

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE
(Other instructions on
reverse side)

30-015-25963
Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL
OIL WELL ☒ GAS WELL ☐ OTHER ☐
SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR
ARCO Oil and Gas Company

3. ADDRESS OF OPERATOR
Box 1610, Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface 510' FSL & 2080' FEL, (Unit letter O)

At proposed prod. zone Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
10 miles Southeast of Loco Hills, New Mexico

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 510'

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1222'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
GL 3706.8

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"	54.5#	400'	800 sks Circ.
11"	8 5/8"	24#	2350'	700 sks Circ.
7 7/8"	5 1/2"	17#	9600'	1200 sx TOC @ ± 2200'

Propose to drill to a depth of 9600' as described in the attached plans. Pursuant to "Onshore Oil and Gas Order No. 1", attachments are as follows:

1. Certified location plat
2. Drilling plan with attachments
3. Surface use plan with attachments
4. Blow out preventer program

POST 10#1
NL & API
8-19-88

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 Kenneth Gosnell TITLE Engr. Tech. DATE 7-18-88

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY [Signature] TITLE _____ DATE 8-11-88
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

**NEW MEXICO OIL CONSERVATION COMMISSION
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

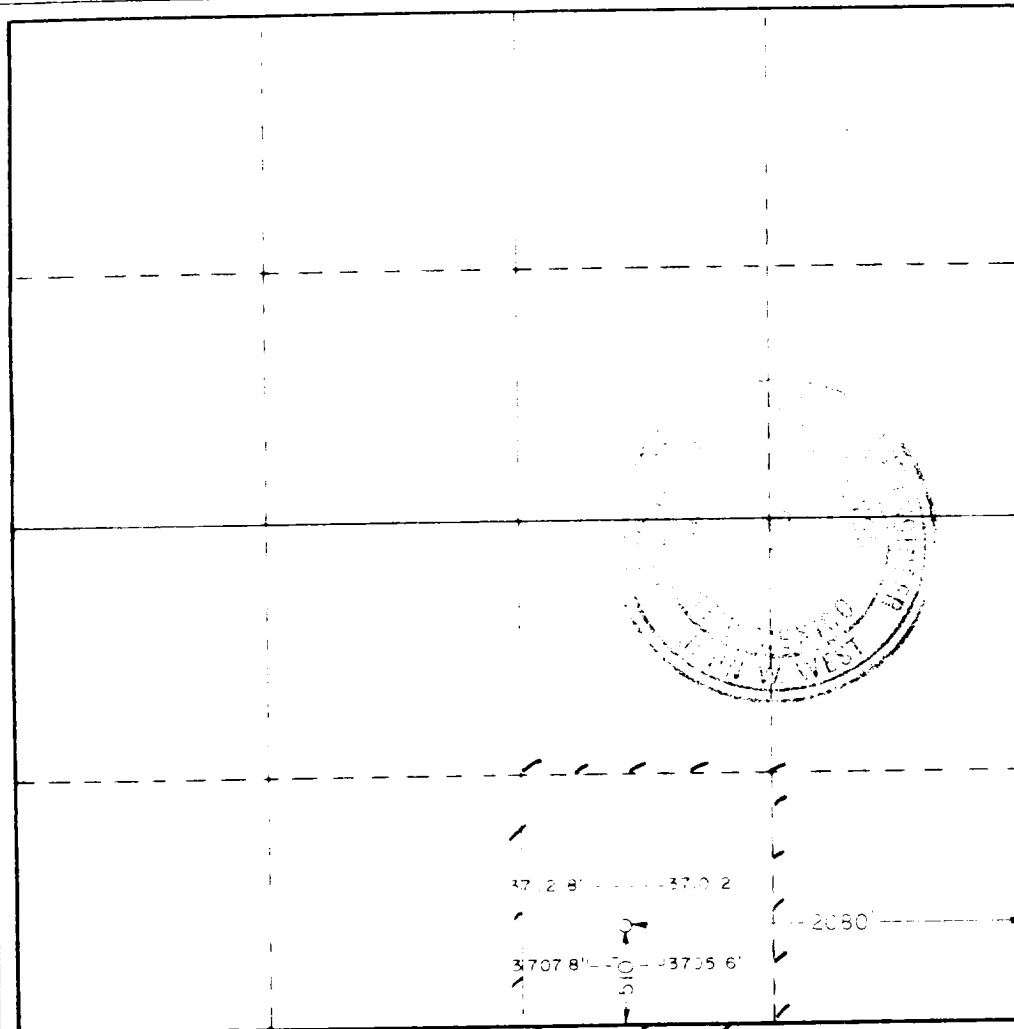
Oil & Gas Company				SWEARINGEN DEEP "14" Fed	
Well Letter 0	Section 14	Township 18 South	Range 31 EAST	County EDDY	
Actual Footage Location of Well:					
feet from the		line and		feet from the	
Ground Level Elev. 3706.8	Producing Formation Bone Springs		Pool WILD CAT BONE SPRINGS Undesignated	Estimated Acreage 40	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 _____

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

Ken W. Gosnell

Name

Ken W. Gosnell

Position

Engr. Tech.

Company

ARCO Oil & Gas Company

Date

7-18-88

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

Date Surveyed

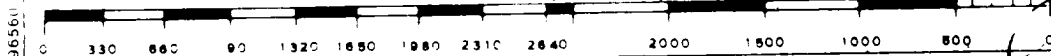
July 15, 1988

Registered Professional Engineer and/or Land Surveyor

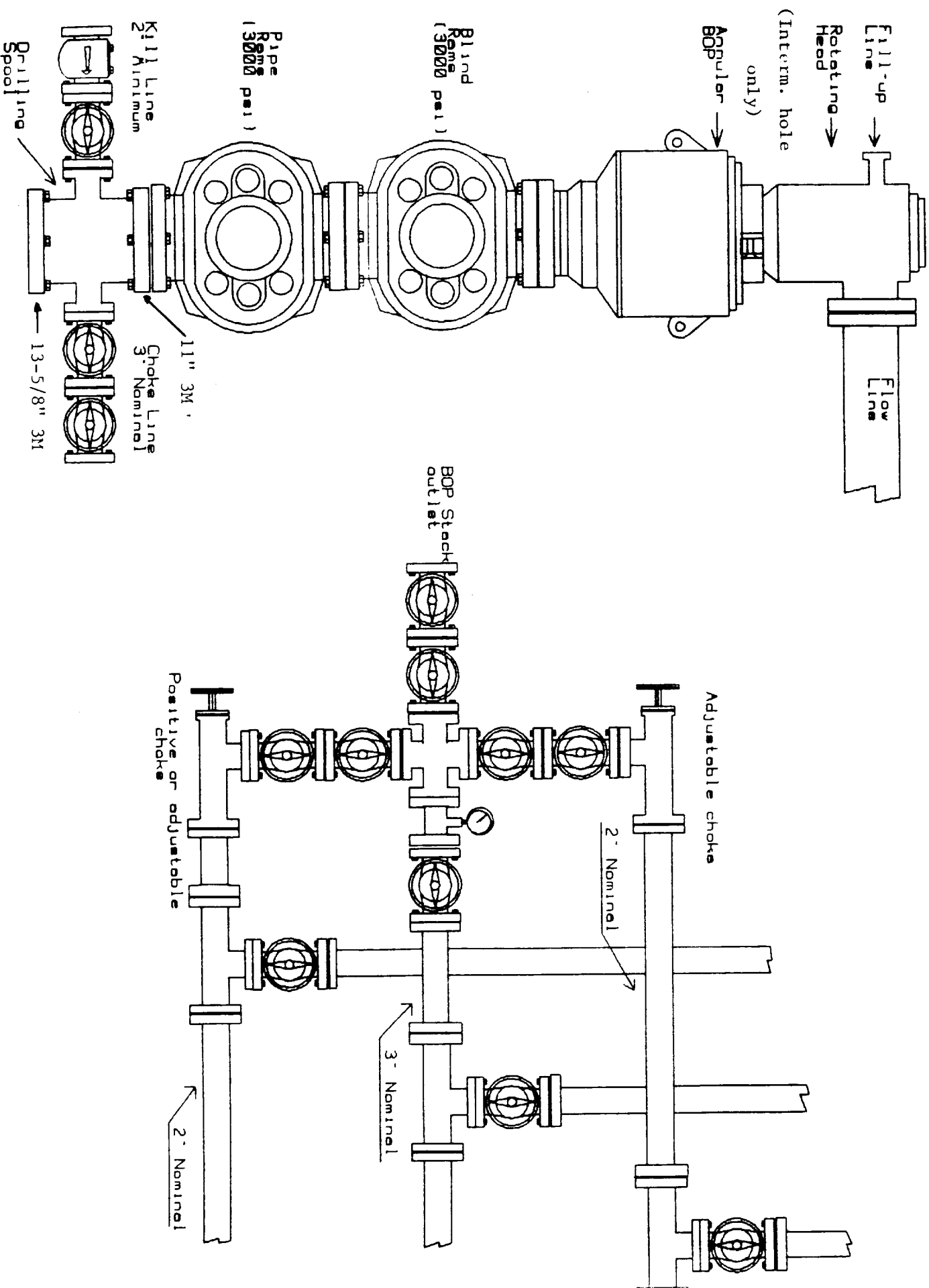
John W. West

Certificate No. JOHN W. WEST. 676

RONALD J. EIDSON, 3239



MINIMUM BOP AND CHOKE MANIFOLD REQUIREMENTS



To supplement USGS Form 3160-3, "Application for Permit to Drill, Deepen or Plugback", the following additional information is submitted to comply with USGS Order NTL-6.

Operator: ARCO Oil and Gas Company

Lease & Well No.: Swearingen Deep "14" Federal #2

Location: Unit Letter O
Section 14, T18S, R31E
Eddy County, New Mexico
Lease, New Mexico LC-029389-(C)
Development well X Exploratory well

1. See Well location and Acreage Dedication Plat Form C-102.
2. See Form 3160-3 for elevation above sea level of unprepared location.
3. The geologic name of the surface formation is as follows: Querecho Plains
Aeolian material with loose sandy loams and commonly harbor calcareous gravels.
4. The type of drilling tools and associated equipment to be utilized will
be rotary.
5. The proposed drilling depth will be 9,600'.
6. The estimated tops of important geologic markers are as follows:

TOS	700'	Queen	3400'
BOS	1900'-2100'	Grayburg	3850'
Seven Rivers	2650'	San Andres	4300'
Bone Springs	6200'		
1st Bone Springs Sand			7700'
2nd Bone Springs Carbonate			8300'
3rd Bone Springs Sand			9300'

7. The estimated depths at which anticipated water, oil, gas or other mineral
bearing formations are expected to encounter are as follows:

Bone Spring Sand 8600'; Oil
8. The proposed casing program including the size, grade and weight-per-foot
of each string has been indicated on Form 3160-3. All strings of casing
will be new.
9. See Form 3160-3 for amount of cement.

10. The pressure control diagram is attached to Form 3160-3. The following additional information about the pressure control equipment is as follows:

13-3/8" Casing:

Size: 13-5/8" or 11" 3000 psi WP double ram hydraulic w/annular
Pressure Ratings: 3000 psi WP, 6000 psi Test
Testing Procedure: Pressure up to 1000 psi before drilling out casing.
Testing Frequency: Pressure Test upon installation and operational checks daily and on all trips. The kill lines will be flushed after cementing.

8-5/8" Casing:

Size: 13-5/8" or 11" 3000 psi WP double ram hydraulic w/annular
Pressure Ratings: 3000 psi WP, 6000 psi Test
Testing Procedure: Pressure all BOPE to rated working pressure using independent testing company. Annular will be tested to 1500 psi.
Testing Frequency: (Same as above)

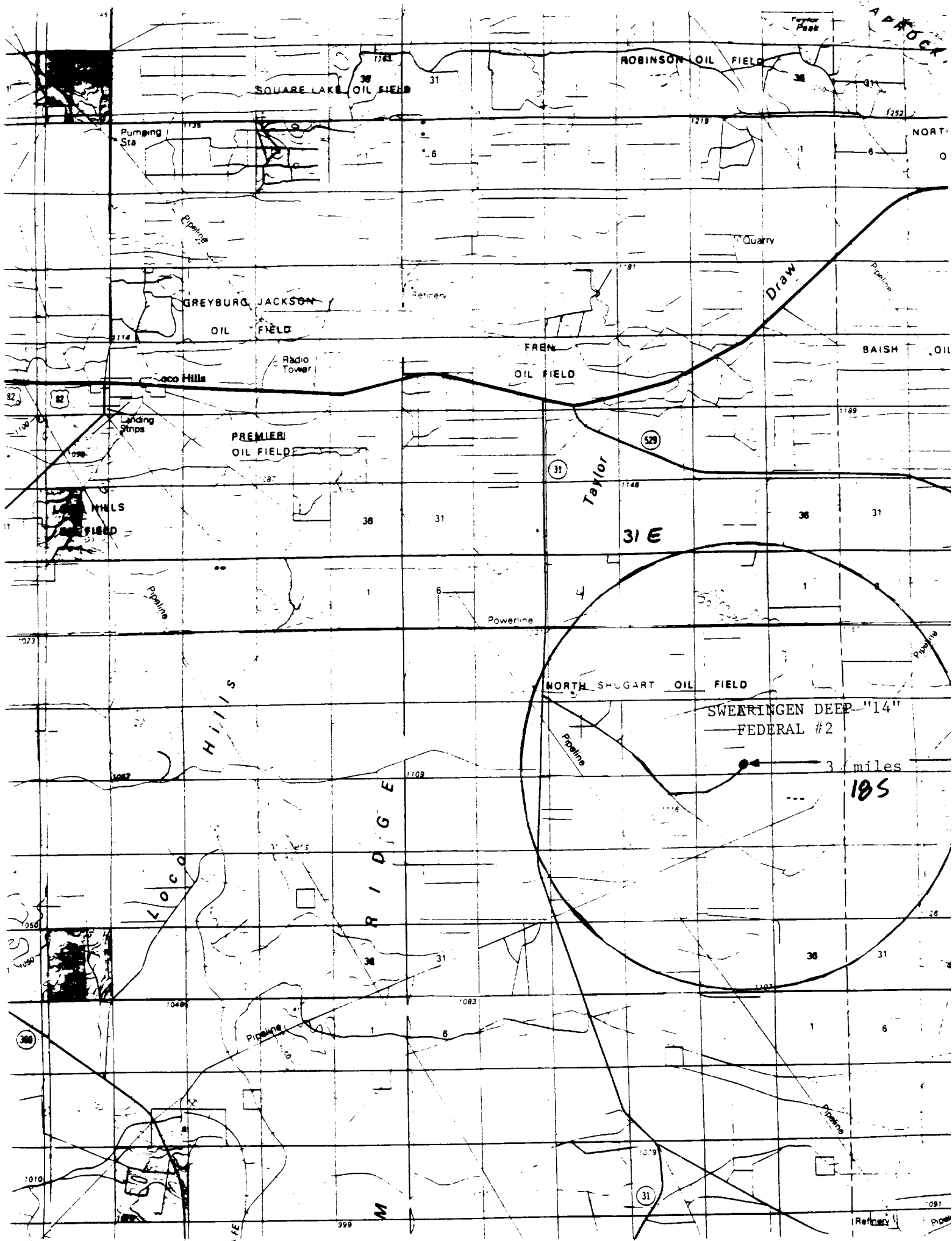
11. The type and characteristics of the proposed circulating medium or mediums to be employed for rotary drilling, and the quantities and types of mud and weighting material to be maintained will be as follows:

0-680'	Fresh water Spud Mud, 8.6 ppg
680'-2350'	Saturated Brine Water, 10 ppg
2350'-7000'	Cut Brine, Clear Fluid, 9.6-9.8 ppg
7000'-9600'	Cut Brine, 9.0-9.5 ppg, XCD and Drispack, Cl=50K ppm

12. The testing, logging and coring program will be as follows:

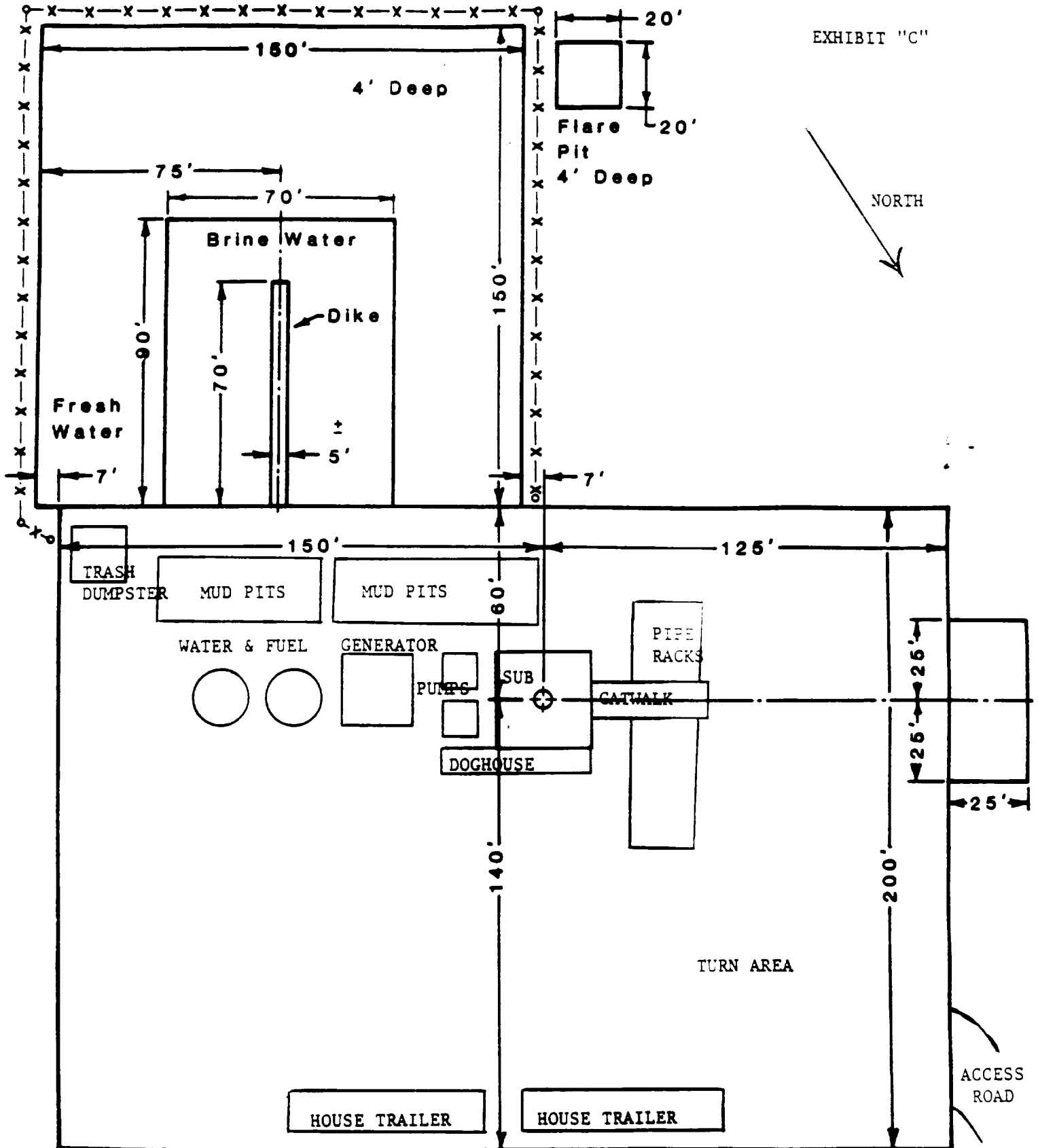
<u>Drill Stem Test</u>	<u>Logs</u>	<u>Coring</u>
None Anticipated	OPEN HOLE LOGS:	None Anticipated
But possible,	DLL-MSFL TD to 2350'	But possible,
depending on shows	FDC-CNL-GR-Calp to 2150'	depending on shows
	CASED HOLE LOGS:	
	GR-CCL PBTD to 6500'	

13. There are no abnormal temperatures anticipated. A salt water flow of 60 BPH was encountered on the Swearingen Deep "14" No. 1 @ \pm 1500'. If this occurs on the #2, drilling will continue to casing point with well flowing. The casing will be cemented through the choke to allow back pressure to be applied during cementing operation. This method was successful on the Swearingen Deep "14" Federal #1.
14. The anticipated starting date (constructed) will be September 15, 1988 and completing date approximately November 10, 1988.
15. The auxiliary equipment to be used will consist of the following: Kelly cocks and sub on floor with full opening valve, to be used when needed. A mud logging unit will be used in the interval from 2350'-9600'.
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TYPICAL LOCATION LAYOUT FOR WELL 6000' OR GREATER IN DEPTH

Eddy and Lea County, New Mexico



NOTE: LOCATION MAY BE EXTENDED TO ACCOMODATE PRODUCTION FACILITIES.