

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Division of Oil and Gas  
811 S. 1ST ST.  
ARTESIA, NM 88210-2834

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK: DRILL ☐ DEEPEN ☒

b. TYPE OF WELL:

OIL WELL ☒ GAS WELL ☐ Other ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

DEVON ENERGY CORPORATION (NEVADA)

3. ADDRESS AND TELEPHONE NO.

20 N. BROADWAY, SUITE 1500, OKC, OK 73102 (405) 580-2412

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

At surface 2035' FNL & 1805' FEL

At top proposed prod. zone (SAME)

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

Approximately 7 miles southeast of Artesia, NM

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT. 605'

(Also to nearest drig. unit line if any)

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT. 750'

16. NO. OF ACRES IN LEASE

642.88

19. PROPOSED DEPTH

3750'

17. NO. OF ACRES ASSIGNED

TO THIS WELL

40

20. ROTARY OR CABLE TOOLS\*

Workover Rig

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

GR 3561'

22. APPROX. DATE WORK WILL START\*

April 15, 1999

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8" J-55	24	1067' existing	500 sxs
7 7/8"	5 1/2" J-55	15.5	2649' existing	500 sxs
4 3/4"	4"	10.46	2550'- 3750'	80 sxs

Devon Energy plans to TA San Andres perms @ 1913'- 2395' by squeezing w/ a polymer until a downhole commingling application is approved. The well will then be deepened to +3750' to the Yeso Formation. After logging, a 4" liner will be run and cemented from 2550'- 3750'. Plans are to perforate, stimulate, and pump test the Yeso. After approval of our downhole commingling application, the polymer plug across the San Andres perforations will be dissolved by pumping and enzyme breaker and the Yeso and San Andres zones will be downhole commingled.

The road and location were previously archeologically cleared in 1996 when the well was drilled so no new Surface Use Plan is included. Programs to adhere to onshore oil and gas regulations are outlined in the following exhibits and attachments.

Deepening Program

Current & Proposed wellbore schematics

Exhibit #1 - Blowout Prevention Equipment

Exhibit #2 - Location and Elevation Plat

H<sub>2</sub>S Operating Plan

Bond Coverage: Nationwide BLM Bond File No.: CO-1104

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 E. L. Buttross, Jr.

TITLE E. L. BUTTROSS, JR.  
DISTRICT ENGINEER

DATE February 12, 1999

\*(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_

APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY (ORIG. SGD.) ALEXIS C. SWOBODA TITLE PETROLEUM ENGINEER

DATE FEB 16 1999

See Instructions On Reverse Side



## DEEPENING PROGRAM

Attached to Form 3160-3  
Devon Energy Corporation  
Falcon 3G Federal #8  
2035' FNL & 1805' FEL  
Section 3-T18S-R27E  
Eddy County, New Mexico

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Queen	852'
Grayburg	1057'
San Andres	1600'
Glorieta	3120'
Yeso	3200'

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Water

There is no known fresh water.

Oil

San Andres:	1913' - 2395' (Existing perfs)
Yeso:	3200'

No other formations are expected to yield oil or gas in measurable volumes. The surface water sands are protected by the 8 5/8" casing at 1067' that was cemented to surface. The San Andres is isolated by the 5-1/2" casing set at 2649' that was cemented to surface.

The Yeso will be isolated by the 4" liner set and cemented from 2550' - 3750'.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>Csg OD</u>	<u>Weight, Grade, Type</u>
4-3/4"	2550' - 3750'	4"	10.46# J-55 FL4S Liner
<u>Burst</u> <u>(SF)</u>	<u>Collapse</u> <u>(SF)</u>	<u>Tension</u> <u>(SF)</u>	
6300 psi (2.0)	6590 psi (3.51)	153,000# (12.18)	

Cementing Program:

4" Liner @ 2550' - 3750': Cemented with 80 sxs Class C + 5% salt + .5% fluid loss additive + 1/4 lb/sx cellophane flakes.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach the liner top.

5. Minimum Specifications for Pressure Control:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (2M system) double ram type (2000 psi WP). The unit will be manually operated and will be equipped with blind rams on top and 2-7/8" drill pipe rams on bottom. Depending on availability, a 3000 psi WP BOP may be utilized instead of the 2000 psi WP BOP. The BOP will be installed when the workover rig is rigged up and utilized continuously until total depth is reached. Prior to drilling out the 5-1/2" casing shoe, the BOP's will be tested with the rig pump to 1000 psi.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log.

6. Types and Characteristics of the Proposed Mud System:

Produced water will be used to deepen the well to total depth. The proposed properties of the drilling fluid are as follows:

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity (1/sec)</u>	<u>Water Loss (cc)</u>
2649' - TD	Salt Water	9.0-9.2	28-32	No Control

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Auxiliary Well Control and Monitoring Equipment:

- A. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

8. Logging, Testing and Coring Program:

- A. No drill stem tests are planned.
- B. The open hole electrical logging program will be:
- |                 |  |
|-----------------|--|
| T. D. to 2649': | Dual Lateral-Micro SFL with Gamma Ray, and Caliper           |
| T. D. to 1150': | Compensated Neutron-Litho Density with Gamma Ray and Caliper |
- C. No cores are planned.

9. Abnormal Pressures, Temperatures and Potential Hazards:

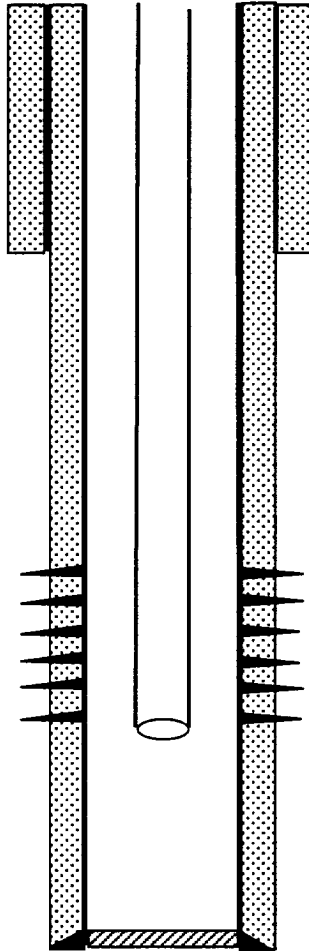
No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 95 degrees and maximum bottom hole pressure is 900 psig. No major loss circulation intervals have been encountered in adjacent wells. An H<sub>2</sub>S Drilling Operations Plan is included .

10. Anticipated Starting Date and Duration of Operations:

The anticipated starting date for the deepening is April 15, 1999. The deepening should take approximately 7 days. If the well is deemed productive, completion operations will require an additional 30 days .

# DEVON ENERGY CORPORATION - WELLBORE SCHEMATIC

WELL NAME: Falcon 3G Federal #8			FIELD: Red Lake			
LOCATION: 2035' FNL & 1805' FEL, Sec. 3-18S-27E			COUNTY: Eddy			STATE: NM
ELEVATION: GL = 3561', KB = 3570'			SPUD DATE: 12/1/96		COMP DATE: 12/16/96	
API#: 30-015-29163		PREPARED BY: E. Buttross			DATE: 2/10/99	
	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 1067'	8-5/8"	24#	J-55		12-1/4"
CASING:	0' - 2649'	5 1/2"	15.5#	J-55		7-7/8"
CASING:						
TUBING:	0' - 2395'	2-7/8"	6.5#	J-55	8RD EUE	(76 JTS)
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1067' w/ 500 sxs cmt. TOC @ surface

SAN ANDRES PERFORATIONS:

1913'- 2395' (30 holes, .40", ALPHA, "A", "B", "C", & "D")

2-7/8" tbg @ 2395'.

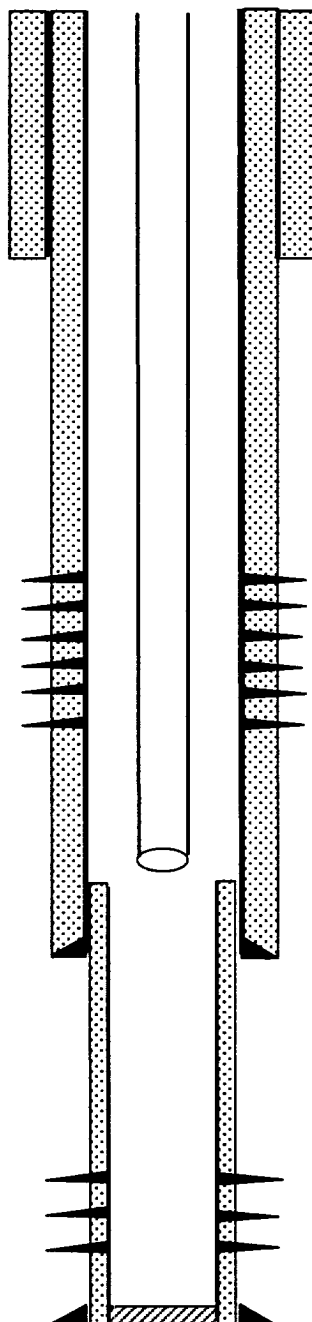
PBTD @ 2603'

5 1/2" 15.5# J-55 Casing Set @ 2649' w/ 500 sxs cmt. TOC @ surf.

TD @ 2650'

# DEVON ENERGY CORPORATION - WELLBORE SCHEMATIC

WELL NAME: Falcon 3G Federal #8			FIELD: Red Lake			
LOCATION: 2035' FNL & 1805' FEL, Sec. 3-18S-27E			COUNTY: Eddy			STATE: NM
ELEVATION: GL = 3561', KB = 3570'			SPUD DATE: 12/1/96		COMP DATE: 12/16/96	
API#: 30-015-29163		PREPARED BY: E. Buttross			DATE: 2/10/99	
	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 1067'	8-5/8"	24#	J-55	STC	12-1/4"
CASING:	0' - 2649'	5 1/2"	15.5#	J-55	LTC	7-7/8"
LINER:	2550' - 3750'	4"	10.46#	J-55	FL4S	4-3/4"
TUBING:	0' - 2520'	2-7/8"	6.5#	J-55	8RD EUE	
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1067' w/ 500 sxs cmt. (TOC @ surf.)

## SAN ANDRES PERFORATIONS:

1913'- 2395' (30 HOLES, .40", ALPHA, "A", "B", "C", & "D")  
(PERFS SQZ'D W/ POLYMER & TA'D)

2-7/8" tbg @ 2520'

TOL @ 2550'

5 1/2" 15.5# J-55 Casing Set @ 2649' w/ 500 sxs cmt. (TOC @ surf.)

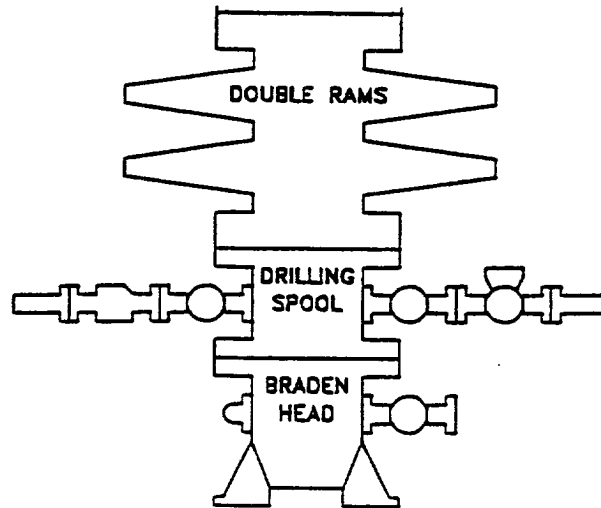
## YESO PERFORATIONS:

±3200'- ±3400' (15 HOLES, .38")

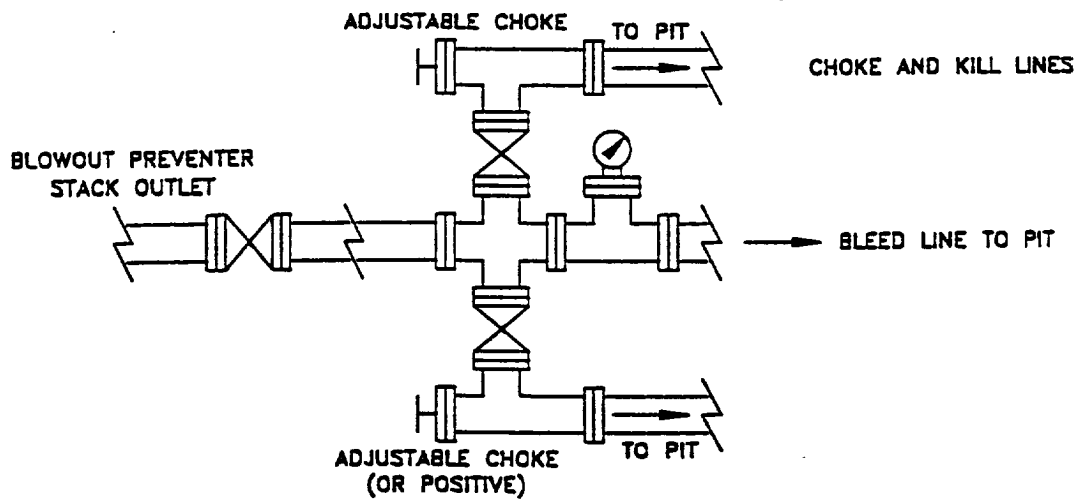
PBTD @ 3710'

4" 10.46# J-55 FL4S Liner set @ 2550'- 3750' (TOC @ TOL)





# CHOKE MANIFOLD REQUIREMENT (2000 psi WP)



**devon**

**WEST RED LAKE AREA**  
EDDY COUNTY, NEW MEXICO

SCHEMATIC  
**BLOWOUT PREVENTOR**  
(2000 PSI WORKING WP)

G:\...PROJECTS\EXPANDED

WRLBOP	

CS

2/98

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Instruction on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

# OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 51300	Pool Name Red Lake (Q-GB_SA) + NE Red Lake (GLOR-YESO)
Property Code	Property Name Falcon 3 "G" Federal	Well Number 8
OGRID No. 6137	Operator Name Devon Energy Corporation (Nevada)	Elevation 3561'

### Surface Location

UL or lot No. G	Section 3	Township 18 S	Range 27 E	Lot Idn	Feet from the 2035	North/South line North	Feet from the 1805	East/West line East	County Eddy
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### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>E.L. Buttross Jr.</i> Signature</p> <p>E.L. Buttross, Jr. Printed Name</p> <p>District Engineer Title</p> <p>August 6, 1996 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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 belief.</p>
	<p>DATE SURVEYED JULY 2, 1996</p> <p>SIGNATURE <i>W.O. Jones</i></p> <p>PROFESSIONAL SURVEYOR 7977</p> <p>W.O. No. 6222b6</p> <p>CERTIFICATE NO. 7977</p>
	<p>BASIN SURVEYS</p>

# **DEVON ENERGY CORPORATION**

## **HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

### **A. Hydrogen Sulfide Training**

All rig crews and company personnel will receive training from a qualified instructor in the following areas prior to penetrating any hydrogen sulfide bearing formations during drilling operations:

1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
2. The proper use and maintenance of the H<sub>2</sub>S safety equipment and of personal protective equipment to be utilized at the location such as H<sub>2</sub>S detection monitors, alarms and warning systems, and breathing equipment. Briefing areas and evacuation procedures will also be discussed and established.
3. Proper rescue techniques and procedures will be discussed and established.

In addition to the above, supervisory personnel will be trained in the prevention of oil and gas well blowouts in accordance with Minerals Management Service Standards Subpart - 0 - 250 - 212.

Prior to penetrating any known H<sub>2</sub>S bearing formation, H<sub>2</sub>S training will be required at the rig sight for all rig crews and company personnel that have not previously received such training. This instruction will be provided by a qualified instructor with each individual being required to pass a 20 question test regarding H<sub>2</sub>S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H<sub>2</sub>S training.

This Hydrogen Sulfide Drilling And Operations Plan shall be available at the wellsite during drilling operations.

### **B. H<sub>2</sub>S Safety Equipment And Systems**

All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling operations reach a depth approximately 500' above any known or probable H<sub>2</sub>S bearing formation. The safety systems to be utilized during drilling operations are as follows:

**1. Well Control Equipment**

- (a) Double ram BOP with a properly sized closing unit and pipe rams to accommodate all pipe sizes in use.
- (b) A choke manifold with a minimum of one remote choke.

**2. H2S Detection And Monitoring Equipment**

- (a) Three (3) H2S detection monitors will be placed in service at the location. One monitor will be placed near the bell nipple on the rig floor; one will be placed at the rig substructure; and, one will be at the working mud pits or shale shaker. This monitoring system will have warning lights and audible alarms that will alert personnel when H2S levels reach 10 ppm.
- (b) One (1) Sensidyne Pump with the appropriate detection tubes will also be available to perform spot checks for H2S concentrations in any remote or isolated areas.

**3. Protective Equipment For Essential Personnel**

Protective equipment will consist of the following:

- (a) Four (4) - five minute escape packs located at strategic points around the rig.
- (b) Two (2) - thirty minute rescue packs to be located at the designated briefing areas.

**4. Visual Warning System**

Visual warning system will consist of the following:

- (a) Two wind direction indicators.
- (b) One condition / warning sign which will be posted on the road - providing direct access to the location. The sign will contain lettering of sufficient size to be readable at a reasonable distance from the immediate location. The sign will inform the public that a hydrogen sulfide gas environment could be encountered at the location.

**5. Mud Program**

- (a) The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. Proper mud weight and safe drilling practices (for example, keeping the hole filled during trips) will minimize hazards when drilling in H<sub>2</sub>S bearing formations.

**6. Metallurgy**

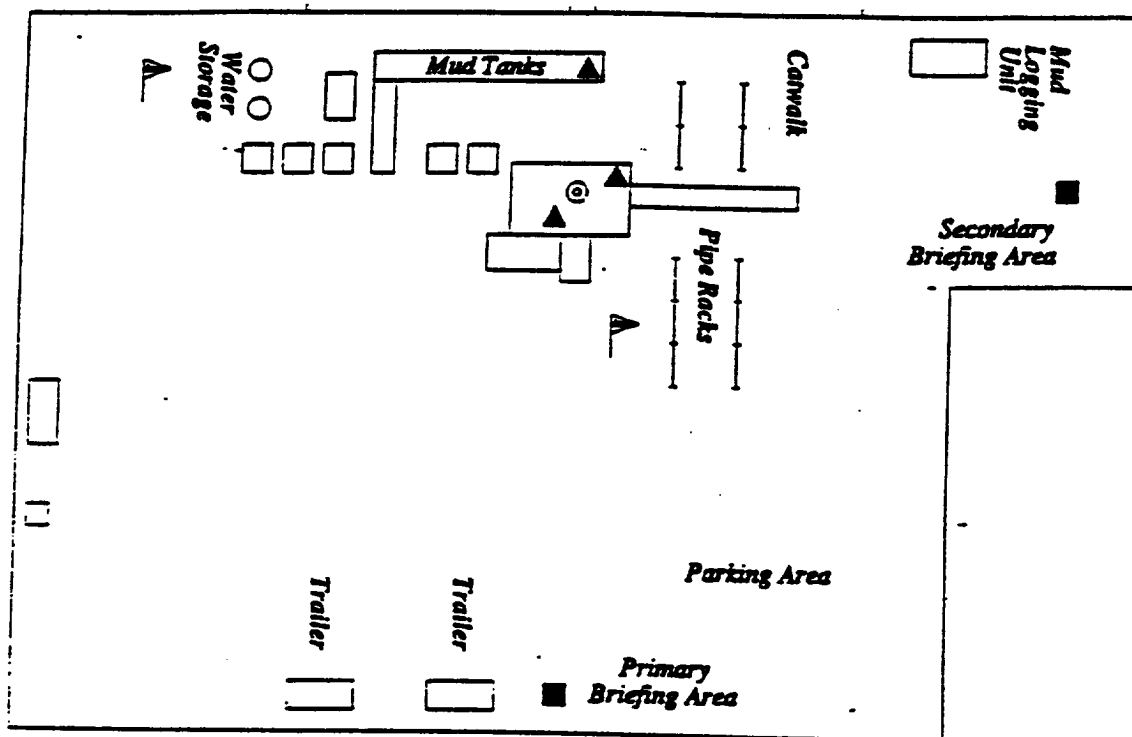
- (a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.

**7. Communication**

- (a) Two way radio and cellular telephone communication will be available in company vehicles.

**C. Diagram of Drilling Location**

- 1. Attached is a diagram representing a typical location layout as well as the location of H<sub>2</sub>S monitors, briefing areas, and wind direction indicators.



- ▲ H2S MONITORS WITH ALARMS AT THE BELL NIPPLE, SUBSTRUCTURE, AND SHALE SHAKER
- WIND DIRECTION INDICATORS
- SAFE BRIEFING AREAS WITH CAUTION SIGNS AND PROTECTIVE BREATHING EQUIPMENT



**devon**

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**WEST RED LAKE AREA**

DEERY COUNTY, NEW MEXICO

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**H2S PLAN**

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Scale in Feet: 25 0 25 50 75 100