

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN
(See other instructions on
reverse side)

Form approved. *C19F*

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK: DRILL ☐ DEEPEN ☒ *811 S. 1st Street*
b. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ Other ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐
2. NAME OF OPERATOR *Artesia, NM 88210-2834*

3. ADDRESS AND TELEPHONE NO.
DEVON ENERGY CORPORATION (NEVADA)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
20 N. BROADWAY, SUITE 1500, OKC, OK 73102 (405) 552-4511

At surface *990' FSL & 1885' FEL, Unit "O"*
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. *990'*
(Also to nearest drilg. unit line if any)

16. NO. OF ACRES IN LEASE *240*
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH *4500'*
21. ELEVATIONS (Show whether DF, RT, GR, etc.) *GR 3438'*

20. ROTARY OR CABLE TOOLS* *Workover Rig*
22. APPROX. DATE WORK WILL START* *October 1, 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	1087' existing	500 sxs
7 7/8"	5 1/2" J-55	15.5	2249' existing	400 sxs
4 3/4"	4"	10.46	2150'-4500'	150 sxs

Devon Energy plans to TA San Andres perfs @ 1658'-2092' by squeezing w/ a polymer. The well will then be deepened to +4500' to the Yeso Formation. After logging, a 4" liner will be run and cemented from 2150'-4500'. 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 an 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
H₂S Operating Plan

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

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

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 *July 1, 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 *JUL 08 1999*
See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

BLM
ROSWELL, NM

JUL 06 99

REC'D

DEEPENING PROGRAM

Attached to Form 3160-3
Devon Energy Corporation
Hawk 80 Federal #9
990' FSL & 1885' FEL
Section 8-T18S-R27E
Eddy County, New Mexico

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Queen	618'
Grayburg	1021'
San Andres	1292'
Glorieta	3100'
Yeso	3200'

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

Water

Possible small amounts of fresh water from surface to 1130'.

Oil

San Andres:	1658'-2092' (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 1087' that was cemented to surface. The San Andres is isolated by the 5-1/2" casing set at 2249' that was cemented to surface.

The Yeso will be isolated by the 4" liner set and cemented from 2150'-4500'.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>Csg OD</u>	<u>Weight, Grade, Type</u>
4-3/4"	2150' - 4500'	4"	10.46# J-55 FL4S Liner
<u>Burst (SF)</u>	<u>Collapse (SF)</u>	<u>Tension (SF)</u>	
6300 psi (2.0)	6590 psi (3.51)	153,000# (13.29)	

Cementing Program:

4" Liner @ 2150'- 4500': Cement with 150 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.

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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>
2249' - 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 drillstem tests are planned.
- B. The open hole electrical logging program will be:
- T. D. to 2249': Dual Lateral-Micro SFL with Gamma Ray, and Caliper
- T. D. to 2249': Compensated Neutron-Litho Density with Gamma Ray and Caliper
- C. No cores are planned.

9. Abnormal Pressures, Temperatures and Potential Hazards:

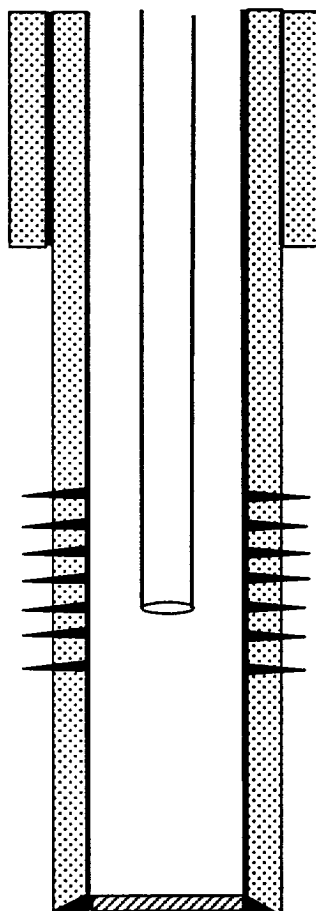
No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 95 degrees and maximum bottom hole pressure is 900 psig. No major loss circulation intervals have been encountered in adjacent wells. An H₂S Drilling Operations Plan is included .

10. Anticipated Starting Date and Duration of Operations:

The anticipated starting date for the deepening is October 1, 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: Hawk 80 Federal #9			FIELD: Red Lake			
LOCATION: 990' FSL & 1885' FEL, Sec. 8-18S-27E			COUNTY: Eddy			STATE: NM
ELEVATION: GL = 3438', KB 3443'			SPUD DATE: 9/26/96		COMP DATE: 10/19/96	
API#: 30-015-29069		PREPARED BY: T. Rutelonis			DATE: 7/1/99	
	DEPTH	SIZE	WEIGHT	GRADE	THREAD	HOLE SIZE
CASING:	0' - 1087'	8-5/8"	24#	J-55		12-1/4"
CASING:	0' - 2249'	5 1/2"	15.5#	J-55		7-7/8"
CASING:						
TUBING:	0' - 2011'	2-7/8"	6.5#	J-55	8RD EUE	
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1087' w/ 500 sxs cmt. TOC @ surface

SAN ANDRES PERFORATIONS:

1658'-2092' (31) holes, .40", ALPHA, "A", "B", "C", & "D")

2-7/8" tbg w/ SN @ 2011'

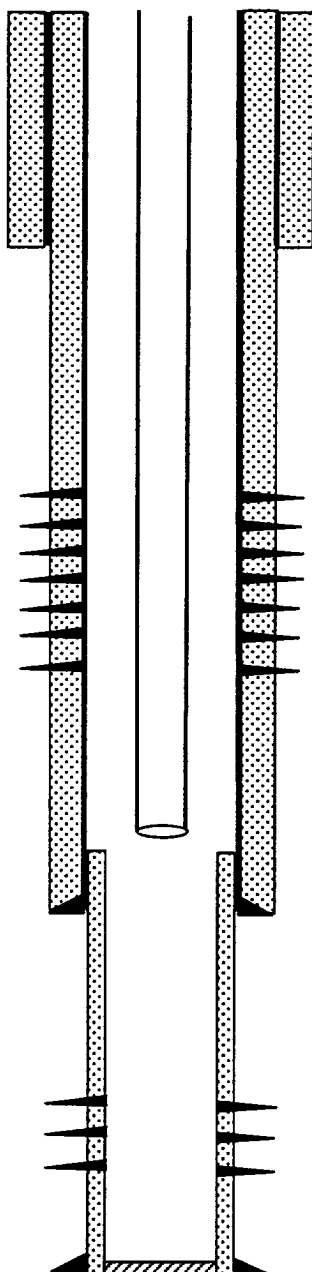
PBTD @ 2200'

5 1/2" 15.5# J-55 Casing Set @ 2249' w/ 400 sxs cmt. TOC @ surf.

TD @ 2250'

DEVON ENERGY CORPORATION - WELLBORE SCHEMATIC

WELL NAME: Hawk 80 Federal #9				FIELD: Red Lake		
LOCATION: 990' FSL & 1885' FEL, Sec. 8-18S-27E				COUNTY: Eddy		STATE: NM
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CASING:	0' - 2249'	5 1/2"	15.5#	J-55		7-7/8"
LINER:	2150'-4500'	4"	10.46#	J-55	FL4S	4-3/4"
TUBING:	0' - 2011'	2-7/8"	6.5#	J-55	8RD EUE	
TUBING:						



CURRENT



PROPOSED

OPERATOR: DEVON ENERGY CORPORATION

8-5/8" Casing, Set @ 1087' w/ 500 sxs cmt. TOC @ surface

SAN ANDRES PERFORATIONS:

1658'-2092' (31 holes, .40", ALPHA, "A", "B", "C", & "D")
(PERFS SQZ'D W/ POLYMER & TA'D)

2-7/8" tbg w/ SN @ 2011'

TOL @ 2150'

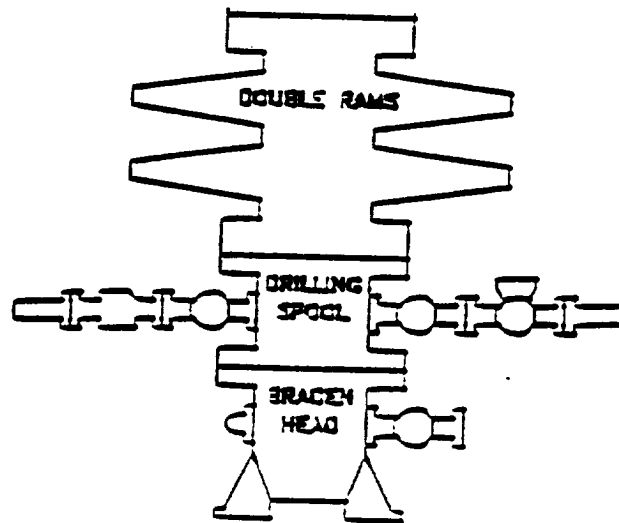
5 1/2" 15.5# J-55 Casing Set @ 2249' w/ 400 sxs cmt. TOC @ surf.

YESO PERFORATIONS:

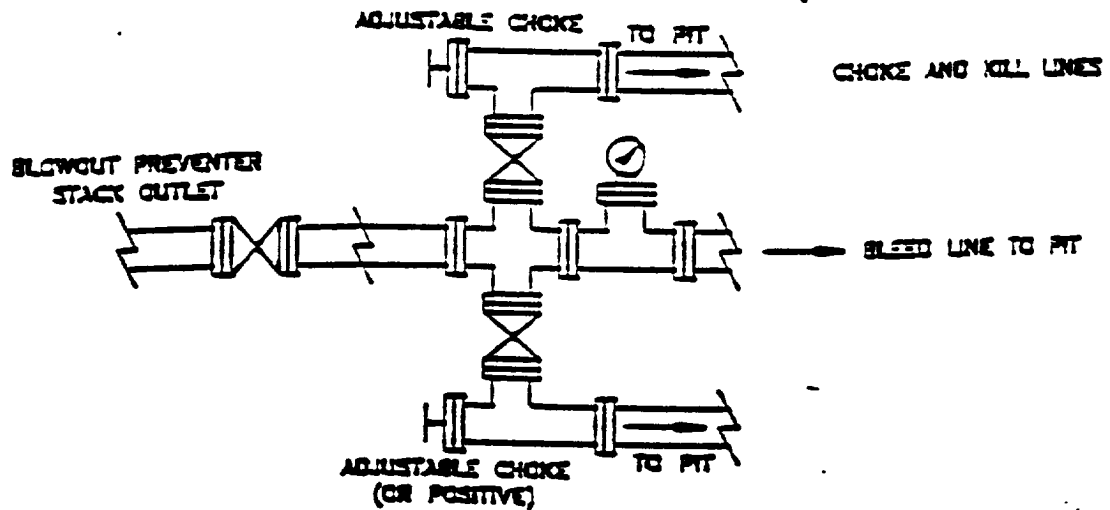
+3200'- +3600' (20 HOLES, .38")

4" 10.46# J-55 FL4S liner set @ 2150'-4500' (TOC @ TOL)

TD @ 4500'



CHOKE MANIFOLD REQUIREMENT (2000 psi WP)



devon

WEST RED LAKE AREA

BLOWOUT PREVENTOR

QA PROJECT/OPINION

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

OIL CONSERVATION DIVISION

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

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) & Red Lake, Gloria-Vesco, NE
Property Code	Property Name Hawk 8 (O) Federal	Well Number 9
OGRID No. 6137	Operator Name Devon Energy Corporation (Nevada)	Elevation 3438'

Surface Location

UL or lot No. 0	Section 8	Township 18 S	Range 27 E	Lot Idn	Feet from the 990	North/South line South	Feet from the 1885	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

	OPERATOR CERTIFICATION I hereby certify the information contained herein is true and complete to the best of my knowledge and belief. Signature E.L. Buttross, Jr. Printed Name District Engineer Title June 18, 1996 Date	
	SURVEYOR CERTIFICATION 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. June 5, 1996 Date Surveyed Signature & Seal of Professional Surveyor W.O. No. 82925 Certificate No. Gary L. Jones 7977 BASSIN SURVEYS	

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 (H₂S).
2. The proper use and maintenance of the H₂S safety equipment and of personal protective equipment to be utilized at the location such as H₂S 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 H₂S bearing formation, H₂S 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 H₂S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H₂S training.

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

B. H₂S Safety Equipment And Systems

All H₂S safety equipment and systems will be installed, tested, and operational when drilling operations reach a depth approximately 500' above any known or probable H₂S bearing formation. The safety systems to be utilized during drilling operations are as follows:

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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 H₂S circulated to surface. Proper mud weight and safe drilling practices (for example, keeping the hole filled during trips) will minimize hazards when drilling in H₂S bearing formations.

6. Metallurgy

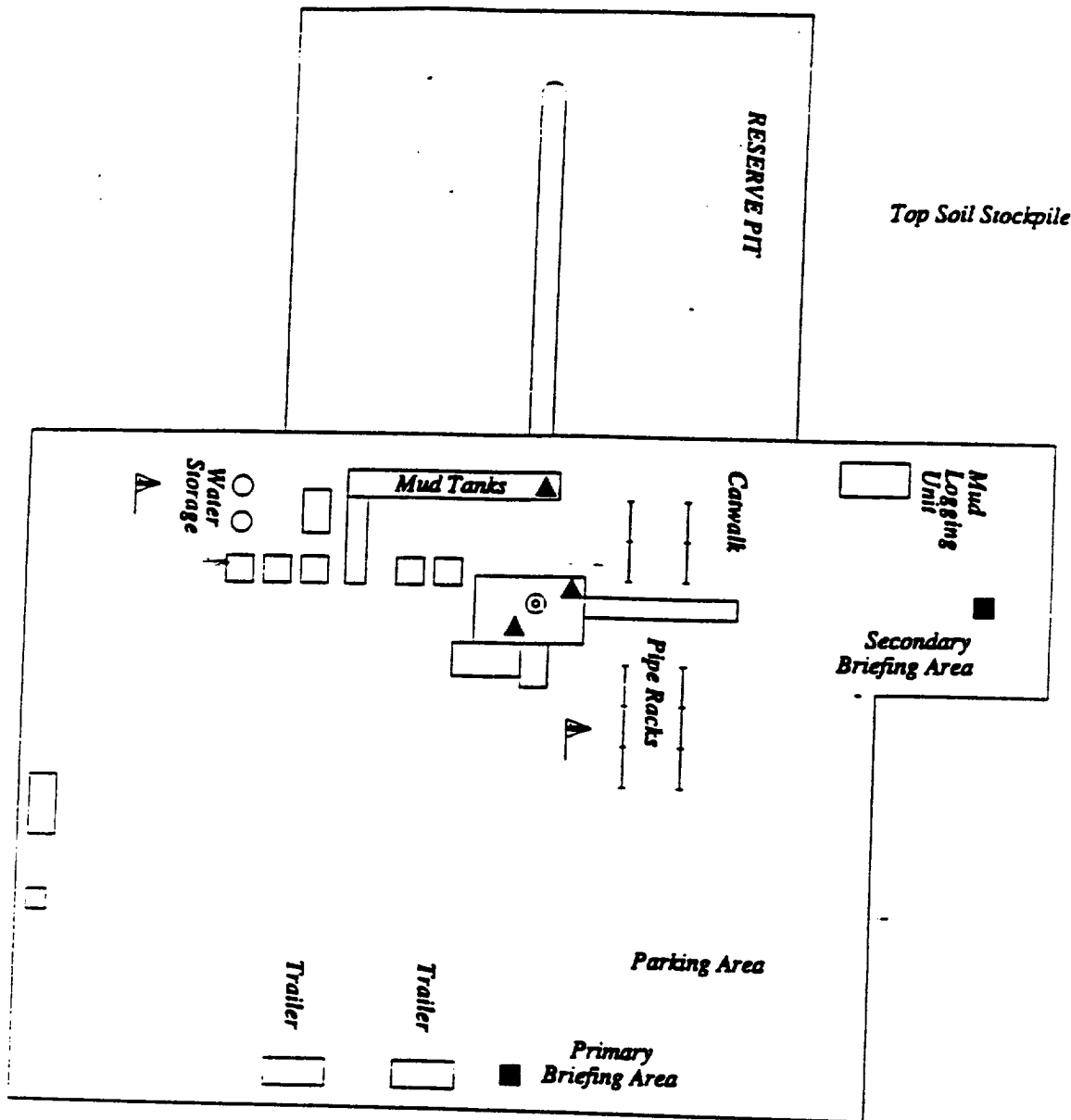
- (a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

7. Communication

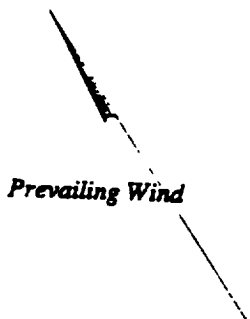
- (a) Two way radio and cellular telephone communication will be available in company vehicles.

C. Diagram of Drilling Location

- 1. Attached is a diagram representing a typical location layout as well as the location of H₂S 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



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WEST RED LAKE AREA

ROBBY COUNTY, NEW MEXICO

H2S PLAN

Scale in Feet

25 0 25 50 75 100

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