

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(OTHER ATTACHMENT, reverse side) OR

30-015-21530

U. LEASE DESIGNATION AND SERIAL NO.

NM-0476505

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Cottonwood Draw Unit

8. FARM OR LEASE NAME

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA

Sec. 20, T-25-S, R-27-E

12. COUNTY OR PARISH 13. STATE

Eddy

N.M.

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

MAY 7 1975

SINGLE
ZONE ☐

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Robert N. Enfield

3. ADDRESS OF OPERATOR

P. O. Box 2431, Santa Fe, New Mexico 87501

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

At surface

660 FWL, 1980 FSL, Section 20 T-25-S, R-27-E

At proposed prod. zone

Same

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

8 Miles South & East of Blackriver, New Mexico

16. 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

1038

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

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

None

19. PROPOSED DEPTH

12,900'

20. ROTARY OR CABLE TOOLS

Rotary

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

3145.9 GL

22. APPROX. DATE WORK WILL START*

May 1, 1975

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#	250	Circ. to surface
12-1/4"	9-5/8"	36#, 43.5#, 47#	6,000	400 sx
8-1/2"	5-1/2"		12,900	500 sx

If Hole Conditions Permit:

1. Drill size hole & set csg as indicated above.
2. DST any shows of oil and/or gas.

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ARTESIA, NEW MEXICO

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

Robert N. Enfield

TITLE Operator

DATE 4/11/75

(This space for Federal or State office use)

PERMIT NO.

SUBJECT TO ATTACHED DEEP WELL CONTROL

REQUIREMENTS DATED JUN 22 1975

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

APPROVED
MAY - 1975
H. L. BEEKMAN
ACTING DISTRICT ENGINEER

THIS APPROVAL IS RECORDED IF OPERATIONS
ARE NOT COMMENCED WITHIN 3 MONTHS.
EXPIRES AUG - 2 1975
See Instructions On Reverse Side

N MEXICO OIL CONSERVATION COMMISS
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
 Supersedes C-128
 Effective 1-1-65

All distances must be from the outer boundaries of the Section

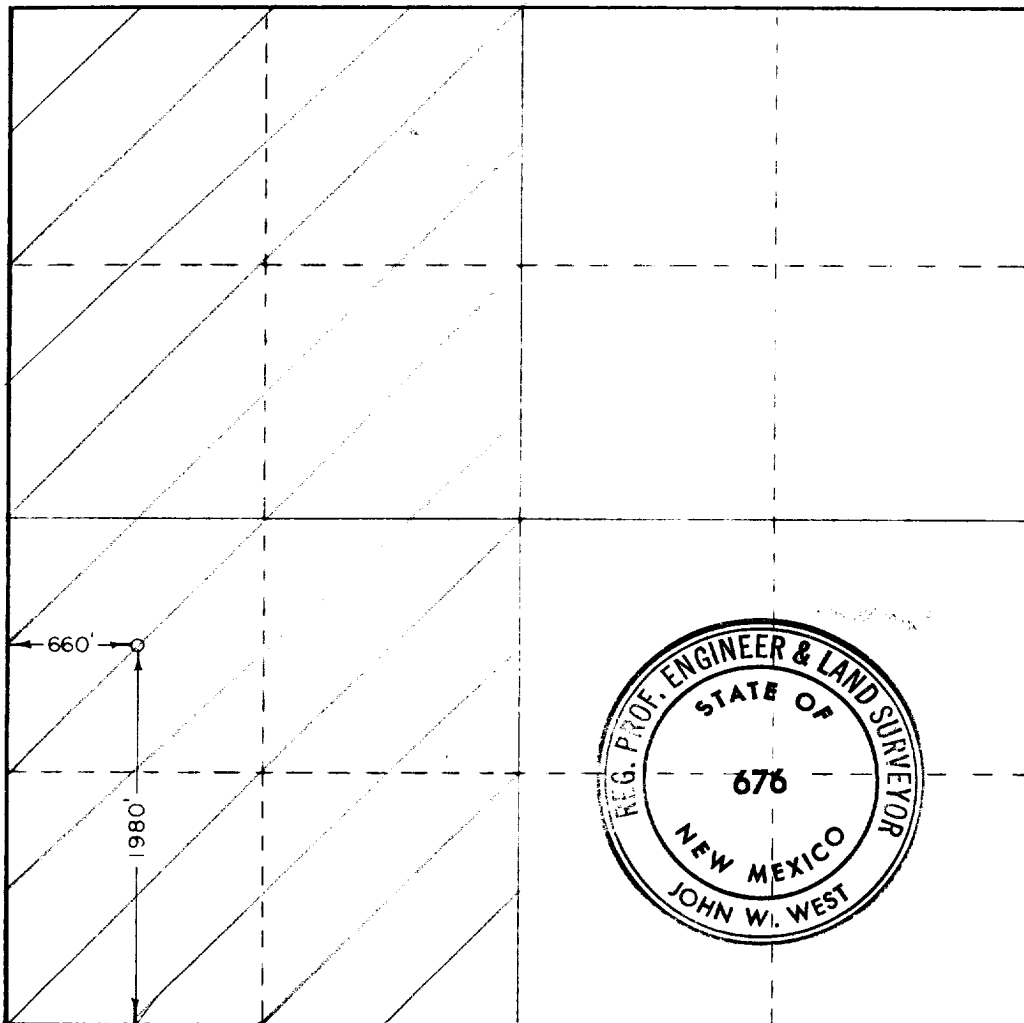
Owner Robert N. Enfield		Lease Cottonwood Draw Unit		Well No. 1
Section L	Section 20	Township 25 South	Range 27 East	County Eddy
Approximate Location of Well: 1980 feet from the South line and 660 feet from the West line				
Ground Elev. 3145.9	Producing Formation Marrow	Pool Wildcat	Dedicated Acreage: 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. 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 **Unitization**

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 Commission.



CERTIFICATION

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

Robert N. Enfield
 Name
Robert N. Enfield

Position
Operator

Company
Robert N. Enfield

Date
April 11, 1975

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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 are true and correct to the best of my knowledge and belief.

Date Surveyed
April 8, 1975

Registered Professional Engineer and/or Land Surveyor

John W. West
 Certificate No. **676**

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

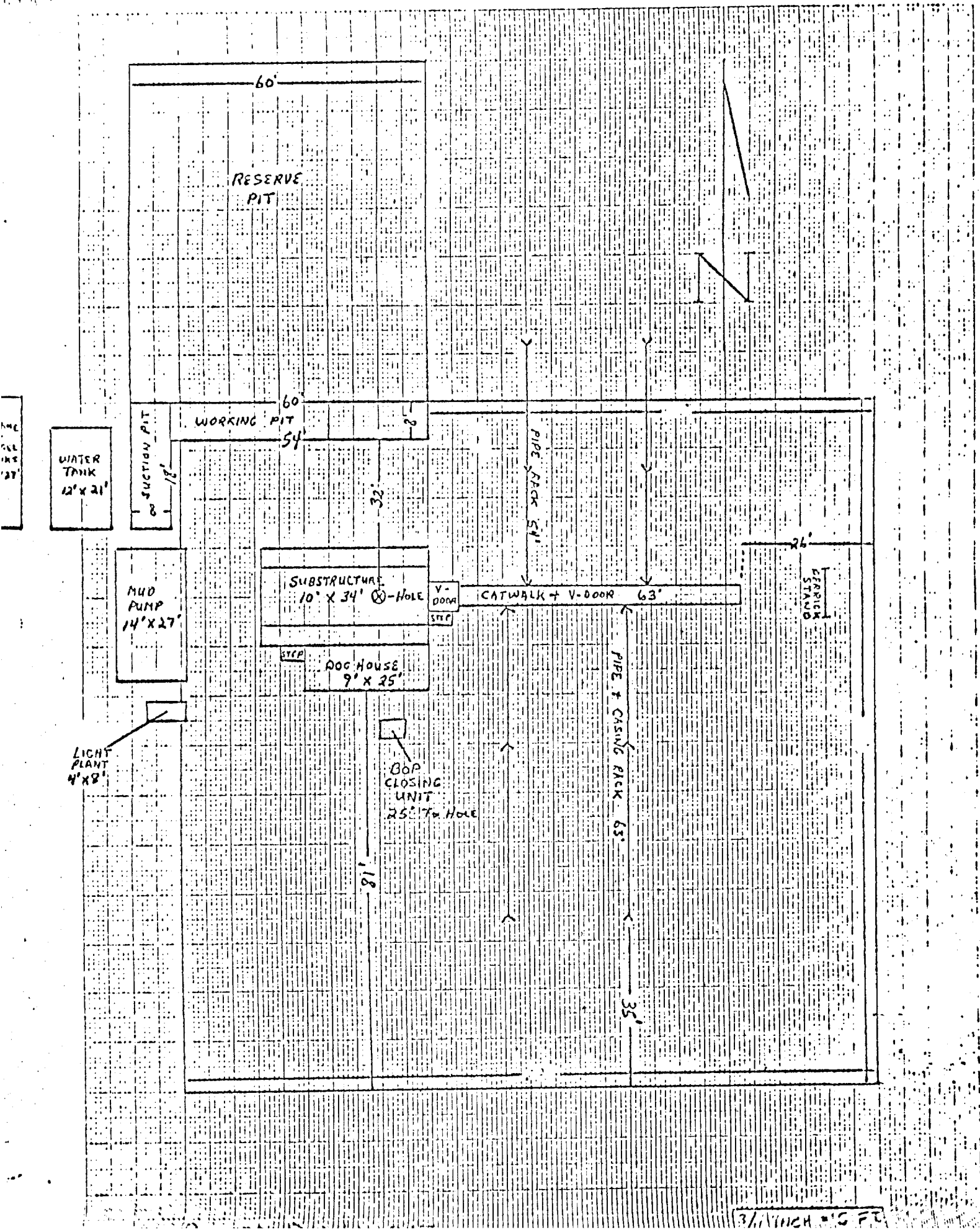
INSTRUCTIONS FOR SUBMITTING APPLICATIONS TO DRILL
ONSHORE OIL, GAS, OR GEOTHERMAL STEAM WELLS ON
PUBLIC DOMAIN AND ACQUIRED LANDS

Each application for permit to drill must be accompanied by a development plan for surface use which should include information in regard to:

- | | |
|--|------------------------------|
| 1. Existing roads. | See Plat 1 |
| 2. Planned access roads. | See Plat 1, approx. 1¼ miles |
| 3. Location of wells. | See Plat 1 |
| 4. Lateral roads to wells locations. | See Plat 1 |
| 5. Location of tank batteries and flowlines. | See Plat 2 |
| 6. Locations and types of water supply. | Hauled in. |
| 7. Methods for handling waste disposal. | Trucked, buried and/or burn |
| 8. Location of camps. | None |
| 9. Location of airstrips. | None |
| 10. Location layout to include position of the rig, mud tanks, reserve pits, pipe racks, etc. | See Plat 2 |
| 11. Plans for restoration of the surface. | Clean up and level |
| 12. Any other information which the Approving Official considers essential to his assessment of the impact on the environment. | |

The affected Federal and State surface managing agencies shall have access to or, if feasible, may be provided with copies of such development plans.

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U.S. DEPT. OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ALBUQUERQUE, NEW MEXICO





OILFIELD PRODUCTS DIVISION
Dresser Industries, Inc.

SUGGESTED MUD PROGRAM

February 12, 1975

Mr. James F. O'Briant
Robert Enfield
Building of the Southwest
Midland, Texas 79701

Dear Mr. O'Briant:

The following is a suggested drilling fluid and casing program with estimated mud cost for your Cottonwood Draw Unit #1 to be drilled in Section 20, T-25-S, R-27-E, Eddy County, New Mexico.

SURFACE: 400' of 13 3/8"

Suggest spudding with a fresh water, Magcogel and Lime type drilling fluid with a 60 to 80 sec/1000 cc viscosity.

This type drilling fluid should be sufficient to drill to 400' and run 13 3/8" casing.

COMMENTS:

1. The Gravel Bed Section around 60' is troublesome. Suggest a 60 to 80 sec/1000 cc viscosity to control.
2. There is a possibility you may encounter a seepage to complete loss circulation while drilling surface hole. Normally, a few sacks of Dicks Mud Seal added to the drilling fluid system is sufficient to control seepage.

For complete loss, suggest adding Mud Fiber, Cedar Fiber and Cottonseed Hulls to system and in the event one to two pits of mud loaded with loss circulation material does not restore circulation, suggest dry drilling to casing point and run casing.

INTERMEDIATE: 3,000' or 6,000' of 9 5/8"

Suggest drilling out from under surface with brine water (10.0 lbs/gal.), using Lime for pH control (10.0 to 11.0 pH).

This type drilling fluid should be sufficient to drill to 3,000' or 6,000'.

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Prior to running casing at 3,000' to 6,000' suggest pumping a viscous Salt Gel, Visquik slurry through hole to sweep hole clean of cutting, or mudding up with Salt Gel and Visquik, 33 to 35 sec/1000 cc viscosity.

COMMENTS:

1. Suggest circulating a portion of the reserve pit.
2. For corrosion protection, suggest maintaining a constant 10 to 11 pH with Lime.

PRODUCTION: 12,900' of 5 1/2"

Suggest drilling out from under intermediate with fresh water and D-D (a drilling detergent).

This type drilling fluid should be sufficient to drill to 9,000'.

NOTE: In the event fill-up occurs, suggest adding Visquik to the drilling fluid system in sufficient quantities to clean the hole and prevent fill-up or maintain a 40 to 50 sec/1000 cc Visquik slurry in fifth pit and pump a 100 barrel slug through hole every 12 to 24 hours.

At 9,000' suggest displacing the fresh water system with a 9.8 to 10.0 lbs/gal. brine water, KCL system (10 lbs/bbl. KCL).

This type drilling fluid should be sufficient to drill to 11,500' or prior to top of Morros Section.

At 11,500' or prior to top of Morrow Section, suggest mudding up with a brine water, KCL, Drispac, My-Lo-Jel type drilling fluid with the following characteristics:

Weight:	10.0 to 10.2 lbs/gal.
Viscosity:	31 to 34 sec/1000 cc
Water Loss:	4.0 cc or less
Initial Gel:	0
10 Min. Gel:	0 to 5

This type drilling fluid should be sufficient to drill to 12,900', with exception of weight and viscosity which may need altering as hole conditions dictate.

COMMENTS:

1. Suggest circulating a portion of the reserve pit, returning to steel pits at mud up depth and installing a Swaco super screen shale shaker to help control hole solids.

11,000'-
w/ Cont
+ Vis.

2. There is a possibility you may encounter a seepage to complete loss circulation when you displace the fresh water system with 9.8 to 10.0 lbs/gal. brine water system.

Suggest a 50 barrel slug of loss circulation material (10 to 20 lbs/bbl. L.C.M.) ahead of the brine water system.

3. There is a possibility the Lower Wolfcamp Section will carry a high pressure, low volume gas that will require a drilling fluid weight in excess of 9.8 to 10.0 lbs/gal. to control. Suggest installing a drilling head, Swaco choke manifold, and gas separator prior to drilling below 9,000'.
4. The majority of the operators in this area drill and D.S.T. the Wolfcamp, Strawn and Atoka sections with brine water and KCL. However, if you prefer a water loss control of the drilling fluid prior to running D.S.T., suggest mudding up with the brine water, KCL, My-Lo-Jel type drilling fluid as stated above.
5. In the event high pressure gas is encountered that requires a drilling fluid weight in excess of 10.0 to 10.2 lbs/gal. to control, suggest raising viscosity with Salt Gel and Visquik, then raise weight of drilling fluid with Magcobar.

GENERAL COMMENTS:

1. The proper use of drilling head equipment, Swaco's gas separator, d-gasser, adjustable chokes, etc. is very important from 9,000' to total depth. All of this equipment is necessary in the drilling of this well.
2. The following Swaco blowout control equipment will aid you in drilling under balance, successfully control gas kicks after trips, detecting gas kick and loss of drilling fluid: mud-gas separator, d-gasser, adjustable or super choke, pit volume totalizer, and flow sensor.

ESTIMATED MUD COST: \$20,000.00 to \$30,000.00

The above cost is under normal operating conditions and does not include any extensive loss circulation, gas problems, fishing jobs, etc. This cost is also based on a normal drilling rate per day; therefore, any excessive time spent on drilling due to crooked hole, testing, breakdown, etc. would increase mud cost.

I hope the above information will be of benefit to you and if we may be of further service, please do not hesitate to call.

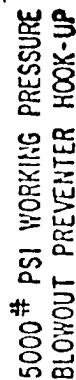
Yours very truly,

MAGCOBAR



R. F. Parker
Tech Service Engineer

RFP:jt



The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes; and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I. D. choke flow line and 4-inch I. D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1) Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within _____ minutes. Also, the pumps are to be connected to the precharge of nitrogen of not less than 750 PSI and connected to as to receive the aforementioned fluid charge. With _____ must be sufficient to close all the pressure-operated devices simultaneously within _____ seconds; after closure, _____ accumulator fluid volume at least _____ percent of the original. (3) When requested, an additional source of _____ shall be additional pumps operated by separate power and equal in performance capabilities.

The closing manifold and remote closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided for operating the Hydril preventer. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion H-10. 3B hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. If deemed necessary, walkways and stairways shall be erected in and around the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

* To include duck floor mounted controls.