30-015-27512 C/SF

NM OIL CONS. COMMISSION
Drawer DD
Artesia, NM 88210

Form 3160-3 (December 1990)

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved. Budget Bureau No. 1004-0136 Expires: December 31, 1991

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM0418220-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA

7. UNIT AGREEMENT NAME: NA

8. FARM OR LEASE NAME, WELL NO.: Todd "27N" Federal #5

9. API WELL NO.:

10. FIELD AND POOL, OR WILDCAT: Ingle Wells Delaware

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: N Sec. 27-T23S-R31E

12. COUNTY OR PARISH: Eddy 13. STATE: NM

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Devon Energy Corporation (Nevada)

3. ADDRESS AND TELEPHONE NO.: 20 North Broadway Suite 1500 Oklahoma City, OK 73102 (405) 253-3611

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 330' FSL & 2310' FWL
At proposed prod. zone: same

RECEIVED MAR 01 1993 ... DIST. 6 ... New Mexico

RECEIVED JUL 2 1993 O. C. D. ARTESIA

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 35 miles west-northwest of Jal, NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 330'

16. NO. OF ACRES IN LEASE: 720

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1320'

19. PROPOSED DEPTH: 8350'

20. ROTARY OR CABLE TOOLS: rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3414.1'

22. APPROX. DATE WORK WILL START*: May 1, 1993

23. PROPOSED CASING AND CEMENTING PROGRAM Secretary's Potash/R-111-P Potash

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" WC50	54#	850'-circulate	460 sx LITE + 200 sx Class C
11"	8 5/8" WC/J-55	32#	4400'-circulate	1600 sx LITE + 200 sx Class C
7 7/8"	5 1/2" K-55/N-80	15.5 &17#	8350' (tie back)	1st Stage: 600 sx Silica Lite 2nd Stage: 200 sx Lite + 400 sx Class C + 4% gel

Stage Collar at ±5500'

Devon Energy proposes to drill to approximately 8350' to test the Delaware for commercial quantities of oil. If the Delaware is deemed non-commercial, the wellbore will be plugged and abandoned as per Federal regulations. Programs to adhere to onshore oil and gas regulations are outlined in the following exhibits and attachments.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED, and to NMOCD's R-111-P.

Drilling Program
Surface Use and Operating Plan
Exhibit #1 and #1-A = Blowout Prevention Equipment
Exhibit #2 = Location and Elevation Plat
Exhibit #3 = Planned Access Roads
Exhibit #4 = Wells Within a One Mile Radius
Exhibit #5 = Production Facilities Plat
Exhibit #6 = Rotary Rig Layout
Exhibit #7 = Casing Program
Evidence of Bond Coverage

ID-1 7-9-93 NL+API

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 [signature] TITLE Charles W. Horsman District Engineer DATE 2/26/93

(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/ Kathy Eaton TITLE Acting State Director DATE JUN 14 1993

*See Instructions On Reverse Side

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

ITEM 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR Part 3160.

PRINCIPAL PURPOSE: The information is to be used to process and evaluate your application for permit to drill or deepen an oil or gas well.

ROUTINE USES: (1) The analysis of the applicant's proposal to discover and extract the Federal or Indian resources encountered. (2) The review of procedures and equipment and the projected impact on the land involved. (3) The evaluation of the effects of proposed operation on surface and subsurface water and other environmental impacts. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions, as well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if the operator elects to initiate drilling operation on an oil and gas lease.

BURDEN HOURS STATEMENT

Public reporting burden for this form is estimated to average 30 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management, (Alternate) Bureau Clearance Officer, (WO-771), 1849 C Street, N.W., Washington, D.C. 20240, and the Office of Management and Budget, Paperwork Reduction Project (1004-0136), Washington, D.C. 20503.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq) requires us to inform you that:

This information is being collected to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases.

This information will be used to analyze and approve applications.

Response to this request is mandatory only if the operator elects to initiate drilling operations on an oil and gas lease.

*U.S. GPO: 1991-573-016/26050

SURFACE USE AND OPERATING PLAN

Attachment to Form 3160-3
Devon Energy Corporation
Todd "27N" Federal #5
330' FSL & 2310' FWL
Section 27-T23S-R31E
Eddy County, New Mexico

1. Existing Roads:

   A. The well site and elevation plat for the proposed Todd "27N" Federal #5 are reflected on Exhibit #2. It was staked by John W. West Engineering Company, Hobbs, New Mexico.

   B. All roads into the location are depicted in Exhibit #3. The State Highway 128 will be used to access the location. No upgrades to roads other than the access from State Highway 128 will be necessary.

   C. Directions to location: Travel west-northwest from Jal, N.M. approximately 35 miles on State Highway #128 to County Road #798, just into Eddy County from Lea County. Continue ±1.8 miles west-northwest on State Highway 128. Turn left (west) and go ±700 feet to location.

2. Proposed Access Road:

   Exhibit #3 shows the access road to be constructed from State Highway 128 into the Todd "27N" Federal #5 location. 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. Cattleguards, grates or fence cuts will be built, as necessary.

F. Turnouts will be built, as necessary.

3. Location of Existing Wells:

Exhibit #4 shows all existing wells within a one-mile radius of the proposed Todd "27N" Federal #5. There are 9 producing Delaware oil wells, 3 drilled and abandoned wells and 2 producing Morrow gas wells. A list of the wells is depicted on Exhibit #4 attachment.

4. Location of Existing and/or Proposed Facilities:

A. Devon Energy Corporation operates a production facility on this lease in the southeast quarter of Section 27.

B. In the event the well is found productive, the probable production equipment will be as follows:

a. The well will be connected to the existing facility outlined on Exhibit #5 by boring under the road or a tank battery will be built on the pad of this proposed well. The new tank battery would be configured similar to the existing battery.

b. The tank battery, all connections and all lines will adhere to API standards.

c. The well will be operated by means of a gas driven prime mover. No power will be required.

D. 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 Todd "27N" Federal #5 will be drilled using a combination of brine and fresh water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in Exhibit #3. 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 steel mud tanks. 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 125' x 125' x 6', 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 and saturation of the ground with brine water used to drill from 850' to 4400'.

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 Todd "26G" Federal #2 or Todd "26F" Federal #3 disposal wells. 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 an approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed in 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 BLM 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 are 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 Bureau of Land Management (BLM). 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 BLM.

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 wellsite is on federal lands.

Road routes have been approved and the surface location will be restored as directed by the BLM.

12. Other Information:

A. The area surrounding the well site is grassland. The top soil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebrush, yucca and miscellaneous weeds.

B. There is no permanent or live water in the general proximity of the location.

C. A Cultural Resources Examination has been completed by New Mexico Archaeological Services, Inc. and forwarded to the Carlsbad, New Mexico BLM office. The report references no cultural areas on either the access road or drilling pad.

Lessees's and Operator's Representative:

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

Chuck Horsman District Engineer	Dan Talley Production Foreman
Devon Energy Corporation 1500 Mid-America Tower 20 North Broadway Oklahoma City, Oklahoma 73102	Devon Energy Corporation 422 West Main Suite F Artesia, New Mexico 88210
Phone: (405) 235-3611 (Office) (405) 348-5964 (Home)	 (505) 748-3371 (Office) (915) 746-3671 (Home)

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: February 26, 1993

Signed: Charles W. Horsman
Charles W. Horsman
District Engineer

DRILLING PROGRAM

Attached to Form 3160-3
Devon Energy Corporation
Todd "27N" Federal #5
330' FSL & 2310' FWL
Section 27-T23S-R31E
Eddy County, New Mexico

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Rustler	785'
Top of Salt	1080'
Base of Salt	4180'
Bell Canyon	4410'
Cherry Canyon	5300'
Brushy Canyon	7000'
First Bone Spring Lime	8300'
Total Depth	8350'

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

Upper Permian Sands		Fresh Water
Delaware	4410'	Oil
Delaware (Cherry Canyon)	6010'	Oil
Delaware (Brushy Canyon)	8025'	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 850' and circulating cement back to surface. Potash and salt will be protected by setting 8-5/8" casing at 4400' and circulating cement to surface. The Delaware intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement above the base of the 8-5/8" casing.

4. Casing Program:

Hole Size	Interval	Csg OD	Weight, Grade, Type
25"	0-40'	20"	Conductor, 0.30" wall
17-1/2"	0-850'	13-3/8"	48#, Wildcat 40 (LSS) STC
11"	0-4000'	8-5/8"	32#, Wildcat-50 (LSS) STC
11"	4000'-4400'	8-5/8"	32#, J-55 STC
7-7/8"	0-TD	5-1/2"	15.5 & 17#, K-55, N-80, LT&C, New, R-3

A copy of the casing design program (Lonestar Steel program) is included in Exhibit #7.

Casing Program:

20" Conductor Casing: Cemented with ready-mix to surface.

13-3/8" Surface Casing: Cemented to surface using 460 sx Poz "C" (35:65) + 6% Gel + 1/4# sx Flocele followed by 200 sx Class "C" + 2% CC.

8-5/8" Intermediate Casing: Cemented to surface with 1600 sx Poz "C" (35:65) + 6% Gel + 10% Salt + 1/4# sx Flocele followed by 200 sx Class "C" + 2% CC + 0.25 lb/sx Flocele.

5-1/2" Production Casing: Cemented with 600 sx Class "H" + 3% Salt + 0.6% Halad 322 + 10#/sx Silicalite + 1/4# sx Flocele.

Stage Tool at ±5500'. Cemented with 500 sx Poz "H" (35:65) + 6% Gel + 5% Salt + 1/4# sx Flocele followed by 100 sx Class "H" as in first stage.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach above the 8-5/8" casing seat at 4400'.

5. Minimum Specifications for Pressure Control:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (3M system) double ram type (3000 psi WP)

preventor and a bag-type (Hydril) preventor (3000 psi WP). 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 13-3/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to 1400 psi before drilling out the 13-3/8" casing shoe. Prior to drilling out the 8-5/8" casing shoe, the BOP's and Hydril will be function tested as per BLM Drilling Operations Order #2.

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. 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 brine, cut brine and polymer mud systems. Depths of systems are as follows:

Depth	Type	Weight (ppg)	Viscosity (1/sec)	Waterloss (cc)
0-850'	Fresh Water	8.8	34-36	No Control
850-4400'	Brine Water	10.0	28	No Control
4400-TD	Fresh Water Polymer	8.8	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.

C. Hydrogen sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 8-5/8" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

8. Logging, Testing and Coring Program:

A. Drillstem tests will be based on geological sample shows.

B. The open hole electrical logging program will be:

Total Depth to Intermediate Casing - Dual Laterolog-Micro Laterolog with Sp and Gamma Ray. Compensated Neutron - Z-Density Log with Gamma Ray and Caliper.

Total Depth to Surface - Compensated Neutron with Gamma Ray.

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 125 degrees and maximum bottom hole pressure is 2900 psig. No hydrogen sulfide gas has been reported or is known to exist at these depths in this area. No major loss circulation intervals have been encountered in adjacent wells.

10. Anticipated Starting Date and Duration of Operations:

Notice of Staking (NOS) was sent to the Carlsbad, New Mexico BLM office on January 22, 1993. A Cultural Resources Examination has been completed by New Mexico Archaeological Services, 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 May 20, 1993. The drilling operation should require approximately 20 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.

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

3 MWP

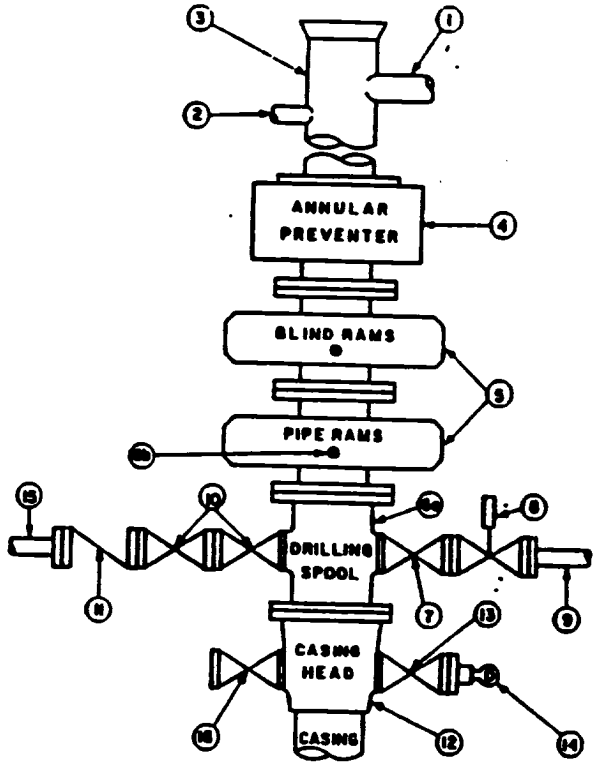
TODD "27N" FEDERAL #5
EDDY COUNTY, NEW MEXICO
EXHIBIT #1

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.

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTORS
Todd "27N" Federal #5
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 3000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 3000 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.

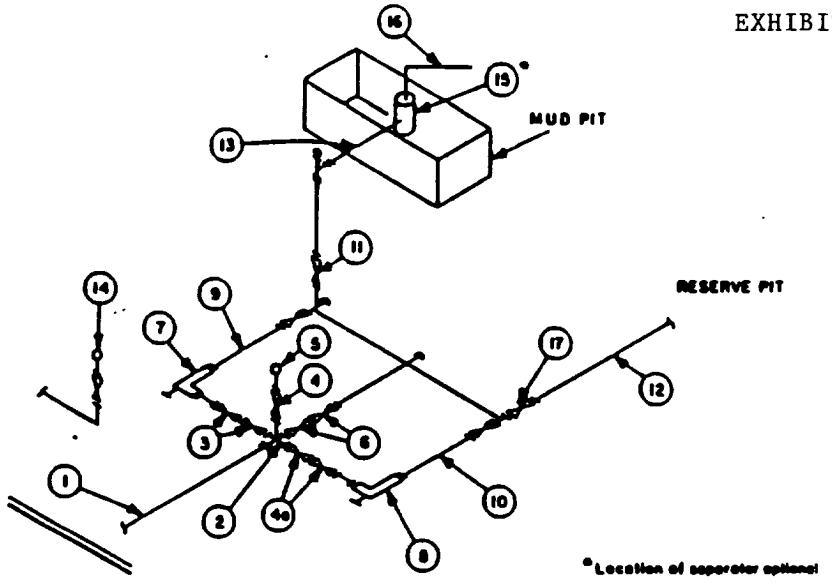
10. Hydraulic floor control for blowout preventor will be located as near in proximity to driller's controls as possible.

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.

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

3 MWP - 5 MWP - 10 MWP

TODD "27N" FEDERAL #5
EDDY COUNTY, NEW MEXICO
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.

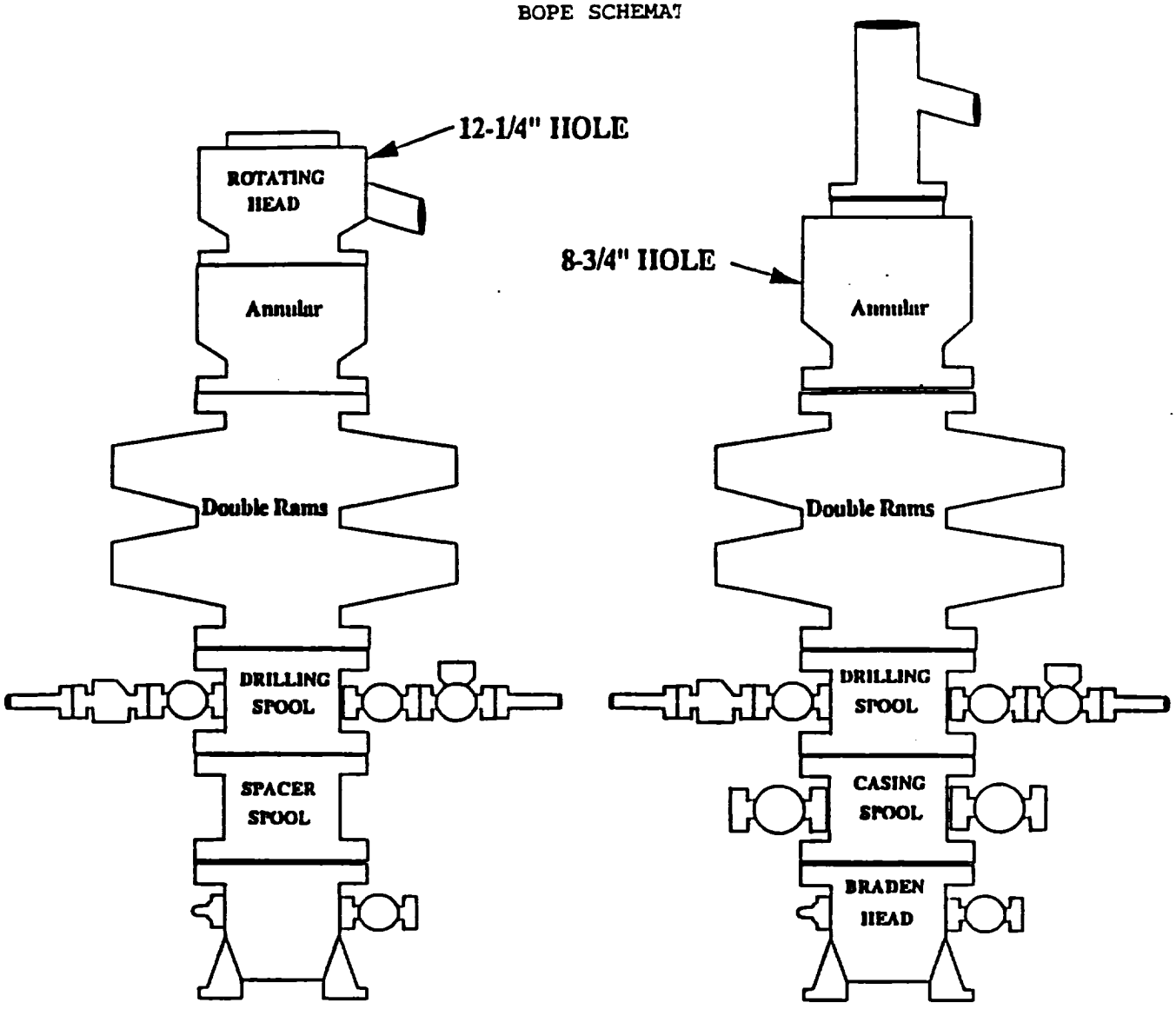
(2) Gate valves only shall be used for Class 10M.

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

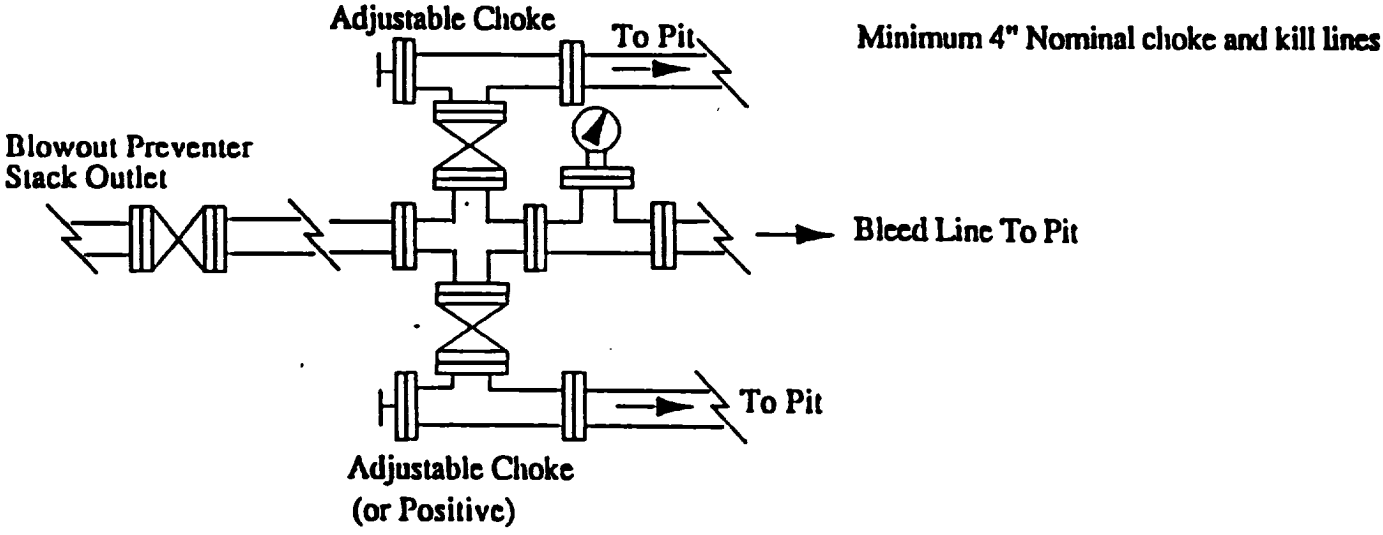
EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

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.

BOPE SCHEMAT



Choke Manifold Requirement (3000 psi WP)



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

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

EXHIBIT #2

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	Lease	Well No.
DEVON ENERGY	TODD "27" N FEDERAL	5

Unit Letter	Section	Township	Range	County
N	27	23 SOUTH	31 EAST NMPM	EDDY

Actual Footage Location of Well:
330 feet from the SOUTH line and 2310 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3414.1	Delaware	Ingle Wells Delaware	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

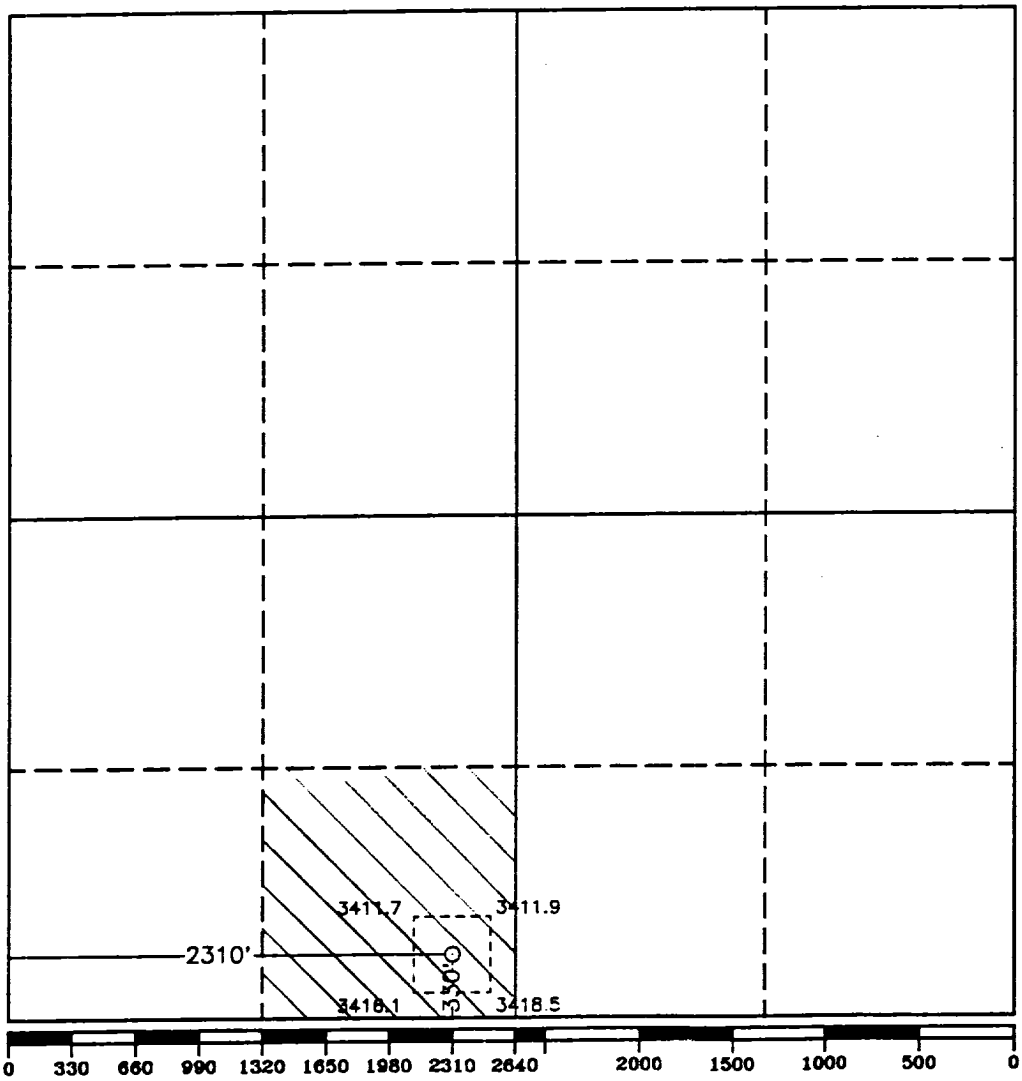
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. 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 of owners and tract descriptions which have actually been consolidated. (Use reverse side of this form necessary. _____

No allowable will be assigned to the well unit all interests have been consolidated (by communitization, unitization, forced-pooling, otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature: Charles W. Horsman

Printed Name: Charles W. Horsman

Position: District Engineer

Company: Devon Energy Corporation (Nevada)

Date: January 22, 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 supervison, and that the same is true and correct to the best of my knowledge and belief.

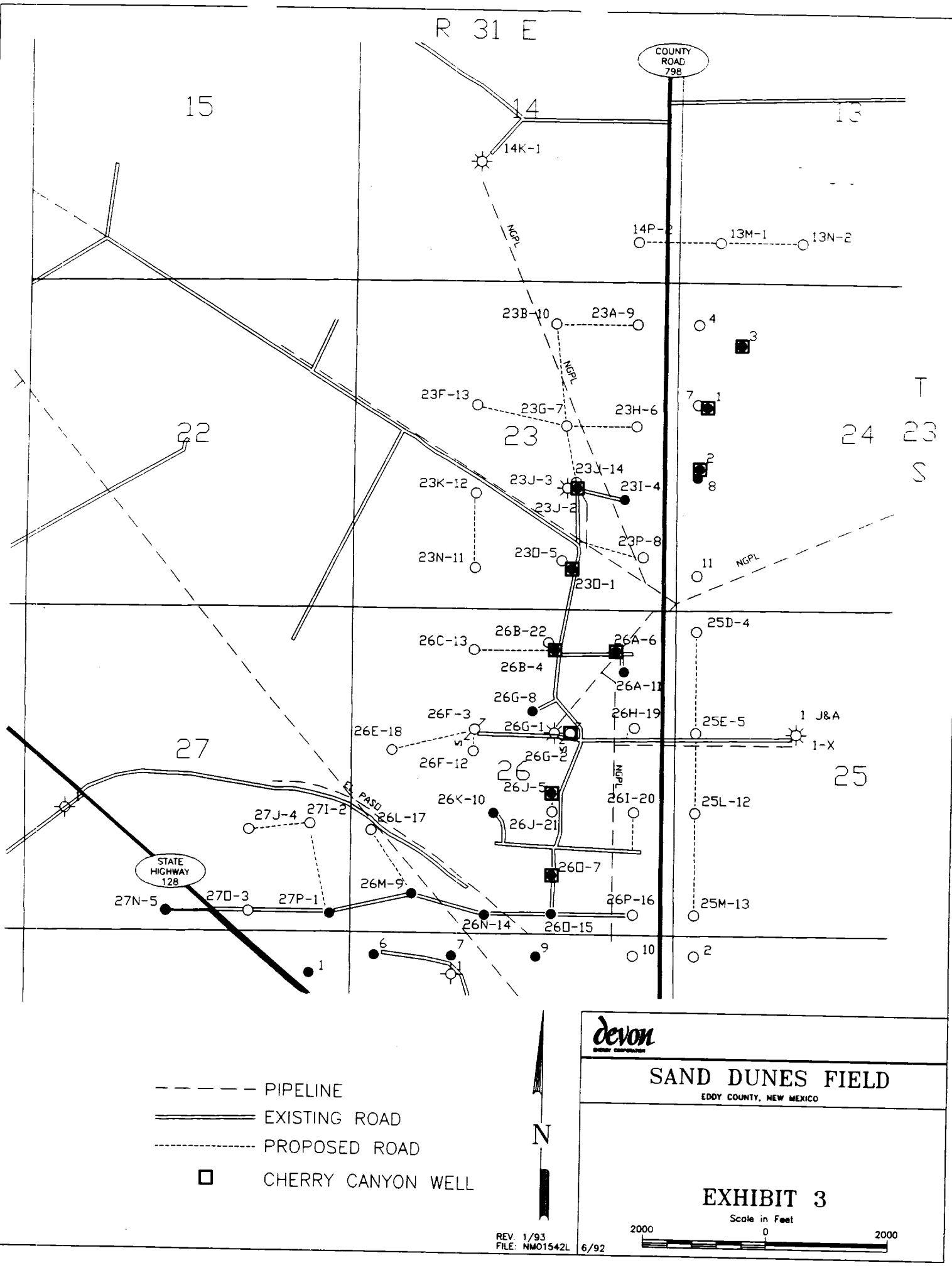
Date Surveyed: DECEMBER 28, 1992

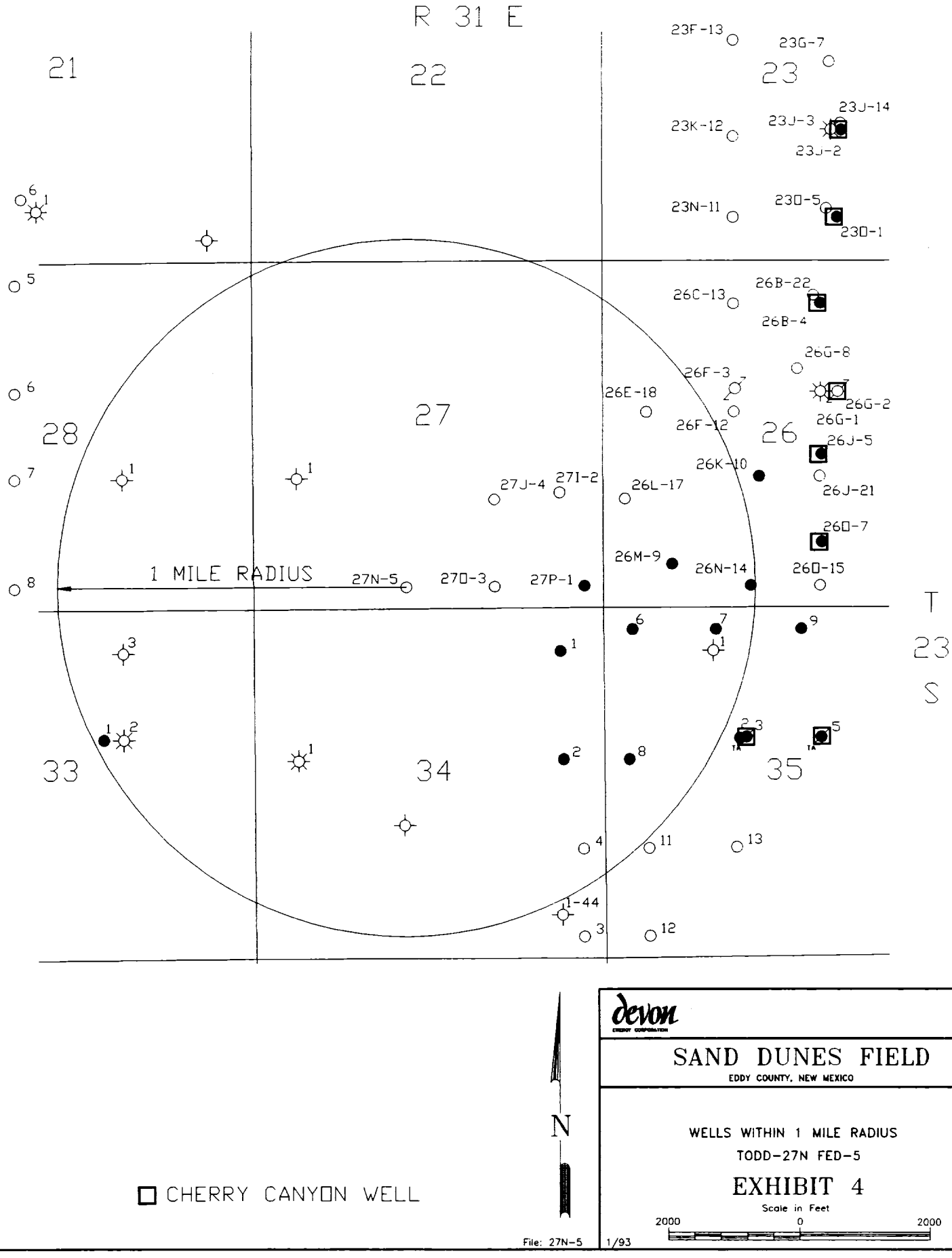
Signature & Seal of Professional Surveyor

NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239
GARY L. JONES, 7977

92-11-2014


R 31 E
T 24 23 S
15
14
13
22
23
24
25
26
27
COUNTY ROAD 798
STATE HIGHWAY 128
EL PASO
NGPL
14K-1
14P-2
13M-1
13N-2
23B-10
23A-9
23F-13
23G-7
23H-6
23K-12
23J-3
23J-14
23I-4
23J-2
23N-11
23O-5
23P-8
23O-1
26C-13
26B-22
26A-6
26B-4
26A-11
26G-8
26F-3
26G-1
26H-19
25E-5
1 J&A
1-X
26E-18
26F-12
26G-2
26J-5
26K-10
26I-20
25L-12
27J-4
27I-2
26L-17
26J-21
26O-7
27N-5
27O-3
27P-1
26M-9
26P-16
25M-13
26N-14
26O-15
PIPELINE
EXISTING ROAD
PROPOSED ROAD
CHERRY CANYON WELL
N
devon
SAND DUNES FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT 3
Scale in Feet
2000
0
2000
REV. 1/93
FILE: NM01542L
6/92


R 31 E
T 23 S
21
22
23
28
27
26
33
34
35
1 MILE RADIUS
23F-13
23G-7
23J-14
23K-12
23J-3
23J-2
23N-11
23O-5
23O-1
26C-13
26B-22
26B-4
26G-8
26F-3
26E-18
26G-2
26G-1
26F-12
26J-5
26K-10
27J-4
27I-2
26L-17
26J-21
26O-7
26M-9
26N-14
26O-15
27N-5
27O-3
27P-1
1-44
N
CHERRY CANYON WELL
devon
SAND DUNES FIELD
EDDY COUNTY, NEW MEXICO
WELLS WITHIN 1 MILE RADIUS
TODD-27N FED-5
EXHIBIT 4
Scale in Feet
2000
0
2000
File: 27N-5
1/93

Attachment to Exhibit #4

STATUS OF WELLS WITHIN ONE MILE RADIUS
Todd "27N" Federal #5
Section 27-T23S-R31E
Eddy County, New Mexico
February 1993

Sec. 26-T23S-R31E

Devon Energy Corp

Todd "26M" Federal #9	660' FSL & 990' FWL	Delaware Oil Well
Todd "26G" Federal #14	330' FSL & 2180' FWL	Delaware Oil Well

Sec. 27-T23S-R31E

Devon Energy Corp

Todd "27P" Federal #1	330' FSL & 330' FEL	Delaware Oil Well

Sec. 28-T23S-R31E

CNG Producing

Sand Dunes "28" Fed. #1	1980' FSL & 1980' FEL	D & A

Sec. 33-T23S-R31E

Santa Fe Energy

Triple S "33" Fed. #1	1980' FNL & 2310' FEL	Delaware Oil Well
S. Silver "33" Fed. #2	1980' FNL & 1980' FEL	Morrow Gas Well

Patoil Corporation

Wright #3	660' FNL & 1980' FEL	D & A

Attachment to Exhibit #4 (continued)

Sec. 34-T23S-R31E

Marland Oil Company

T.L. Gardner #1	2310' FSL & 2310' FWL	D & A

Santa Fe Energy

S. Silver '34" Fed. #1	3300' FSL & 4620' FEL	Morrow Gas Well

Pogo Producing

Sand Dunes "34" Fed. #1	660' FNL & 660' FEL	Delaware Oil Well
Sand Dunes "34" Fed. #2	2310' FNL & 660' FEL	Delaware Oil Well

Sec. 35-T23S-R31E

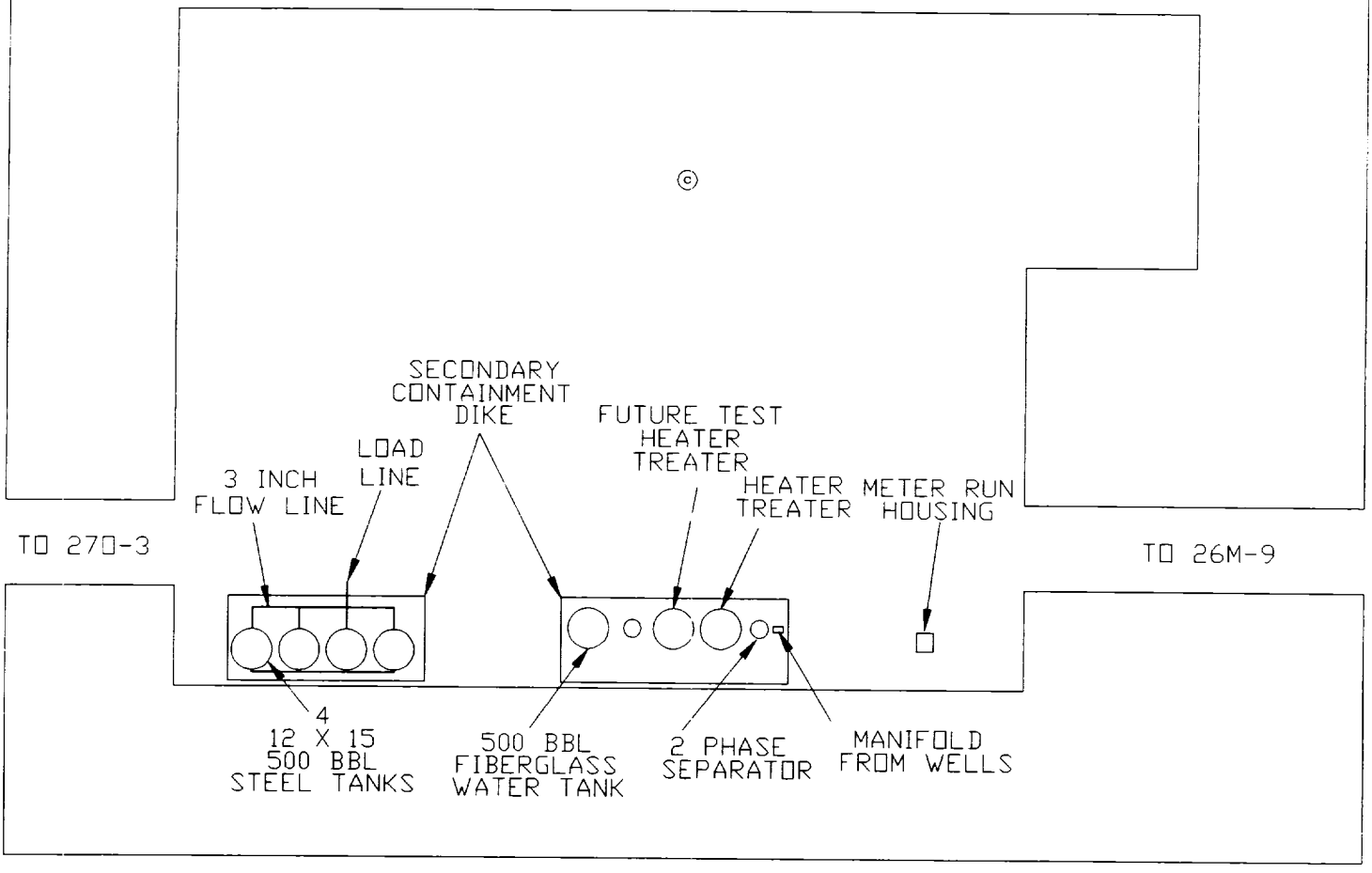
Pogo Producing

Cal-Mon #6	330' FNL & 330' FWL	Delaware Oil Well
Cal-Mon #7	330' FNL & 1650' FWL	Delaware Oil Well
Cal-Mon #8	2310' FNL & 330' FWL	Delaware Oil Well

400

375

PAD OF 27-1
SHOWING BATTERY DESIGN FOR
TODD 27N FEDERAL 5
(LOCATED IN SE/4 SE/4 SECTION 27)



N

File: 27N-5

devon
ENERGY CORPORATION

SAND DUNES FIELD

EDDY COUNTY, NEW MEXICO

PRODUCTION FACILITIES LAYOUT FOR

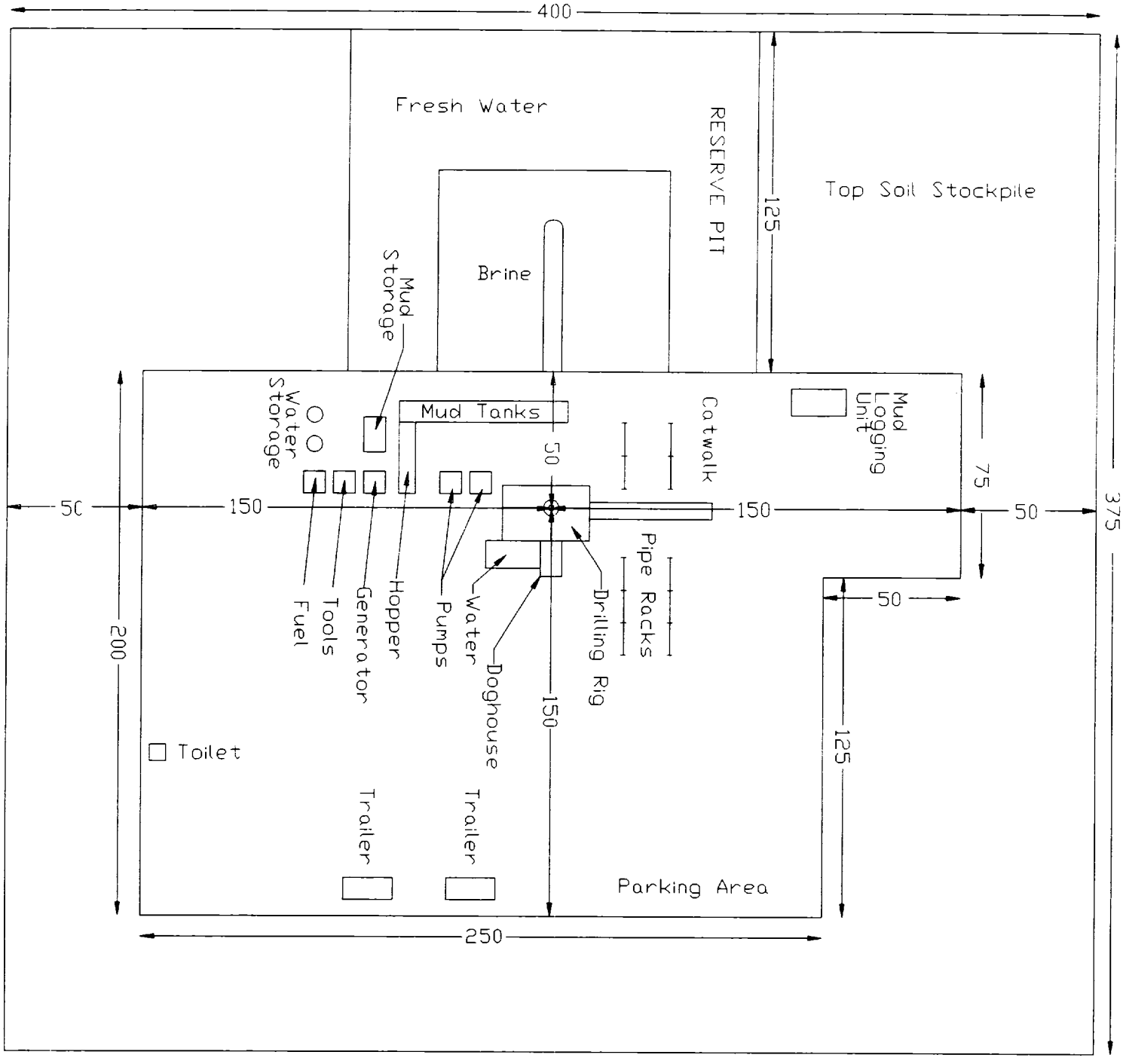
TODD-27N FED-5

EXHIBIT 5

Scale in Feet

25 0 25 50 75 100

1/93



ELEV 3414.1

N

File: 27N-5

Devon

SAND DUNES FIELD

EDDY COUNTY, NEW MEXICO

DRILLING RIG LAYOUT AND ELEVATIONS

TODD-27N FED-5

EXHIBIT 6

Scale in Feet

25 0 25 50 75 100

1/93

DEVON
ENERGY
CORPORATION

1500 Mid-America Tower
20 North Broadway
Oklahoma City, Oklahoma 73102-8260

405/235-3611
TWX 910-831-3277

May 5, 1989

State of New Mexico
Oil & Gas Conservation Commission
State Capitol Building
Santa Fe, NM 87504

Re: Blanket Plugging Bond
State of New Mexico
No. 56-0130-11003-87

Gentlemen:

Devon Energy Corporation formerly Devon Corporation has changed its name to Devon Energy Corporation (Nevada). In this regard, enclosed is a Rider for the referenced bond to include both company names. Please amend your records.

Very truly yours,

Charlene

Charlene Newkirk
Lease Records Supervisor

encls

cc: Carolyn Wilson
McEldowney McWilliams

R I D E R

To be attached to and become a part of Bond No. 56-0130-11003-87-1 issued by the United States Fidelity and Guaranty Company, on behalf of Devon Energy Corporation as Principal, and in favor of State of New Mexico as Obligee, in the penalty of Fifty thousand and no/100 - --- - - - - Dollars ($ 50,000.00) for Blanket plugging bond

It is hereby understood and agreed that effective on the February 10, 1989 the Principal in this bond shall be Devon Energy Corporation (Nevada)

However, the liability of the Surety in the aggregate to the Obligee for any and all defaults of the Principal, whether occuring before or after or partly before and partly after this rider become effective, shall in no event exceed the penalty stated in the bond.

Signed, Sealed, and Dated this 3rd day of March 1989.

Devon Energy Corporation (Nevada)

ATTEST:

Asst. Secretary

By: MARVIN C. LUNDE, JR. Vice President

UNITED STATES FIDELITY AND GUARANTY COMPANY

By: _____ Attorney-in-fact

Marcia C. Brejda

EXHIBIT #7

DEVON ENERGY

Operator: DEVON ENERGY CORP	Well Name: TODD FEDERAL
Project ID:	Location:

Design Parameters:

Mud weight (9.20 ppg) : 0.478 psi/ft
Shut in surface pressure : 765 psi
Internal gradient (burst) : 0.100 psi/ft
Annular gradient (burst) : 0.000 psi/ft
Tensile load is determined using air weight
Service rating is "Sweet"

Design Factors:

Collapse : 1.125
Burst : 1.00
8 Round : 1.80 (J)
Buttress : 1.60 (J)
Body Yield : 1.50 (B)
Overpull : 0 lbs.

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	850	13-3/8	48.00	WC-40	ST&C	850	12.559	

	Collapse Load (psi)	Collapse Strgth (psi)	S.F.	Burst Load (psi)	Min Int Yield Strgth (psi)	S.F.	Tension Load (kips)	Tension Strgth (kips)	S.F.
1	406	740	1.823	850	1700	2.00	40.80	308	7.55 J

Prepared by : C. W. HORSMAN, Oklahoma City, OK
Date : 08-17-1992
Remarks :

Minimum segment length for the 850 foot well is 800 feet.

Surface string:

Next string will set at 4,400 ft. with 10.00 ppg mud (pore pressure of 2,286 psi.) The frac gradient of 1.000 at the casing seat results in an injection pressure of 850 psi. Effective BHP (for burst) is 850 psi.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1990 pricing model. (Version 1.0G)

EXHIBIT #7

DEVON ENERGY

Operator: DEVON ENERGY CORP	Well Name: TODD FEDERAL
Project ID:	Location:

Design Parameters:

Mud weight (9.80 ppg) : 0.509 psi/ft
Shut in surface pressure : 3596 psi
Internal gradient (burst) : 0.100 psi/ft
Annular gradient (burst) : 0.000 psi/ft
Tensile load is determined using air weight
Service rating is "Sweet"

Design Factors:

Collapse : 1.125
Burst : 1.00
8 Round : 1.80 (J)
Buttress : 1.60 (J)
Body Yield : 1.50 (B)
Overpull : 0 lbs.

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	4,000	8-5/8"	32.00	WC-50	ST&C	4,000	7.796	
2	400	8-5/8"	32.00	J-55	ST&C	4,400	7.875	

	Collapse Load (psi)	Collapse Strgth (psi)	Collapse S.F.	Burst Load (psi)	Min Int Yield Strgth (psi)	Burst S.F.	Tension Load (kips)	Tension Strgth (kips)	Tension S.F.
1	2036	2421	1.189	3596	3600	1.00	140.80	341	2.42 J
2	2240	2530	1.129	3636	3930	1.08	12.80	372	29.06 J

Prepared by : C. W. HORSMAN, Oklahoma City, OK
Date : 08-17-1992
Remarks :

Minimum segment length for the 4,400 foot well is 800 feet.
Surface/Intermediate string:
Next string will set at 8,400 ft. with 9.25 ppg mud (pore pressure of 4,036 psi.) The frac gradient of 1.000 at the casing seat results in an injection pressure of 4,400 psi. Effective BHP (for burst) is 3,636 psi.
The minimum specified drift diameter is 7.875 in.

NOTE: The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.
Costs for this design are based on a 1990 pricing model. (Version 1.0G)