OPERATOR'S COPY

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201

IN REPLY REFER TO:

SEP 25 2003

Devon Energy Production Company, L.P.
20 North Broadway, Suite 1500
Oklahoma City, OK 73102-8260
Attn: Karen Cottom

Re: Delaware Formation in Sec 12, 13 & 24, T22S-R30E
Master Drilling and Surface Use Plan
Eddy County, New Mexico

Dear Karen:

The Master Drilling and Surface Use Plan, dated July 17, 2003, for the Delaware Formation in Sec 12, 13 & 24, T22S-R30E, Eddy County, New Mexico, is now approved. Revised page 5, received by fax on September 4, 2003, has been inserted. Changes have also been made to page 2, Casing Program. An approved copy is attached for your records.

Please direct any questions to Les Babyak, 505-627-0219.

Sincerely,

Larry D. Bray

Larry D. Bray
Assistant Field Manager
Lands and Minerals

cc: NM 08000 (Amos, Hunt)
NM 06000 (Lopez, Swoboda, Babyak)

devon

20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260

Telephone: (405) 228-7512
Fax: (405) 552-4621

July 17, 2003

Bureau of Land Management
Attn Armando Lopez
2909 West Second Street
Roswell, NM 88201

Re: Master Drilling and Surface Use Program
Delaware Formation in Sec 12, 13 & 24, T22S R30E

Dear Armando:

I am submitting a Master Drilling and Surface Use Program, one original and five copies, for the referenced area. I have enclosed the program and a map detailing the area for which we intend to use the program. I am also submitting eight APD's with the Master.

Please contact me should there be any additional information required. Thanks for your help.

Sincerely,

Karen Cottom

Karen Cottom
Engineering Technician
Devon Energy Production Company, L.P.

kc
Enclosure

1

R-111-P-POTASH

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 ½" 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 ½"	SEE ABOVE	13 3/8"	48#	H-40	ST&C
12 ¼"	0 – 3845'	8 5/8"	32#	J-55	ST&C
7 7/8"	0 – TD	5 ½"	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 + ¼#/sx Flocele.
8 5/8"	Intermediate:	Cement to surface Lead w/1500 sx Lite + 15#/sx salt + ¼*/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 ½" drill pipe rams on bottom. Both BOP's will be nippled 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 ½" 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 ½" 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	Don Mayberry
Operations Engineering Advisor	Superintendent
Devon Energy Production, L.P.	Devon Energy Production Company, L.P.
20 North Broadway Suite 1500	P.O. Box 250
Oklahoma City, OK 73102	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

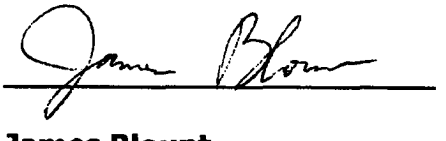
Signed: _____
James Blount
Operations Engineering Advisor

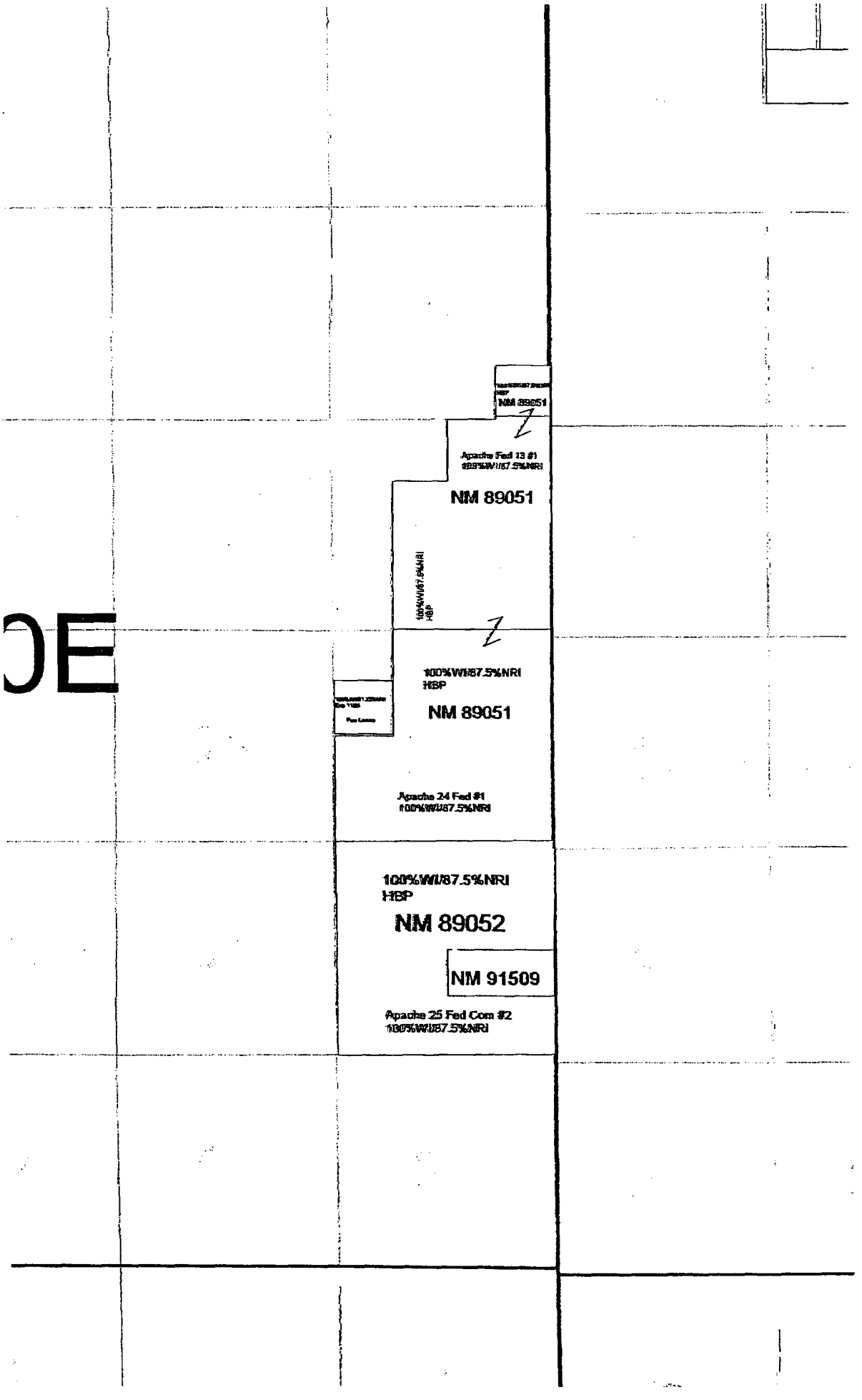
UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name:	**Devon Energy Production Company, LP**
Street or Box:	**20 North Broadway, Ste 1500**
City, State:	**Oklahoma City, OK 73102**
Zip Code:	

The undersigned accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described below.

Lease No.:	**NMNM89051**
Legal Description of Land:	**Sec 12 – SE4/SE4** **Sec 13 – E2, E2/SW4, SE4/NW4** **Sec 24 – All of section 24 except W2/NW4**
Formation(s):	**Delaware**
Bond Coverage:	**Nationwide**
BLM Bond File No.:	**CO1104**
Authorized Signature:	
Title:	**James Blount** **Operations Engineering Advisor**
Date:	7/16/03


NM 89051
Apache Fed 13 #1
NM 89051
100%WI/87.5%NRI
HBP
100%WI/87.5%NRI
HBP
NM 89051
Apache 24 Fed #1
100%WI/87.5%NRI
HBP
NM 89052
NM 91509
Apache 25 Fed Com #2
100%WI/87.5%NRI

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.

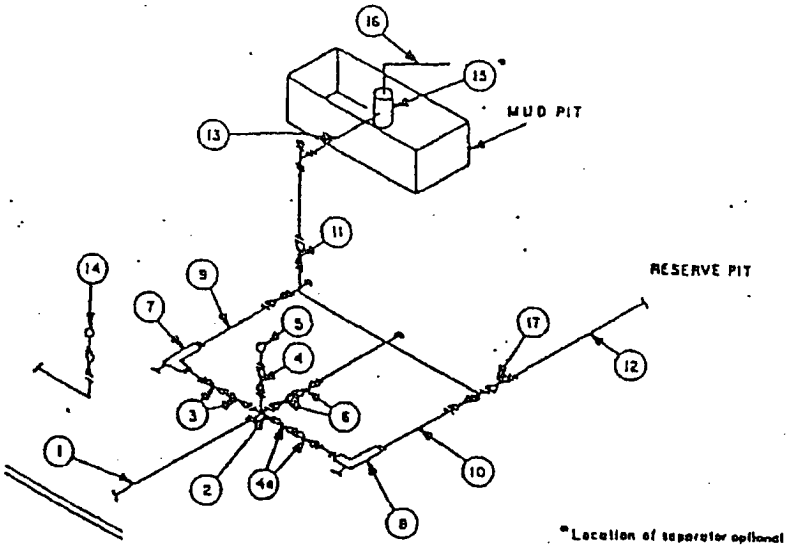
10. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

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



BEYOND SUBSTRUCTURE

MINIMUM REQUIREMENTS										
		3,000 MWP			5,000 MWP			10,000 MWP		
No.		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 ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate ☐ Plug ☐(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 ☐ Plug ☐(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 ☐ Plug ☐(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 ☐ Plug ☐(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

1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2. All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
3. All lines shall be securely anchored.
4. Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
5. 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.
6. 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.
7. 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

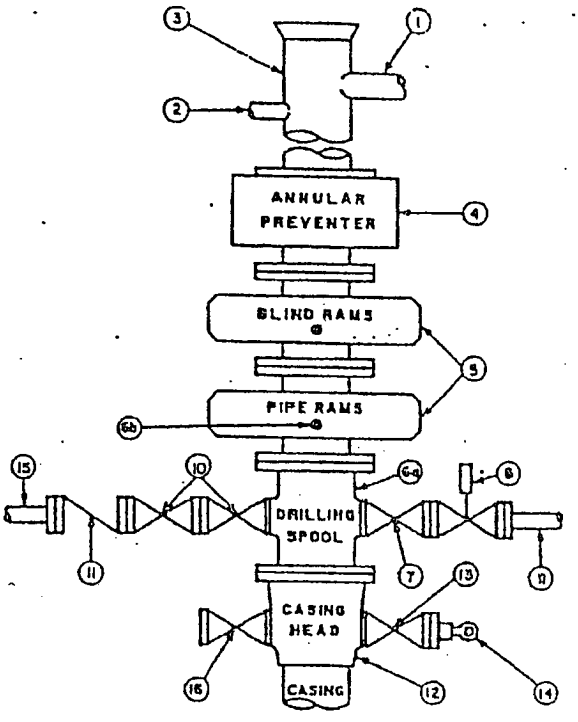
EXHIBIT # 1

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		
	or		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	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"	

CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

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

MEC TO FURNISH:

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

GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. 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 choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. 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.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

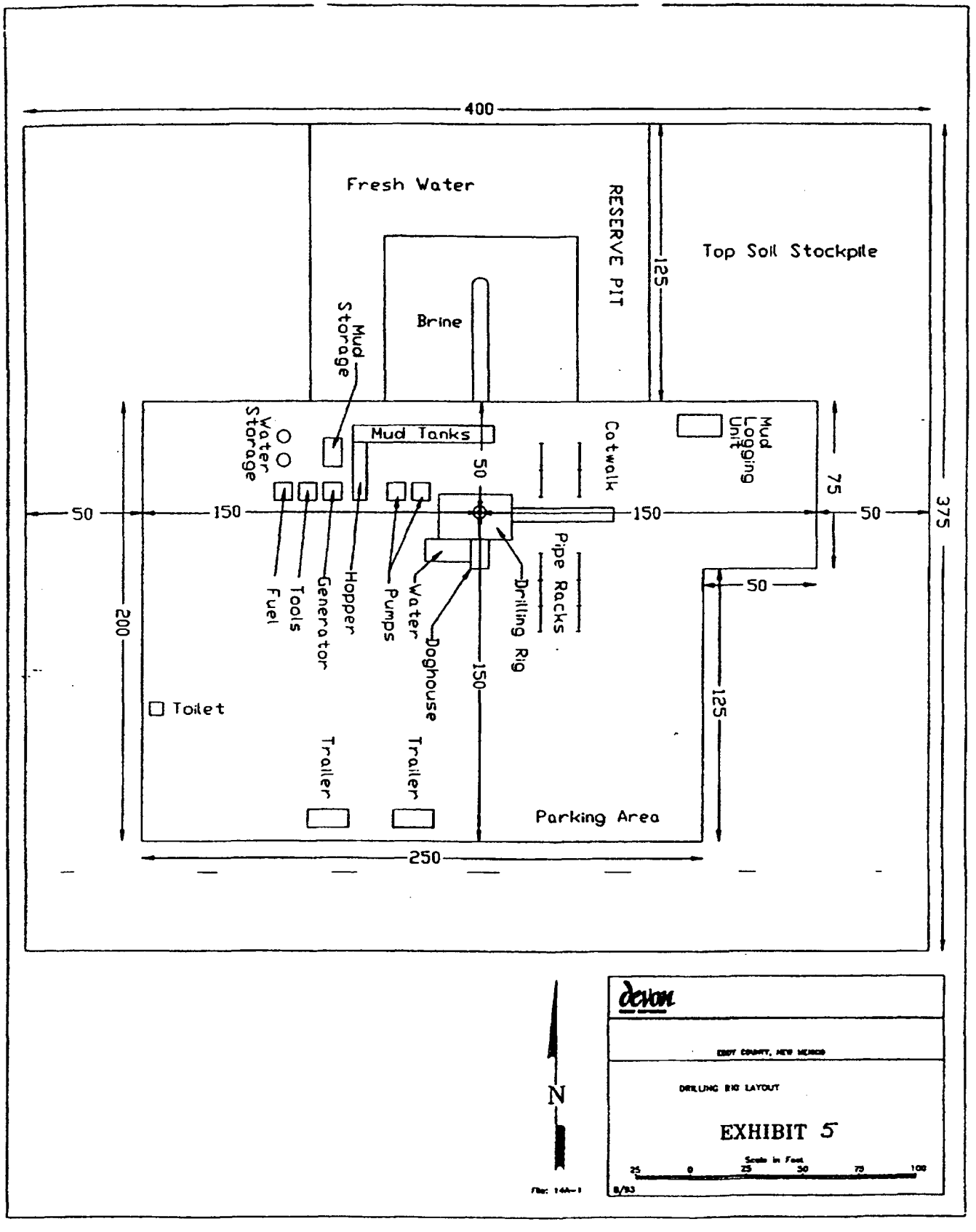

400
Fresh Water
RESERVE PIT
125
Top Soil Stockpile
Brine
Mud Storage
Water Storage
Mud Tanks
50
Catwalk
Mud Logging Unit
75
375
50
150
150
50
200
Fuel
Tools
Generator
Hopper
Pumps
Water
Doghouse
Drilling Rig
Pipe Racks
50
150
125
Toilet
Trailer
Trailer
Parking Area
250
N
devon
EDDY COUNTY, NEW MEXICO
DRILLING RIG LAYOUT
EXHIBIT 5
Scale in Feet
25 0 25 50 75 100

EXHIBIT #6

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:

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.

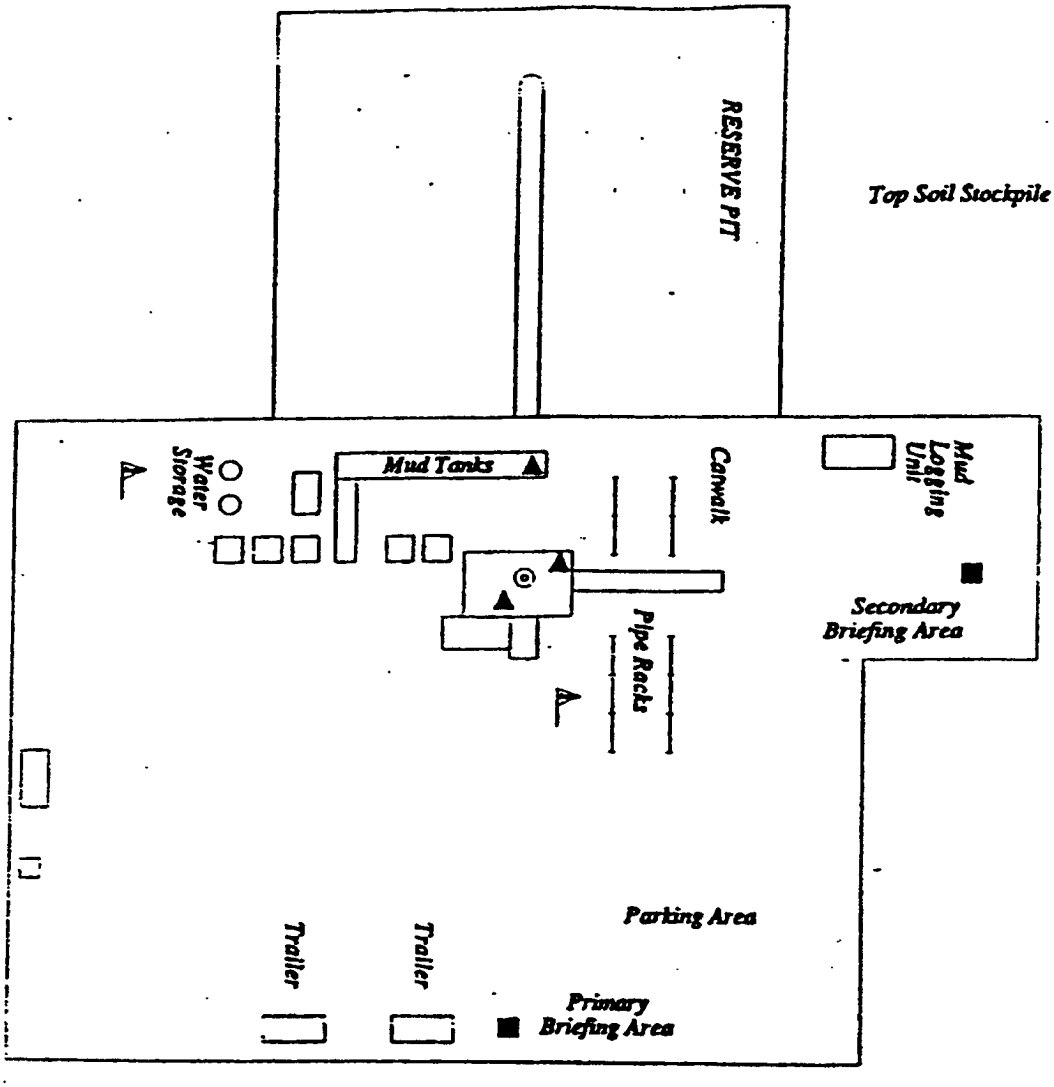
7. Communication

(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.

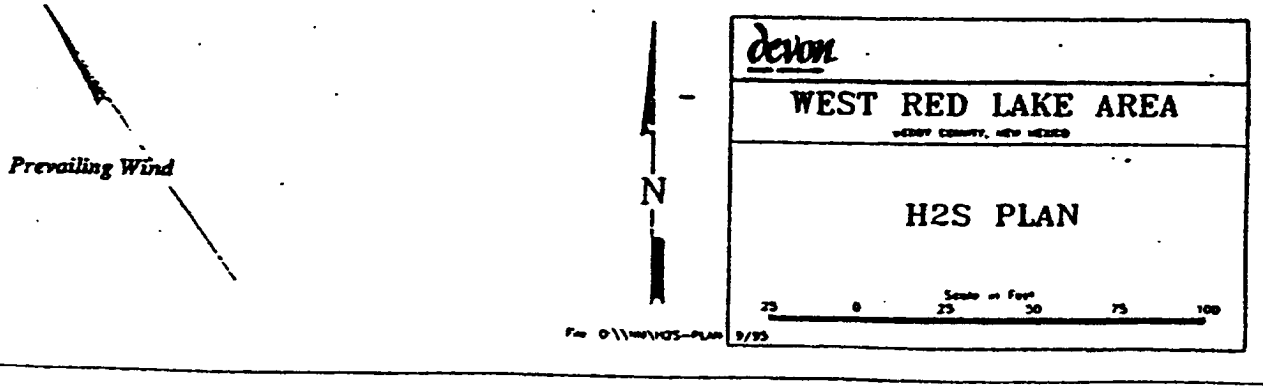
EXHIBIT # 8



▲ 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



Well name:
Operator: **Devon Energy**
String type: Surface

Location: New Mexico

Design parameters:

Collapse
Mud weight: 9.000 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 332 psi
Internal gradient: 0.433 psi/ft
Calculated BHP 601 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Tension is based on air weight.
Neutral point: 538 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 84 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 620 ft

Non-directional string.

Re subsequent strings:
Next setting depth: 3,840 ft
Next mud weight: 10.000 ppg
Next setting BHP: 1,995 psi
Fracture mud wt: 15.000 ppg
Fracture depth: 3,840 ft
Injection pressure 2,992 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	620	13.375	48.00	H-40	ST&C	620	620	12.59	7689

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	290	740	2.55	601	1730	2.88	29.8	322	10.82 J

Devon Energy

Date: June 26,2003
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 620 ft, a mud weight of 9 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	
Operator:	**Devon Energy**
String type:	Intermediate
Location:	New Mexico

Design parameters:

Collapse

Mud weight: 10.000 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 353 psi
Internal gradient: 0.433 psi/ft
Calculated BHP 2,016 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.60 (B)

Tension is based on air weight.
Neutral point: 3,270 ft

Environment:

H2S considered?	No
Surface temperature:	75 °F
Bottom hole temperature:	129 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	620 ft

Non-directional string.

Re subsequent strings:

Next setting depth:	7,860 ft
Next mud weight:	9.200 ppg
Next setting BHP:	3,756 psi
Fracture mud wt:	15.000 ppg
Fracture depth:	3,840 ft
Injection pressure	2,992 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	3840	8.625	32.00	J-55	LT&C	3840	3840	7.875	30945

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1995	2530	1.27	2016	3930	1.95	122.9	417	3.39 J

Devon Energy

Date: June 26,2003
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 3840 ft, a mud weight of 10 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	
Operator:	**Devon Energy**
String type:	Production
Location:	New Mexico

Design parameters:

Collapse

Mud weight: 9.200 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 358 psi
Internal gradient: 0.433 psi/ft
Calculated BHP 3,804 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.60 (B)

Tension is based on air weight.
Neutral point: 6,840 ft

Estimated cost: 28,401 ($)

Environment:

H2S considered?	No
Surface temperature:	75 °F
Bottom hole temperature:	186 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	620 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
3	100	5.5	17.00	J-55	LT&C	100	100	4.767	387
2	7100	5.5	15.50	J-55	LT&C	7200	7200	4.825	25070
1	760	5.5	17.00	J-55	LT&C	7960	7960	4.767	2944

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
3	48	3881	81.20	401	5320	13.27	124.7	247	1.98 J
2	3441	3989	1.16	3475	4810	1.38	123	217	1.76 J
1	3804	4910	1.29	3804	5320	1.40	12.9	247	19.12 J

Devon Energy

Date: July 1,2003
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 7960 ft, a mud weight of 9.2 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.