oil and 15,000# sand

Initial Potential: 310 BOPD, 0 BWPD, 112 MCFD.

Present Completion: Same as initial

Present Well Class: Oil Well

Well Name: Sun State A Account 1 #81
Field: Langlie Mattix
Location: 1980' FWL and 660' FNL, Section 10, Unit Letter C, T23S, R36E, Lea Co., New Mexico

Spud Date: 1/21/60 Comp date: 1/28/60
TD: 3754' PBTD: 3754'

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C. S. @ 326', cmt to surf with 300 sx

Prod Csg: 7", 20#, C. S. @ 3681', cmt with 250 sx, top of cement @ 2180' temp survey

Completion Record:
Initial Comp: Open hole Seven Rivers-Queen 3681-3754'. Sand oil treated with 10,000 gal oil and 10,000# sand

Initial Potential: 142 BOPD, 8 BWPD, 164 MCFD

Present Completion: Same as initial

Present Well Class: Oil well

Well Name: Sun State A Account 1 #86
Field: Langlie Mattix
Location: 1980' FNL and 1980' FWL, Section 10, Unit Letter F, T23S, R36E, Lea Co., New Mexico

Spud Date: 3/20/60 Comp date: 3/29/60
TD: 3696' PBTD: 3696'

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C. S. @ 314, cmt to surf with 300 sx.

Prod Csg: 7", 20#, C. S. @ 3660', cmt with 250 sx, top of cmt @ 2215 temp survey

Completion Record:
Initial Comp: Open hole Seven Rivers-Queen 3660-3696'

Initial Potential: 67 BOPD, 29 BWPD, 498 MCFD

Present Completion: Same as initial

Present Well Class: T. A.'d oil well

Well Name: Sun State A Account 1 #88
Field: Langlie Mattix
Location: 1980' FSL and 1980' FWL, Section 10, Unit Letter K, T23S, R36E, Lea Co., New Mexico

Spud Date: 4/20/60 Comp date: 5/2/60
TD: 3678' PBTD: 3678'

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C. S. @ 320', cmt to surf with 300 sx.

Prod Csg: 7", 20#, C. S. @ 3625', cmt with 250 sx, top of cmt @ 2106' temp survey

Completion Record:
Initial Comp: Open hole Queen 3625-3678'
Sand oil treated with 10,000 gal oil and 10,000# sand

Initial Potential: 96 BOPD, 20 BWPD, 213 MCFD

Present Completion: Same as initial

Present Well Class: Oil well

Well Name: Sun State A Account 1 #89
Field: Langlie Mattix
Location: 660' FSL and 1980' FWL, Section 10, Unit Letter N, T23S, R36E, Lea Co., New Mexico

Spud Date: 5/26/60 Comp date: 6/2/60
TD: 3685' PBTD: 3685'

Casing and Cementing Data:
Surf Csg: 9-5/8", 32#, C. S. @ 320', cmt to surf with 300 sx.

Prod Csg: 7", 20#, C. S. @ 3655', cmt with 250 sx, top of cmt @ 2215' temp survey

Completion Record:
Initial Comp: Open hole Queen 3655-3685'
Sand oil treated with 10,000 gal oil and 10,000# sand

Initial Potential: 52 BOPD, 208 BWPD, 412 MCFD

Present Completion: Same as initial

Present Well Class: T. A.'d oil well

Well Name: Sun State A Account 1 #93
Field: Langlie Mattix 7 Rvrs Queen Grayburg
Location: 660' FNL & 1980' FEL, Section 9, Unit Ltr. B, T-23-S, R-36-E
Lea County, New Mexico.

Spud date: 9-21-60 Comp. date:
TD: 3775' PBTD: 3765'

Casing & Cementing Data:
Surf. Casing: 8-5/8", 24#, set at 318', cmt. 300sxs.
Prod. Casing: 5½", 14#, set at 3775', cmt 250sxs, top of cmt at 2270'.

Completion record: Perfs 3692' - 3723' Initial Comp. Seven Rivers zone.

Workovers- none

Present completion: Perfs 3692-3723'

Present well class: TA'd

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-~~#~~ & 3 Co-op No. 1 WIW
State Lease No. A-983

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field

Section 10, Township 23-S, Range 36-E,

Footage 25' FNL & 2615' FEL (proposed location) U L B

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3850	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth)	Name, Model and Depth of Tubing Packer			
2-3/8" @ 3650'	Otis Perma-Lach @ 3650±			
Total Depth of Well	Date Well Drilled	API No.	Ground Surface Elevation	Perforation or Open Hole
3850'	New	NA yet	3465.6 ~~3450'~~ GR	[X] [ ]
List All Cement Squeeze Operations, Giving Interval and Sacks of Cement				
None				
Injection Interval		Name of Reservoir		Injection System Open or Closed
Top 3600 Bottom 3750		Seven Rivers/Queen		[ ] [X]
Anticipated Daily Injection Volume (Bbls)		Injection Pressure (Psi)		Is this well so cased and completed that water can enter no other formation than the above set out injection zone? [X] Yes [ ] No
Average 500 Maximum 750		Average 1200 Maximum 1900		

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+235'	(Subsea)
Expected Top - Queen	-160'	(Subsea)
Expected Top - Yates	+420'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-1 &3 Co-op No. 2 WIW
State Lease No. A-983

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL G

Section 10, Township 23-S, Range 36-E,

Footage 1345' FNL & 2615' FEL (proposed location)

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3850	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth): 2-3/8" @ 3650'

Name, Model and Depth of Tubing Packer: Otis Perma-Lach @ 3650±

Total Depth of Well: 3850'

Date Well Drilled: New

API No.: NA yet

Ground Surface Elevation: 3464.8' ~~3460'~~ GR

Perforation or Open Hole: [X] [ ]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement: None

Injection Interval: Top 3610 Bottom 3760

Name of Reservoir: Seven Rivers/Queen

Injection System Open or Closed: [ ] [X]

Anticipated Daily Injection Volume (Bbls): Average 500 Maximum 750

Injection Pressure (Psi): Average 1200 Maximum 1900

Is this well so cased and completed that water can enter no other formation than the above set out injection zone? [X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+240'	(Subsea)
Expected Top - Queen	-160'	(Subsea)
Expected Top - Yates	+420'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-3 No. 10 WIW
State Lease No. A-983

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL G

Section 10, Township 23-S, Range 36-E,

Footage 1395' FNL & 1480' FEL (proposed location)

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3850	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth): 2-3/8" @ 3650'

Name, Model and Depth of Tubing Packer: Otis Perma-Lach @ 3650±

Total Depth of Well	Date Well Drilled	API No.	Ground Surface Elevation	Perforation or Open Hole
3850'	New	NA yet	3462.3 ~~3470~~' GR	[X]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement: None

Injection Interval		Name of Reservoir	Injection System Open or Closed
Top 3620	Bottom 3770	Seven Rivers/Queen	[ ] [X]

Anticipated Daily Injection Volume (Bbls)		Injection Pressure (Psi)		Is this well so cased and completed that water can enter no other formation than the above set out injection zone?
Average 500	Maximum 750	Average 1200	Maximum 1900	[X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+290'	(Subsea)
Expected Top - Queen	- 90'	(Subsea)
Expected Top - Yates	+475'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-~~1 & 3~~ 1 & 3 Co-Op No. 1 WIW
State Lease No. 983-2

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL "~~B~~" "O"

Section 3, Township 23-S, Range 36-E,

Footage 25' ~~F~~S & ~~1460~~ 1460' FEL (proposed location)

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	~~8-5/8~~"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3850	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth): ~~2-3/8" @ 3650'~~

Name, Model and Depth of Tubing Packer: Otis Perma-Lach @ 3650±

Total Depth of Well: 3850'

Date Well Drilled: New

API No.: NA yet

~~3465~~ 3452.4' Ground Surface Elevation ~~3450'~~ GR

Perforation or Open Hole: [X]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement: None

Injection Interval: Top 3600 Bottom 3750

Name of Reservoir: Seven Rivers/Queen

Injection System Open or Closed: [ ] [X]

Anticipated Daily Injection Volume (Bbls): Average ~~500~~ Maximum ~~750~~

Injection Pressure (Psi): Average 1200 Maximum 1900

Is this well so cased and completed that water can enter no other formation than the above set out injection zone? [X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+295'	(Subsea)
Expected Top - Queen	- 80'	(Subsea)
Expected Top - Yates	+480'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-1 No. 120 WIW
State Lease No. 983-2

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL "C"

Section 10, Township 23-S, Range 36-E,

Footage 25' FNL & 1320' FWL (proposed location)

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3850	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth): 2-3/8" @ 3650'

Name, Model and Depth of Tubing Packer: Otis Perma-Lach @ 3650±

Total Depth of Well: 3850'

Date Well Drilled: New

API No.: NA yet

Ground Surface Elevation: 3482.9 ~~3485'~~ GR

Perforation or Open Hole: [X]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement: None

Injection Interval: Top 3635 Bottom 3785

Name of Reservoir: Seven Rivers/Queen

Injection System Open or Closed: [ ] [X]

Anticipated Daily Injection Volume (Bbls): Average 500 Maximum 750

Injection Pressure (Psi): Average 1200 Maximum 1900

Is this well so cased and completed that water can enter no other formation than the above set out injection zone? [X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+175'	(Subsea)
Expected Top - Queen	-238'	(Subsea)
Expected Top - Yates	+379'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" AC-1 No. 119 WIW
State Lease No. 983-2

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL "P"

Section 3, Township 23-S, Range 36-E,

Footage ~~1320~~ 1295' FEL & ~~1320~~ 1295' FSL (proposed location)

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3900	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth)	Name, Model and Depth of Tubing Packer			
2-3/8" @ 3700'	Otis Perma-Lach @ 3700±			
Total Depth of Well	Date Well Drilled	API No.	Ground Surface Elevation	Perforation or Open Hole
3900'	New	NA yet 3461.1	~~3450~~' GR	[X] [ ]
Set All Cement Squeeze Operations, Giving Interval and Sacks of Cement				
None				
Injection Interval		Name of Reservoir	Injection System Open or Closed	
Top 3600 Bottom 3750		Seven Rivers/Queen	[ ] [X]	
Anticipated Daily Injection Volume (Bbls)		Injection Pressure (Psi)	Is this well so cased and completed that water can enter no other formation than the above set out injection zone? [X] Yes [ ] No	
Average 500 Maximum 750		Average 1200 Maximum 1900		

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers	+280'	(Subsea)
Expected Top - Queen	-100'	(Subsea)
Expected Top - Yates	+460'	(Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" A/C-1 No. 118 WIW
State Lease No. 983-2

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field
UL O

Section 3, Township 23-S, Range 36-E,

Footage ~~2640~~ 2615' FWL & ~~1320~~ 1295' FSL (proposed location) E

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3900'	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth): 2-3/8" @ 3700'

Name, Model and Depth of Tubing Packer: Otis Perma-Lach @ 3700'±

Total Depth of Well	Date Well Drilled	API No.	Ground Surface Elevation	Perforation or Open Hole
3900'	New	NA yet	3462' ~~3460'~~ GR	[X] [ ]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement: None

Injection Interval		Name of Reservoir	Injection System Open or Closed
Top 3610	Bottom 3760	Seven Rivers/Queen	[ ] [X]

Anticipated Daily Injection Volume (Bbls)		Injection Pressure (Psi)		Is this well so cased and completed that water can enter no other formation than the above set out injection zone?
Average 500	Maximum 750	Average 1200	Maximum 1900	[X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top - Seven Rivers +190' (Subsea)

Expected Top - Queen -180' (Subsea)

Expected Top - Yates +390' (Subsea)

WELL DATA

This well is to be covered by this application. (to be drilled)

Lease name and Well No.: State "A" A/C-1 No. 117 WIW
State Lease No. 983-2

Location: Lea County, New Mexico
Langlie Mattix Seven Rivers Queen Grayburg Field

Section 3, Township 23-S, Range 36-E, UL N

Footage 1320' FSL & 1320' FWL (proposed location) Actual: 1295 FSL & 1345 FWL

WELL NO.	WELL CASING AND TUBING						
	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	HOLE SIZE	CASING WEIGHT
Surface Casing	8-5/8"	400'	275 sx	Surf	Circulation	12-1/4"	24#
Intermediate							
Long String	5-1/2"	3900'	850 sx	Surf	Circulation	7-7/8"	14#

Tubing (Size and Depth)	Name, Model and Depth of Tubing Packer
2-3/8" @ 3700'	Otis Perma-Lach @ 3700 +

Total Depth of Well	Date Well Drilled	API No.	Ground Surface Elevation	Perforation or Open Hole
3900'	New	NA yet	3472.4' ~~3479' GR~~	[X] [ ]

List All Cement Squeeze Operations, Giving Interval and Sacks of Cement

None

Injection Interval		Name of Reservoir	Injection System Open or Closed
Top 3629	Bottom 3779	Seven Rivers/Queen	[ ] [X]

Anticipated Daily Injection Volume (Bbls)		Injection Pressure (Psi)		Is this well so cased and completed that water can enter no other formation than the above set out injection zone?
Average 500	Maximum 750	Average 1200	Maximum 1900	[X] Yes [ ] No

Depth of next higher and next lower oil or gas zone in the area of the well:

Expected Top: Seven Rivers +158' (Subsea)

Expected Top: Queen -260' (Subsea)

Expected Top: Yates +350' (Subsea)

State A Acct. 3 #1
History

Location: 990' FNL and 990' FEL
Sec 10 T-23-S R-36-E
Lea County, New Mexico

Elevations: GL 3457 DF 3466

TD: 3168

Casing: Surface - 9-5/8" set at 312'
Production - 7", 20# set at 2855 TOC at surface

Original Completion: 7-12-53 Sandfraced OH 2855-3168 (Tansill/Yates) w/3000 gals. oil IP: Flow 8200 MCFPD thru 2" tbg. w/FTP of 1060 psi.

Present Completion: Same as original

Workovers: 6/22/77 CO OH to 3165'. Acdz. w/500 gals 15% HCl. No increase in production. Test: 216 MCFPD

Cumulative production: 1128 MMCF (1/83)

State A Acct. 3 #4
Well History

Location: 660' FNL and 2310' FEL
Sec. 10 T-23-S R-36-E
Lea County, New Mexico

Elevations: GL 3469 DF 3479

TD: 3729

Casing: 9-5/8" @ 320'
5½", 14# @ 3677 TOC @ 2380 (temp. log)

Original Completion: 3/4/60 OH 3677-3729. Vibra-frac 3686-94. Frac OH w/10000 gals oil plus 10000 lbs. sand. IP: Flow 86 BO, 7 BW, 381 MCF in 8 hrs. on 20/64: chk. w/FTP of 650 psi.

Present Completion: Same as original

Workovers: None

Cumulative Production: (1/83) 11328 BO 35548 BW 226 MMCF

State A Acct. 3 #5
Well History

Location: 1980' FNL and 2310' FEL
Sec. 10 T-23-S R-36-E
Lea County, New Mexico

Elevations: GL 3461 DF 3471

TD: 3698 PBTD: 3625

Casing: 8-5/8" @ 320
5½", 14# @ 3638, cmt. w/250 sxs.

Original Completion: 5/29/60 OH 3638-3698 (Queen) Vibra-Frac 3682-86. Frac w/10000 gals. oil plus 10000 lbs. sand. IP: 42 BO, 72 BW, 1475 MCF in 24 hrs. thru 20/64" chk. w/ FTP of 800 psi.

Present Completion: Seven Rivers/Queen perfs 3502-3611.

Workovers: 5/26/71 set CIBP @ 3625'. Perf 3502,07,19,26,39,42,47,55,62, 68,71,81,85,87,90,94,3603, and 11 (18 holes). Acdz. w/1500 gals. 15%. Frac w/25000 gals. gelled brine plus 30000 lbs. 20/40 sand. Test: 4 BO, 30 MCF, 147 BW in 24 hrs. pumping.

Cumulative Production: (1/83) 76 BO 2793 BW 872 MCF

State A Acct. 3 #6
Well History

Location: 1980' FSL and 2310' FEL
Sec. 10 T-23-S R-36-E
Lea County, New Mexico

Elevations: GL 3435 DF 3445

TD: 3695 PBTD: 3610

Casing: 8-5/8" @ 300'
5½", 14# @ 3621' TOC 2140 (temp. log)

Original Completion: 8/9/60 OH 3621-3695 (Queen) Vibra-Frac 3685-90'. Frac OH w/10000 gals. oil and 10000 lbs. sand. IP: 80 BO, 200 BW in 12 hrs. thru 24/64" chk. w/FTP 275 psi.

Present Completion: Seven Rivers/Queen perfs 3456-3602.

Workovers: 1/29/71 Set CIBP at 3610'. Perf Seven Rivers/Queen 3456,66,70, 77,87,92,97,3508,14,29,38,46,53,62,66,72,80,83,94 and 3602 (20 holes). Acdz. w/1500 gals. 15%. Frac w/25000 gals. gelled brine plus 30000 lbs. 20/40 sand. Test: 3 BO, 211 MCF, 40 BW in 24 hrs. pumping.

Cumulative production: (1/83) 9073 BO 322208 BW 1062 MMCF

Well Name: Gulf J. F. Janda "J" #1
Field: Langlie Mattix
Location: 1650' FSL and 990' FEL, Section 4, Unit Letter I, T23S, R36E, Lea County, New Mexico

Spud Date: Comp date:
TD: 3750 PBTD:

Casing and Cementing Data:
Surf Csg:

Inter Csg:

Prod Csg:

Completion Record:
Initial Comp:

Initial Potential:

Workovers:

Present Well Class:

FORMATION TEST DATA

GAS TS IN 5M AT 289 MCFD
REC 270FT GCM
FINAL OP 1H30M FFP 175
ISIP FSIP 1110 15M
TCK 064/64 BCK 040/64

DST 05 3642- 3750
GAS TS IN 7M AT 27 MCFD
REC 50FT OGCM
REC 560FT 0
FINAL OP 1H30M FFP 325
ISIP FSIP 930 15M
TCK 064/64 BCK 040/64

LOGS AND SURVEYS/INTERVAL, TYPE, COMPANY/

LOGS GRNL

MISCELLANEOUS DRILLING DATA

P&A 08/MM/1962

1

P.I. COMPLETION REPORT 30025 SEC 4 TWP 23S RGE 36E

WELL CLASS
NMEX LEA 1650 FS 990 FE D X DG
STATE-COUNTY----------FOOTAGE----------SPOT--INIT-FIN

GULF OIL CORP 1 JF JANDA
OPERATOR--------------WELL NUMBER-LEASE NAME---------

1 JALMAT
UPER ELEVATIONS--DISTRICT/SURVEY-----FIELD/POOL/AREA--

30-025- 09251-00
COMMERCIAL ELEV------- --LEASE NO-----API NUMBER------

ROTARY RECOMPL GAS-WO
SPUD DATA---COMP DATE--TYPE TOOL----TYPE HC-----STATUS

3750 3750
DRLR'S TD----LOG TD-PLUGBACK----OLD TD-FORMATION AT TD

LOCATION DESCRIPTION

MEASURED FROM FULL SECTION

Well Name: Gulf J. F. Janda "J" #2
Field: Langlie Mattix
Location: 660' FSL and 660' FEL, Section 4, Unit Letter P, T23S, R36E, Lea County, New Mexico

Spud Date: 3/29/57 Comp. Date: 5/28/57
TD: 3825 PBTD: 3821

Casing and Cementing Data:
Surf Csg: 8-5/8", C. S. @ 427', cmt to surf with 325 sx.

Prod Csg: 5-1/2", C. S. @ 3824', cmt to surf with 1250 sx.

Completion Record:
Initial Comp: Perf and acidize Langlie Mattix 3694-3816

Initial Potential: 65 BOPD, 9 BWPD

Workovers:

Present Well Class: Oil Well Langlie Mattix

P.I. COMPLETION REPORT 30025 SEC 4 TWP 23S RGE 36E

NMEX LEA 660 FS 660 FE WELL CLASS D DO
STATE-COUNTY----------FOOTAGE---------SPOT--INIT-FIN

GULF OIL CORP 2 JF JANDA J
OPERATOR--------------WELL NUMBER-LEASE NAME---------

1 LANGLIE-MATTIX SE
OPER ELEVATIONS--DISTRICT/SURVEY-----FIELD/POOL/AREA--

30-025- 09252-00
COMMERCIAL ELEV----------LEASE NO-----API NUMBER------

03/29/1957 05/28/1957 ROTARY OIL
SPUD DATA---COMP DATE--TYPE TOOL----TYPE HC-----STATUS

3825
DRLR'S TD----LOG TD-PLUGBACK----OLD TD-FORMATION AT TD

CASING DATA

CSG 8 5/8 @ 427 W/ 325 5 1/2 @ 3824 W/ 1250 01 02

LOCATION DESCRIPTION

MEASURED FROM FULL SECTION

INITIAL POTENTIAL

IPPO 65B PD 9BW 024HRS
PERF 3694- 3816
PERF 3694- 3700A 3716- 3723A 3734- 3742A 3748- 3774A
PERF 3782- 3798A 3808- 3816A
ACID 3694- 3816 2000GALSA

2
LANGLIE-MATTIX SEV RIV-QN 11 369400 51897A
GTY 34.8 GOR 477
PBTD 3821

TYPE	FORMATION	DEPTH	FORMATION	DEPTH	FORMATION	DEP TH
LOG	454ANDR	1295	453YTES	3100	453SVRV	3400
LOG	453QUEN	3665				

CORE DATA

CORE 3700- 3750 REC 50.00FT OIL
DOSD J OM 0

CORE 3750- 3800 REC 50.00FT
DOSD

CORE 3800- 3825 REC 25.00FT O&G
SDDO S GM 0

LOGS AND SURVEYS/INTERVAL, TYPE, COMPANY/

LOGS GRNL

Well Name: Gulf- J.F. Janda "J" #3

Field: Langlie Mattix

Location: Section 4, T-23-S, R-36-E, Lea County, New Mexico.

Spud date: 12-7-58 Comp. date: 3-11-59
TD: 3800 PBTD: 3743

Casing & Cementing Data:
Surf. Casing: 8-5/8", c.s. 399'
Prod. Casing: 5½", c.s. 3800'

Completion Report:
Initial comp. - Perfs 3706-3791'
Initial Potential: 35 oil, 134 wtr, 25/1 GOR

Workovers: n/a

Present Well Class: TA'd

VII.

1. Proposed average and maximum daily rate and volume of fluids to be injected at
   500 Barrels (Average) and 750 barrels (Maximum).
2. System is closed.
3. Proposed average and maximum injection pressure
   1200 # (Average) and 1900# (Maximum).
4. The only fluid that will be injected is produced water from the nearby wells.
5. The water will be injected into a zone that is productive of oil or gas.

VIII.

The lithology of the Basal Seven Rivers and Queen formation (zone of water injection) is a finely crystalline to sucrosic dolomite (sometimes sandy) with interbedded sandstones fine - very fine grained sometimes dolomitic. There is no known fresh water aquifers below the proposed water injection zone in this area.

IX.

Proposed stimulation program - None

X.

Test Data - None (New Well).

Subject
Water Compatibility, State A A/C-1 Lease
Jalmat/Langlie Mattix Field
Southwestern District

Interoffice Correspondence

Date May 17, 1983

Location Richardson

From Johnny Reinschmidt, Production Service Laboratory

To Don Mitchell
Jal, New Mexico

Enclosed water analysis No. C-8614 representing commingled Seven Rivers and Yates Formation waters produced by the State A A/C-1, Well No. 115 is compatible with Seven Rivers Formation water produced and collected from the same well on 1/21/83 (Water Analysis No. C-7657).

A review of past water analyses (enclosed) representing Seven Rivers, Seven Rivers-Yates and Seven Rivers-Queen Formation waters produced by the unit show the barium, sulfate and total salinity (T.D.S.) contents of the waters fluctuating within the same zone and unit.

If scale material is detected and analyzed during the proposed water injection program, a suitable chemical treatment can be recommended. Review past letter from J. Reinschmidt to C. Osborne (11/18/82) pertaining to water compatibility in this field.

Johnny Reinschmidt
Chemical Engineering Section

JR/fi

attach.
cc: F. Brandes
T. Fox
G. Osborne
B. Shipman
Corrosion Engr. Sec.
File: 23-345
23-405

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO C-2983

FILE 23-405

Operator Sun Production Company 668953
Lease or Well State of N.M."A" A/C-1 Well#45
Formation Seven Rivers Queen
Perfs 3637 To 3750 ; T.D.
Method of Collecting Sample well head

Treatment Tretolite KP-2420 2 gals wkly
Date of last acid job /batched.

Total Prod.	BOPD	BWPD	MCFPD
	8	32	80

District Southwestern Jal. N.M. Segment25
Field Langlie Mattix
County Lea County
State New Mexico
Collected by
Date 8-20-81 (Collected) 9-8-81 (Analyzed)
Sample No. 10098
Analyst PPI

Description of Sample 3/4 pt. clear yellowish water with an oil layer.

CONSTITUENTS	ppm
Sodium	14600
Calcium	1380
Magnesium	836
Barium	0
Strontium	
Potassium	
Iron	0
Chloride	25300
Sulfate	1840
Carbonate	0
Bicarbonate	1290
TOTAL DISSOLVED SOLIDS	45246

OTHER PROPERTIES	
pH	7.6
Specific Gravity	1.0323
Resistivity ohm-mtr. @ 75° F	.198
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	45
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7155

FILE 23-405

Operator: SUN PROD. DIV. *665464*
Lease or Well: STATE "A" A/C-3#6
Formation: 7-RIVERS QUEEN
Perfs: 3456 To 3602 ; T.D.:
Method of Collecting Sample: WELLHEAD

Treatment: 1GL/WK SUN9 DOWN ANNULUS
Date of last acid job:

Total Prod.	BOPD	BWPD	MCFPD
123	1	122	80

District: SOUTHWESTERN
Field: LANGLIE MATTIX
County: LEA
State: N.M.
Collected by:
Date: 11-22-82 (Collected) 12-6-82 (Analyzed)
Sample No.: 10048
Analyst: PPI:

Description of Sample: 1 PINT CLOUDY WATER WITH OIL ON SIDES AND SEDIMENT.

CONSTITUENTS	ppm
Sodium	3540
Calcium	358
Magnesium	253
Barium	3
Strontium	
Potassium	
Iron	0
Chloride	5800
Sulfate	206
Carbonate	0
Bicarbonate	1520
TOTAL DISSOLVED SOLIDS	11680

OTHER PROPERTIES	
pH	7.7
Specific Gravity	1.0081
Resistivity ohm-mtr. @ 75° F	.602
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	28
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Produced water (attached Analysis No. C-7151) from the State A A/C-1 No. 113 well appears to be compatible with water produced by the State A A/C-3 No. 6 well, represented by this analysis. Should you wish to discuss these analyses further, please contact the Lab.

Johnny M Reinschmidt

REPORTED BY: Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION

Copies to:

F. Brandes
T. Fox
C. Osborne
B. Shipman
D. Mitchell
Corrosion Engr. Sec.
File

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7151

FILE 23-405

Operator SUN PROD. DIV. 668953
Lease or Well STATE"A" A/C-1#113
Formation YATES 7 RIVERS OIL
Perfs 3327 To 3346 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment 3GL/WKSUN 9 SP-237 1GL/WK
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
219	2	217	9

District SOUTHWESTERN
Field JALMAT /Langlie
County LEA
State N.M.
Collected by
Date 11-22-82 Collected 12-6-82 Analyzed
Sample No. 10074
Analyst PPI

Description of Sample 1 PINT CLOUDY WATER WITH OIL LAYER AND BLACK SEDIMENT.

CONSTITUENTS	ppm
Sodium	3390
Calcium	665
Magnesium	716
Barium	0
Strontium	
Potassium	
Iron	0
Chloride	7370
Sulfate	500
Carbonate	0
Bicarbonate	1310
TOTAL DISSOLVED SOLIDS	13951

OTHER PROPERTIES	
pH	6.9
Specific Gravity	1.0101
Resistivity ohm-mtr. @ 75° F	.558
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	18
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Future records.

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-6966

FILE 23-405

Operator SUN PROD. CO. 668953
Lease or Well STATE A A/C-1WELL#114
Formation YATES - Seven Rivers
Perfs 3353 To 3406 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment Sun 9 4 gals/2 wks annulus sp-181*
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
595	19	576	15

District SOUTHWESTERN
Field Langlie Mattix-Jalmat
County LEA
State NEW MEXICO
Collected by
Date 10-27-82 (Collected) 11-9-82 (Analyzed)
Sample No. 10099
Analyst PPI

Description of Sample 2/3 PT. TAN WATER WITH OIL LAYER

CONSTITUENTS	ppm
Sodium	4430
Calcium	988
Magnesium	1080
Barium	0
Strontium	
Potassium	
Iron	0
Chloride	10500
Sulfate	717
Carbonate	0
Bicarbonate	1190

TOTAL DISSOLVED SOLIDS 18905

OTHER PROPERTIES	
pH	7.5
Specific Gravity	1.0141
Resistivity ohm-mtr. @ 75° F	.385
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	16
Nitrates, ppm	
Phosphate, ppm	

*7 gals/2 wks annulus.

REMARKS:

First water sample received from this well. Future records.

REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-7657

FILE 23-405

Operator SUN PROD. CO. 668953
Lease or Well STATE "A" A/C-1 #115
Formation SEVEN RIVERS
Perfs 3708 To 3768 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
182	1	181	24

District SOUTHWESTERN
Field LANGLIE MATTIX
County LEA
State NEW MEXICO
Collected by
Date 1-21-83 (Collected) 1-31-83 (Analyzed)
Sample No. 10070
Analyst PPI

Description of Sample 2/3 PT. CLOUDY BLACK OILY WATER WITH OIL FILM

CONSTITUENTS	ppm
Sodium	2380
Calcium	933
Magnesium	554
Barium	3
Strontium	
Potassium	
Iron	3
Chloride	5660
Sulfate	46
Carbonate	0
Bicarbonate	2130
TOTAL DISSOLVED SOLIDS	11709

OTHER PROPERTIES	
pH	7.3
Specific Gravity	1.0093
Resistivity ohm-mtr. @ 75° F	.673
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	11
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

First water sample received from this well. Unable to classify at this time. Future records.

REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION

Copies to:

F. Brandes
T. Fox
C. Osborne
B. Shipman
D. Mitchell
Corrosion Engr. Sec.
File

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-8614

FILE 23-345
23-405

Operator SUN PROD. DIV. 668953
Lease or Well STATE "A" A/C WELL#115
Formation SEVEN RIVERS -Yates
Perfs 3358 To 3396 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
508	0	508	TSTM

District SOUTHWESTERN
Field JALMAT/Langlie Mattix
County LEA
State NEW MEXICO
Collected by
Date 5-3-83 (Collected) 5/13/83 (Analyzed)
Sample No. 10043
Analyst PPI

Description of Sample 9/10PT. CLOUDY WATER WITH PRECIPITATE

CONSTITUENTS	ppm
Sodium	11500
Calcium	1440
Magnesium	2820
Barium	0
Strontium	
Potassium	
Iron	0
Chloride	26600
Sulfate	1990
Carbonate	0
Bicarbonate	802
TOTAL DISSOLVED SOLIDS	45152

OTHER PROPERTIES	
pH	6.7
Specific Gravity	1.0323
Resistivity ohm-mtr. @ 75° F	.169
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	2
Nitrates, ppm	
Phosphate, ppm	

REMARKS:

Johnny M Reinschmidt

REPORTED BY: Johnny Reinschmidt

CHEMICAL ENGINEERING SECTION
Copies to:

Subject

Water Compatibility: State A A/C 1 and 3 Leases
Langlie-Mattix/Jalmat Fields, Southwestern District

Interoffice Correspondence

Date November 18, 1982

Location Richardson

From Johnny Reinschmidt, Production Service Laboratory

To Coby Osborne
Midland Office

Enclosed water analyses represent water samples collected from two wells on the State A A/C Nos. 1 and 3 Leases, Langlie-Mattix Field. Analyses were requested for compatibility.

Comparison of the analyses indicate mixing these waters for the proposed secondary recovery program could cause a barium sulfate scaling problem. Present and past analyses also indicate these waters have a calcium carbonate scaling tendency.

If no other source water is available, chemical treatment of these waters probably would control the scaling tendencies. Please contact the Lab should you wish to discuss these analyses further.

Johnny M Reinschmidt

Johnny Reinschmidt
Chemical Engineering Section

JR/js

Enclosures

cc: F. Brandes
T. Fox
C. Osborne
B. Shipman
D. Mitchell
Corrosion Engr. Sec.
File 23-405

SUN 5434
SUN PRODUCTION COMPANY
PRODUCTION SERVICE LABORATORY

WATER ANALYSIS REPORT

ANALYSIS NO. C-6967

FILE 23-405

Operator SUN PROD. CO. *665464*
Lease or Well STATE A A/C-3 #3
Formation 7 RIVERS QUEEN
Perfs 3552 To 3677 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment Sun-9 3 gal/wk annulus sp-181 *
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
147	9	138	45

District SOUTHWESTERN
Field LANGLIE MATTIX
County LEA
State NEW MEXICO
Collected by
Date 10-27-82 (Collected) 11-9-82 (Analyzed)
Sample No. 10067
Analyst PPI

Description of Sample 1 PT. GREENISH OILY CLEAR WATER WITH OIL LAYER

CONSTITUENTS	ppm
Sodium	1050
Calcium	350
Magnesium	212
Barium	21
Strontium	
Potassium	
Iron	0
Chloride	1940
Sulfate	23
Carbonate	0
Bicarbonate	1570
TOTAL DISSOLVED SOLIDS	5166

OTHER PROPERTIES	
pH	7.5
Specific Gravity	1.0031
Resistivity ohm-mtr. @ 75° F	1.64
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	4
Nitrates, ppm	
Phosphate, ppm	

*Continuous annulus.

REMARKS:

First water sample received from this well. Future records.

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-6966

FILE 23-405

Operator SUN PROD. CO. 668953
Lease or Well STATE A A/C-1WELL#114
Formation YATES - Seven Rivers
Perfs 3353 To 3406 ; T.D.
Method of Collecting Sample WELLHEAD

Treatment Sun 9 4 gals/2 wks annulus sp-181*
Date of last acid job

Total Prod.	BOPD	BWPD	MCFPD
595	19	576	15

District SOUTHWESTERN
Field Langlie Mattix-Jalmat
County LEA
State NEW MEXICO
Collected by
Date 10-27-82 (Collected) 11-9-82 (Analyzed)
Sample No. 10099
Analyst PPI

Description of Sample 2/3 PT. TAN WATER WITH OIL LAYER

CONSTITUENTS	ppm
Sodium	4430
Calcium	988
Magnesium	1080
Barium	0
Strontium	
Potassium	
Iron	0
Chloride	10500
Sulfate	717
Carbonate	0
Bicarbonate	1190
TOTAL DISSOLVED SOLIDS	18905

OTHER PROPERTIES	
pH	7.5
Specific Gravity	1.0141
Resistivity ohm-mtr. @ 75° F	.385
Loss on Ignition, ppm	
Total Solids by Evap., ppm	
Organic acids, ppm	
Hardness as $CaCO_3$, ppm	
Sulfide	PRESENT
Mixed Oxides (Qualitative)	
Fluoride, ppm	
Silica, ppm	
Total Iron, ppm	16
Nitrates, ppm	
Phosphate, ppm	

*7 gals/2 wks annulus.

REMARKS:

First water sample received from this well. Future records.

REPORTED BY:
Johnny Reinschmidt
CHEMICAL ENGINEERING SECTION
Copies to:

XII.

Application to Inject - State "A" A/C 1 #116

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

Bob Walker
Area Geologist
Sun Exploration & Production Co.

April 2, 1984

Date

III. Well Data

A. 1. State "A" A/C-1, Well # 116,
Unit Ltr. D, Sec.10, T-23-S, R-36-E
Lea County, New Mexico. 1260'FNL & 1310' FWL.

2. Casing Data-
13-3/8" 54.5#, J-55, ST&C csg. depth 1350,
1200sxs "C" cmt, hole size 17½, top of cement surface.
8-5/8" 32# & 24#, K-55, ST&C, depth 4000,
1425 sxs "C" cmt, hole size 12¼, top of cement surface.

3. Tubing- 2-3/8" cmt.lined tbg. set at 3617'.

4. Packer- 8-5/8" Otis Perma-Lach packer, setting depth 3612'.

B. 1. Injection formation- Seven Rivers/Queen
Field name- Langlie Mattix Seven Rivers Queen Grayburg

2. Injection interval- 3740-3842 Perfs

3. The well was drilled as an oil well.

4. 8-5/8" CIBP at 3868' with 2 sxs cmt. on top.
Perfs- 3666-3726- Sqz. w/ 250 sxs "C"cmt.

5. Higher oil zone- Yates 3117'
Lower oil zone- Grayburg 3937'

WELL COMPLETION SKETCHES SUN–5036-4-A

WELL	FIELD	DATE
State A A/C 1 #116	Langlie Mattix	3/15/84

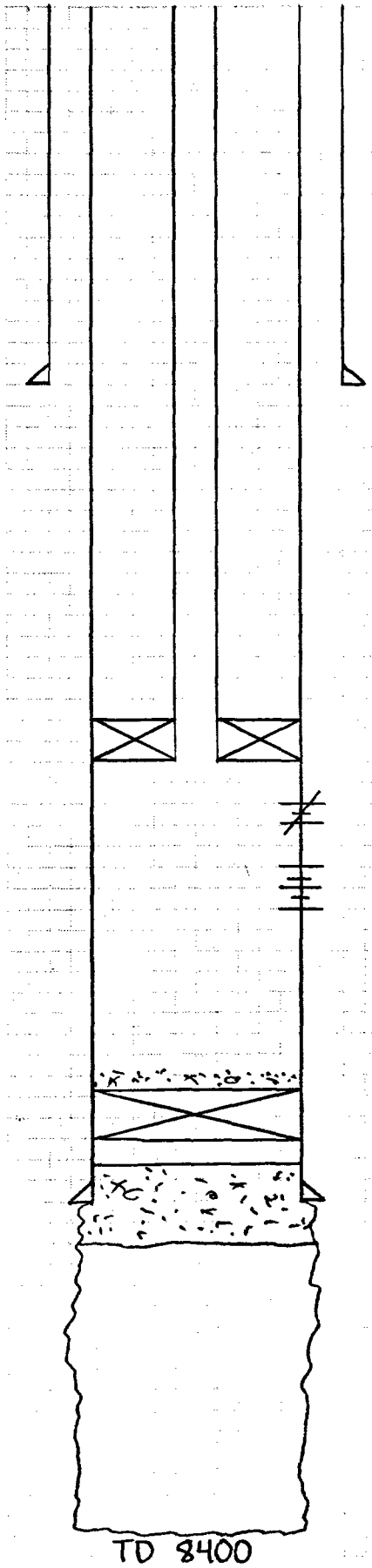
☒ PRESENT COMPLETION ☐ SUGGESTED COMPLETION

PERMANENT WELL BORE DATA

$13\frac{3}{8}$" csg at 1350
cmt circulated

Top of cmt - surface

Cmt plug 3882-4050
$8\frac{5}{8}$" csg at 4000
cmt circulated



DATA ON THIS COMPLETION

$2\frac{3}{8}$" cmt lined tbg

Otis Perma-Lach pkr w/on-off tool. Pkr set at 3612

Perfs 3666-82, 3700-10, 3714-18, & 3722-26 sqzd.
Open perfs 3740-48, 3760-86, 3802-16, 3823-31 + 3834-42 (Langlie Mattix)

PBTD 3860
CIBP at 3868 w/2 sxs cmt on top

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

I, 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 day ~~weeks~~

Beginning with the issue dated March 11, 19 84

and ending with the issue dated March 11, 19 84

Robert L Summers
Publisher.

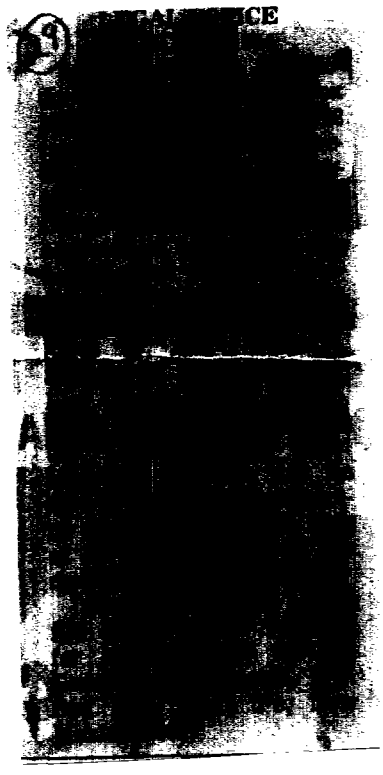
Sworn and subscribed to before me this 13 day of March, 19 84

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.

OFFICIAL SEAL
Signature Jane Paulowsky
JANE PAULOWSKY
NOTARY PUBLIC - NEW MEXICO
NOTARY BOND FILED WITH SECRETARY OF STATE
My Commission Expires 3-24-87



Sun Production Operations Division
Southwestern District

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

April 3, 1984

Offset Operator
(List Attached)

RE: Notification of Application
for Authority to Inject
State "A" A/C 1, #116
Unit Letter "D", Section 10
T-23-S, R-36-E
Lea County, New Mexico

Gentlemen:

Sun Exploration and Production Company is requesting administrative approval to inject water into the referenced well. The New Mexico Oil Conservation Division requires that the offset operators be notified of the application.

Attached for your records is a copy of the application. If you have any questions, please contact Mel Schroeder, 915/688-0435.

Very truly yours,

Dee Ann Kemp
Senior Accounting Assistant

DAK/lw

Attachments

Copy of application mailed to offset operators by certified mail 4-3-84
Dee Ann Kemp

Offset Operators - State "A" A/C 1 Lease

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

Getty Oil Company
P. O. Box 730
Midland, Texas 79702

Gulf Oil Exploration & Production Company
P. O. Box 1150
Gulf Building
Midland, Texas 79702

John H. Hendrix Corporation
525 Midland Tower
Midland, Texas 79701

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. 5258
Order No. R-4819

APPLICATION OF TEXAS PACIFIC
OIL COMPANY FOR TWO WATERFLOOD
PROJECTS AND DOWNHOLE COMMINGLING,
LEA COUNTY, NEW MEXICO.

TEXAS PACIFIC OIL COMPANY
Inquiry as of 8-29-80

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 19, 1974, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 9th day of July, 1974, 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 applicant, Texas Pacific Oil Company, seeks authority to institute two waterflood projects in its State "A" A/C 1 Lease, Jalmat Oil and Langlie Mattix Pools, by the injection of water into the Upper Seven Rivers and Lower Seven Rivers formations, respectively, through its State "A" A/C 1 Well No. 42 located in Unit A of Section 4, Township 23 South, Range 36 East, NMPM, Lea County, New Mexico.

(3) That the applicant seeks authority to complete the proposed injection well as a single completion and to determine the volumes of injected fluid to be credited to each zone by means of periodic spinner or other surveys.

(4) That the applicant seeks authority to complete its State "A" A/C 1 Wells No. 44 and No. 45 located in Units B and H, respectively, of said Section 4 in such a manner as to produce oil from the Jalmat Oil Pool and oil from the Langlie Mattix Pool commingled in the same wellbore.

(5) That the applicant should determine a formula for allocation of the commingled production from said wells No. 44 and 45 in cooperation with the supervisor of the Commission's Hobbs District Office.

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

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

(8) 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 applicant, Texas Pacific Oil Company, is hereby authorized to institute two waterflood projects in its State "A" A/C 1 lease, Jalmat Oil and Langlie Mattix Pools, by the injection of water into the Upper Seven Rivers and Lower Seven Rivers formations, respectively, in applicant's State "A" A/C 1 Well No. 42 located in Unit A of Section 4, Township 23 South, Range 36 East, NMPM, Lea County, New Mexico;

PROVIDED HOWEVER, that injection into said well shall be through internally coated 2 3/8-inch tubing set in a packer at approximately 3600 feet; that the casing-tubing annulus shall be loaded with an inert fluid and be equipped with an approved leak detection device;

PROVIDED FURTHER, that spinner surveys shall be taken at least once each month for the first six months of active injection and at least once each four months thereafter in order to properly allocate the injected volume to the respective pools being flooded and that the results of each such survey shall be filed with the Hobbs District Office of the Commission with Commission Form C-120.

(2) That the subject waterflood projects are hereby designated the Texas Pacific Oil Company Jalmat State "A" and Texas Pacific Oil Company Langlie Mattix State A Waterflood Projects and 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 the applicant is hereby authorized to complete its State "A" A/C 1 Wells No. 44 and No. 45 located in Units B and H, respectively, of said Section 4 in such a manner as to produce oil from the Jalmat Oil Pool and oil from the Langlie Mattix Pool commingled in the same wellbore.

(5) That before commencing any operations to complete, treat, or workover the Jalmat oil zone and/or the Langlie Mattix

zone in either or both of said wells No. 44 and No. 45, the applicant shall contact the supervisor of the Commission's Hobbs District Office and formulate such plans and procedures as may be necessary and required to determine a formula for the allocation of the commingled production.

(6) That no injection shall be permitted in the subject projects until the formula in Order (5) above has been approved by the Santa Fe office of the Commission.

(7) 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

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

S E A L

jr/

OIL CONSERVATION DIVISION
DISTRICT I

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

DATE April 10, 1984

RE: Proposed MC
Proposed DHC
Proposed NSL
Proposed NSP
Proposed SWD
Proposed WFX X
Proposed PMX

Gentlemen:

I have examined the application for the:

Sun Exploration & Production Co. State A A/C 1 #116-D 10-23-36
Operator Lease and Well No. Unit, S - T - R

and my recommendations are as follows:

O.K.---J.S.

Yours very truly,

/mc