

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 4  
Location: Unit G, 1,980 ft. ENL & 1,980 ft.  
FEL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,516'

8 1/4 in. csg. @ 401 ft.  
with 50 sx. cmt. (Est. cmt. top @ 101')

Grayburg  
2,359'

2,574  
2,584  
2,588  
2,596  
2,620  
2,634

*Metex 300 BPD*  
*Loco Hills 300 BPD*

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. \_\_\_\_\_  
CASE NO. \_\_\_\_\_

San Andres  
2,774'

CIBP 2,970

7 in. csg. @ 2,995 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,695')

*Jackson  
zone  
300 BPD*

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in se-  
lected intervals. Injection into  
the selected intervals will be  
separated by using bottom hole  
flow regulators and packers on  
one string of 2 3/8" OD. tubing.

TD  
3,181'

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. *e*  
CASE NO. *4926*

Exhibit "C-1"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 7  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,566'

8 5/8 in. csg. @ 404 ft.  
with 100 sx. cmt. (Est. cmt. top @ surface)

Grayburg  
2,160'

San Andres  
2,560'

7 in. csg. @ 2,768 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,468' )

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
2,975'

Exhibit "C-2"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 9  
Location: Unit C, 660 ft. FSL & 1,980 ft.  
FEL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,556'

8 1/4 in. csg. @ 368 ft.  
with 50 sx. cmt. (Est. cmt. top @ 68',)

Grayburg  
2,224'

San Andres  
2,624'

7 in. csg. @ 2,829 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,529' )

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
3,014'

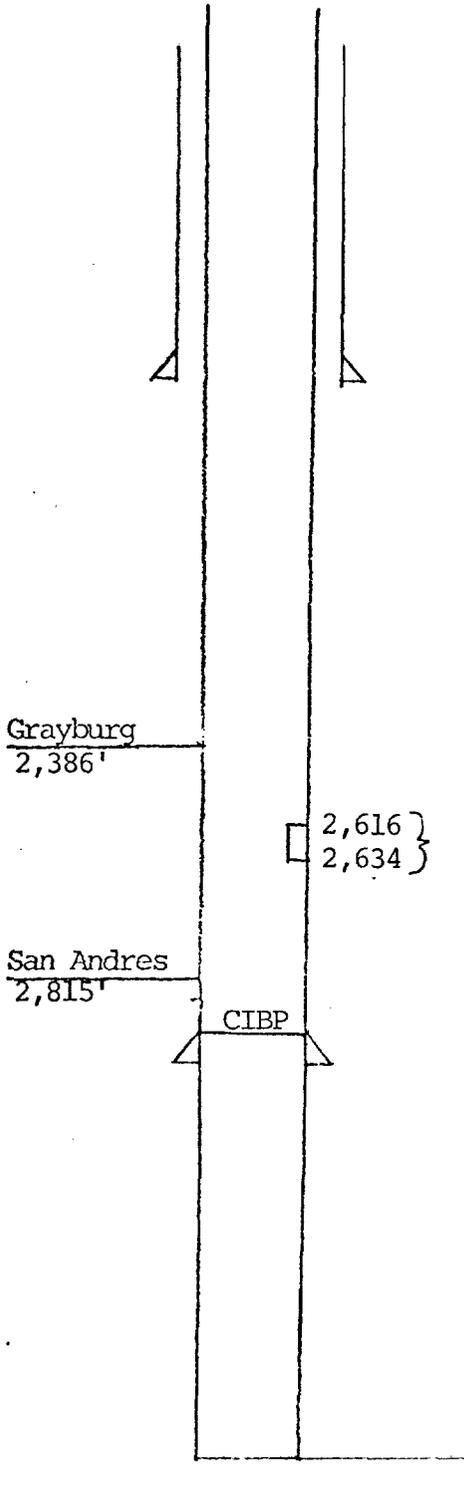
F. L. L. J. "C-2"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 11  
Location: Unit E, 1,980 ft. FNL & 660 ft.  
FWL, Sec.35 , T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,539'

8 1/4 in. csg. @ 450 ft.  
with 50 sx. cmt. (Est. cmt. top @ 150')



Present perf.

7 in. csg. @ 3,034 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,734' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,190'

F.V.L.: "C-4"

SHEVANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 12  
Location: Unit A, 660 ft. ENL & 654 ft.  
FEL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,558'

8 1/4 in. csg. @ 430 ft.  
with 50 sx. cmt. (Est. cmt. top @ 130!)

Grayburg  
2,311'

San Andres  
2,721'

7 in. csg. @ 2,921 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,621')

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated in  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
3,093'

F.L.L. "C-5"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 1  
Location: Unit A, 660 ft. ENL & 660 ft.  
FEL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,566'

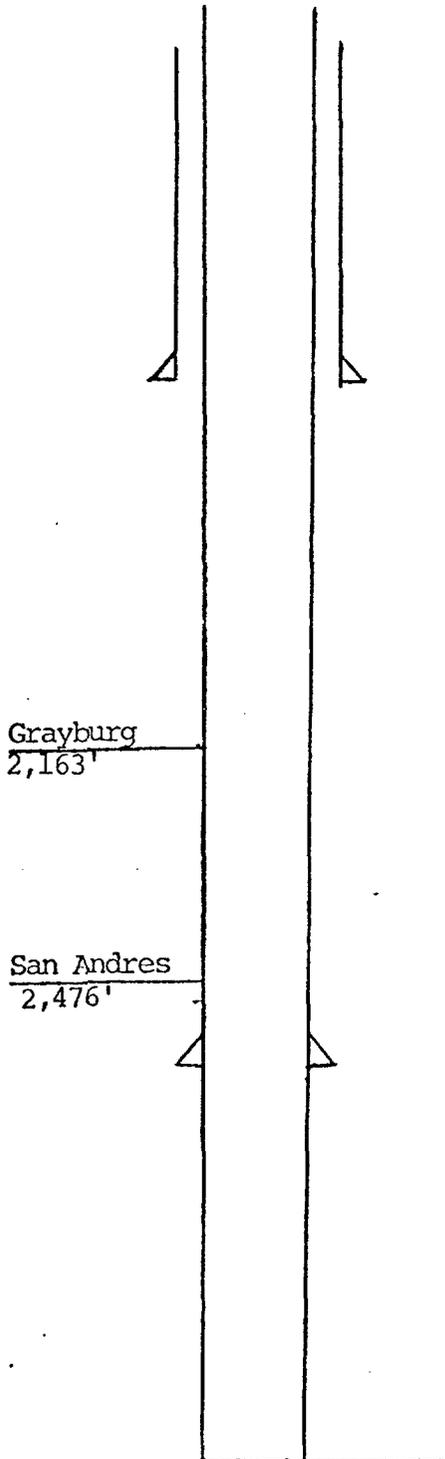
8 1/4 in. csg. @ 982 ft.  
with 100sx. cmt. (Est. cmt. top @ 382')

7 in. csg. @ 2,305 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,005')

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in se-  
lected intervals. Injection into  
the selected intervals will be  
separated by using bottom hole  
flow regulators and packers on  
one string of 2 3/8" OD. tubing.  
No log available.

TD  
2,798'

Exhibit "C-6"

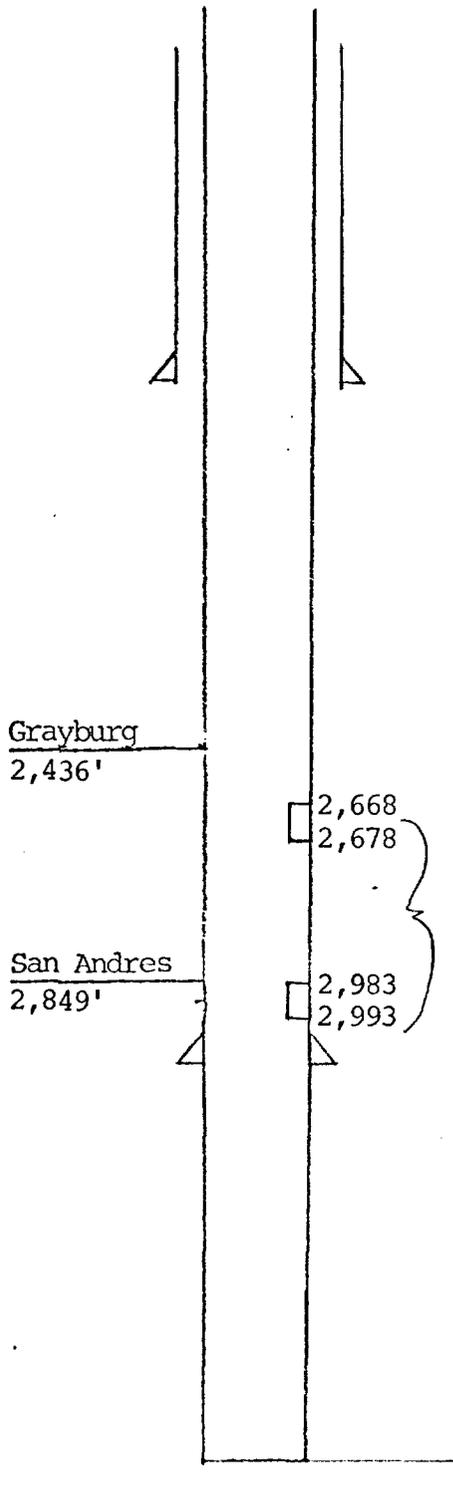


# SHEVANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 4  
Location: Unit A, 660 ft. FEL & 660 ft.  
FNL, Sec.35 , T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,563'

8 5/8 in. csg. @ 428 ft.  
with 50 sx. cmt. (Est. cmt. top @ 128')



Present perf.

7 in. csg. @ 3,050ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,750' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,191'

Exhibit "C-7"

SHEVANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B

Well No. 6

Location: Unit G, 1,980 ft. FNL & 1,980 ft.

FEL, Sec. 35, T-17S, R-29E

Eddy County, New Mexico

Elevation: 3,563'

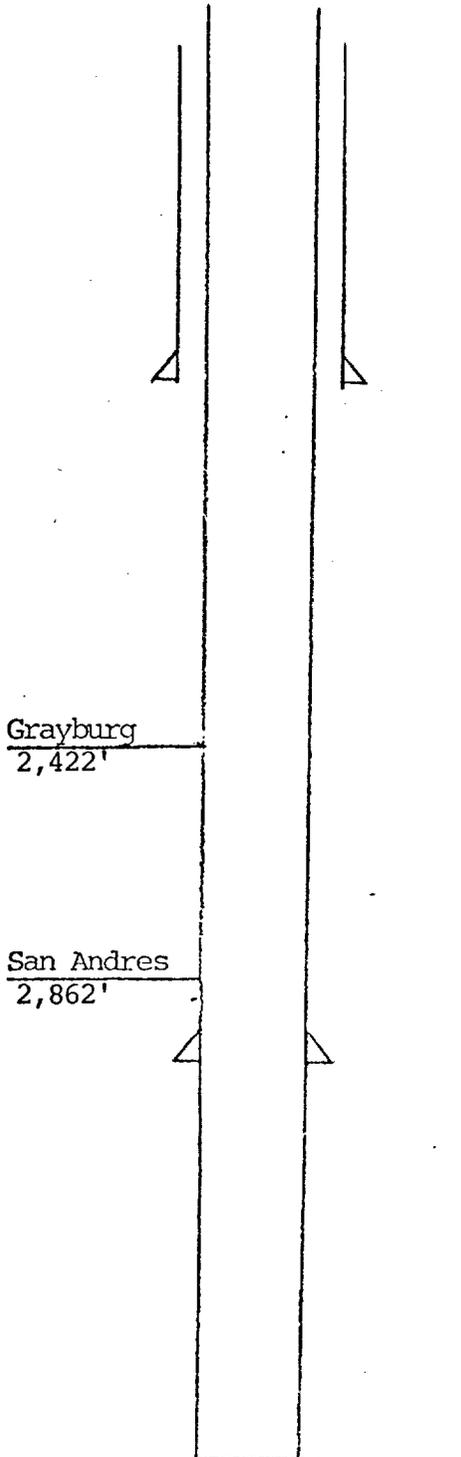
8 5/8 in. csg. @ 465 ft.  
with 50 sx. cmt. (Est. cmt. top @ 265')

7 in. csg. @ 3,055 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,755')

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
3,220'

Exhibit "C-8"



SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B

Well No. 8

Location: Unit K, 1,980 ft. FWL & 1,980 ft.

FSL, Sec. 27, T-17S, R-29E

Eddy County, New Mexico

Elevation: 3,526'

8 1/4 in. csg. @ 305 ft.  
with 50 sx. cmt. (Est. cmt. top @ 5')

7 in. csg. @ 2,690 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,390')

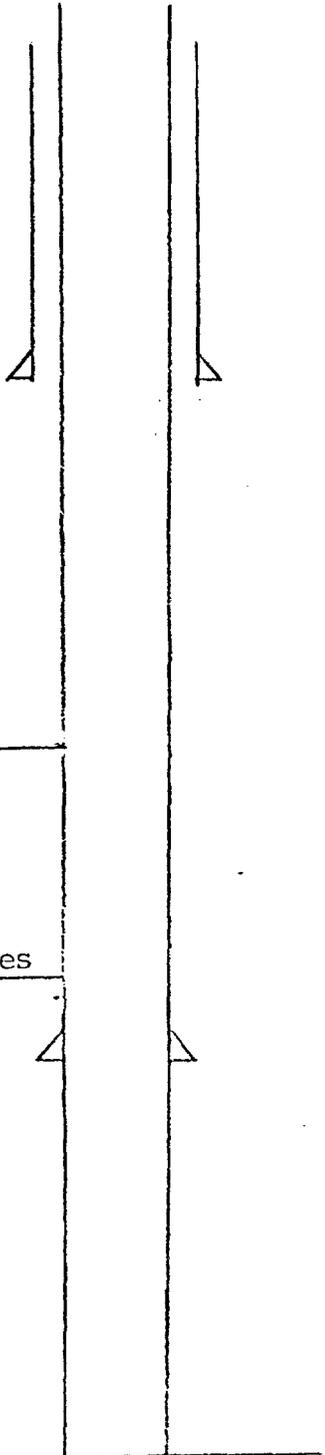
NOTE: Used adjacent well log B-32 for correlation. A 4 1/2 OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
2,950'

Exhibit "C-9"

Grayburg  
2,177'

San Andres  
2,513'

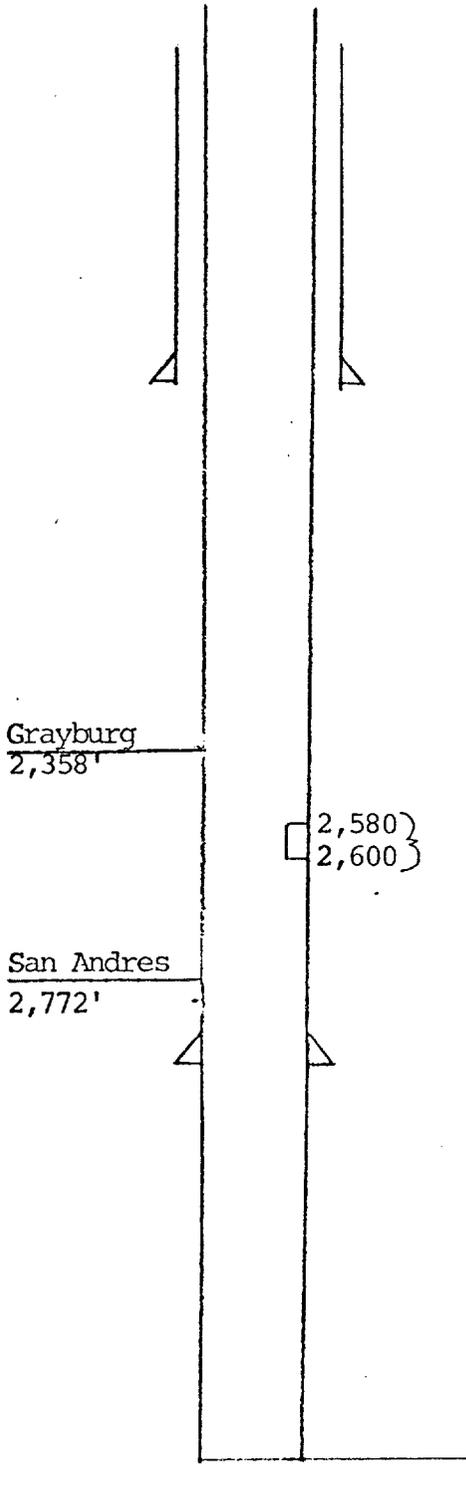


# SHEVANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 11  
Location: Unit C, 660 ft. FNL & 1,980 ft.  
FWL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,550'

8 1/4 in. csg. @ 526 ft.  
with 50 sx. cmt. (Est. cmt. top @ 226!)



Present perf.

7 in. csg. @ 2,980 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,680' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,135'

F.L.L. "C-11"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B

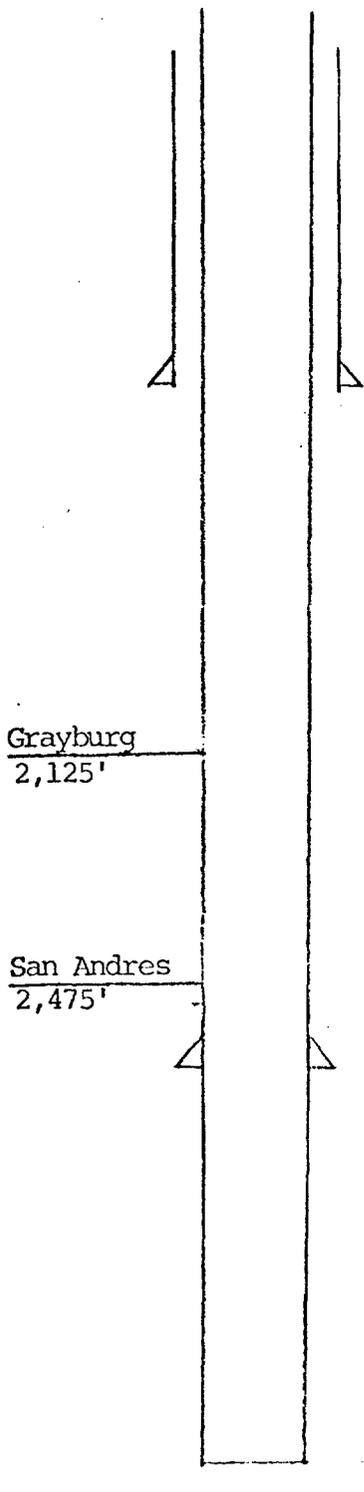
Well No. 15

Location: Unit G, 1,980 ft. FNL & 1,980 ft.

FEL, Sec. 27, T-17S. R-29E

Eddy County, New Mexico

Elevation: 3,548'



8 1/4 in. csg. @ 335 ft.  
with 50 sx. cmt. (Est. cmt. top @ 35',)

7 in. csg. @ 2,661 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,361' )

NOTE: No log available. A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
2,870'

F. L. L. L. "C-11"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 16  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,552'

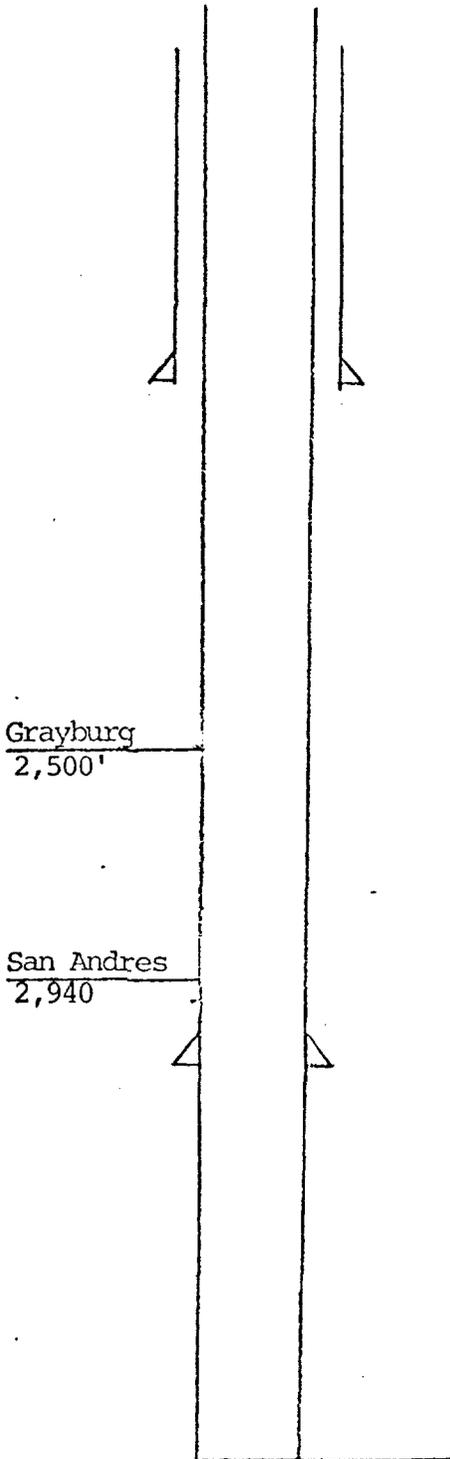
8 1/4 in. csg. @ 505 ft.  
with 50 sx. cmt. (Est. cmt. top @ 205')

7 in. csg. @ 3,157 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,857')

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in selected  
intervals. Injection into the se-  
lected intervals will be separated  
by using bottom hole flow regulators  
and packers on one string of 2 3/8"  
OD tubing.

TD  
3,261'

F-4:4 "C-12"



Grayburg  
2,500'

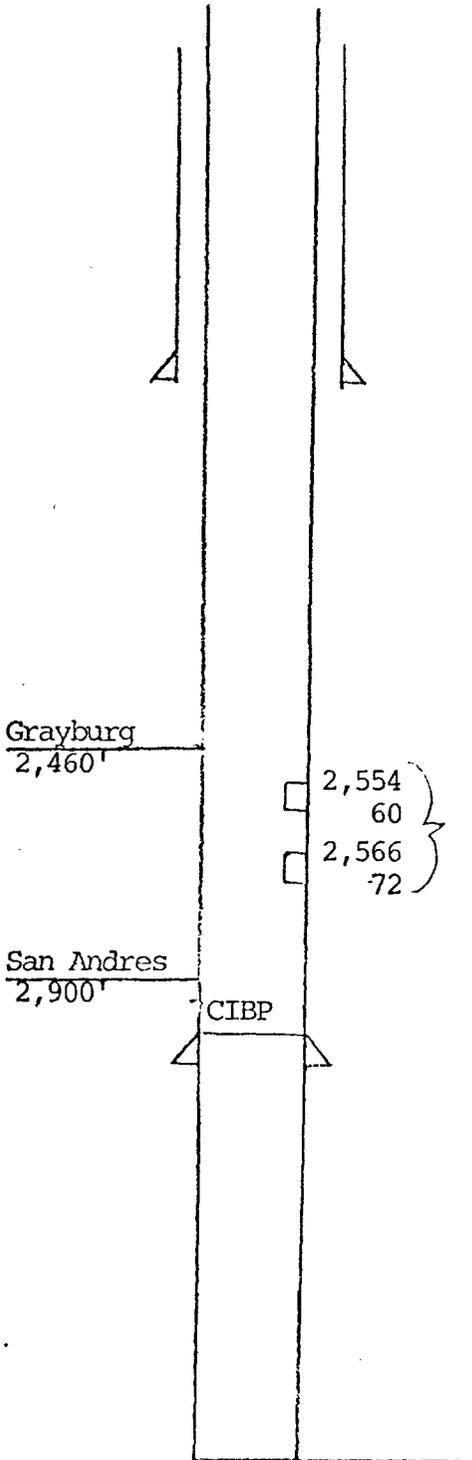
San Andres  
2,940'

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 17  
Location: Unit K, 1,980 ft. FSL & 1,980 ft.  
FWL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,542'

8 1/4 in. csg. @ 492ft.  
with 50 sx. cmt. (Est. cmt. top @ 292')



Present perf.

7 in. csg. @ 3,165 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,865' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD tubing.

TD 3,265'

F. 1. 1. 4 "C-13"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson "B"  
Well No. 18  
Location: Unit O, 660 ft. FSL & 1,980 ft.  
FEL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,537'

8 1/4 in. csg. @ 509 ft.  
with 500 sx. cmt. (Est. cmt. top @ 209')

1,920' 7" pulled 5/23/47

Grayburg  
2,490'

2,594 }  
2,601 }  
2,623 }  
2,626 }  
2,634 }  
2,640 }

Present Perf.

San Andres  
2,915'

7 in. csg. @ 3,152 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,852')

NOTE: The Grayburg and San Andres formations  
will be perforated in selected intervals.  
Injection into the selected intervals  
will be separated by using bottom hole  
flow regulators and packers on one string  
of 2 3/8" OD. tbg.

4 1/2 in. csg. @ 3,325 ft.  
with 585 sx. cmt. (Cmt. circ. to surf.)

F. M. Robinson "B-14"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 19  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,534'

8 1/4 in. csg. @ 360 ft.  
with 50 sx. cmt. (Est. cmt. top @ 60!)

Grayburg  
2,416'

San Andres  
2,857'

7 in. csg. @ 3,076 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,776')

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in se-  
lected intervals. Injection into  
the selected intervals will be  
separated by using bottom hole  
flow regulators and packers on  
one string of 2 3/8" OD. tubing.

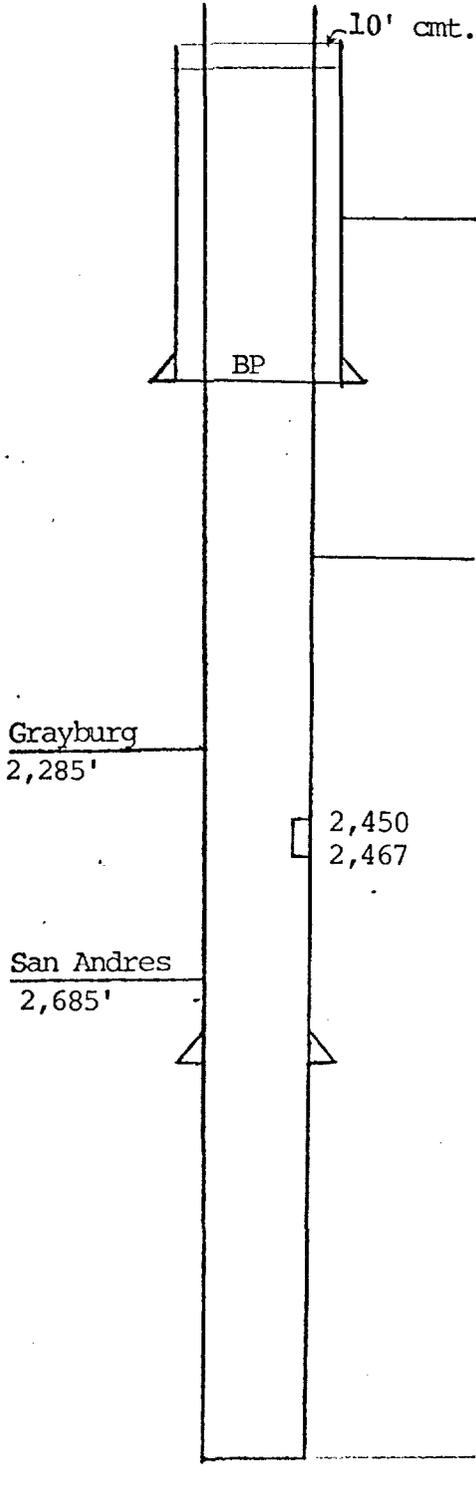
TD  
3,234'

F-4:1:7 " C-15"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
 Well No. 20  
 Location: Unit C, 660 ft. ENL & 1,980 ft.  
 FWL, Sec. 34, T-17S, R-29E  
 Eddy County, New Mexico  
 Elevation: 3,518'



8 1/4 shot off @ 138' 4"

8 1/4 in. csg. @ 362 ft. (Recovered 138' 4")  
with 50 sx. cmt. (Est. cmt. top @ 162')

7" shot off @ 1,664' 5"

Grayburg  
2,285'

2,450  
2,467

Present perf. (P&A)

San Andres  
2,685'

7 in. csg. @ 2,900 ft. (Recovered 1,664' 5")  
with 100 sx. cmt. (Est. cmt. top @ 1,600')

NOTE: Well will be cleaned to approx. 400' and 7" OD. casing set and cmtd. at 400'. The well will then be cleaned out to a TD of approx. 3,200' and a 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,788'

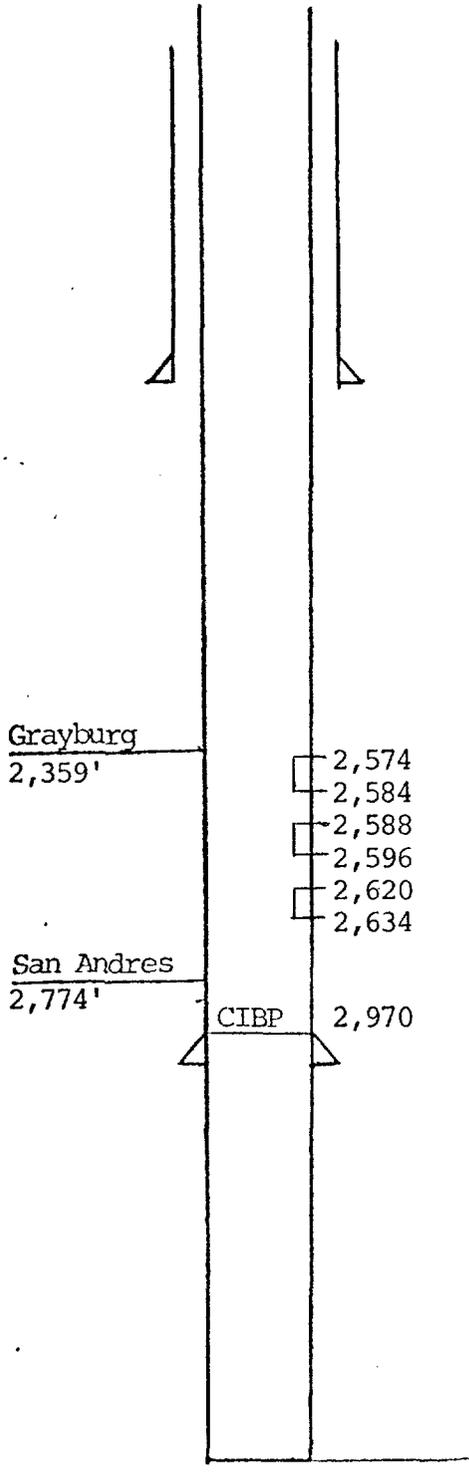
Exhibit "C-11"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson A  
Well No. 4  
Location: Unit G, 1,980 ft. ENL & 1,980 ft.  
FEL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,516'

8 1/4 in. csg. @ 401 ft.  
with 50 sx. cmt. (Est. cmt. top @ 101')



7 in. csg. @ 2,995 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,695')

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 7  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,566'

8 5/8 in. csg. @ 404 ft.  
with 100 sx. cmt. (Est. cmt. top @ surface)

Grayburg  
2,160'

San Andres  
2,560'

7 in. csg. @ 2,768 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,468' )

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
2,975'

F. I. I. J. "C-2" Case 4926

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A

Well No. 9

Location: Unit C, 660 ft. FSL & 1,980 ft.

FEL, Sec. 27, T-17S, R-29E

Eddy County, New Mexico

Elevation: 3,556'

8 1/4 in. csg. @ 368 ft.  
with 50 sx. cmt. (Est. cmt. top @ 68',)

7 in. csg. @ 2,829 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,529' )

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
3,014'

Grayburg  
2,224'

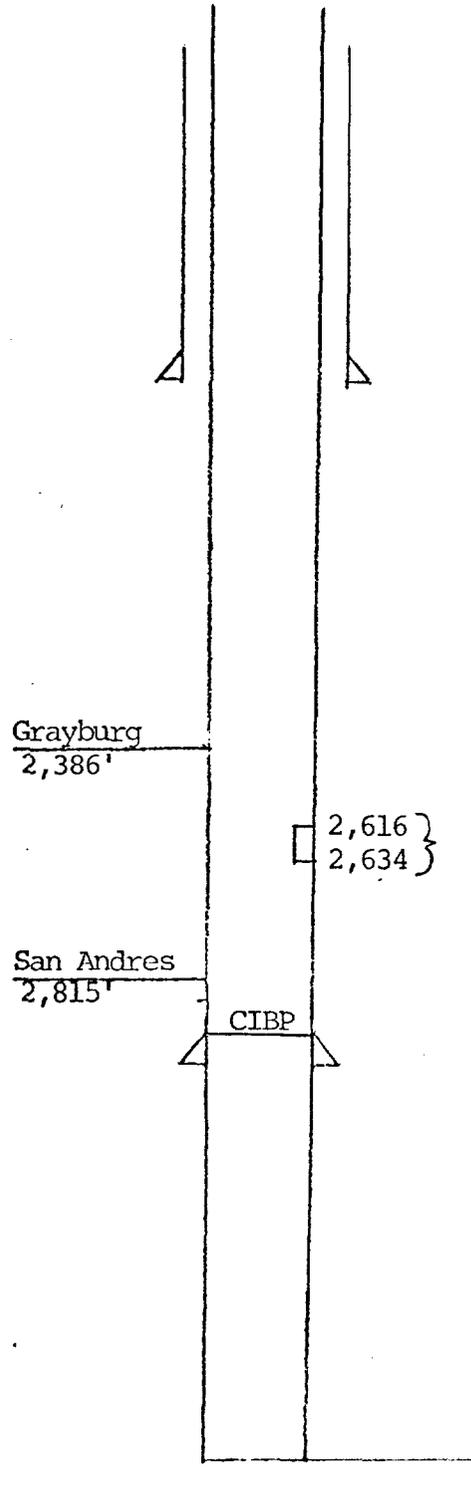
San Andres  
2,624'

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A  
Well No. 11  
Location: Unit E, 1,980 ft. FNL & 660 ft.  
FWL, Sec.35 , T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,539'

8 1/4 in. csg. @ 450 ft.  
with 50 sx. cmt. (Est. cmt. top @ 150')



Present perf.

7 in. csg. @ 3,034 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,734' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,190'

*Case 4926*

*F.L.L. + "C-4"*

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson A

Well No. 12

Location: Unit A, 660 ft. FNL & 654 ft.

FEL, Sec. 34, T-17S, R-29E

Eddy County, New Mexico

Elevation: 3,558'

8 1/4 in. csg. @ 430 ft.

with 50 sx. cmt. (Est. cmt. top @ 130!)

Grayburg  
2,311'

San Andres  
2,721'

7 in. csg. @ 2,921 ft.

with 100 sx. cmt. (Est. cmt. top @ 1,621')

NOTE: No log available. A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,093'

*Case 4926*

F. M. R. "O-F"

SHEVANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

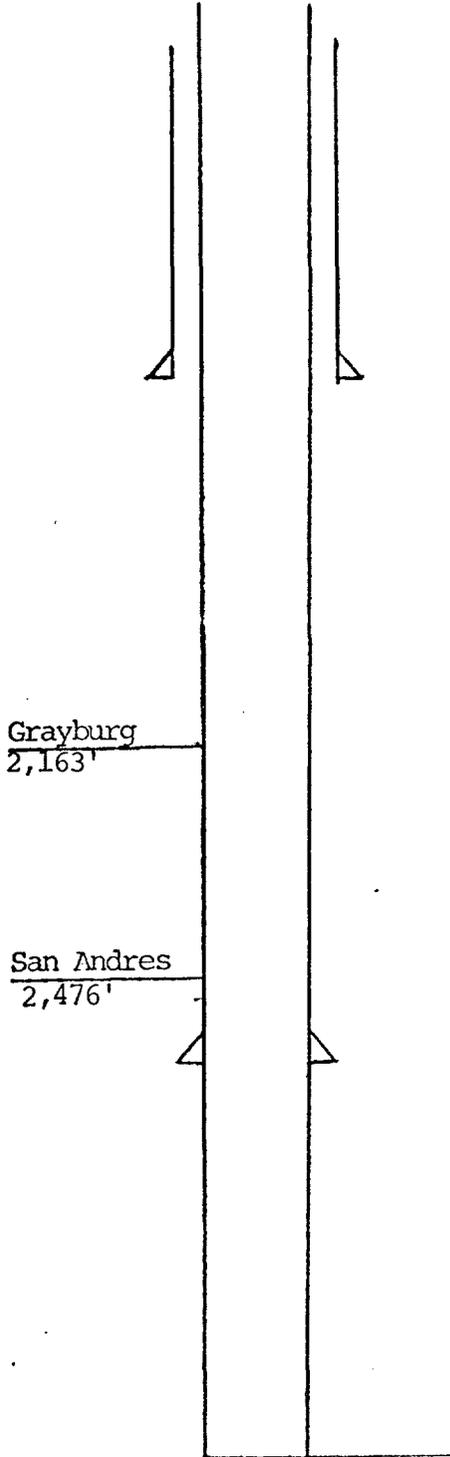
Lease: F. M. Robinson B  
Well No. 1  
Location: Unit A, 660 ft. ENL & 660 ft.  
FEL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,566'

8 1/4 in. csg. @ 982 ft.  
with 100sx. cmt. (Est. cmt. top @ 382')

7 in. csg. @ 2,305 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,005')

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in se-  
lected intervals. Injection into  
the selected intervals will be  
separated by using bottom hole  
flow regulators and packers on  
one string of 2 3/8" OD. tubing.  
No log available.

TD  
2,798'



*Case 4926*

F.L.L. + "C-1"

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 4  
Location: Unit A, 660 ft. FEL & 660 ft.  
FNL, Sec.35 , T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,563'

8 5/8 in. csg. @ 428 ft.  
with 50 sx. cmt. (Est. cmt. top @ 128')

Grayburg  
2,436'

2,668  
2,678

Present perf.

San Andres  
2,849'

2,983  
2,993

7 in. csg. @ 3,050 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,750' )

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in selected  
intervals. Injection into the se-  
lected intervals will be separated  
by using bottom hole flow regulators  
and packers on one string of 2 3/8"  
OD. tubing.

TD  
3,191'

*Case 4926*

F. M. Robinson B

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 6  
Location: Unit G, 1,980 ft. FNL & 1,980 ft.  
FEL, Sec.35 , T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,563'

8 5/8 in. csg. @ 465 ft.  
with 50 sx. cmt. (Est. cmt. top @ 265')

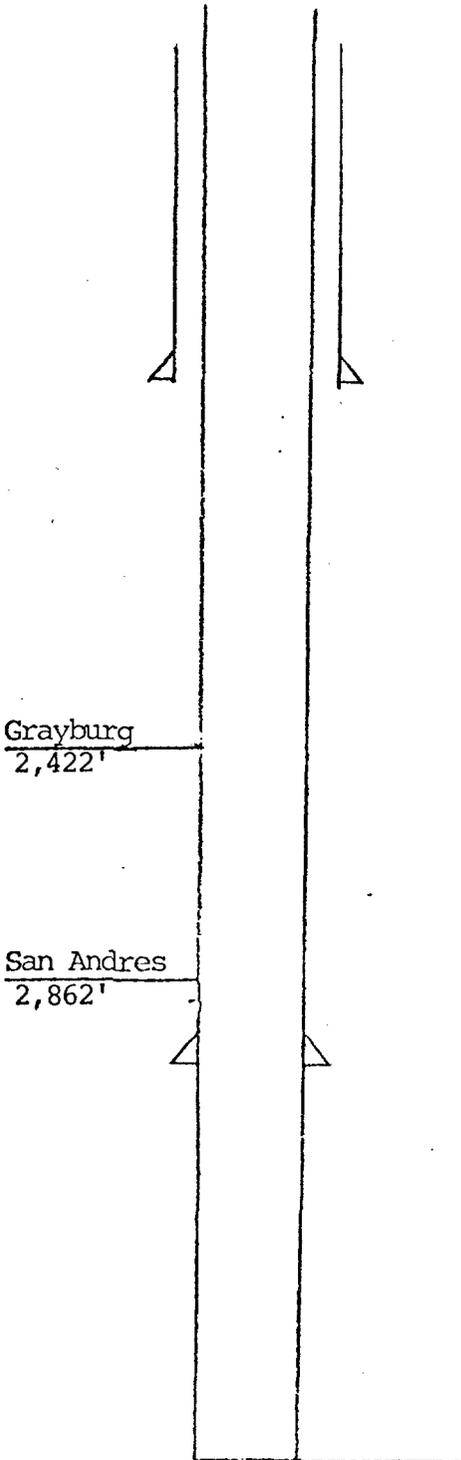
7 in. csg. @ 3,055 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,755')

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
3,220'

*Case H926*

Exhibit "c-e"



SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 8  
Location: Unit K, 1,980 ft. FWL & 1,980 ft.  
FSL, Sec. 27, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,526'

8 1/4 in. csg. @ 305 ft.  
with 50 sx. cmt. (Est. cmt. top @ 5')

Grayburg  
2,177'

San Andres  
2,513'

7 in. csg. @ 2,690 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,390')

NOTE: Used adjacent well log B-32 for correlation. A 4 1/2 OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
2,950'

*Case 4924*

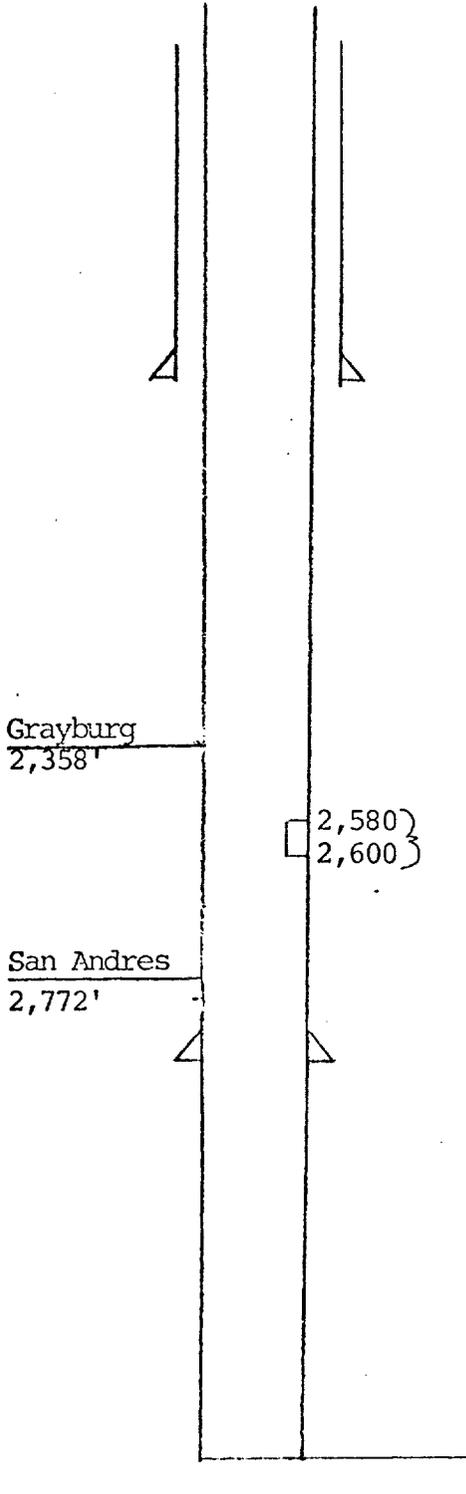
F.L.L.4 "C-9"

SHEVANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 11  
Location: Unit C, 660 ft. FNL & 1,980 ft.  
FWL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,550'

8 1/4 in. csg. @ 526 ft.  
with 50 sx. cmt. (Est. cmt. top @ 226!)



Present perf.

7 in. csg. @ 2,980 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,680' )

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

TD  
3,135'

*Case 4926*

*F-1117 "C-11"*

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 15  
Location: Unit G, 1,980 ft. FNL & 1,980 ft.  
FEL, Sec. 27, T-17S. R-29E  
Eddy County, New Mexico  
Elevation: 3,548'

8 1/4 in. csg. @ 335 ft.  
with 50 sx. cmt. (Est. cmt. top @ 35',)

Grayburg  
2,125'

San Andres  
2,475'

7 in. csg. @ 2,661 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,361' )

NOTE: No log available. A 4 1/2" OD. liner  
will be set and cemented over open  
hole section. The Grayburg and San  
Andres formations will be perforated  
in selected intervals. Injection in-  
to the selected intervals will be sep-  
arated by using bottom hole flow reg-  
ulators and packers on one string of  
2 3/8" OD. tubing.

TD  
2,870'

*Case 4926*

*F.L.L. "A" "*

# SHENANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 16  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,552'

8 1/4 in. csg. @ 505 ft.  
with 50 sx. cmt. (Est. cmt. top @ 205')

7 in. csg. @ 3,157 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,857')

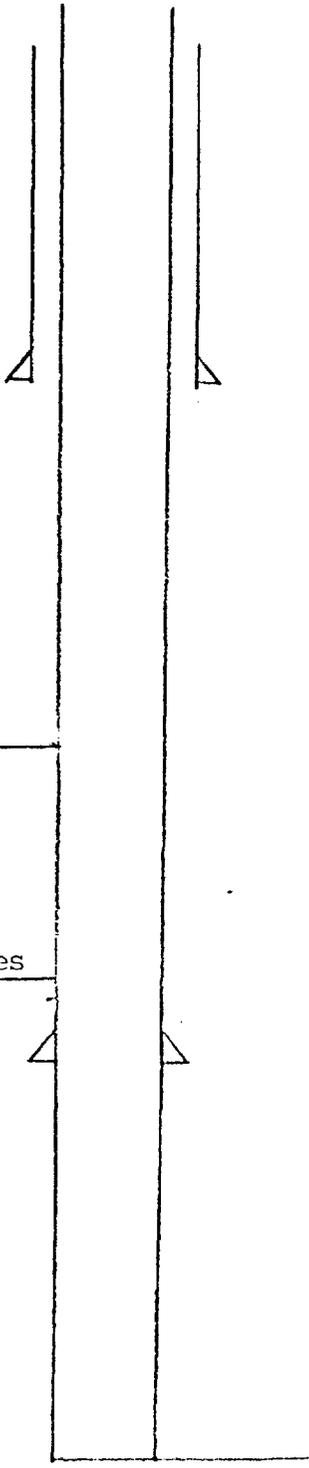
NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in selected  
intervals. Injection into the se-  
lected intervals will be separated  
by using bottom hole flow regulators  
and packers on one string of 2 3/8"  
OD tubing.

TD  
3,261'

*Case 4926*

Grayburg  
2,500'

San Andres  
2,940'



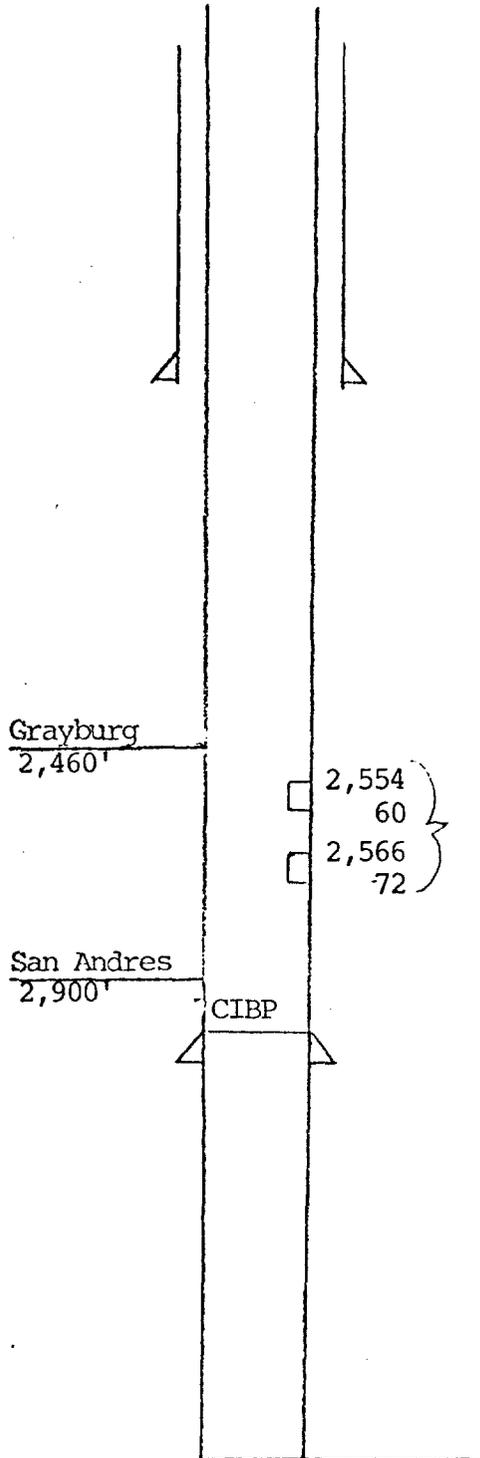
FIELD "C-12"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 17  
Location: Unit K, 1,980 ft. FSL & 1,980 ft.  
FWL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,542'

8 1/4 in. csg. @ 492ft.  
with 50 sx. cmt. (Est. cmt. top @ 292')



Present perf.

7 in. csg. @ 3,165 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,865')

NOTE: A 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD tubing.

TD 3,265'

*Case 4926*

Exhibit "C-13"

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson "B"  
Well No. 18  
Location: Unit O, 660 ft. ESL & 1,980 ft.  
FEL, Sec. 35, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,537'

8 1/4 in. csg. @ 509 ft.  
with 500 sx. cmt. (Est. cmt. top @ 209')

1,920' 7" pulled 5/23/47

Grayburg  
2,490'

2,594  
2,601  
2,623  
2,626  
2,634  
2,640

Present Perf.

San Andres  
2,915'

7 in. csg. @ 3,152 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,852')

NOTE: The Grayburg and San Andres formations  
will be perforated in selected intervals.  
Injection into the selected intervals  
will be separated by using bottom hole  
flow regulators and packers on one string  
of 2 3/8" OD. tbj.

*Case 4926*

4 1/2 in. csg. @ 3,325 ft.  
with 585 sx. cmt. (Cmt. circ. to surf.)

F. M. Robinson

SHENANDOAH OIL CORPORATION

DIAGRAMATIC SKETCH OF  
INJECTION WELL

Lease: F. M. Robinson B  
Well No. 19  
Location: Unit I, 1,980 ft. FSL & 660 ft.  
FEL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,534'

8 1/4 in. csg. @ 360 ft.  
with 50 sx. cmt. (Est. cmt. top @ 60')

Grayburg  
2,416'

San Andres  
2,857'

7 in. csg. @ 3,076 ft.  
with 100 sx. cmt. (Est. cmt. top @ 1,776')

NOTE: A 4 1/2" OD. liner will be set and  
cemented over open hole section.  
The Grayburg and San Andres forma-  
tions will be perforated in se-  
lected intervals. Injection into  
the selected intervals will be  
separated by using bottom hole  
flow regulators and packers on  
one string of 2 3/8" OD. tubing.

TD  
3,234'

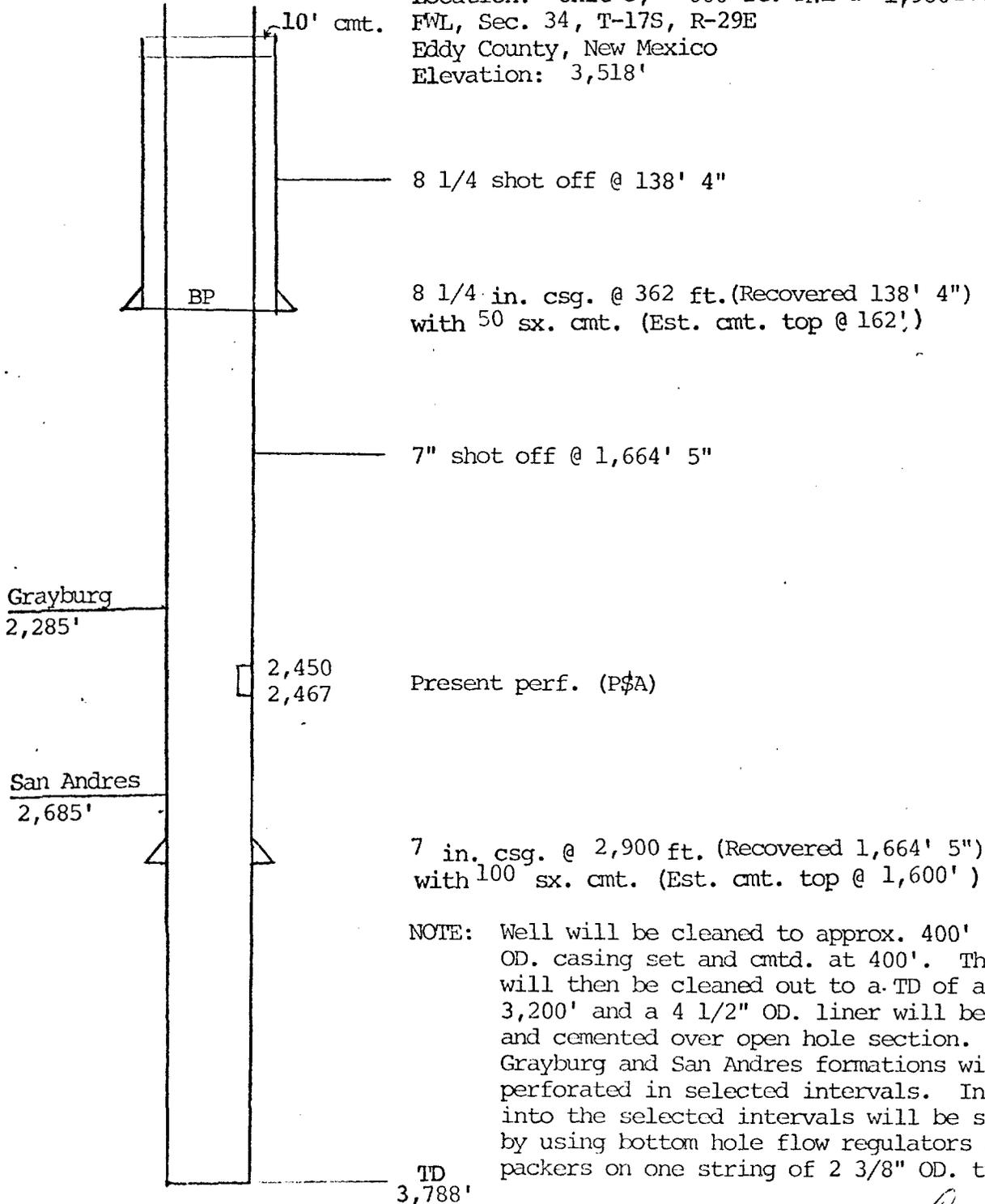
*Case 4926*

F.L.L. + "C-15"

# SHEVANDOAH OIL CORPORATION

## DIAGRAMATIC SKETCH OF INJECTION WELL

Lease: F. M. Robinson B  
Well No. 20  
Location: Unit C, 660 ft. FNL & 1,980 ft.  
FWL, Sec. 34, T-17S, R-29E  
Eddy County, New Mexico  
Elevation: 3,518'



NOTE: Well will be cleaned to approx. 400' and 7" OD. casing set and cmtd. at 400'. The well will then be cleaned out to a TD of approx. 3,200' and a 4 1/2" OD. liner will be set and cemented over open hole section. The Grayburg and San Andres formations will be perforated in selected intervals. Injection into the selected intervals will be separated by using bottom hole flow regulators and packers on one string of 2 3/8" OD. tubing.

*Case 4926*

Exhibit "C-16"



# United States Department of the Interior

GEOLOGICAL SURVEY

MAR 16 1973

JENNINGS, CHRISTY & COPPLE

P. O. Drawer U  
Artesia, New Mexico 88210

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 5  
March 15, 1973 4926  
CASE NO.

Jennings, Christy, and Copple  
Post Office Box 1180  
Roswell, New Mexico 88201

Gentlemen:

Your letter of March 8, 1973 requests approval for Shenandoah Oil Corporation to operate a waterflood of the Grayburg and San Andres formations in T. 17 S., R. 29 E., N.M.P.M., Eddy County, New Mexico on that portion of oil and gas leases described as follows:

Las Cruces 028775(a)

sec. 27: SE $\frac{1}{4}$   
sec. 34: NE $\frac{1}{4}$   
sec. 35: W $\frac{1}{2}$ NW $\frac{1}{4}$

Las Cruces 028775(b)

sec. 27: NE $\frac{1}{4}$ , E $\frac{1}{2}$ W $\frac{1}{2}$   
sec. 35: E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$

Las Cruces 069147

sec. 34: NE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$

Las Cruces 067910

sec. 34: E $\frac{1}{2}$ SE $\frac{1}{4}$   
sec. 35: NW $\frac{1}{4}$ SW $\frac{1}{4}$

The flood pattern would be 80-acre 5-spot, and on a pattern with the surrounding waterflood projects. The plan proposes to convert to water injection the following wells:

<u>Well Number and Lease</u>	<u>Location</u>
4 - Robinson "A"	1980/N&E sec. 34
7 - Robinson "A"	1980/S 660/E sec. 27
9 - Robinson "A"	660/S 1980/E sec. 27
11 - Robinson "A"	1980/N 660/W sec. 35
12 - Robinson "A"	660/N 654/E sec. 34
1 - Robinson "B"	660/N&E sec. 27
4 - Robinson "B"	660/N&E sec. 35
6 - Robinson "B"	1980/N&E sec. 35
8 - Robinson "B"	1980/S&W sec. 27
11 - Robinson "B"	660/N 1980/W sec. 35

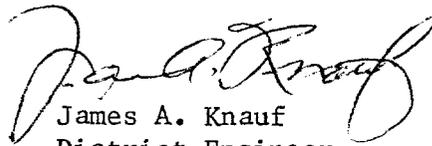
<u>Well Number and Lease</u>	<u>Location</u>
15 - Robinson "B"	1980/N&E sec. 27
16 - Robinson "B"	1980/S 660/E sec. 35
17 - Robinson "B"	1980/S&W sec. 35
18 - Robinson "B"	660/S 1980/E sec. 35
19 - Robinson "B"	1980/S 660/E sec. 34
20 - Robinson "B"	660/N 1980/W sec. 34

The plan for operating the above described waterflood project as proposed in the application is satisfactory to this office and hereby approved subject to approval by the New Mexico Oil Conservation Commission and the following:

1. This project will be operated in compliance with the New Mexico Oil Conservation Commission regulations governing waterflood operations.
2. Prior to commencing operations, unless the proposed unit is approved, proper authority to operate on above described leases will be obtained.
3. A development plan for surface use will be submitted which will include information in regard to:
  - a. Plats of any additional roads or pipelines for flowlines, injection lines or water supply, which may be necessary for this project. The Bureau of Land Management will be consulted on right-of ways or other easements not covered under the oil and gas lease agreements.
  - b. Plats or diagrams to indicate size, description, and location of any additional installations of injection plants, treating plants, storage batteries, emergency water pits, or other necessary use of the surface for this project.
  - c. Plans for restoration of the surface.
4. Prior approval will be obtained for any change or deviation from the original plans or revision thereof.
5. The usual notice and reports of workovers, conversions, injection commencement or suspension, etc. of all wells involved will be timely submitted.

6. Duplicate copies of a monthly progress report (N.M.O.C. form C-120 acceptable) are to be submitted to this office showing the volume of water injected and average pressure for the injection wells and production for the producing wells in the project area.

Sincerely yours,



James A. Knauf  
District Engineer

RLB:ih 3/15/73

cc:  
Roswell

# SHENANDOAH OIL CORPORATION

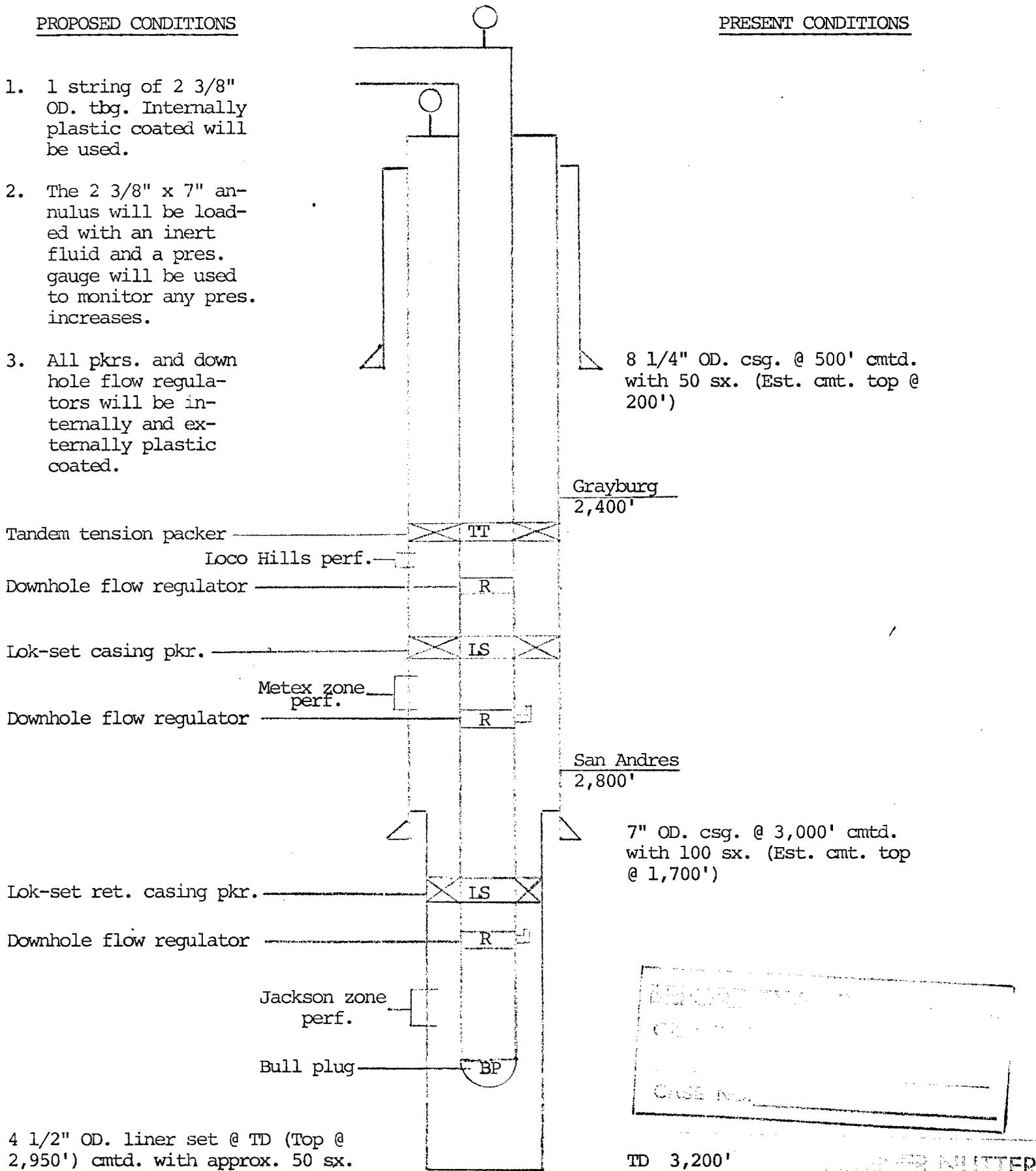
## DIAGRAMATIC SKETCH OF TYPICAL INJECTION WELL

Robinson - Jackson Unit  
Sections 27, 34, 35, T-17-S, R-29-E  
Eddy County, New Mexico

PROPOSED CONDITIONS

1. 1 string of 2 3/8" OD. tbg. Internally plastic coated will be used.
2. The 2 3/8" x 7" annulus will be loaded with an inert fluid and a pres. gauge will be used to monitor any pres. increases.
3. All pkrs. and down hole flow regulators will be internally and externally plastic coated.

PRESENT CONDITIONS



4 1/2" OD. liner set @ TD (Top @ 2,950') cmtd. with approx. 50 sx.

RECORD COPY

DATE

CASE NO.

TD 3,200' NUTTER

ROBINSON

SOC. UNIT NO. D

4926

Exhibit "D"

# SHENANDOAH OIL CORPORATION

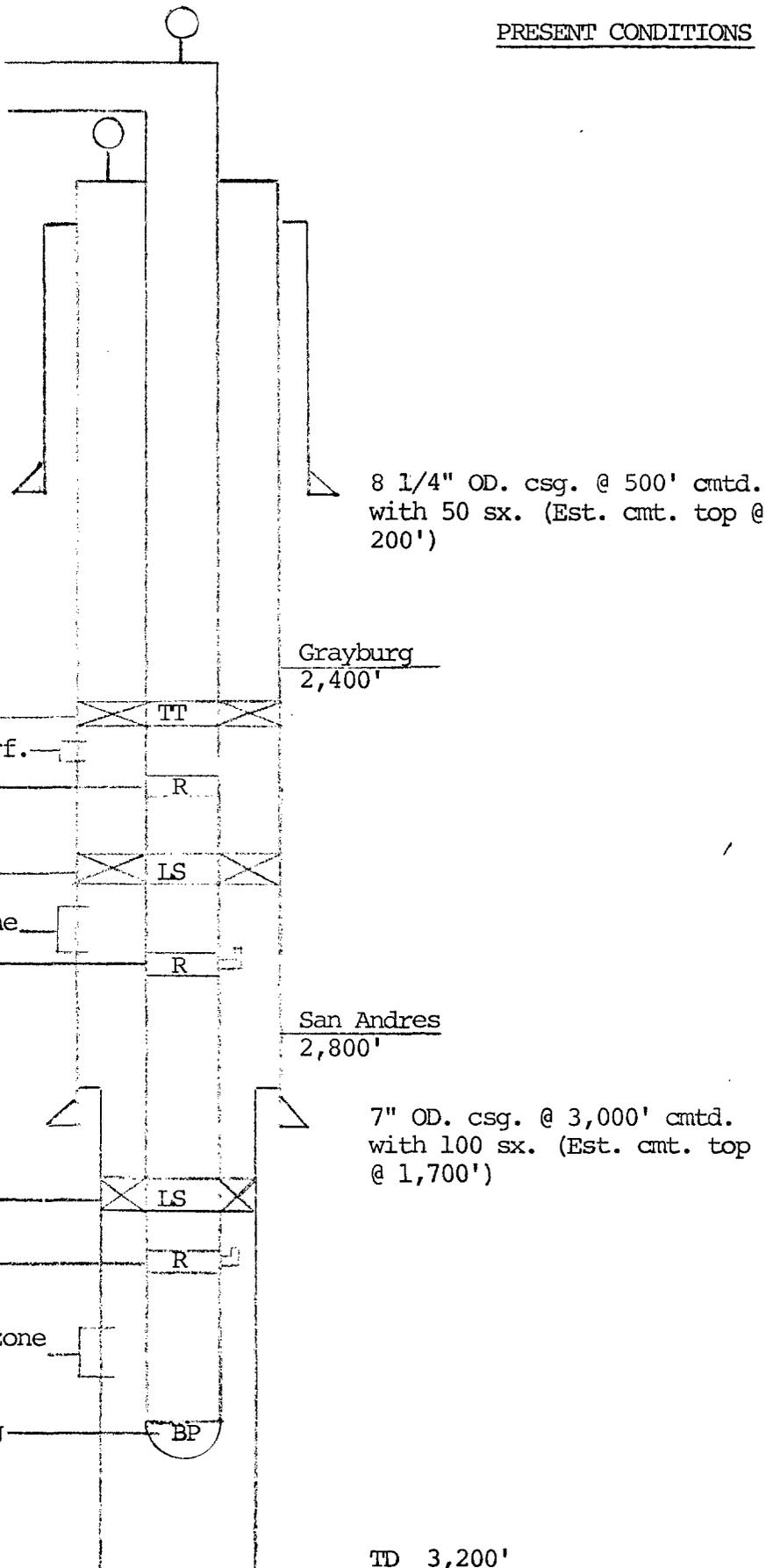
## DIAGRAMATIC SKETCH OF TYPICAL INJECTION WELL

Robinson - Jackson Unit  
Sections 27, 34, 35, T-17-S, R-29-E  
Eddy County, New Mexico

PROPOSED CONDITIONS

PRESENT CONDITIONS

1. 1 string of 2 3/8" OD. tbg. Internally plastic coated will be used.
2. The 2 3/8" x 7" annulus will be loaded with an inert fluid and a pres. gauge will be used to monitor any pres. increases.
3. All pkrs. and down hole flow regulators will be internally and externally plastic coated.



4 1/2" OD. liner set @ TD (Top @ 2,950') cmtd. with approx. 50 sx.

Exhibit "D" *Case 4926*