If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

ATS-08-90

RESUBMITTAL

NOV 27 2007

OCD-ARTESIA

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No **LC-061783-B**	
6. If Indian, Allotee or Tribe Name	
1a Type of work: ☑ DRILL ☐ REENTER	7 If Unit or CA Agreement, Name and No
1b. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8 Lease Name and Well No. **Mann 3 Federal 4**
2. Name of Operator **Devon Energy Production Company, LP**	9 API Well No. 30-015-35936
3a Address **20 North Broadway, Oklahoma City, Oklahoma 73102-8260** 3b. Phone No. *(include area code)* **405-552-8198**	10 Field and Pool, or Exploratory **Red Lake; Glorieta-Yeso, NE**
4 Location of Well *(Report location clearly and in accordance with any State requirements *)* At surface **SWSW Lot M 452 FSL 867 FWL** At proposed prod zone **SWSW Lot M 452 FSL 867 FWL**	11 Sec., T R M. or Blk and Survey or Area **Sec. 3 18S 27E, Unit M**
14 Distance in miles and direction from nearest town or post office* **Approximately 7 miles southeast of Artesia, New Mexico**	12 County or Parish **Eddy County** 13 State **NM**
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg. unit line, if any) **867' FWL** 16 No. of acres in lease **80 acres** 17 Spacing Unit dedicated to this well **40 acres**	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **344' - Mann Federal 1** 19 Proposed Depth **4000 MD** 20 BLM/BIA Bond No on file **CO-1104**	
21. Elevations (Show whether DF, KDB, RT, GL, etc) **3541' GL** 22 Approximate date work will start* **12/31/2007** 23 Estimated duration **45 days**	

24 Attachments

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

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

25. Signature	Name *(Printed/Typed)* **Norvella Adams**	Date **10/16/2007**
Title **Sr. Staff Eng. Tech**		
Approved by *(Signature)* /s/ James A. Amos	Name *(Printed/Typed)* /s/ James A. Amos	Date NOV 23 2007
Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
	96836	REDLAKE; GLORIETA-YESO, NE

[4] Property Code	[5] Property Name	[6] Well Number
23715	MANN 3 FEDERAL	4

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY	3541'

[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
M	3	18 S	27 E		452	SOUTH	867	WEST	EDDY

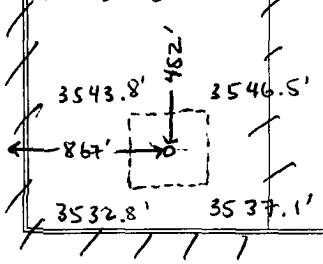
[11] Bottom Hole Location If Different From Surface

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.
40			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

10/08/07
Signature Date

Norvella Adams
Printed Name

[18] 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

July 24, 1998
Date of Survey

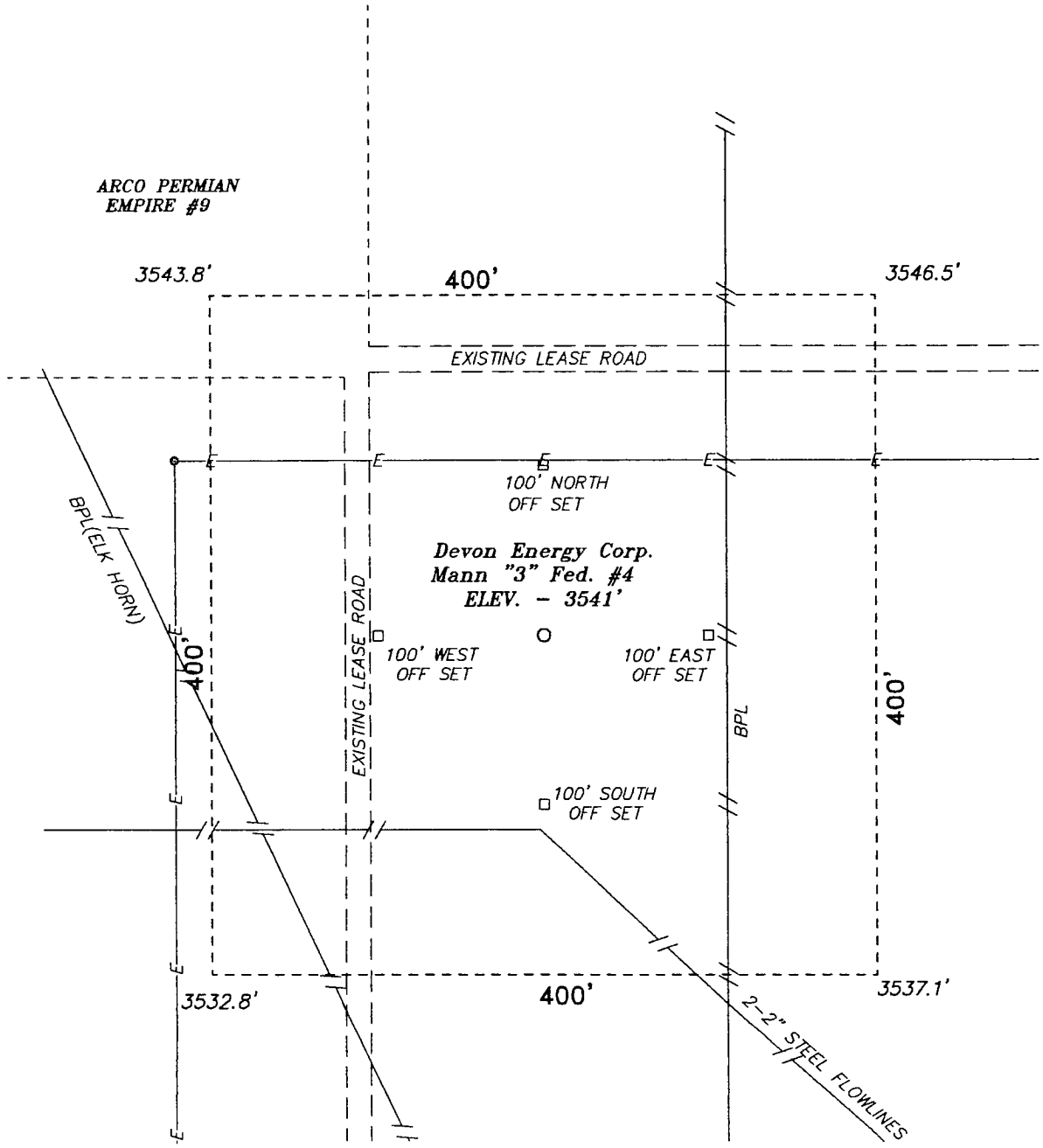
Signature and Seal of Professional Surveyor

Gary L. Jones 7977
Certificate Number

EXHIBIT # 3

SECTION 3, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

Devon Energy Corp.

REF: Mann "3" Fed. No. 4 / Well Pad Topo

THE MANN "3" FED. No. 4 LOCATED 452' FROM THE SOUTH LINE AND 867' FROM THE WEST LINE OF SECTION 3, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 8297	Drawn By: K. GOAD		
Date: 08-04-98	Disk: KJG #115 – 8297K.DWG	Survey Date: 07-24-98	Sheet 1 of 1 Sheets

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:

JUN 05 2003

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

Re: Red Lake Field Area
Master Drilling and Surface Use Plan
Eddy County, New Mexico

The master drilling and surface use plan, dated May 6, 2003, for the Red Lake Field Area in Townships 17 and 18 South, Range 27 East, Eddy County, New Mexico, is now approved. Several corrections have been made to the attached list describing the field area. An approved copy is attached for your records.

Please note that the surface casing setting depth may change in individual APD (Form 3160-4) submittals because the depth of the expected fresh water varies across this area.

If you have any questions, please contact Alexis C. Swoboda, P.E. at 505-627-0228.

Sincerely,

Larry D. Bray

Larry D. Bray
Assistant Field Manager
Lands and Minerals

MASTER SURFACE USE AND OPERATING PLAN
Red Lake Field

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 2	NMNM 2029-634 NMNM-B-1483	NE4/NW4, NW4/NE4	**T18S-R27E**
Section 3	NMLC 065478-B NMNM 015605 NMLC 061783-B	All of Section 3 except S2/N24	**T18S-R27E**
Section 4	NMNM 033825 NMLC 055465-A NMNM 29278 NMNM 025530 NMLC 070937 NMLC 061783-A NMNM 7720	All of Section 4 except N2/NW4 and NW4/SW4	**T18S-R27E**
Section 25	NMNM 0558679	W2NW4	**T17S-27E**
Section 26	NMNM 0557370	E2 NE/4, E2SE/4, S/2 SW/4	**T17S-R27E**
	NMNM 0558679	SW4NW4, NW4SW4	
Section 27	NMLC 067849	N2, N2/S2	**T17S-R27E**
	NMNM 0557370	S/2S/2,	
Section 28	NMLC 067849	NE4/NE4	
Section 33	NMLC 026874-F	NW4, NW4SW4	**T17S-R27E**
	NMLC 026874-B	SE4SW4	
	NMLC 049648-B	NE4SW4	
	NMNM 025528	N2NE4, SW4NE4	
	NMNM 056122	SE4NE4	
	NMNM 033865	N2SE4	
	NMNM 025528	S2SE4	
Section 34*	NMLC 064050-A	E2, NW4, NE/4 SE/4	**T17S-R27E**
	NMLC 067849	W2 NW4, SW4	
	NMNM 0557370	NE/4, NW/4SE/4,	
Section 35	NMLC 064050-A	NW4SW4	**T17S-R27E**
	NMLC 067849	NW/4NW/4	
	NMLC 057798	SW4SW4, N/2SE4 NE/4SW/4, SE/4,SE/4	
	NMLC 028755-A	SE/4SW/4, SW/4SE/4	
	NMNM 0557370	SW/4NW/4	
	NMLC050158	E/2NE/4, E/2NW/4	

* NM 29270

Master Drilling Program
Red Lake Field

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 2	NMNM 2029-634 NMNM-B-1483	NE4/NW4, NW4/NE4	T18S-R27E
Section 3	NMLC 065478-B NMNM 015605 NMLC 061783-B	All of Section 3 except S2/N~~2~~W4~~-~~	T18S-R27E
Section 4	NMNM 033825 NMLC 055465-A NMNM 29278 NMNM 025530 NMLC 070937 NMLC 061783-A NMNM 7720	All of Section 4 except N2/NW4 and NW4/SW4	T18S-R27E
Section 25	NMNM 0558679	W2NW4	T17S-27E
Section 26	NMNM 0557370	E2 NE/4, E2SE/4, S/2 SW/4	T17S-R27E
	NMNM 0558679	SW4NW4, NW4SW4	
Section 27	NMLC 067849	N2, N2/S2	T17S-R27E
	NMNM 0557370	S/2S/2,	
Section 28	NMLC 067849	NE4/NE4	
Section 33	NMLC 026874-F	NW4, NW4SW4	T17S-R27E
	NMLC 026874-B	SE4SW4	
	NMLC 049648-B	NE4SW4	
	NMNM 025528	N2NE4, SW4NE4	
	NMNM 056122	SE4NE4	
	NMNM 033865	N2SE4	
	NMNM 025528	S2SE4	
Section 34	NMLC 064050-A	E2 NW4, NE/4 SE/4	T17S-R27E
	NMLC 067849	W2 NW4, SW4	
	NMNM 0557370	NE/4, NW/4SE/4,	
Section 35	NMLC 064050-A	NW4SW4	T17S-R27E
	NMLC 067849	NW/4NW/4	
	NMLC 057798	SW4SW4, N/2SE4 NE/4SW/4, SE/4,SE/4	
	NMLC 028755-A	SE/4SW/4, SW/4SE/4	
	NMNM 0557370	SW/4NW/4	
	NMLC050158	E/2NE/4, E/2NW/4	

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

NM 29270 SESE

MASTER DRILLING PROGRAM
RED LAKE FIELD
Attachment A

To be attached to Form 3160-3

UNIT AREA: Leases in the following Sections located in Township 18 South, Range 27 East, Eddy County, New Mexico operated by Devon Energy Production Company, L. P.

Township 18 South, Range 27 East	Federal Leases	Description
Section 5	USA NM-7714	S/2 SW; SE SE
	USA LC-055383-A	S/2 SW; SE SE; NE SE
	USA LC-064384	Lots 1 & 2; S/2 NE
	USA LC-049648-A	NW SW; SW NW
Section 6	USA NM-7711	SE SE
	USA LC-026874-A	SE SE; SW SW
	USA LC-060894	E/2 SW; SE NW
	USA LC-049648-B	NE SE; SW SE
	USA LC-069274	Lots 3, 4, 5, & 6
	USA LC-026874-B	Lot 2; SW NE
	USA LC-026874-F	Lot 1; SE NE
Section 7	USA LC-067981-A	SW NE; NE SE
	USA NM-7718	NW NE
	USA NM-7715	SW NE; NE SE
	USA NM-7719	E/2 NE
Section 8	USA NM-29275	NE SE
	USA LC-070678-A	SE NW; W/2 NW; N/2 SW; SW SE
	USA LC-043894	SW NE
	USA LC-054205	N/2 NE; NE NW; SE NE
	USA NM-7712	SW NE
	USA NM-7713	N/2 NE; NE NW; SE NE
	USA NM-7716	SE NW; W/2 NW
	USA NM-29268	SE NE
	USA NM-29273	SE SE
	USA NM-89156	NW SE; SE SW
	USA NM-7718	NE SE
Section 9	USA NM-031186	N/2 NW; S/2 NW
	USA NM-7721	N/2 NW
	USA NM-025604	NE; N/2 SE
	USA LC-065478-B	S/2 SE
Section 10	USA NM-025604	NW; SW
	USA LC-065478-B	N/2 NE; S/2 NE
Section 17	USA NM-0758	NE NW; SW SE
Section 20	USA NM-0758	SE NE; W/2 NE; NW NW;

Additional Operator Remarks:

Devon Energy Production Company, LP proposes to drill a San Andres, Glorieta Yeso well per the approved Master Drilling and Surface Use Plan and Attachment A for the Red Lake Field Area to 4000' TD for commercial quantities of oil and gas. If the well is deemed noncommercial, the well bore will be plugged and abandoned per Federal regulations.

Directions: From Artesia go east on Highway 82 for 4.5 miles to Chalk Bluff Road. Turn south off Highway 82 onto Chalk Bluff Road and go approximately 4.2 miles. Turn east (left) onto Little Diamond Road and go approximately 1.4 miles. Turn south (right) onto lease road and go 0.4 mile to the location for the Mann 3 Federal 4.

Please see attached MDSUP and Attachment A.

Devon intends to lay flowlines from the Mann 3 Federal 4 well to the existing Mann 3 Battery located in NW/SW of Section 3 T18S R27E.

MASTER DRILLING PROGRAM
RED LAKE FIELD
Devon Energy Production Company, LP
Revised 8/02/07

1. Geologic Name of Surface Formation

a. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a.	Queen	879'	Water
b.	Grayburg	1330'	Oil
c.	San Andres	1610'	Oil
d.	Glorieta-Yeso	2960'	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 8 5/8" casing at approximately 1150' and circulating cement back to surface. A shallower setting depth may be required to prevent the surface casing from being set through the Premier Sand. The Grayburg and San Andres intervals will be isolated by setting 5 1/2" casing to total depth (4000'+/-) and circulating cement to surface.

Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
12 1/4"	0'- 1150'	8 5/8"	0'- 1150'	24#	ST&C	J-55
7 7/8"	0'- 4000'	5 ½"	0'- 4000'	15.5#	ST&C	J-55

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
8 5/8"	2.61	2.57	8.84
5 ½"	2.05	2.44	3.26

3. Cement Program:

a. 8 5/8" Surface — Cement to surface with Lead; 475 sx (35:65) Poz Classs C cement + 2% bwoc $CaCl_2$ + 0.125 lbs/sx Cello Flake + 6% bwoc Bentonite; 12.80 ppg, 1.83 cf/sx, 9.76 gps. Tail with 250 sx Class C cement + 2% bwoc $CaCl_2$ + 0.125 lbs/sx Cello Flake; 14.8 ppg, 1.35 cf/sx, 6.35 gps.

b. 5 1/2" Production — Cement to surface with Lead; 180 sx (35:65) Poz Class C cement + 5% bwow NaCl + 0.125 lbs/sx Cello Flake + 6% bwoc Bentonite; 12.7 ppg, 1.94 cf/sx, 10.51 gps. Tail with 510 sx (60:40) Poz Class C cement + 5% bwow Sodium Chloride + 0.75% bwoc BA-

10 + 0.125 lbs/sx Cello Flake + 0.4% bwoc Sodium Metasillicate + 4% bwoc MPA-1. 13.8 ppg, 1.37 cf/sx, 6.33 gps.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach to surface. All casing is new and API approved.

4. **Pressure Control Equipment:**
The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of either a single annular preventor or a double ram type preventor (2000 psi WP). The unit will be hydraulically operated and will be equipped with either a single annular preventor or a set of double rams (blind rams and 4 ½" drill pipe ram). The BOP will be installed on the 8 5/8" surface casing and utilized continuously until total depth is reached. Prior to drilling out the 8 5/8" casing shoe, the BOP's and Hydril will be tested with the rig pump to 1000 psi. ← See COA

The BOP system will be function tested and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold.

5. **Proposed Mud Circulation System**

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 1150'	8.5 – 9.4	32-34	NC	Fresh Water
1150'– TD	10.0–10.2	28-32	NC	Fresh Water/Cut Brine

The necessary mud products for weight addition and fluid loss control will be on location at all times.

6. **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 the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 8 5/8" shoe until total depth is reached.

7. **Logging, Coring, and Testing Program:**
   a. Drill stem tests will be based on geological sample shows.
   b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
   c. The open hole electrical logging program will be:
      i. Total Depth to Intermediate Casing — Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
      ii. Total Depth to Surface — Compensated Neutron with Gamma Ray
      iii. No coring program is planned

iv. 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.

8. Potential Hazards:

a. No abnormal pressures or temperatures are expected. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 800 psi and Estimated BHT 90° F.

9. Anticipated Starting Date and Duration of Operations:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 10-15 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 or new production facility.

EXHIBIT # 6

Well name:	**West Red Lake Area**
Operator:	**Devon Energy Corporation**
String type:	Surface
Location:	Eddy County, NM

Design parameters:

Collapse
Mud weight: 9.630 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 717 psi
Internal gradient: 0.000 psi/ft
Calculated BHP 717 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: 984 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 77 °F
Temperature gradient: 0.20 °F/100ft
Minimum section length: 1,150 ft

Non-directional string.

Re subsequent strings:
Next setting depth: 4,000 ft
Next mud weight: 9.630 ppg
Next setting BHP: 2,001 psi
Fracture mud wt: 12.000 ppg
Fracture depth: 1,150 ft
Injection pressure 717 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	1150	8.625	24.00	J-55	ST&C	1150	1150	7.972	55.4

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	575	1370	2.38	717	2950	4.12	24	244	10.33 J

Prepared by: Jim Linville, Devon Energy
Phone: (405) 228-4621
FAX: (405) 552-4621
Date: March 12,2001
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 1150 ft, a mud weight of 9.63 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:	West Red Lake Area
Operator:	Devon Energy Corporation
String type:	Production
Location:	Eddy County, NM

Design parameters:

Collapse
Mud weight: 9.630 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 2,001 psi
Internal gradient: 0.000 psi/ft
Calculated BHP 2,001 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: 3,417 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 95 °F
Temperature gradient: 0.50 °F/100ft
Minimum section length: 1,500 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	4000	5.5	15.50	J-55	LT&C	4000	4000	4.825	125.4

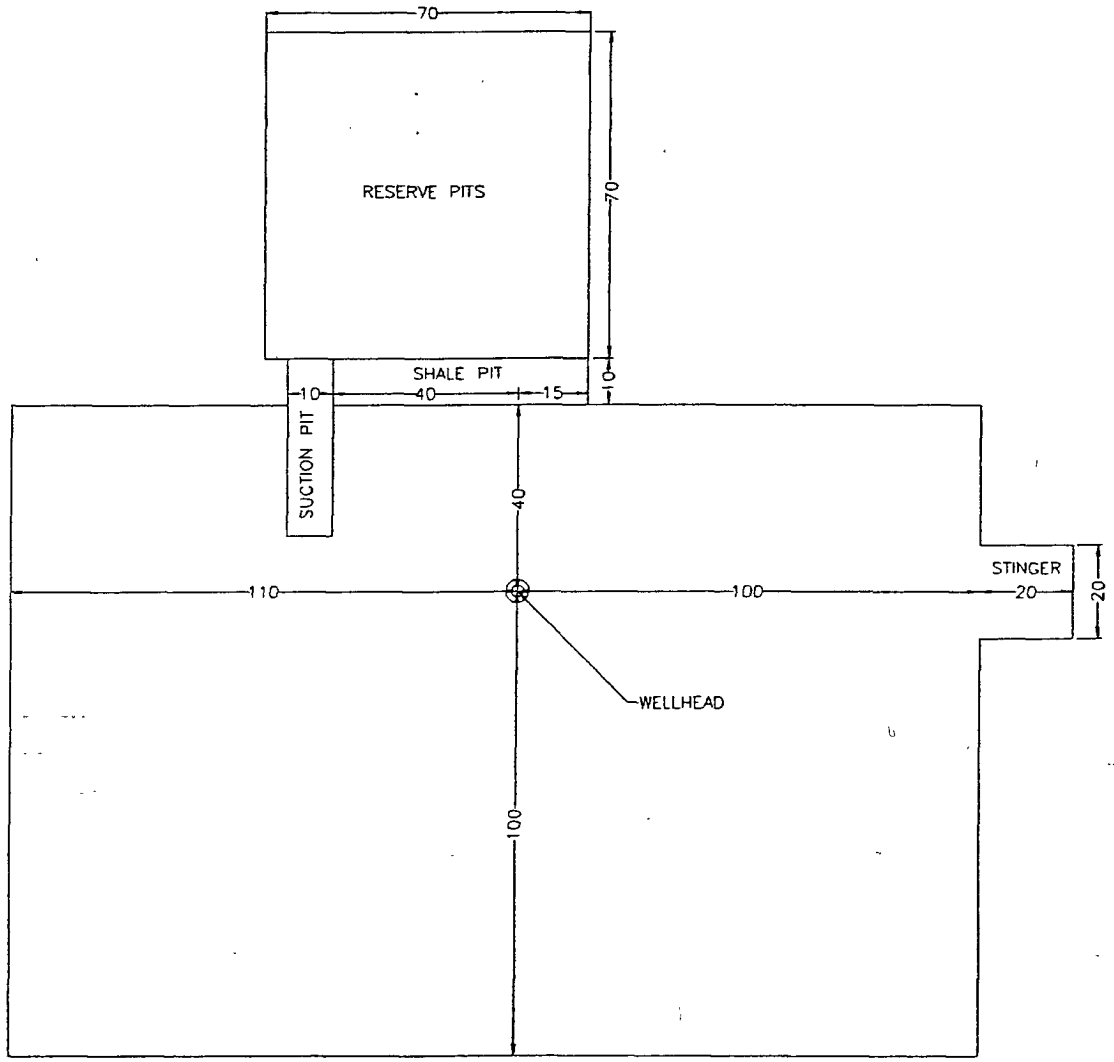
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	2001	4040	2.02	2001	4810	2.40	53	217	4.10 J

Prepared by: Jim Linville, Devon Energy
Phone: (405) 228-4621
FAX: (405) 552-4621
Date: March 12,2001
Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 4000 ft, a mud weight of 9.63 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.



See COA
Rd North

N

FILE:

devon
ENERGY CORPORATION

WEST RED LAKE AREA

EDDY COUNTY, NEW MEXICO

DRILLING PAD

EXHIBIT 5

Scale in Feet

25 0 25 50 75 100

EB 6/96

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTORS
West Red Lake Area
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.

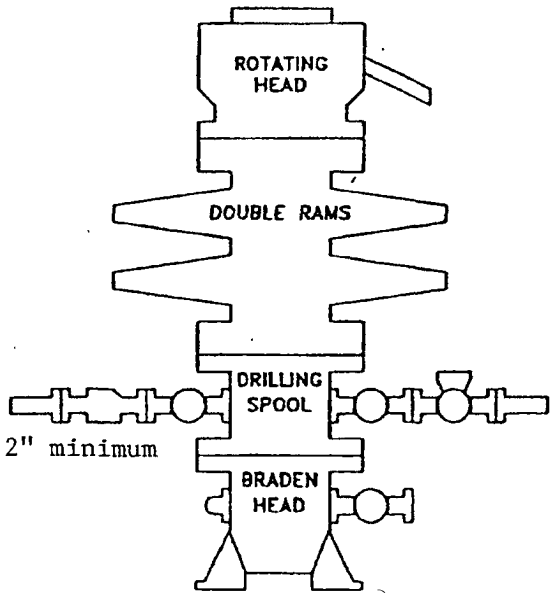
8. Will maintain a Kelly cock attached to the Kelly.

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

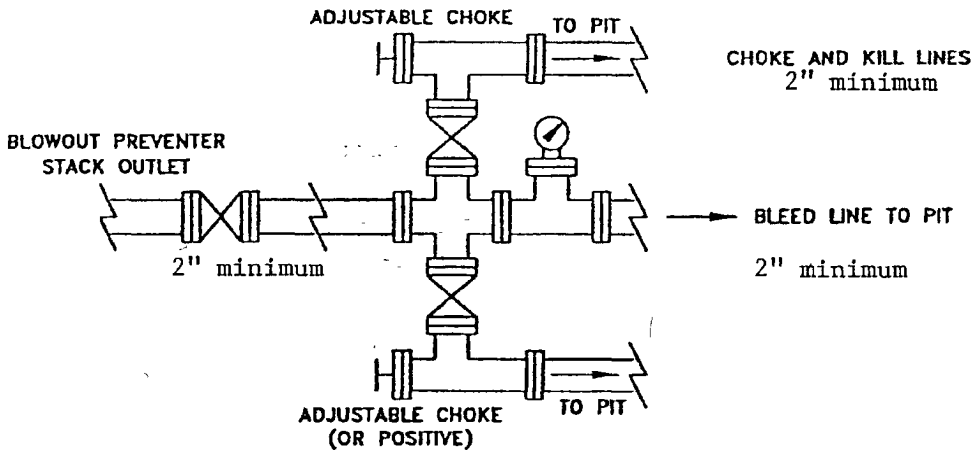
10. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

11. **BOP will consist of either a single annular preventor or a set of double rams as shown in Exhibit #1.**

EXHIBIT # 1



CHOKE MANIFOLD REQUIREMENT (2000 psi WP)



devon

WEST RED LAKE AREA

EDDY COUNTY, NEW MEXICO

SCHEMATIC

BLOWOUT PREVENTOR

(2000 PSI WORKING PRESSURE)

Q:_\PROJECTS\EXPANDED WRKSHP

CB

8/98

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:

DEVON ENERGY CORPORATION
Hydrogen Sulfide Drill
Operations Plan

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

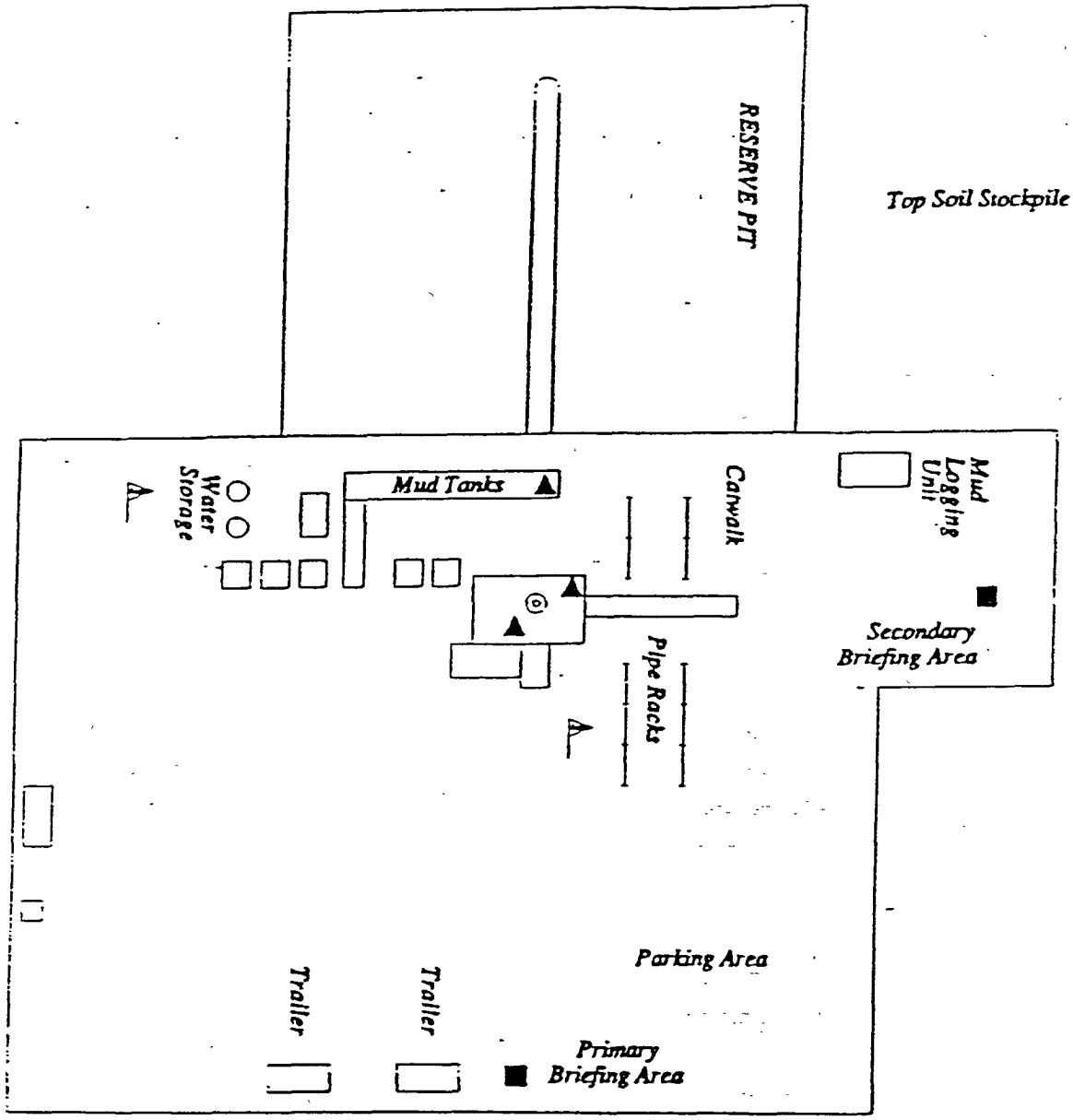
(a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

7. Communication

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

C. Diagram of Drilling Location

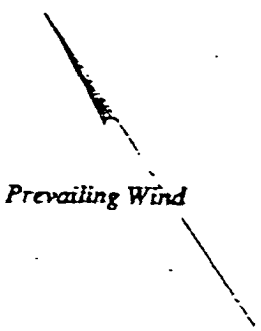
1. Attached is a diagram representing a typical location layout as well as the location of H2S monitors, briefing areas, and wind direction indicators.



▲ 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



devon

WEST RED LAKE AREA

EDDY COUNTY, NEW MEXICO

H2S PLAN

Scale in Feet

25 0 25 50 75 100

File: D:\...\H2S-PLAN 9/95

SURFACE USE PLAN
RED LAKE FIELD
Devon Energy Production Company, LP
Revised 8/02/07

1. Existing Roads:

a. The well site and elevation plat for the proposed well will be provided with the Form 3160-3 when proposed.

b. All roads to the location are depicted on Exhibit 2 of each individual application. The existing roads will be illustrated 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 with each application.

2. New or Reconstructed Access Roads:

a. The well site layout, Form C-102 will show the existing and the proposed access roads.

b. The maximum width of the road will be 15'. It will be crowned and made of 6" 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. The average grade will be approximately 1%.

d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Location of Existing Wells:

One Mile Radius Plat showing all existing and proposed wells within a one-mile radius of the proposed location will be provided with each application.

4. Location of Existing and/or Proposed Production Facilities:

a. In the event the well is found productive, the collection facilites will be noted on the Application to Permit. Existing facilities are listed below.

MALCO BATTERY NE/SW OF SEC 6
CARTER COLLIER NE/SW OF SEC 5
WRL BATT AND INJ. ST. 1 NE/NW OF SEC 7
JOHNSTON BATTERY SW/NW SEC 7
JACKSON BATTERY SW/SW SEC 7
KAISER B 6 BATTERY NW/SE OF SEC 18
KAISER BATTERY NE/SE OF SEC 18
HAWK 8 BATTERY IN SW/SE OF SEC 8
WRL SATTELITE BATTERY NE/NE OF SEC 8
WRL INJ. ST. 2 NW/NE OF SEC 9
HAWK 9 BATTERY NW/SE OF SEC 9
HONDO BATTERY NE/SW OF SEC 4
WINDFOHR BATTERY SE/NE OF SEC 4
FALCON BATTERY NE/SW OF SEC 3
COMPTON 33 BATTERY SW/NE OF SEC 33
EAGLE BATTERY SW/NE OF SEC 34
LOGAN ST. 2 BATTERY NW/NE OF SEC 2
LOGAN 35 BATTERY SE/SW OF SEC 35
EAGLE 27 BATTERY NW/SE OF SEC 27
ASAU SE/SE SEC 13

b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
c. All flow lines will adhere to API standards.
d. If the well is productive, rehabilitation plans are as follows:
    i. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
    ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

5. Location and Types of Water Supply:

This location will be drilled using a combination of 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 the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

6. Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. Methods of Handling Waste Material:

a. Drill cuttings will be disposed of in the reserve pits.
b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
e. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for further drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approved disposal site. Later pits will be broken out to speed dry. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in a storage tank and sold.
f. Disposal of fluids to be transported by the following companies:
    i. American Production Service Inc, Odessa TX
    ii. Gandy Corporation, Lovington NM
    iii. I & W Inc, Loco Hill NM
    iv. Jims Water Service of Co Inc, Denver CO

8. **Ancillary Facilities:** No campsite or other facilities will be constructed as a result of this well.

9. **Well Site Layout**
   a. Exhibit 5 shows the proposed well site layout with dimensions of the pad layout.
   b. This exhibit indicated proposed location of reserve and sump pits and living facilities.
   c. Mud pits in the active circulating system will be steel pits & the reserve pit will be lined.
   d. If needed, the reserve pit is to be lined with polyethylene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.
   e. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased to preclude endangering wildlife.

10. **Plans for Surface Reclamation:**
   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 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. The pits will be closed per OCD compliance regulations.
   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. If the well is a producer, the reserve pit fence will be torn down after the pit contents have dried. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.
   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**
   a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
   b. The proposed road routes 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 topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebrush, yucca, and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
   b. There is no permanent or live water in the general proximity of the location.

c. There are no dwellings within 2 miles of location.
d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

13. Bond Coverage:
Bond Coverage is Nationwide; Bond # is CO-1104

Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Marcos Ortiz
Operations Engineer

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

(405) 552-8152 (office)
(405) 317-0666 (cellular)

Joe Johnston
Superintendent

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

(505) 748-0630 (office)
(505) 513-0630 (cellular)

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this _2nd___ day of __August__ , 2007.
Printed Name: Norvella Adams
Signed Name:
Position Title: Senior Staff Engineering Technician
Address: 20 North Broadway, OKC OK 73102
Telephone: (405) 552-8198
E-mail: norvella.adams@dvn.com

V. SPECIAL REQUIREMENT(S)

Cave and Karst

Cave/Karst Surface Mitigation
The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:
Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Cave/Karst Subsurface Mitigation
The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Casing:
All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a void (bit drops) of four feet or more and circulation losses greater then 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:
The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence

of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. It has been reported in this township measuring 224-760 ppm in the gas stream and 4-20 ppm in STVs.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

B. CASING

1. The **8-5/8** inch surface casing shall be set at **approximately 1150** feet and cemented to the surface.

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

   b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

   d. If cement falls back, remedial action will be done prior to drilling out that string.

High cave/karst.
Possible lost circulation in the Grayburg and San Andres.

2. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Cement required to come to surface due to high cave/karst.**

3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.

   a. The tests shall be done by an independent service company.

   b. The results of the test shall be reported to the appropriate BLM office.

   c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

   d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

   e. **No variance is given on BOP tests when two casing strings are used.**

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

Engineer on call phone (after hours): Carlsbad: (575) 706-2779

WWI 111907