Form 3160-3
(December 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(See other instructions on reverse side)

Form approved.

RESUBMIT

# 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)** 6137

3. ADDRESS AND TELEPHONE NO.
**20 N. BROADWAY, SUITE 1500, OKC, OK 73102 (405) 552-4560**

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface **744' FNL & 2029' FWL (Unit "C")**
At top proposed prod. zone **(SAME)**

5. LEASE DESIGNATION AND SERIAL NO.
**LC 029435-B**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
**NA**

7. UNIT AGREEMENT NAME
**NA**

8. FARM OR LEASE NAME, WELL NO.
**J. L. KEEL "B" #48**

9. API WELL NO.
**30-015-**

10. FIELD AND POOL, OR WILDCAT
**GRAYBURG-JACKSON FIELD**

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
**SECTION 5 -T17S - R31E**

JUN 2000
RECEIVED
OCD - ARTESIA

| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* | 12. COUNTY OR PARISH | 13. STATE |
|---|---|---|
| **5 miles East & 3 miles North of Loco Hills, N.M.** | **EDDY** | **NM** |

| 15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line if any) | 16. NO. OF ACRES IN LEASE | 17. NO. OF ACRES ASSIGNED TO THIS WELL |
|---|---|---|
| **744'** | **1885** | **40** |
| 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. | 19. PROPOSED DEPTH | 20. ROTARY OR CABLE TOOLS* |
| **700'** | **4200'** | **Rotary** |

| 21. ELEVATIONS (Show whether DF, RT, GR, etc.) | 22. APPROX. DATE WORK WILL START* |
|---|---|
| **3854'** | **June 15, 2000** |

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 | 24.0# 350-375 | ~~400~~ WITNESS | 125 sk Lite cmt + 200 sk Class "C" |
| 7 7/8" | 5 1/2" J-55 | 15.5# | 4200' | 550 sk Lite cmt + 425 sk Class "H" |

**We plan to circulate cement to surface on all casing strings. Devon Energy Corporation (Nevada) proposes to drill to 4200' to test the Grayburg-Jackson formation for commercial quantities of oil. If the Grayburg-Jackson is deemed non-commercial, the wellbore will be plugged and abandoned per Federal Regulations. Programs to adhere to onshore oil and gas regulations are outlined in the following exhibits and attachments.**

**Drilling Program**

**Exhibits #1/1-A = Blowout Prevention Equipment**
**Exhibit #2 = Location and Elevation Plat**
**Exhibit #3/3-A = Road Map and Topo Map**
**Exhibit #4 = Wells Within 1 Mile Radius**
**Exhibit #5 = Production Facilities Plat**
**Exhibit #6 = Rotary Rig Layout**
**Exhibit #7 = Casing Design**
**H2S Operating Plan**

**The undersigned accepts all applicable terms, condition, stipulations and restrictions concerning operations conducted on the leased land or portions thereof, as described below:**
**Lease No. LC029435-B**
**Legal Description: Section 5-T17S-R31E**
**Bond Coverage: Nationwide**
**BLM Bond No.: CO1104**

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 William Greenlees TITLE WILLIAM GREENLEES DISTRICT ENGINEER DATE 4/18/00

*(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.**

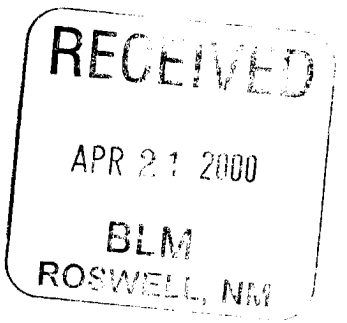
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY /S/LARRY D. BRAY TITLE Assistant Field Manager, Lands And Minerals DATE JUN 16 2000

JUN 2000
APPROVED FOR 1 YEAR

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


RECEIVED
APR 21 2000
BLM
ROSWELL, NM

DISTRICT I
P. O. Box 1980
Hobbs, NM 88241-1980

DISTRICT II
P. O. Drawer DD
Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd.
Aztec, NM 87410

DISTRICT IV
P. O. Box 2088
Santa Fe, NM 87507-2088

State of New Mexico
Energy, Minerals, and Natural Resources Department

Form C-102
Revised 02-10-94

Instructions on back

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

# OIL CONSERVATION DIVISION
## P. O. Box 2088
## Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

| 1 API Number | 2 Pool Code | 3 Pool Name |
|---|---|---|
| | | |

| 4 Property Code | 5 Property Name | 6 Well Number |
|---|---|---|
| C | KEEL "B" | 48 |

| 7 OGRID No. | 8 Operator Name | 9 Elevation |
|---|---|---|
| | DEVON ENERGY CORPORATION | 3854' |

### 10 SURFACE LOCATION

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| | 5 | 17 SOUTH | 31 EAST, N.M.P.M. | | 744' | NORTH | 2029' | WEST | EDDY |

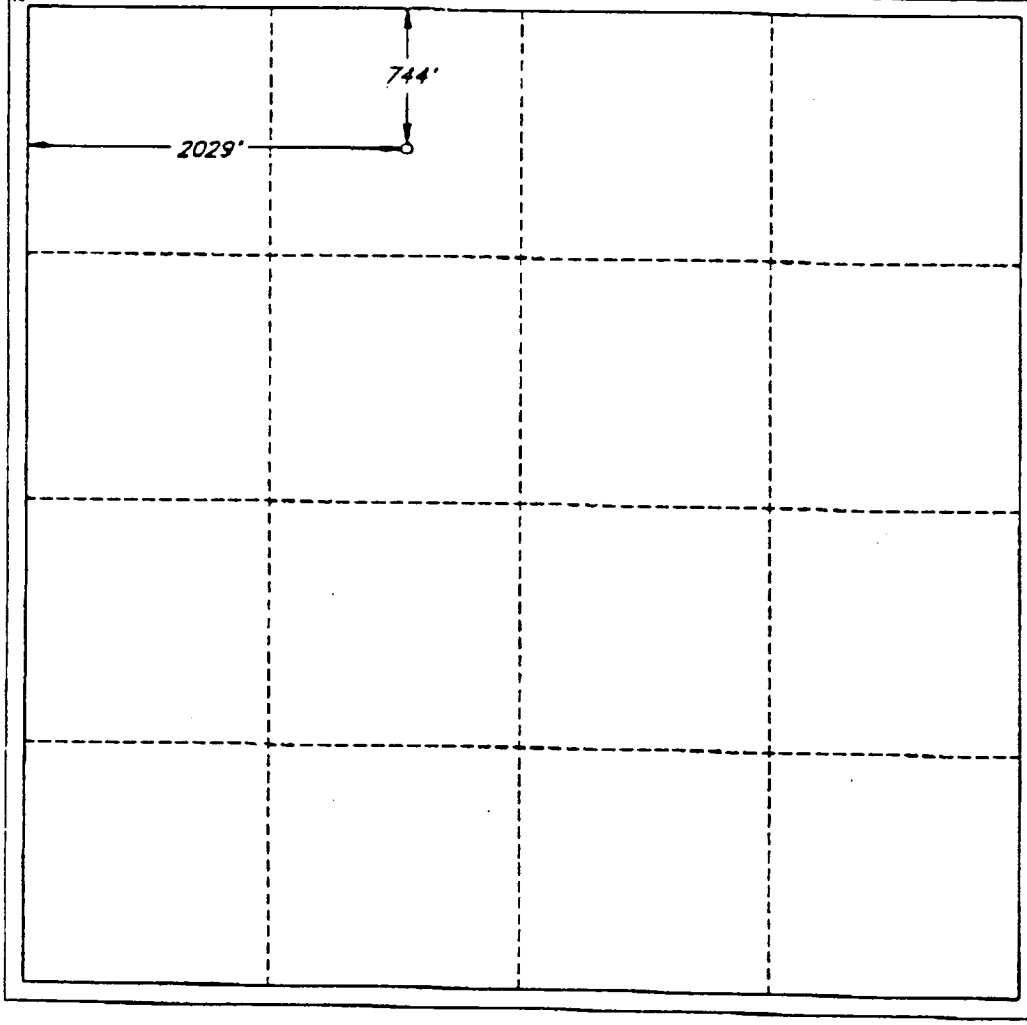
### 11 BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| 12 Dedicated Acres | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|---|---|---|---|
| | | | |

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

16




### OPERATOR CERTIFICATION

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

Signature: Randy Jackson

Printed Name: Randy Jackson

Title: District Engineer

Date: 10/15/97

### 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.*

Date of Survey: MAY 8, 1984

Signature and Seal of Professional Surveyor:

NEW MEXICO
V. LYNN BEZNER
NO. 7920
REGISTERED LAND SURVEYOR

Certificate No. V. L. BEZNER R.P.S. #7920

JOB #33105-8/98SE & SW/V.H.B.

**MINIMUM BLOWOUT PREVENTER REQUIREMENTS**

2000# BOP system utilized
3000# WP BOP Equipment
2000# psig WP casing head

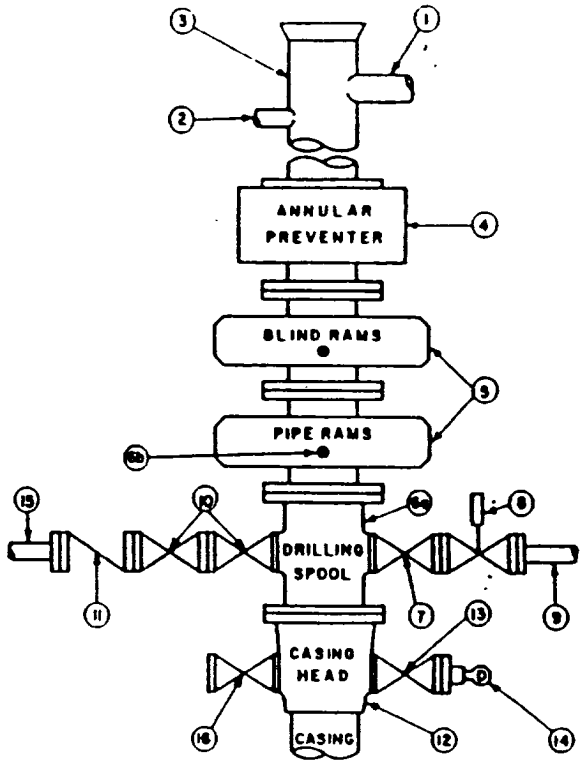
EXHIBIT #1

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 prevventer 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.

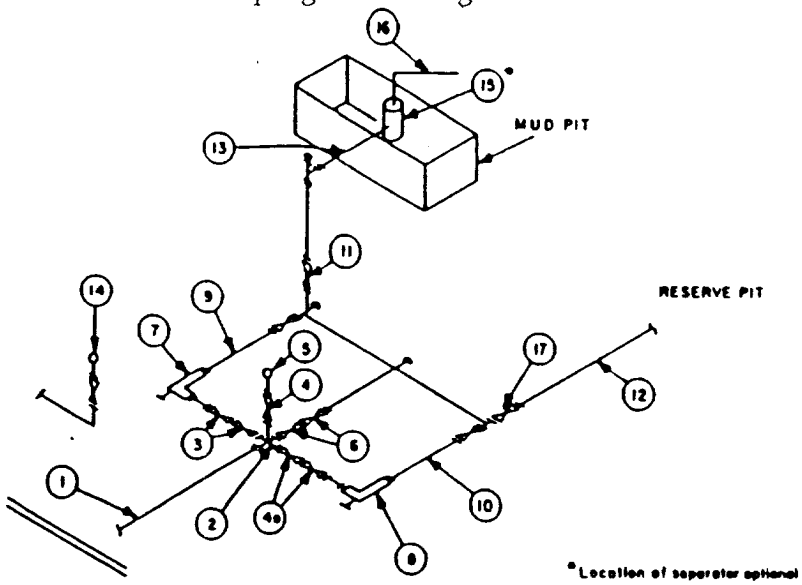
**GENERAL NOTES:**

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.

**MINIMUM CHOKE MANIFOLD**

2000# BOP system utilized
3000# WP BOP equipment
2000# psig WP casing head

EXHIBIT #1-A




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.

**Attachment to Exhibit #1**
NOTES REGARDING BLOWOUT PREVENTORS
Grayburg-Jackson Field
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 BOPE bore.

2. Wear ring will be properly installed in head.

3. Blowout preventor and all associated fittings will be in operable condition to withstand a minimum 2000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 2000 psi W.P. 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.

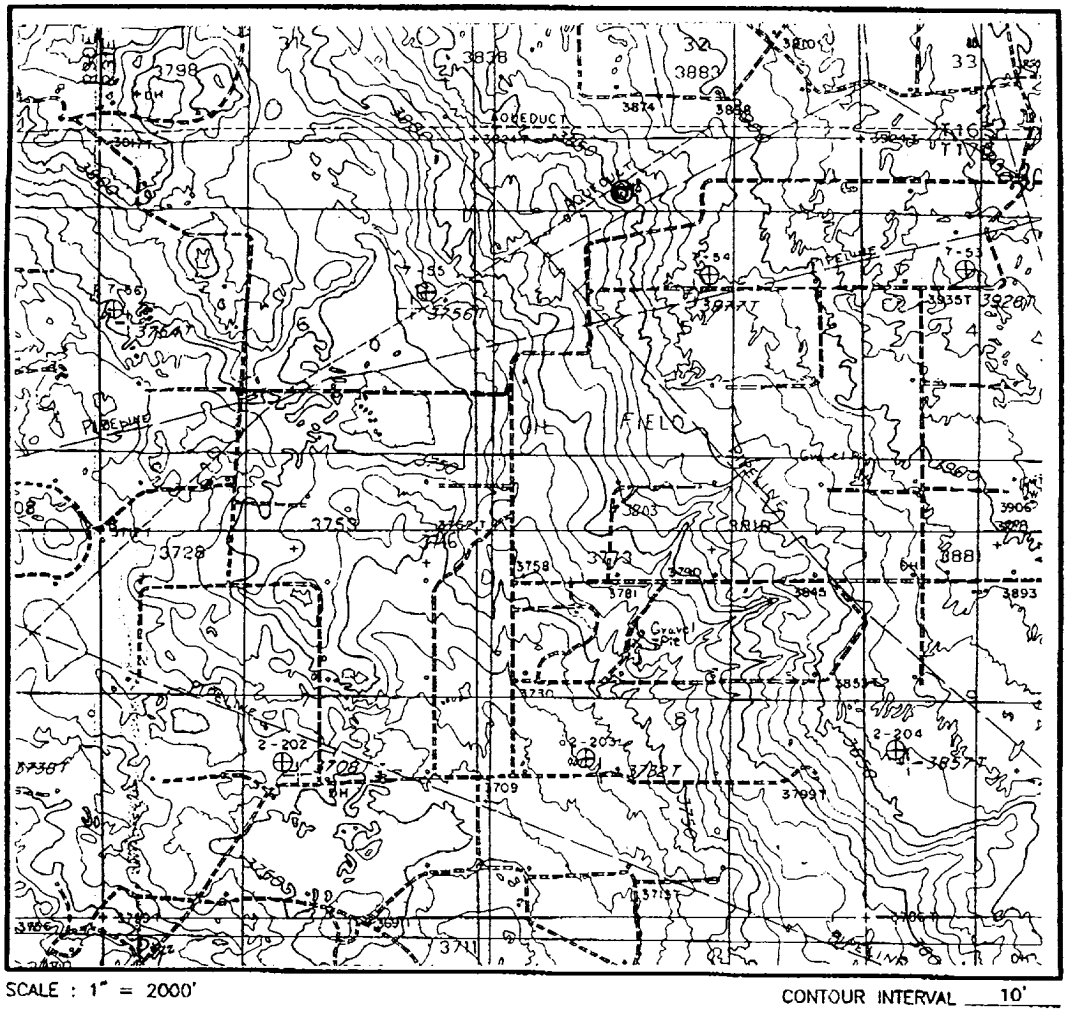
8. Will maintain a kelly cock attached to the kelly.

9. Hand wheels and wrenches will be properly installed and tested for safe operation.

10. Hydraulic floor control for blowout preventor will be located as near in proximity to driller's controls as possible.

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

# LOCA ON & ELEVATION VERIFICATION AP




SCALE : 1" = 2000'

CONTOUR INTERVAL 10'

SECTION 5 TWP 17-S RGE 31-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY EDDY STATE NM

DESCRIPTION 744' FNL & 2029' FWL

ELEVATION 3854'

OPERATOR DEVON ENERGY CORPORATION

LEASE KEEL "B" #48

U.S.G.S. TOPOGRAPHIC MAP

LOCO HILLS, NEW MEXICO

SCALED LAT. N 32°52'07"

LONG. W 103°53'36"

-N-

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.

Review this plat and notify us immediately of any possible discrepancy.

## TOPOGRAPHIC LAND SURVEYORS

*Surveying & Mapping for the Oil & Gas Industry*


1307 N. HOBART
PAMPA, TX. 79065
(800) 658-6382

6709 N. CLASSEN BLVD.
OKLAHOMA CITY, OK. 73116
(800) 654-3219

2903 N. BIG SPRING
MIDLAND, TX. 79705
(800) 767-1653

# SURFACE USE AND OPERATING PLAN

**J. L. Keel "B" # 48**
**744' FNL & 2029' FWL**
**Section 5-T17S-R31E**
**Eddy County, New Mexico**

1. Existing Roads:

   A. The well site and elevation plat for the proposed J. L. Keel "B" #48 is reflected on Exhibit #2. It was staked by Topographic Land Surveyors, Midland, Texas.

   B. All roads into the location are depicted in Exhibit #3. County Road 221 will be used to access the location. No upgrades to roads other than the access into location from County Road 221 will be necessary.

   C. Directions to location: Frm the JCT of SH 82 & Cnty Rd 217 in Loco Hills, go East 4.1 miles on SH 82, then North 1.5 miles on County Road 221, then Northeast 2 miles on gravel road, then North 1.1 mile, then East 0.2 mile, then North 0.3 mile to a point +/- 800' Southwest of the location.

2. Proposed Access Road:

   Exhibit #3 shows the new access road to be constructed from County Road 221. It 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 cattleguards, grates or fence cuts will be required.

   F. No turnouts are planned.

   G. Electric lines and flowlines will run parallel to the roadway approximately 50' from the center line of the road.

3. Location of Existing Wells:

Exhibit #4 shows all existing wells within a one-mile radius.

4. Location of Existing and/or Proposed Facilities:

A. In the event the well is found productive, it will be added to the J. L. Keel 'B' Battery (refer to Exhibit #5). All J. L. Keel 'B' wells will go to J. L. Keel 'B' Battery located in Section 8-T17S-R31E.

B. The well will be operated by means of an electric motor.

C. 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. Caliche from unused portions of the drill pad will be removed. The original topsoil from the wellsite will be returned to the location. The drill site will then be contoured to the original natural state.

5. Location and Type of Water Supply:

The J. L. Keel "B" #48 will be drilled using a combination of brine and fresh water mud systems (outlined in Drilling Program). The water will be obtained from the existing water line presently supplying fresh water to the unit. Additionally, produced salt water from lease gathering tanks may be used. No water well will be drilled on the location.

6. Source of Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from a existing BLM approved pit. All roads will be constructed of 6" rolled and compacted caliche.

7. Methods of Handling Water Disposal:

A. Drill cuttings will be disposed into the reserve pit.

B. Drilling fluids will be contained in lined earthern mud pit 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 100' x 100' 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 as per the surface owner's specifications. Only the portion of the drilling pad used by the production equipment (pumping unit) will remain in use. If the well is deemed non-commercial, only a dry hole marker will remain.

8. Ancillary Facilities:

No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout:

A. The drill pad is shown on Exhibit #6. Approximate dimensions of the pad, pits and general location of the rig equipment is displayed. Top soil will be stored adjacent to the pad until reclamation efforts are undertaken. Only modest cuts will be necessary to build the pad which will be covered with 6" of compacted caliche.

B. No permanent living facilities are planned, but temporary trailers for the toolpusher, drilling foreman and mud logger may be on location throughout drilling operations.

C. The reserve pit will be lined using plastic sheeting of 5-7 mil thickness.

10. Plans for Restoration of Surface:

A. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the surface owner. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.

B. The pit lining will be buried or hauled away in order to return the location and road to their pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.

C. The location and road will be rehabilitated as recommended by the surface owner.

D. The reserve pit will be fenced on three sides throughout drilling operations. After the rotary rig is removed, the reserve pit will be fenced on the fourth side to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.

E. If the well is deemed commercially productive, the reserve pit will be restored as described in 10 (A) within 120 days subsequent to the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

11. Surface Ownership:

The Bureau of Land Management is the surface owner.

12. Other Information:

A. The area surrounding the well site is grassland. The top soil is very sandy in nature. The vegetation cover is one of a grassland environment and a scrub-grass scrub disclimax communty.

B. There is permanent water (Nakee Ishee Lake) approximately 15 miles W/NW of the location. There is potential water (Cedar Lake Draw) approximately 3 miles SW of the location.

C. A Cultural Resources Examination will be completed by Desert West Arch Service Inc. and forwarded to the Carlsbad, New Mexico BLM office.

13. Lessees's and Operator's Representative:

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

| | |
|---|---|
| William Greenlees | Don Mayberry |
| District Engineer | Production Superintendent |
| 20 North Broadway,Suite 1500 | P. O. Box 250 |
| Oklahoma City, OK 73102 | Artesia, NM 88240 |
| (405) 552-8194 (office) | (505) 748-3371 (office) |
| (405) 773-8929 (home) | (505) 370-6552 (pager) |

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access road; 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: April 18, 2000

Signed: _____
William Greenlees
District Engineer

# DRILLING PROGRAM

**J. L. Keel "B" # 48**
**744' FNL & 2029' FWL**
**Section 5-T17S-R31E**
**Eddy County, New Mexico**

1. Geologic Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geologic Markers:

| Zones | Tops |
|---|---|
| Rustler | 361' |
| Salado | 559' |
| Tansill | 1475' |
| Yates | 1575' |
| Seven Rivers | 1876' |
| Artesia (Queen) | 2480' |
| Grayburg | 2910' |
| San Andres | 3209' |

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

   Water

   Upper Permian: Surface - 300'

   Oil
   Grayburg:/San Andres 2910' - TD

   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 8 5/8" casing at 450" and circulating cement back to surface. The Grayburg and San Andres intervals will be isolated by setting 5-1/2" casing to total depth (4200'±) and circulating cement to surface.

4. Casing Program:

| Hole Size | Interval | Csg OD | Weight, Grade, Type |
|---|---|---|---|
| 17-1/2" | 0-40' | 14" | Conductor, 0.30" wall |
| 12-1/4" | 0-450" | 8-5/8" | 24#, J-55 ERW, FBN ST&C R-3 |
| 7-7/8" | 0-TD | 5-1/2" | 15.5# J-55, ST&C seamless |

Casing Program:

14" Conductor Casing: Cemented with redimix to surface.

8 5/8" Surface Casing: Cemented to surface with 125 sx Lite cmt + 2% CaCl + 1/4 lb/sk Cellophane Flakes and
200 sk Class C + 2% CaCl + 1/4 lb/sk Cellophane Flakes..

5-1/2" Production: Cemented to surface with 550 sk Lite + 4% Gel + 5% NaCl + 1/4 lb/sk Cellophane Flakes and
425 sk Class "H" + 10% Gypsum + 1/4 lb/sk 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 surface.

5. Minimum Specifications for Pressure Control:

A 2000 psi blowout prevention system(BOP), as shown in Exhibit #1, will be utilized. The BOP equipment will consist of a double ram type preventor and/or a bag-type (Hydril) preventor. Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. Both BOP's will be installed on the 8 5/8" surface casing head(2000 psi WP) and utilized continuously until total depth is reached. As per BLM Operations Order #2, prior to drilling out the 8 5/8" casing shoe, the BOP's and Hydril will be function tested. 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 drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP.

Additional accessory BOP equipment will include a kelly cock, floor safety valve, choke lines and choke manifold having a minimum 2000 psi WP rating. The BOP equipment to be utilized is illustrated in Exhibit #1 and #1-A. As the Exhibits reflect, 3000 psig BOP equipment will be utilized during drilling operations. This equipment will be utilized as it is the more readily available BOP equipment; however, the BOP systems maximum pressure will be limited to 2000 psig, which is, the maximum working pressure of the 8 5/8" casing head.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to total depth using brine, cut brine and polymer mud systems. Depths of systems are as follows:

| Depth | Type | Weight (ppg) | Viscosity (1/sec) | Water Loss (cc) |
|---|---|---|---|---|
| 0-450" | Fresh Water | 8.8 | 34-36 | No Control |
| 450"-T.D. | Cut Brine Polymer | 10.0 | 32-36 | 10-20 |

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.

8. Logging, Testing and Coring Program:

A. No drillstem tests are planned.

B. The open hole electrical logging program will be:

| | |
|---|---|
| T.D. to Base of salt (approx 1400'): | Dual Laterolog-Micro SFL with Gamma Ray, Caliper and SP |
| T.D. to Base of salt (approx 1400'): | Compensated Neutron-Litho Density with Gamma Ray and Caliper |
| T.D. to surface: | Gamma Ray/Neutron & Caliper |

C. No coring program is planned.

D. 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.

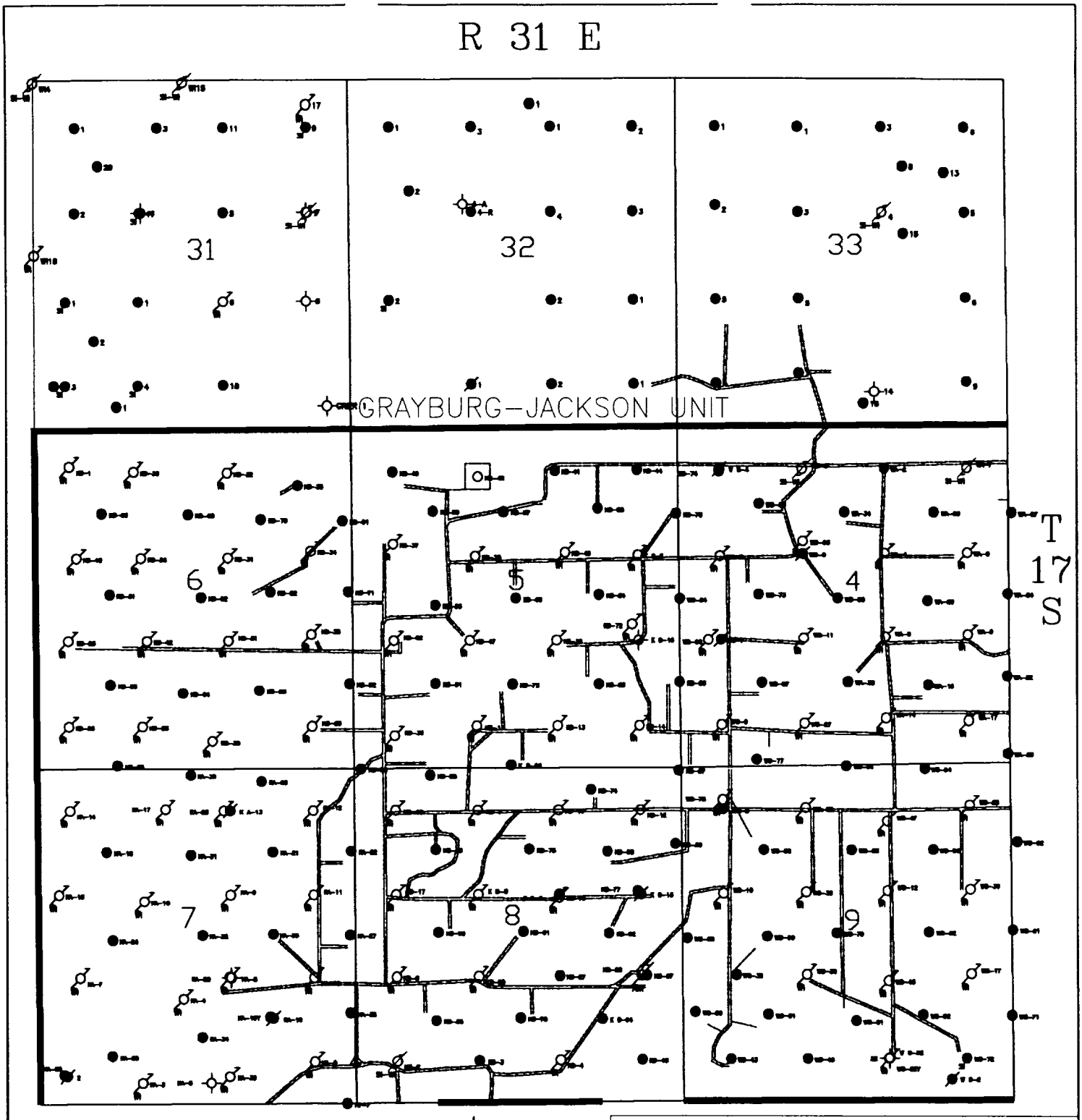
9. Abnormal Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 104 degrees and maximum bottom hole pressure is 800 psig. Hydrogen sulfide gas has been reported or is known to exist in the Grayburg and San Andres formation. An H2S Drilling Operations Plan is included. No major loss circulation intervals have been encountered in adjacent wells.

10. Anticipated Starting Date and Duration of Operations:

Barry Hunt of Carlsbad, New Mexico BLM office will review the proposed pad site for the location. A Cultural Resources Examination will be completed by Desert West Arch Service Inc. and a copy forwarded to the Carlsbad, New Mexico BLM office.

Road and location preparation will not be undertaken until approval has been received from the BLM. The anticipated spud date is approximately June 15, 2000. The drilling operation should require approximately 10 days. If the well is deemed productive, completion operations will require, at minimum, an additional 30 days of testing to ascertain whether permanent production facilities will be constructed.




devon

# GRAYBURG-JACKSON AREA

EDDY COUNTY, NEW MEXICO

ROADS AND ARCH SITE LOCATION
KEEL B-48

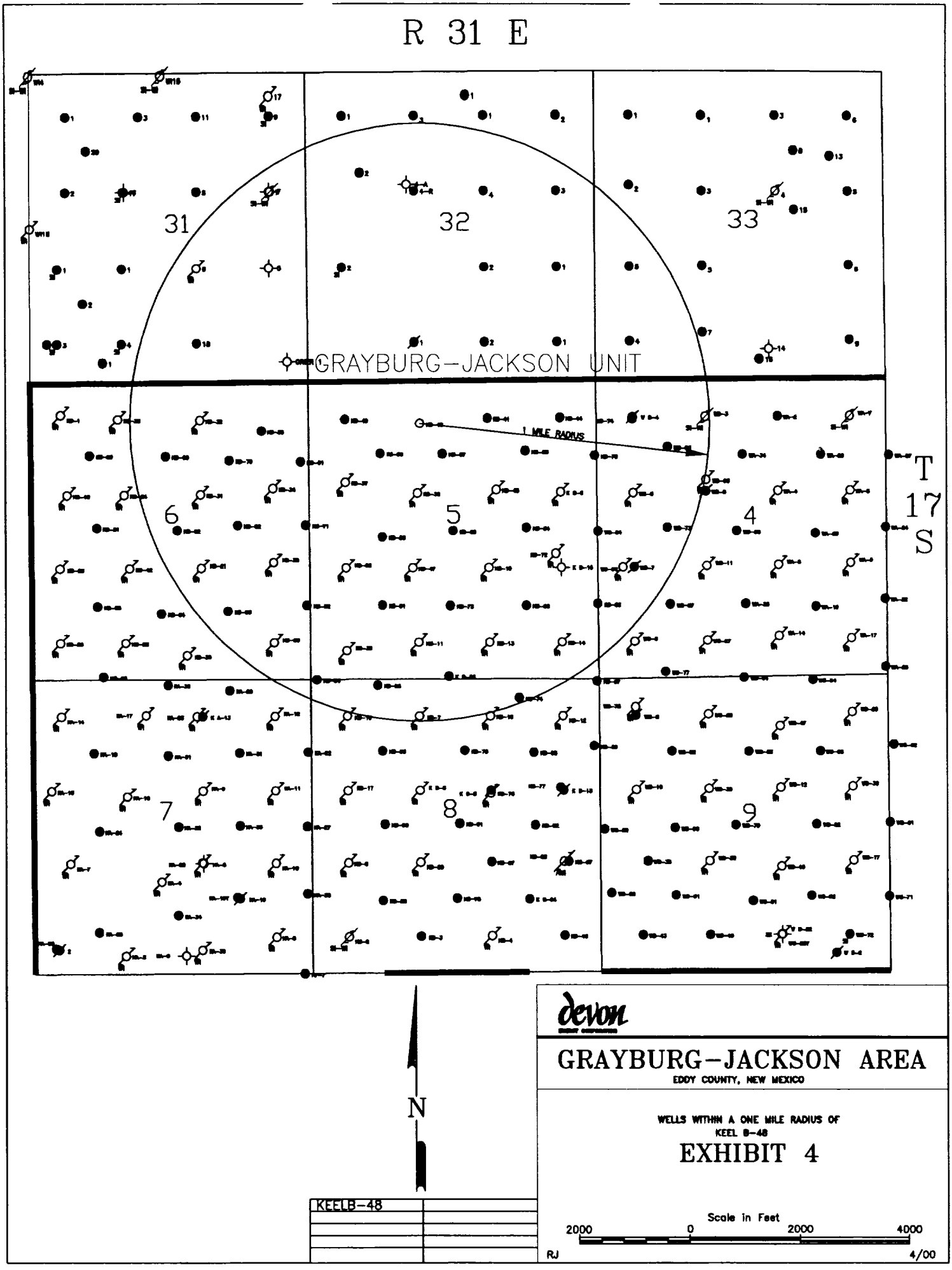
## EXHIBIT 3

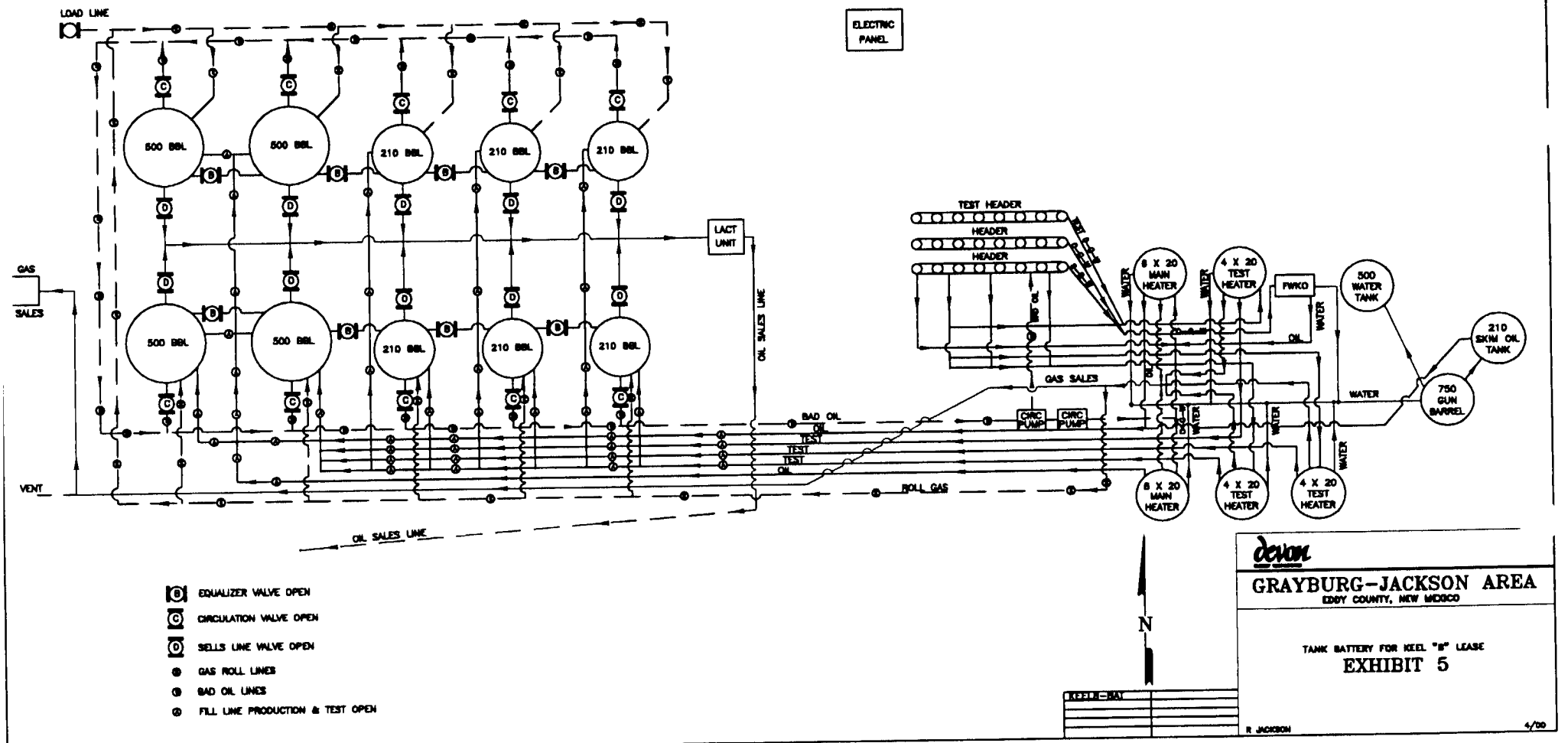
| KEELB-48 | |
|---|---|
| | |
| | |
| | |
| | |

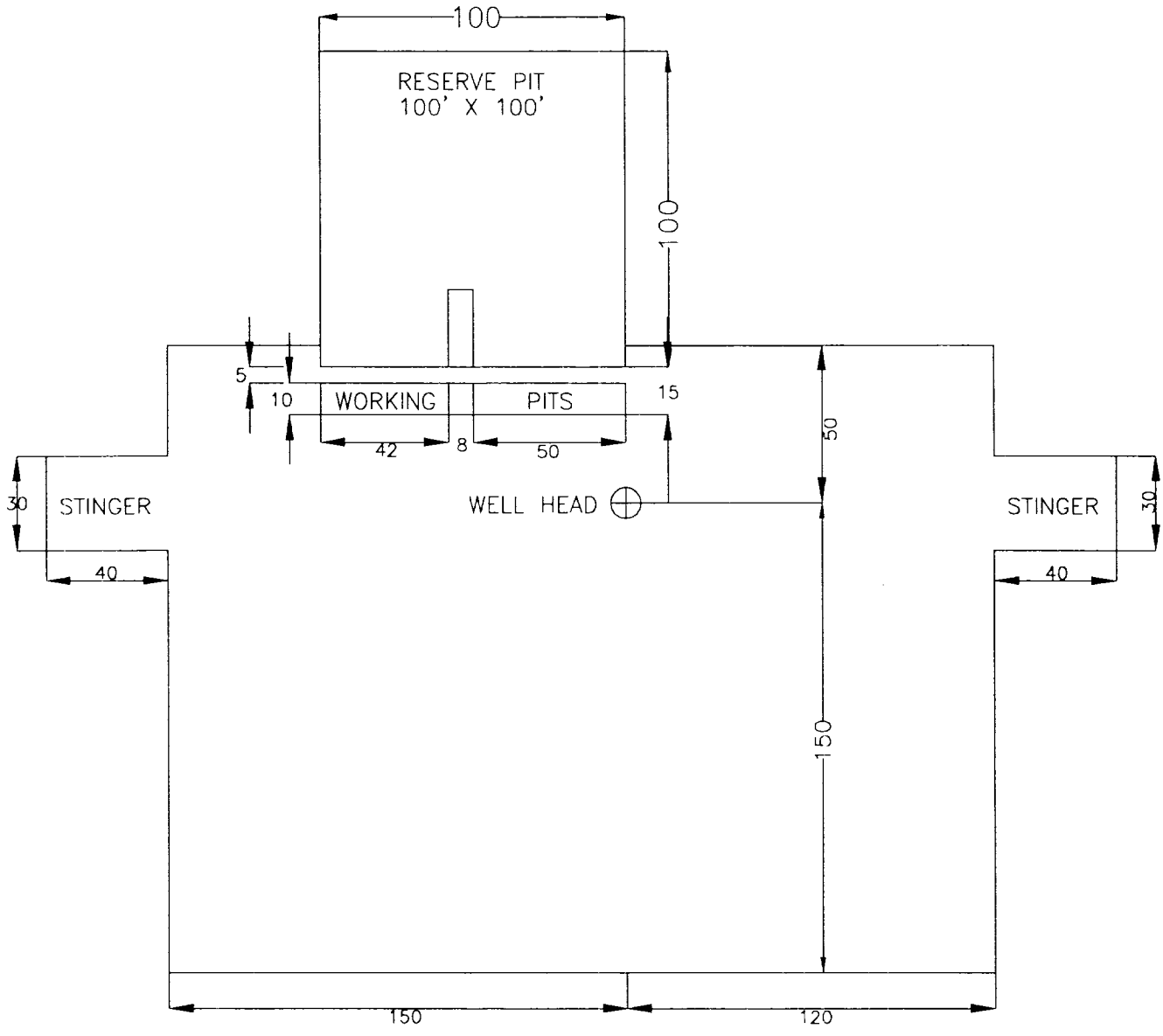
Scale in Feet

2000 0 2000 4000

RJ 4/00


R 31 E
31
32
33
GRAYBURG-JACKSON UNIT
1 MILE RADIUS
T
17
S
6
5
4
7
8
9
N
KEELB-48
devon
GRAYBURG-JACKSON AREA
EDDY COUNTY, NEW MEXICO
WELLS WITHIN A ONE MILE RADIUS OF
KEEL B-48
EXHIBIT 4
Scale in Feet
2000
0
2000
4000
RJ
4/00


LOAD LINE
ELECTRIC PANEL
500 BBL
500 BBL
210 BBL
210 BBL
210 BBL
500 BBL
500 BBL
210 BBL
210 BBL
210 BBL
LACT UNIT
OIL SALES LINE
GAS
SALES
VENT
TEST HEADER
HEADER
HEADER
8 X 20 MAIN HEATER
4 X 20 TEST HEATER
FWKO
500 WATER TANK
210 SKIM OIL TANK
750 GUN BARREL
WATER
OIL
BAD OIL
GAS SALES
CIRC PUMP
CIRC PUMP
TEST
TEST
OIL
ROLL GAS
8 X 20 MAIN HEATER
4 X 20 TEST HEATER
4 X 20 TEST HEATER
OIL SALES LINE
EQUALIZER VALVE OPEN
CIRCULATION VALVE OPEN
SELLS LINE VALVE OPEN
GAS ROLL LINES
BAD OIL LINES
FILL LINE PRODUCTION & TEST OPEN
N
KEEL B-BAT
devon
GRAYBURG-JACKSON AREA
EDDY COUNTY, NEW MEXICO
TANK BATTERY FOR KEEL "B" LEASE
EXHIBIT 5
R JACKSON
4/00




ELEV. 3854 FEET

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GRAYBURG-JACKSON AREA

EDDY COUNTY, NEW MEXICO

DRILL PAD LAYOUT

KEEL B #48

EXHIBIT 6

Scale in Feet

25 0 25 50 75 100

RJ

4/00

| | |
|---|---|
| Well name: | J.L. KEEL "B" #48 |
| Operator: | Devon Energy Corporation(Nevada) |
| String type: | Surface |
| Location: | Grayburg-Jackson Field |

**Design parameters:**

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

**Burst**
Max anticipated surface pressure: 1,678 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 1,732 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: 1.50 (B)

Tension is based on buoyed weight.
Neutral point: 389 ft

**Environment:**
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 81 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 450 ft

Non-directional string.

**Re subsequent strings:**
Next setting depth: 4,200 ft
Next mud weight: 10.000 ppg
Next setting BHP: 2,182 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 4,200 ft
Injection pressure 4,200 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) | Internal Capacity ($ft^3$) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 450 | 8.625 | 24.00 | J-55 | ST&C | 450 | 450 | 7.972 | 21.7 |

| 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 | 210 | 1370 | 6.51 | 1732 | 2950 | 1.70 | 9 | 244 | 26.12 J |

Prepared by: C.H. Carleton, Devon Energy
Phone: (405) 552-4528
Date: February 16,2000
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 450 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.*

Exhibit #7

| | |
|---|---|
| Well name: | **J.L. KEEL "B" #48** |
| Operator: | **Devon Energy Corporation(Nevada)** |
| String type: | Production |
| Location: | Grayburg-Jackson Field |

**Design parameters:**

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

**Burst**
Max anticipated surface pressure: 1,678 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,182 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: 1.50 (B)

Tension is based on buoyed weight.
Neutral point: 3,565 ft

**Environment:**
H2S considered? Yes
Surface temperature: 75 °F
Bottom hole temperature: 134 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 450 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) | Internal Capacity ($ft^3$) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4200 | 5.5 | 15.50 | J-55 | LT&C | 4200 | 4200 | 4.825 | 131.7 |

| 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 | 2182 | 4040 | 1.85 | 2182 | 4810 | 2.20 | 55 | 217 | 3.93 J |

Prepared by: C.H. Carleton, Devon Energy
Phone: (405) 552-4528
Date: February 16,2000
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 4200 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.

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

# DEVON ENERGY CORPORATION (Nevada)

## 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

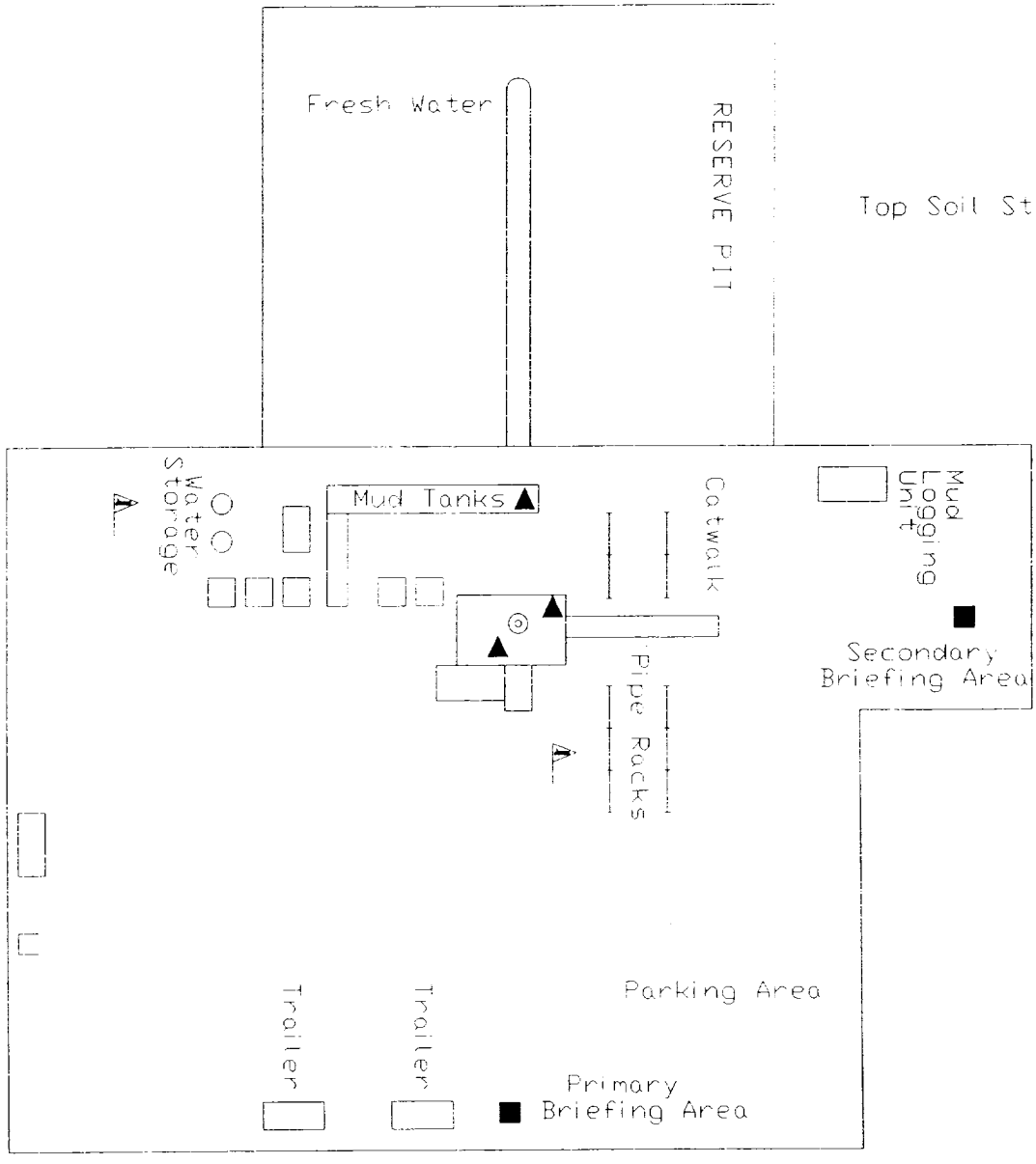
(a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

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.




▲ 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

Prevailing Wind

N

devon ENERGY CORPORATION

# GRAYBURG-JACKSON AREA

EDDY COUNTY, NEW MEXICO

## H2S PLAN

Scale in Feet

25 0 25 50 75 100

File: Q:\\NM\H2S-PLAN 4/97