

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

REPLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Sanders Oil & Gas Company

3. ADDRESS OF OPERATOR

14679 Midway Rd., Suite 101, Dallas, Texas 75234

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface 660' FEL & 1980' FNL

At proposed prod. zone

660' FEL & 1980' FNL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

12 miles North from Roswell

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 660'

16. NO. OF ACRES IN LEASE

160

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

None

19. PROPOSED DEPTH

6500'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

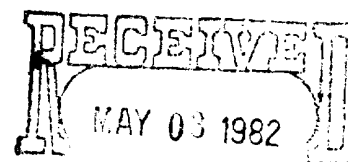
3590' GR

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2	13 3/8	48#	850'	Circulate to surface
12 1/4	8 5/8	24#	1600'	Circulate to surface
7 7/8	4 1/2	10.5#	4200'	300 sxs.

We propose to drill the Bitterlake Federal to test the Abo Formation. Casing will be set as above or if dry will be plugged and abandoned as instructed by M.M.S.

Gas has not been dedicated.



OIL & GAS  
U.S. GEOLOGICAL SURVEY  
ROSWELL, NEW MEXICO

Posted ID-7  
API & NH Book  
6-25-82

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Clara M. Bitterlake*

TITLE Exploration Manager

DATE APR. 27-1982

(This space for Federal or State office use)

PERMIT NO.

JUN 9 1982

APPROVAL DATE

APPROVED BY

CONDITIONS OF

APPROVAL, IF ANY

JAMES A. CHAMBERLAIN  
DISTRICT SUPERVISOR

TITLE

DATE

## OIL CONSERVATION DIVISION

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088  
SANTA FE, NEW MEXICO 87501Form C-102  
Revised 10-1-79

All distances must be from the outer boundaries of the Section.

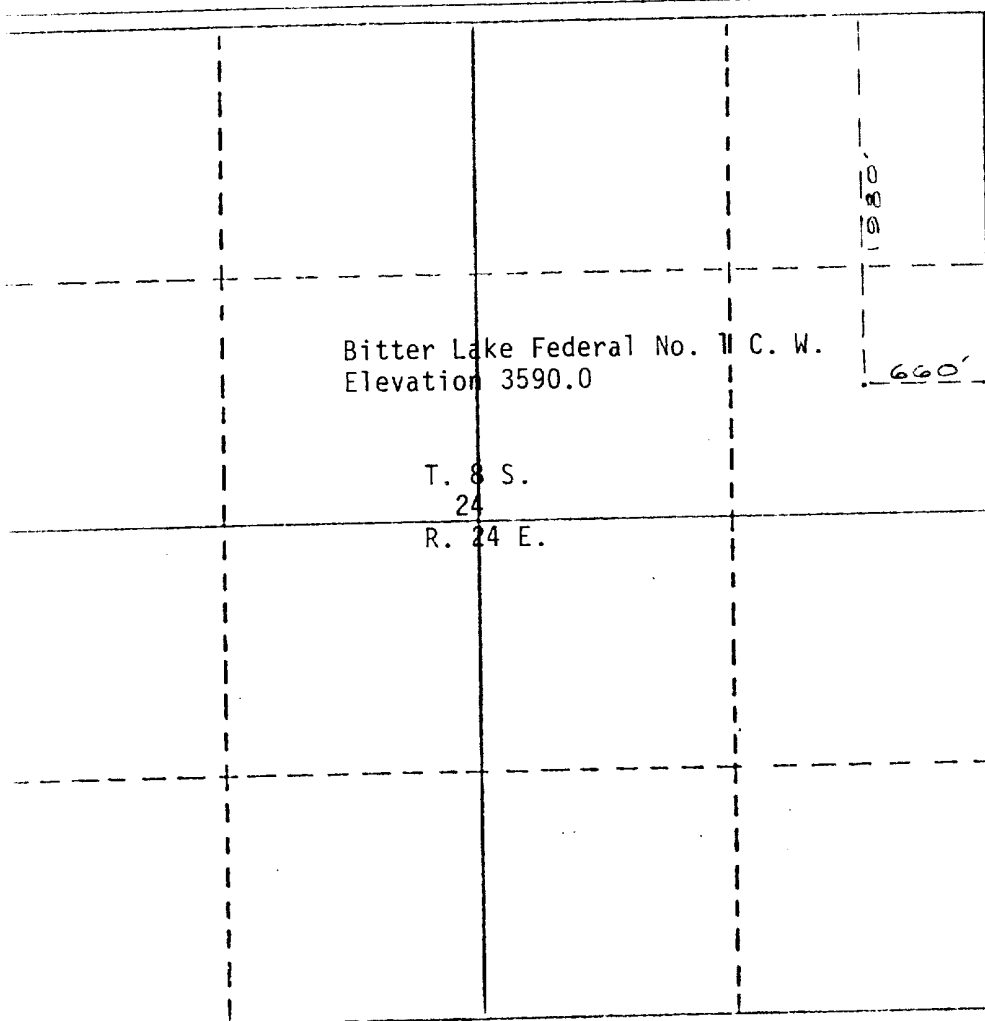
Operator <b>Sanders Oil &amp; Gas Company</b>			Lease <b>N.M. 16316</b>		Well No. <b>Bitter Lake Fed. #1 C.W.</b>
Letter <b>H</b>	Section <b>24</b>	Township <b>8 South</b>	Range <b>24 East</b>	County <b>Chaves</b>	
Footage Location of Well: 1980 feet from the north line and 660 feet from the east line					
Well Level Elev. <b>3590.0</b>	Producing Formation <b>ABO</b>	Pool <b>WILDCAT</b>		Dedicated Acreage: <b>160</b> Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



## CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name

**Don Whittaker**

Position

**EXPLORATION MGR.**

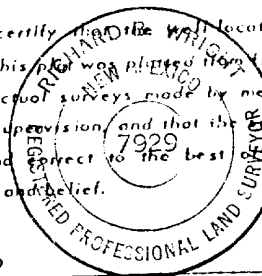
Company

**SANDERS OIL & GAS CO.**

Date

**APR. 27-1982**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.



4/16/82

Date Surveyed

Registered Professional Engineer  
and/or Land Surveyor

**Richard B. Wright**

Certificate No.

**7929**

330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

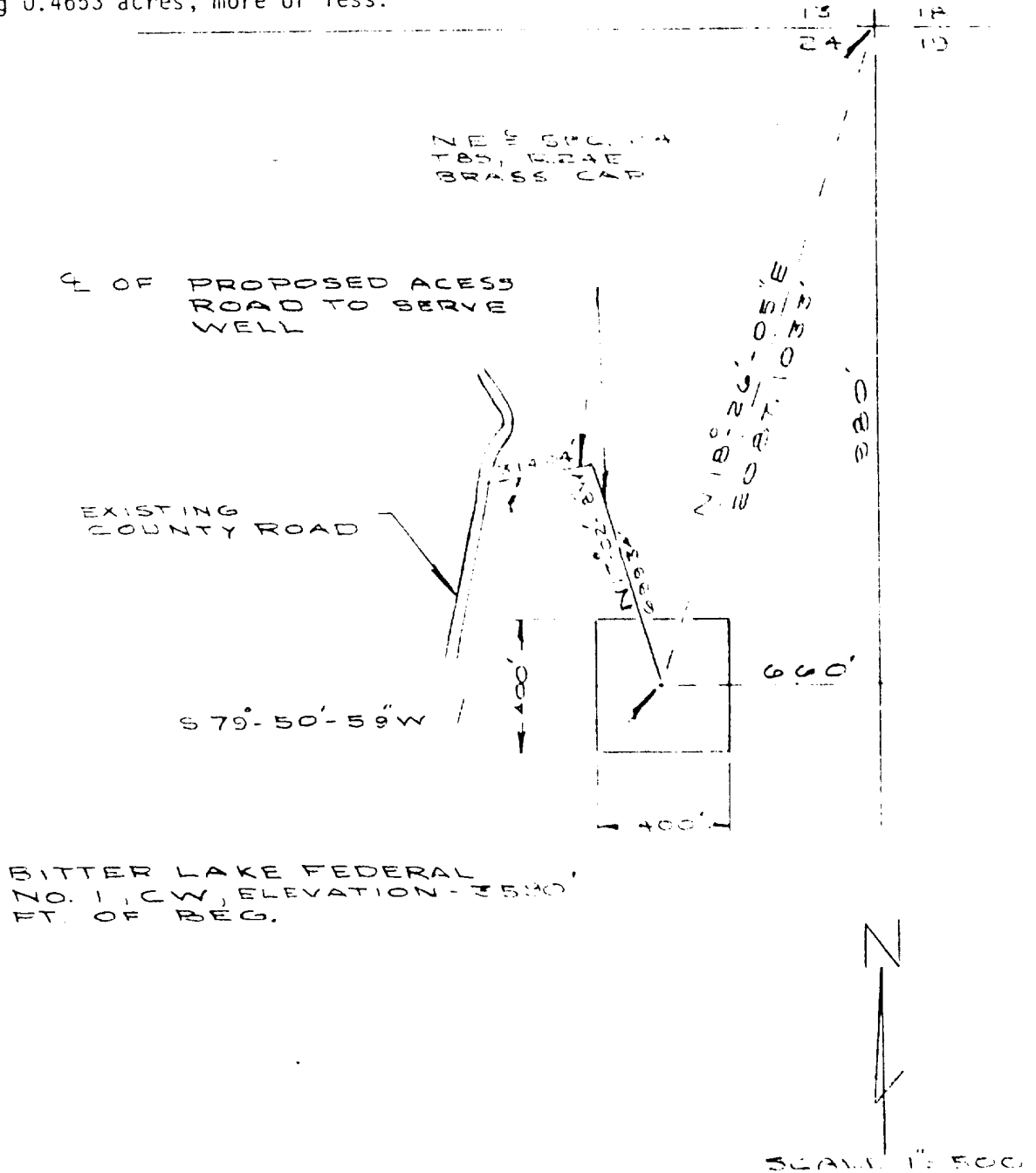
# ROADWAY EASEMENT

CLIENT: Sanders Oil and Gas Company  
DATE: April 20, 1982

A tract of land lying in the NE $\frac{1}{4}$  of Section 24, Township 8 South, Range 24 East, Chaves County, New Mexico, N.M.P.M., being a 20.0 foot wide easement, 10.0 feet each side of, parallel and adjacent to the following described centerline;

Beginning at a point from which the northeast corner of Section 24, T8S, R24E, bears N 18° 26' 05" E, 2087.1033 feet, said point being the location of the Bitter Lake Federal No. 1, C.W. oil well; thence, N 17° 02' 18" W, 699.34 feet; thence, S 79° 50' 59" W, 314.04 feet to the intersection of the east line of existing county road.

Containing 0.4653 acres, more or less.



## CERTIFICATE

This is to certify that I am a Registered Professional Land Surveyor in the State of New Mexico, that this plat has been prepared from notes of an actual survey made under my supervision, and that both are true and correct to the best of my knowledge.

SURVEY NO. R-2524 DATE 4/20/82 CERT. NO. 7929  
R. B. WRIGHT

LENNIS-WRIGHT, INC  
307 N. Atkinson

P.O. BOX 1401  
ROSWELL, NEW MEX. 88201

(505) 623-4511

## APPLICATION FOR DRILLING

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Sanders Oil & Gas Company submits the following ten items of pertinent information in accordance with U.S.G.S. requirements:

1. The geologic surface formation is Permian.
2. The estimated tops of geologic markers are as follows:

Seven Rivers	Surface
San Andres	700'
Glorieta	1700'
Tubb	3200'
Abo	3350'

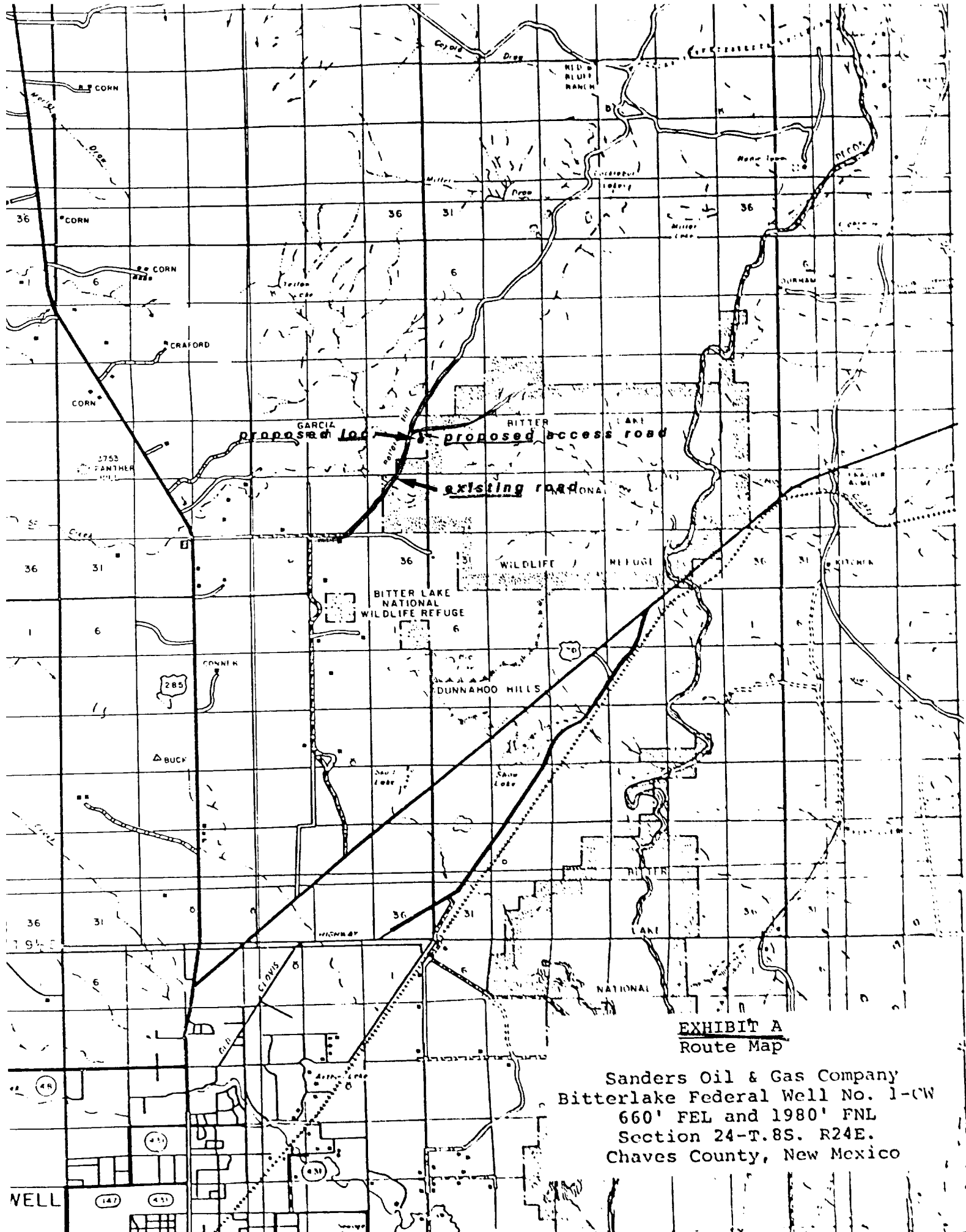
3. The estimated depths at which water, or gas formations are expected to be encountered:

Water - Approximately 250'  
Gas - Abo - 3350' to 4000'

4. Proposed Casing Program: See Form 9-331C and Exhibit F.
5. Pressure Control Equipment: See Exhibit E.
6. Mud Program: See Exhibit G.
7. Auxiliary Equipment: See Exhibit H.
8. Testing, Logging and Coring Programs:

Testing - No drill stem tests to be run  
Coring - No coring will be done  
Logging - Electric Log program:  
Dual Induction Laterolog  
Audio Log  
Compensated Formation Density Log  
Compensated Neutron Log

9. No abnormal pressures or temperatures are anticipated.
10. Anticipated starting date: July 25, 1982.



**EXHIBIT A**  
**Route Map**

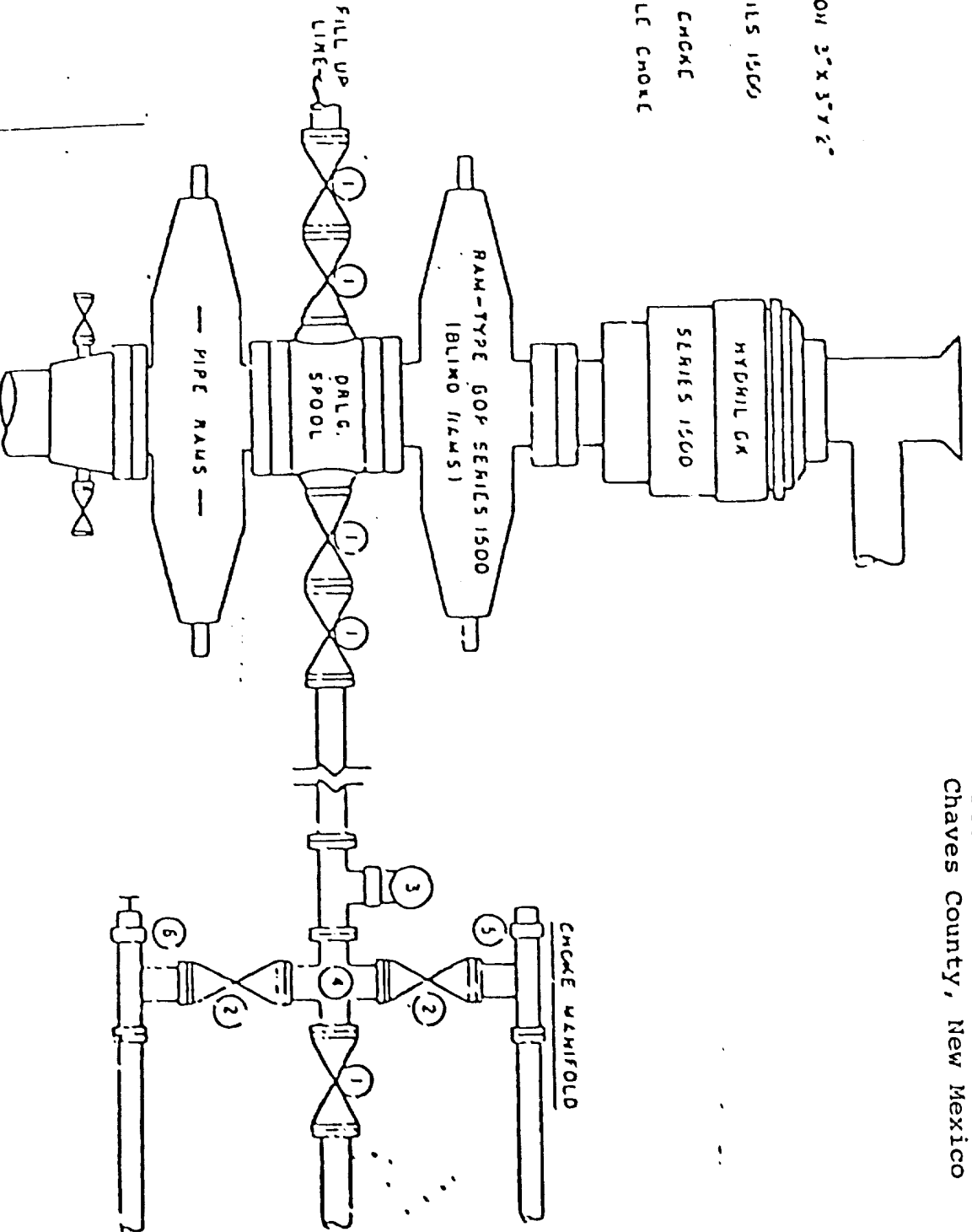
Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

# EXHIBIT E

## Blow Out Preventer

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' PNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

- ① 1" SERIES 1500 VALVE
- ② 2" SERIES 1500 VALVE
- ③ 2" WUG PRESSURE GAUGE ON 2" X 3" TEE  
SERIES 1500 STEEL TEE
- ④ 2" SERIES 1500 X 2" SERIES 1500  
STEEL CROSS
- ⑤ 2" SERIES 1500 POSITIVE CHECK
- ⑥ 2" SERIES 1500 ADJUSTABLE CHECK



3000 PSI WORKING PRESSURE  
BLOWOUT PREVENTER HOOK-UP

(SERIES 1500 FLANGES OR BETTER)

EXHIBIT F

Summary

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

SURFACE PIPE: 13-3/8" Casing in 17-1/2" Hole Drilled to 850';  
Cement to Circulate.

CASING HARDWARE: 1 -- 13-3/8" Cement Guide Shoe  
1 -- 13-3/8" Insert Flapper Float  
1 -- 13-3/8" Top Rubber Plug  
2 -- Thread Locking Kit  
2 -- Centralizers

FILLER CEMENT: 550 Sacks Class "C" Cement  
4% D20 Gel  
5 Pounds D24 Gilsonite  
.25 Pounds D29 Cellophane Flakes  
2% Sl Calcium Chloride

TAIL-IN CEMENT: 150 Sacks Class "C" Cement  
2% Sl Calcium Chloride

COST ESTIMATE: \$9875 (Includes casing hardware)

CEMENT PROPERTIES:	I	II
Weight:	13.5 PPG	14.8 PPG
Yield:	1.76' 3/sk	1.32' 3/sx
Mix Water:	8.92 GPS	6.32 GPS

NOTICE: This recommendation is presented in good faith based upon present day technology and information provided, but no express or implied warranty is intended or given. Dowell assumes no liability for any use made of this recommendation nor for any results obtained from the use of Dowell services and products based thereon.

EXHIBIT F

SUMMARY

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

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Cement volumes based on bit size less pipe size plus 100% excess.  
Should cement not circulate or be close enough to fill up with  
ready mix cement, it will be required to 1-inch cement to surface.

Additional equipment and material charges will apply.

Should lost circulation be a major problem, an additional 1500  
sacks of the cement system should be planned for. The 1500 sacks  
will be used to top out if needed.

Estimated cost for the additional 1500 sacks system -- \$17,859.58.

INTERMEDIATE PIPE: 8-5/8" Casing in 12-1/4" Hole Drilled to 1600'  
Cement to Circulate.

CASING HARDWARE:

- 1 -- 8-5/8" Cement or Swirl Guide Shoe
- 1 -- 8-5/8" Insert Flapper Float
- 4 -- 8-5/8" Centralizers
- 1 -- 8-5/8" Top Rubber Wiper Plug
- 1 -- Thread Locking Kit

CEMENT SYSTEMS:

FILLER CEMENT: 550 Sacks Class "C" Cement

4% D20 Gel  
10 lbs D24 Gilsonite  
.25 lbs D29 Cellophane Flakes  
2% Sl Calcium Chloride

TAIL-in-CEMENT: 200 Sacks Class "C" Cement

2% Sl Calcium Chloride

COST ESTIMATE: \$14,550.00

CEMENT PROPERTIES:

	I	II
Weight:	13.3 PPG	14.8 PPG
Yield:	1.84' 3/sx	1.54' 3/sx
Mix Water:	9.12 GPS	7.23 GPS



EXHIBIT F  
SUMMARY

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

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Cement volumes based on bit size less pipe size plus 100% excess. Should cement not circulate or be close enough to fill up with ready mix cement, it will be required to 1-inch cement to surface. Additional equipment and material charges will apply.

PRODUCTION PIPE: 4-1/2" Casing in 7-7/8" Hole Drilled to 4500'  
Tail-in Cement to cover ABO Formation and Filler  
Cement to Cover 600' above.

CASING HARDWARE:

- 1 -- 4-1/2" Flapper Float Shoe
- 1 -- 4-1/2" Flapper Float Collar
- 6 -- 4-1/2" Centralizers
- 1 -- 4-1/2" Top Rubber Wiper Plug
- 1 -- Thread Locking Kit

CEMENT SYSTEMS: Pump 20 Barrels CW100 Chemical Wash Ahead of Cement.

FILLER CEMENT: 120 Sacks Class "C" Cement  
4% D20 Gel  
10 lbs D24 Gilsonite  
.25 lbs D29 Cellophane Flakes  
2% S1 Calcium Chloride

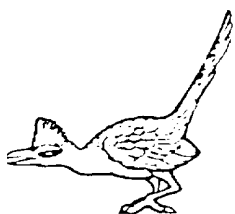
TAIL-in-CEMENT: 135 Sacks Dowell 10/8 Self-Stress Expanding Cement  
1.0% D60 Fluid Loss Additive  
2.0% S1 Calcium Chloride

Cost Estimate: \$6,500.00

CEMENT PROPERTIES:

	I	II
Weight:	13.3 PPG	14.8 PPG
Yield:	1.84' 3/sx	1.54' 3/sx
Mix Water:	9.12 GPS	7.23 GPS

Cement volumes based on bit size less pipe size plus 50% excess. Actual cement volumes should be based on caliper survey plus 20% excess. Displace cement with 2% KCl to have recommended completion fluid in hole.



artesia lumber co.

## THE ARTESIA LUMBER CO.

### ARTESIA OFFICE

PHONE 505 746 2312 (24 HRS.)  
P.O. BOX 1325  
ARTESIA, NEW MEXICO 88210

GEORGE R. LOCKER, PRES.  
I. C. STROMBERG, V. PRES.

### MIDLAND OFFICE

PHONE 915 746 4400  
P.O. BOX 1324  
MIDLAND, TEXAS 79704

REPLY TO POINT OF ORDER

### EXHIBIT G

#### Mud Program

Sanders Oil & Gas Company  
Bitterlake Federal Well No. 1-CW  
660' FEL and 1980' FNL  
Section 24-T.8S. R24E.  
Chaves County, New Mexico

#### ESTIMATED FORMATION TOPS

San Andres	700'
Glorietta	1750'
Tubb	3225'
Abo	4000'

#### CASING PROGRAM

8 5/8" or 9 5/8" Surface casing at 950'  
4 1/2" Production casing at 4500'

(\*Note: Loss of circulation from 1400'-1600' may require additional casing string at 1750')

#### MUD PROGRAM

0-950': Fresh Water Gel Mud

Spud with a fresh water gel mud using soda ash to treat calcium contamination. and caustic soda for a 10-11 ph. Paper additions will help control seepage losses, and cotton seed hulls and/or other coarse, fibrous LCM may be required for more severe losses. (especially from 300'-600').

950'-3800': Brine water

Drill out with brine water circulating reserve pit to control solids build up. Use salt water gel/paper sweeps for additional hole cleaning. For drill pipe and casing corrosion control, suggest 600-800 ppm Chromate residual.  
Be alert for loss of circulation.

3800'-4500': Salt Gel/ Starch

At 3800' limit surface volume to approximately 400-500 bbls. and increase viscosity to 34-36 sec/1000 cc with salt water gel. Use fresh water and/or oil additions to keep mud weight below 10.2 ppg. 18-24 hours prior to T.D., increase viscosity to 45 sec/1000 cc and lower water loss to 20cc $\pm$  with starch additions to prepare hole for logging and running casing.

\*Note: In case of loss of circulation, from 1400'-1600' or below suggest spotting 75-100 bbls of a 50-60 viscosity mud on bottom and pulling drill bit well above loss zone. Allow this slurry to set 2-3 hours and attempt to fill hole through the fill up line. If unsuccessful wait another 2-3 hours before trying to fill hole again. If this method is unsuccessful, cementing may be the most economical approach.

Estimated cost for this type drilling mud program will be \$15,000-\$18,000 without severe loss of circulation problems.