

P/W

OCD-ARTESIA

Form 3160-3
(August 1999)

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

0142

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM89052	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator DEVON ENERGY PRODUCTION CO L P		7. If Unit or CA Agreement, Name and No.	
3a. Address 20 NORTH BROADWAY SUITE 1500 OKLAHOMA CITY, OK 73102		8. Lease Name and Well No. APACHE 25 FEDERAL 4	
3b. Phone No. (include area code) Ph: 405.228.7512 Fx: 405.552.4621		9. API Well No. 30-015-33152	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENE 1730FNL 585FEL At proposed prod. zone SENE 1730FNL 585FEL		10. Field and Pool, or Exploratory UNKNOWN Delaware	
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 46 MILES WEST OF JAL NEW MEXICO		11. Sec., T., R., M., or Blk. and Survey or Area Sec 25 T22S R30E Mer NMP	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish EDDY	
16. No. of Acres in Lease		13. State NM	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.		17. Spacing Unit dedicated to this well 40.00	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3364 GL		20. BLM/BIA Bond No. on file	
22. Approximate date work will start 12/15/2003		23. Estimated duration 45 DAYS	

RECEIVED

DEC 28 2003

OCD-ARTESIA

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5. Operator certification
- 6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) KAREN COTTOM	Date 11/06/2003
Title ENGINEERING TECHNICIAN		
Approved by (Signature) /s/ Linda S. C. Rundell	Name (Printed/Typed) /s/ Linda S. C. Rundell	Date 15 DEC 2003
Title STATE DIRECTOR		
Office NM STATE OFFICE		

Application approval does not warrant or certify 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, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

Additional Operator Remarks (see next page)

Electronic Submission #24851 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO L P, sent to the Carlsbad
Committed to AFMSS for processing by ARMANDO LOPEZ on 11/07/2003 (04AL0100AE)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Witness Surface & Intermediate

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Additional Operator Remarks:

Devon Energy Production Company LP proposes to drill a Delaware well per the approved Master Drilling and Surface use plan for the Delaware Formation for commercial quantities of oil and gas. If the well is deemed noncommercial, the well bore will be plugged and abandoned per Federal regulations.

Direction: From the junction of State Hwy 128 and St Hwy 31 go east on 128 for approximately 8.2 miles to El Paso ROW, turn east & go 2.0 mil & turn south for approx 0.8 mile to location.
see attached MDSUP.

Apache "25" Federal No. 4

Edwards County, New Mexico

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

OIL CONSERVATION DIVISION

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

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

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

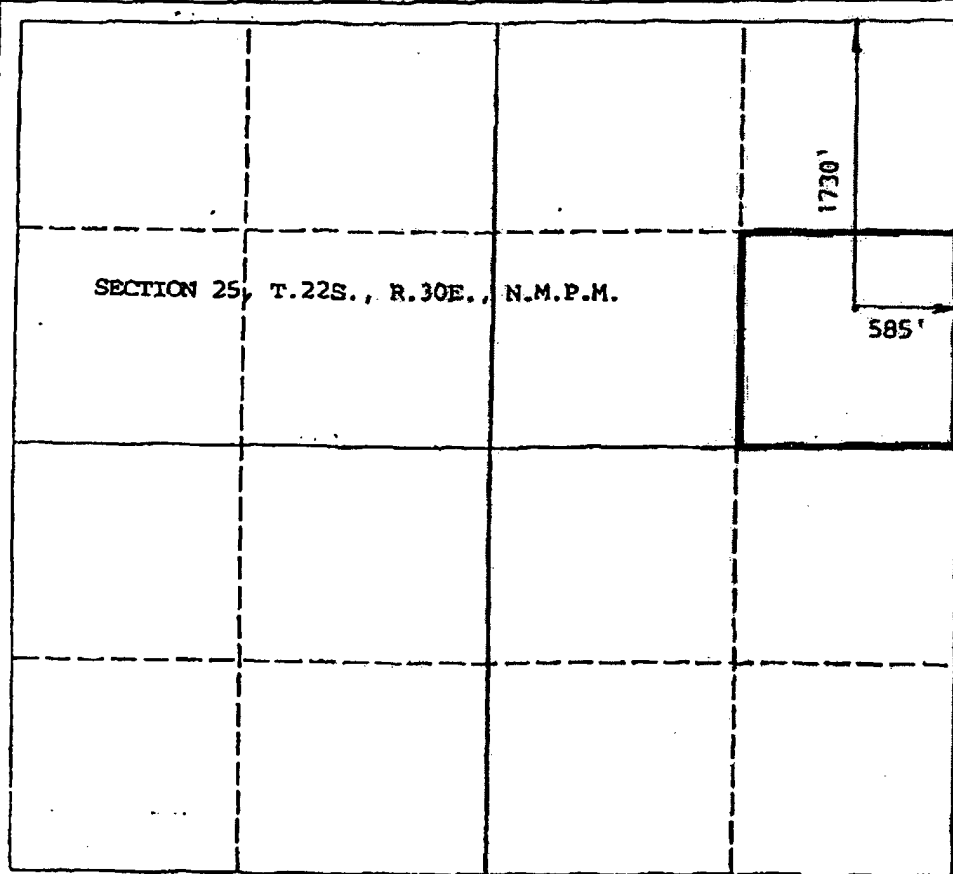
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Devon Energy Production Company, LP		Lease APACHE 25 FEDERAL		Well No. #4
Unit Letter H	Section 25	Township 22S.	Range 30E.	County EDDY
Actual Footage Location of Well: 1730 feet from the NORTH line and 585 feet from the EAST line				
Ground level Elev. 3364	Producing Formation Delaware	Foot Quahada Ridge SE	Dedicated Acreage: 40 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hachure 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 interest 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, force-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature
George Mullen

Printed Name
George Mullen

Position
Regulatory Affairs Specialist

Company
Mitchell Energy Corporation

Date
October 4, 1993

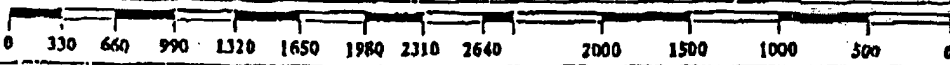
SURVEYOR CERTIFICATION

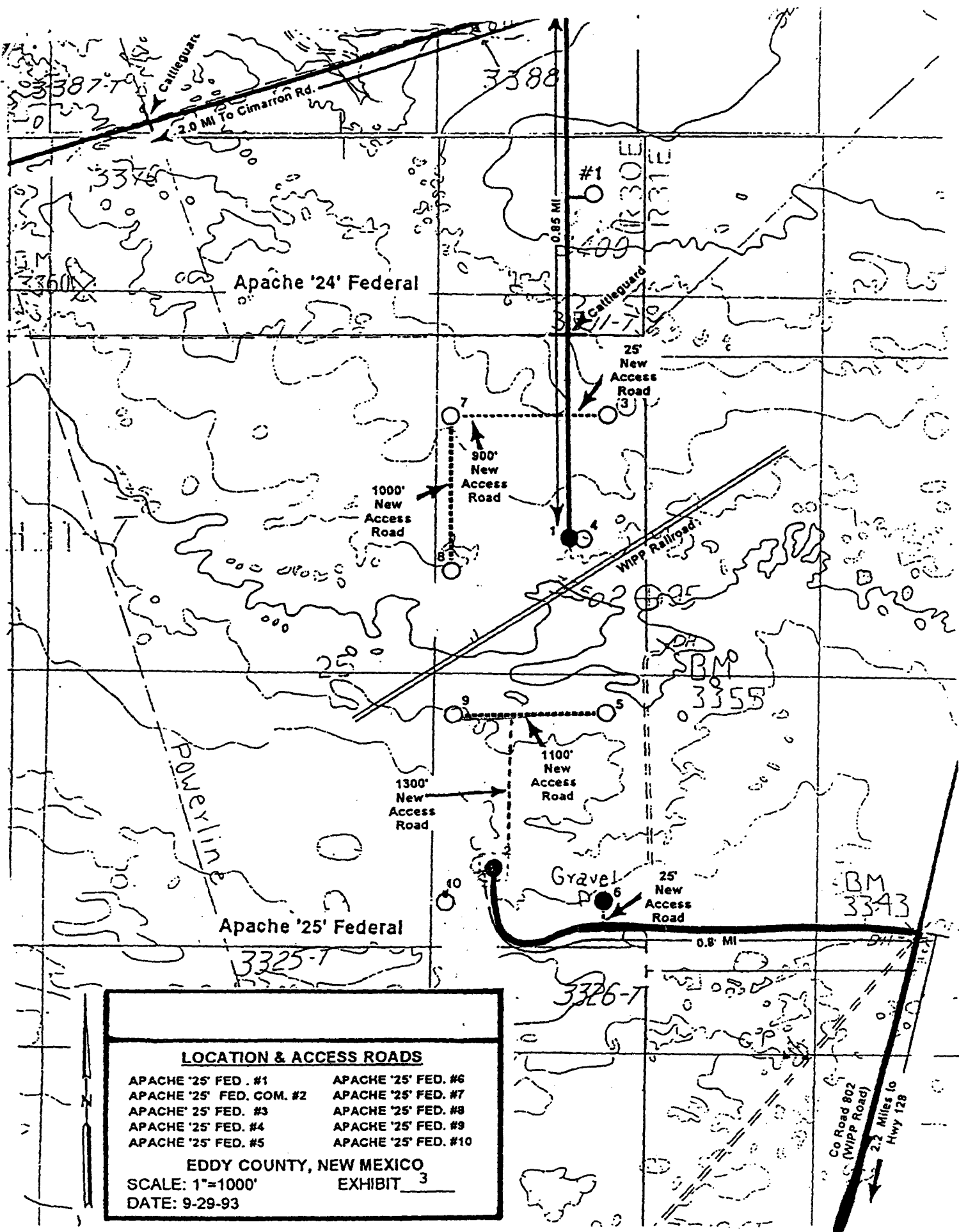
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
8/16/92

Signature & Seal of Professional Surveyor
John Laquess

JOHN LAQUESS
NEW MEXICO
6280
SURVEYOR
PROFESSIONAL ENGINEER
16APACHE





LOCATION & ACCESS ROADS

- | | |
|--------------------------|----------------------|
| APACHE '25' FED. #1 | APACHE '25' FED. #6 |
| APACHE '25' FED. COM. #2 | APACHE '25' FED. #7 |
| APACHE '25' FED. #3 | APACHE '25' FED. #8 |
| APACHE '25' FED. #4 | APACHE '25' FED. #9 |
| APACHE '25' FED. #5 | APACHE '25' FED. #10 |

EDDY COUNTY, NEW MEXICO

SCALE: 1"=1000' EXHIBIT 3

DATE: 9-29-93

R-111-P-POTASH

1

Master Drilling Program Delaware Formation on the Following Leases.

To be attached to Form 3160-3

UNIT AREA: Leases in the following sections, Townships and Ranges that are operated by Devon Energy Production Company, LP.

Lease Numbers as follows but not limited to:

Section	Lease Number	Description of Section	Township & Range
Section 12	NMNM89051	SE4/SE4	T22S R30E
Section 13	NMNM89051	E2, E2/SW4, SE4/NW4	T22S R30E
Section 24	NMNM89051	All of Section 24 except W2/NW4	T22S R30E

If drilling is proposed on additional leases, the BLM will be advised when they are proposed.

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface'
Base of Salt	3690'
Delaware	3950'
Bone Spring	7720'
Total Depth	7860'

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

Upper Permian Sands	100'	Fresh Water
Delaware	3950'	Oil
Delaware	7475'	Oil

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at approximately 620' and circulating cement back to surface. The Potash and salt will be protected by setting 8 5/8" casing at 3845' and circulating cement to surface. The 5 1/2" production casing to be set at TD will be cemented to surface.

Memorandum

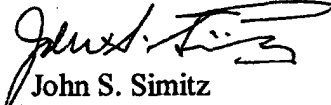
7/24/03

To: Engineers, RFO

From: Geologist, RFO

Subject: Devon Master Drilling and Surface Plan

Talked with Karen Cottom on July 24, 2003 in order to amend the plan's casing program. Surface casing will be set 420 ft. in sec. 12, 510 ft. in sec. 13 and 620 ft sec. 24, T. 22 S., R. 30 E., NMPM.


John S. Simitz

13-3/8" surface casing shall be set at:

- 2 420 ft in Sec 12 - T22S - R30E
 4. Casing Program: 510 ft in Sec 13 - T22S - R30E
 620 ft in Sec 24 - T22S - R30E

Hole Size	Interval	Csg OD	Weight,	Grade	Type
17 1/2"	SEE ABOVE	13 3/8"	48#	H-40	ST&C
12 1/4"	0 - 3845'	8 5/8"	32#	J-55	ST&C
7 7/8"	0 - TD	5 1/2"	15.5 & 17#	J-55	LT&C

5. Casing Cementing & Setting Depth:

- 13 3/8" Surface : Cement to surface with 525 sx of Class C + 2% CaCl2 + 1/4#/sx Flocele.
- 8 5/8" Intermediate: Cement to surface Lead w/1500 sx Lite + 15#/sx salt + 1/4*/sx FC and tail w/200 sx Class C + 2% CaCl2.
- 5-1/2" Production: Cement 1st Stage Lead w/ 173 sx 35:65 Poz C & tail w/773 60:40 Poz C sx cmt. Set DV tool @± 4000' 2nd Stage Lead w/259 sx 35:65 Poz C & tail w/150 sx 60:40 Poz C, circulate cement to surface.

The above cement volumes could be revised pending the caliper measurement from the open hole logs.

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi WP) preventer and bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. Both BOP's will be nipped up on the 13 3/8" surface csg and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% of rated working pressure (2100 psi).

Pipe rams will be operated and checked weekly and the blind rams each time the drill pipe is out of the hole. These functional tests will be documented on the drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 3000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to total depth using a fresh and Brine water mud systems. Depths of systems are as follows:

Depth	Type	Weight (ppg)	Viscosity (1/sec)	Water Loss
0' - 620'	Fresh Water	8.8	40-45	NC
620' - 3845'	Brine Water	10	30	NC
3845' - TD	Fresh Water/Gel/Starch	8.5 - 9.0	30-32	50-60

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 Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- C. Hydrogen sulfide detection equipment will be in operation after drilling out the 8 5/8" casing shoe until 5 1/2" casing is cemented.

8. Logging, Testing and Coring Program:

- A. Drillstem tests will be run on the basis of drilling shows.
- B. The open hole electrical logging program will be:
 - a. GR-AIT, GR-Compensated Neutron-Density from TD to 3845' and GR/CNL to surface. Selected SW cores may be taken in zones of interest.
 - b. No coring program is planned.
 - c. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Abnormal Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 122 degrees and maximum bottom hole pressure is 3500 psi. No Hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation intervals have been encountered in adjacent wells.

10. Anticipated Starting Date and Duration of Operations:

Road and location preparation will not be undertaken until approval has been received from the BLM. The anticipated spud date will be provided with each well application. The drilling operation should require approximately 45 days. If the well is deemed productive, completion operations will require, at minimum, an additional 30 days of testing to ascertain whether the well will be connected to an existing production facility.

MASTER SURFACE USE AND OPERATING PLAN
Delaware Formation on the Following Leases

This plan will be submitted with Form 3160-3, Application for Permit to Drill. The purpose of this plan is to describe the location of the proposed wells, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations. This plan will allow a complete appraisal to be made of the environmental effects associated with the proposed operations.

UNIT AREA: Leases in the following Sections, Townships and Ranges that are Operated by Devon Energy Production Company, LP.

Lease Numbers as follows but not limited to:

Section	Lease Number	Description of Section	Township & Range
Section 12	NMNM89051	SE4/SE4	T22S R30E
Section 13	NMNM89051	E2, E2/SW4, SE4/NW4	T22S R30E
Section 24	NMNM89051	All of Section 24 except W2/NW4	T22S R30E

If drilling is proposed on additional leases, the BLM will be advised when they are proposed.

1. **Existing Roads:**

- A. The well site and elevation plat for each well will be provided with the 3160-3 when proposed.
- B. All roads to the location are shown on Exhibit #2 of each individual application. The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the roads prior to drilling will be done where necessary as determined during the onsite inspections.
- C. Directions to location will be provided for each individual well application.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on the lease.

2. **Proposed Access Road**

Exhibit #3 of each application will show the new access road (if necessary) to be constructed and will be illustrated in yellow. The road will be constructed as follows:

- A. The maximum width of the road will be fifteen (15) feet.
- B. It will be crowned and made of 6 inches of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- C. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location.
- D. The average grade will be approximately 1%.
- E. No cattle guards; grates or fence cuts will be required
- F. No turnouts are planned.

5

4. Location of Existing and/or Proposed Facilities:

In the event the well is found productive, the collection facilities will be placed on the first well drilled in Section 24, T22S R30E and the first well drilled in Section 13, T22S R30E. The tank battery, all connections and lines will adhere to API standards. Off lease storage will be requested at time of drilling for all additional wells in each Section if needed.

A. If the well is productive, rehabilitation plans are as follows:

- a. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
- b. The drill site will then be contoured as close to the original natural state as possible.

5. Methods of Handling Water Disposal:

- A. Drill cuttings will be disposed into the reserve pit.
- B. Drilling fluids will be contained in steel mud tanks or lined earthen pits and the reserve pit. The reserve pit will contain excess drilling fluid or fluid from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit roughly 70' x 70' x 5', or smaller, in size.
- C. The reserve pit will be fenced on three sides throughout drilling operations and will be totally isolated upon removal of the rotary rig. The pit will be lined using a 5-7 mil plastic to minimize loss of drilling fluids.
- D. Water produced from the well during completion operations will be disposed into a steel tank or reserve pit, if volumes prove excessive. After placing the well on production through the production facilities, all water will be collected in tanks and injected into the water injection system. Produced oil will be separated into steel stock tanks until sold.
- E. A portable chemical toilet will be available on the location for human waste during the drilling operations.
- F. Garbage, trash and waste paper produced during drilling operations will be collected in a contained trailer and disposed at a approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be generated by this operation.
- G. All waste material will be removed within 30 days after the well is either completed or abandoned. The reserve pit will be completely fenced until it has dried. At the point the reserve pit is found sufficiently dry, it will be backfilled and reclaimed. The portion of the drilling pad used by the production equipment (pumping unit) will remain in use.

6. Well Site Layout:

- A. The drill pad layout will be shown on Exhibit 4 for each individual well. Dimensions
- B. No permanent living facilities are planned, but temporary trailers for the tool pusher, drilling foreman and mud logger may be on location throughout drilling operations.
- C. The reserve pit and earthen pits will be lined using plastic sheeting of 5-7 mil thickness.

7. Surface Ownership:

The well site and lease is located entirely on Federal surface. J. C. Mills, Abernathy, TX and Kenneth Smith, Carlsbad, NM have the Federal grazing lease on this surface.

8. Other Information:

- A. The project areas are classified as grassland and top soil is sandy. The vegetation is native scrub grasses with abundant oakbrush, sage-brush, yucca, and prickly pear.
- B. There is no permanent water in the immediate area.
- C. A Cultural Resources Examination for each APD will be completed by Don Clifton Archeological Services, Inc. and forwarded to the Carlsbad, New Mexico BLM office.

9. Lessee's and Operator's Representative:

The Devon Energy Corporation representatives responsible for assuring compliance of the surface use plan are:

James Blount
Operations Engineering Advisor

Don Mayberry
Superintendent

Devon Energy Production, L.P.
20 North Broadway Suite 1500
Oklahoma City, OK 73102

Devon Energy Production Company, L.P.
P.O. Box 250
Artesia, NM 88211-0250

(405) 228-4301 (office)

(505) 748-3371 (office)

(405) 834-9207 (home)

(505) 746-4945 (home)

Certification:

I hereby certify that I am familiar with the conditions that presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Devon Energy Corporation (Nevada) and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Date: July 16, 2003

Signed: 

James Blount
Operations Engineering Advisor

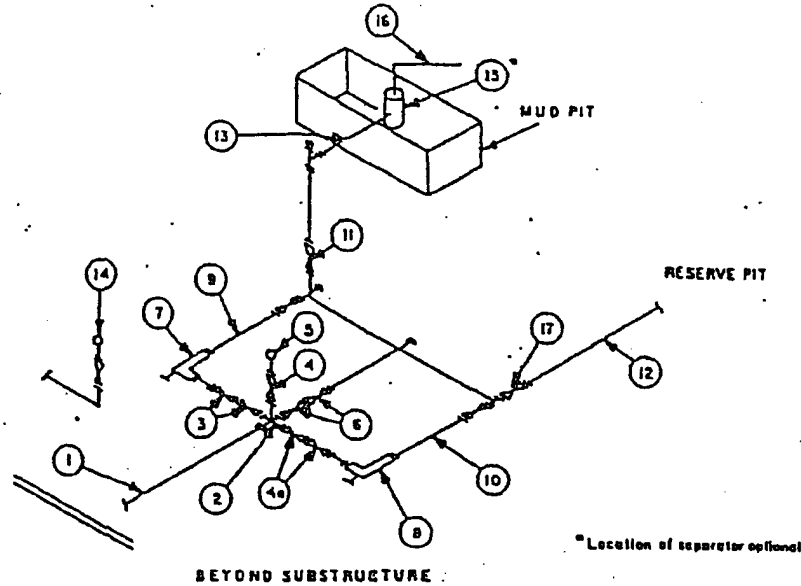
Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTORS
Quahada Ridge SE
Eddy County, New Mexico

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventor and all associated fittings will be in operable condition and tested to 1000 psi with the rig pump.
4. All fittings will be flanged.
5. A full bore safety valve with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a Kelly cock attached to the Kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.
11. **BOP will consist of a single annular preventor and a set of double rams as shown in Exhibit #1.**

MINIMUM CHOKE MANIFOLD
3,000, 5,000 and 10,000 PSI Working Pressure

3 MWP - 5 MWP - 10 MWP

EXHIBIT # 1



MINIMUM REQUIREMENTS										
No.		3,000 MWP			5,000 MWP			10,000 MWP		
		I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x3"									10,000
3	Valves(1) Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves(1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke(3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2'x5'			2'x5'			2'x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

(1) Only one required in Class 3M.

(2) Gate valves only shall be used for Class 10M.

(3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
- All lines shall be securely anchored.
- Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

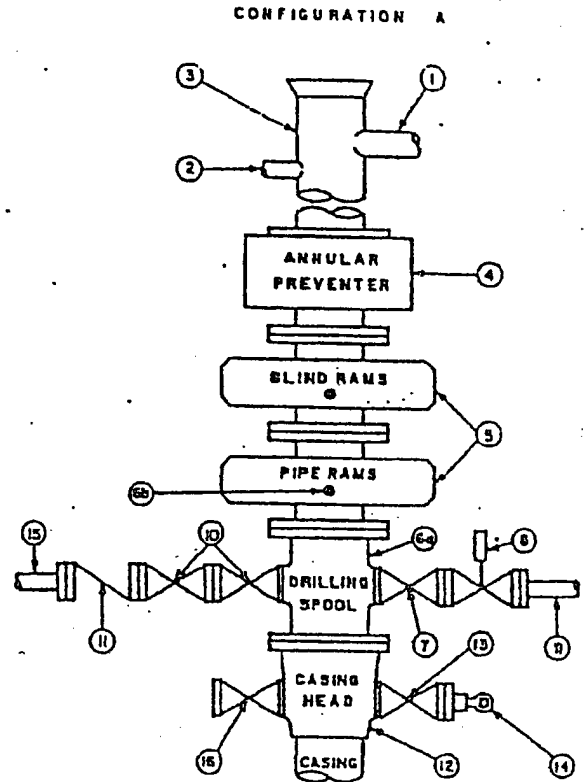
3 MWP

EXHIBIT # 1

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve	Gate <input type="checkbox"/> Plug <input type="checkbox"/>	3-1/8"
8	Gate valve—power operated		3-1/8"
9	Line to choke manifold		3"
10	Valves	Gate <input type="checkbox"/> Plug <input type="checkbox"/>	2-1/16"
11	Check valve		2-1/16"
12	Casing head		
13	Valve	Gate <input type="checkbox"/> Plug <input type="checkbox"/>	1-13/16"
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL			
16	Flanged valve	1-13/16"	



CONTRACTOR'S OPTION TO FURNISH:

- All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
- Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
- BOP controls, to be located near drillers position.
- Kelly equipped with Kelly cock.
- Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
- Kelly saver-sub equipped with rubber casing protector at all times.
- Plug type blowout preventer tester.
- Extra set pipe rams to fit drill pipe in use on location at all times.
- Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

- Bradenhead or casinghead and side valves.
- Wear bushing, if required.

GENERAL NOTES:

- Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
- All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through chokes. Valves must be full opening and suitable for high pressure mud service.
- Controls to be of standard design and each marked, showing opening and closing position.
- Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
- All valves to be equipped with handwheels or handles ready for immediate use.
- Choke lines must be suitably anchored.

- Handwheels and extensions to be connected and ready for use.
- Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
- All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
- Casinghead connections shall not be used except in case of emergency.
- Do not use kill line for routine fill-up operations.

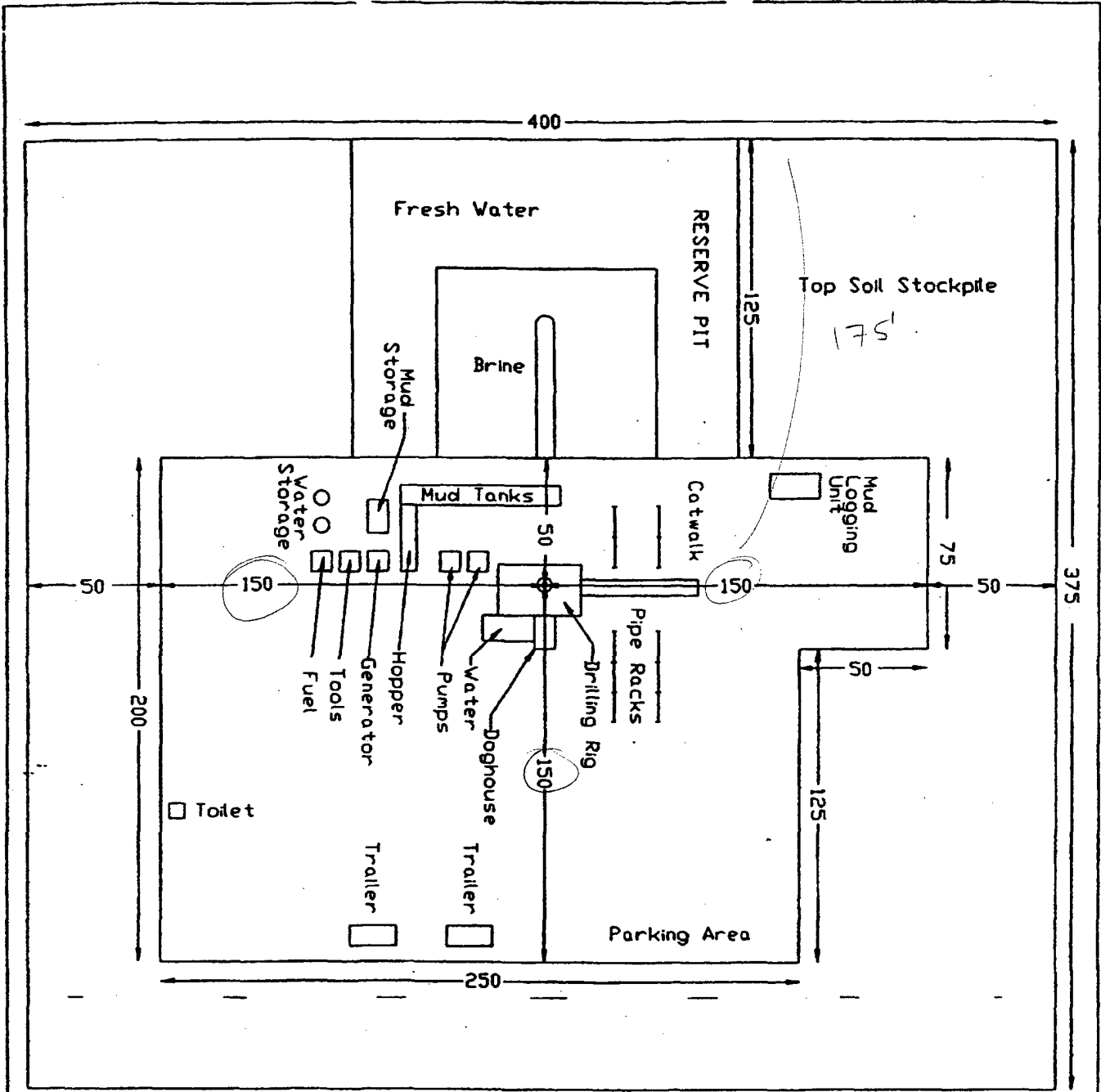


Fig. 144-1

devon	
DEW COUNTY, NEW MEXICO	
DRILLING RIG LAYOUT	
EXHIBIT 5	
Scale in Feet	
25	50 75 100
5/83	

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 site 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:

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

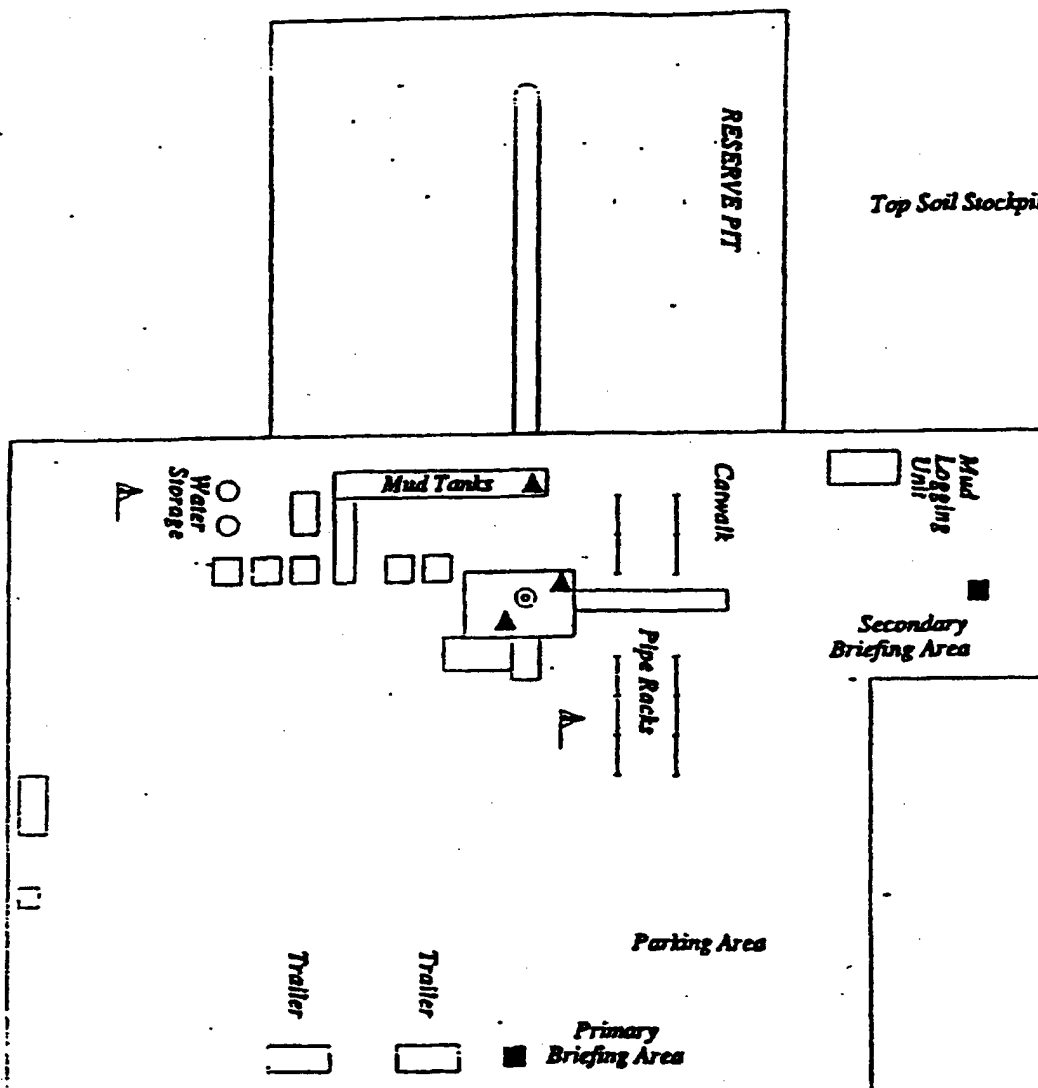
(a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

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



<i>devon</i>	
WEST RED LAKE AREA <small>—COBY COUNTY, NEW MEXICO</small>	
H2S PLAN	
Scale in Feet 0 25 50 75 100	