Form 3160-3 (August 1999)



### OCD-ARTESIA

FORM APPROVED

### OMB No. 1004-0136 Expires November 30, 2000

5. Lease Serial No.

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT** 

#### NMNM0557370 6. If Indian, Allottee or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER

la. Type of Work: DRILL REENTER		7. If Unit or CA Agreement, Name and No.
ib. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Oth	ner 🛛 Single Zone 📋 Multiple Zone	8. Lease Name and Well No. EAGLE 34A FEDERAL 39
	KAREN COTTOM E-Mail: karen.cottom@dvn.com	9. API Well No.
3a. Address 20 NORTH BROADWAY SUITE 1500 OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405.228.7512 Fx: 405.552.4621	10. Field and Pool, or Exploratory RED LAKE;GLORIETA-YESO
4. Location of Well (Report location clearly and in accorda	nce with any State requirements.*)	11. Sec., T., R., M., or Blk. and Survey or Area
At surface NENE 960FNL 815FEL	A RECEIVED	Sec 34 T17S R27E Mer NMP
At proposed prod. zone NENE 960FNL 815FEL	DEC 1 9 7003	
14. Distance in miles and direction from nearest town or post APPROX 5 MILES SOUTHEAST OF ARTESIA	office*	12. County or Parish EDDY 13. State NM
15. Distance from proposed location to nearest property or	16. No. of Acres in Lease	17. Spacing Unit dedicated to this well
lease line, ft. (Also to nearest drig. unit line, if any)	720.00	40.00
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 4000 MD	20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KB, RT, GL, etc. 3549 GL	22. Approximate date work will start 12/15/2003	23. Estimated duration 45 DAYS
	24. Attachments ROSW	ELL CONTROLLED WATER BASIN

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

- Well plat certified by a registered surveyor.
   A Drilling Plan.
   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)
- Operator certification Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submissi	ion)	Name (Printed/Typed) KAREN COTTOM	Date 11/06/2003
Title ENGINEERING TEC	CHNICIAN		
Approved by (Signature)	/s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date 8 DEC 2003
Title FIELD	MANAGER	Office CAPI SPAD FIRE th OFFICE	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

CAKTORAD LIETD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. APPROVAL FOR 1 YEAR Conditions of approval, if any, are attached.

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

Additional Operator Remarks (see next page)

Electronic Submission #24804 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO L P, sent to the Carlsbad APPROVAL SUB Pompitted to AFMSS for processing by ARMANDO LOPEZ on 11/06/2003 (04AL0090AE)

GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Witness Surface Casing

### **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 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.

Approximately 445' of new access road will be constructed per the MDSUP.

Directions: From the junction of US Hwy 82 and Co. Rd. 204, go south 0.1 mile to Co. Rd. 225; thence South on 225 for approx. 1.0 mile to lease road; thence northwest on lease road for 1.0 mile to the Eagle 34 Fed #1 and the proposed lease road.

Please see attached MDSUP.

DISTRICT I 1625 N. French Dr., Hobbs, NM 88240 DISTRICT II 811 South First, Artesia, NM 88210

### State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised March 17, 1999

Submit to Appropriate District Office

DASIN SURVEYS

State Lease - 4 Copies Fee Lease - 3 Copies

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

DISTRICT IV 2040 South Pacheco, Sents Fe, NM 87505

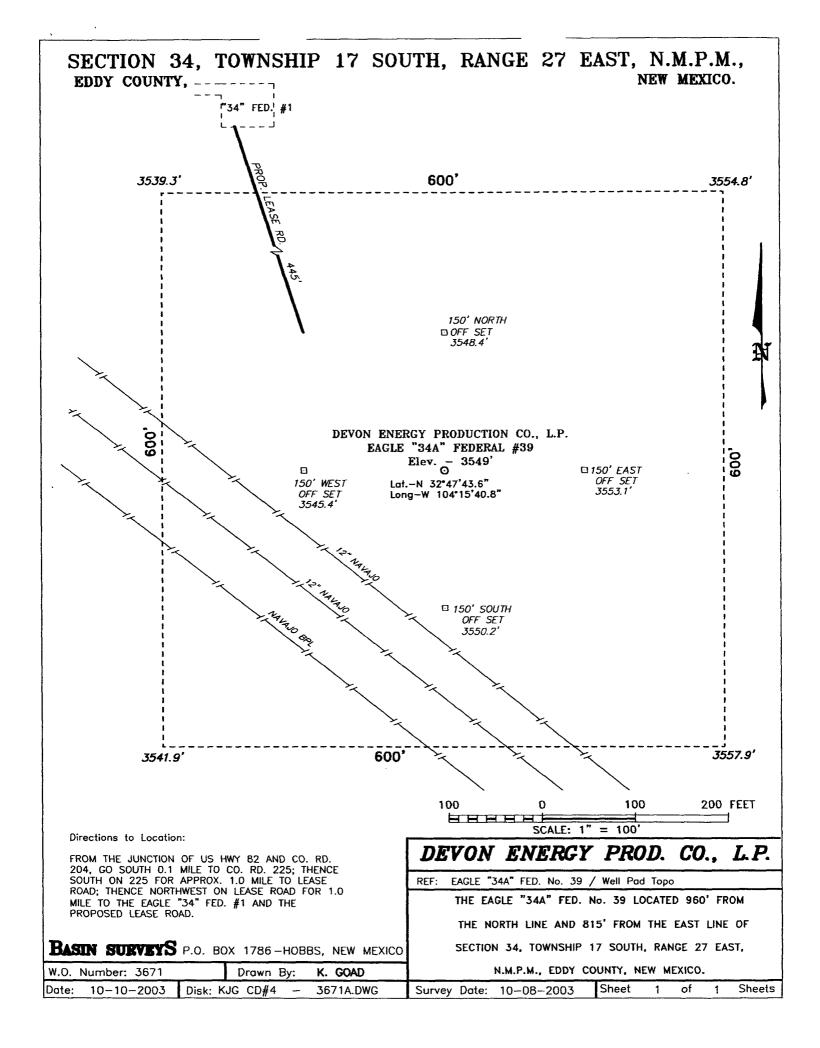
### OIL CONSERVATION DIVISION

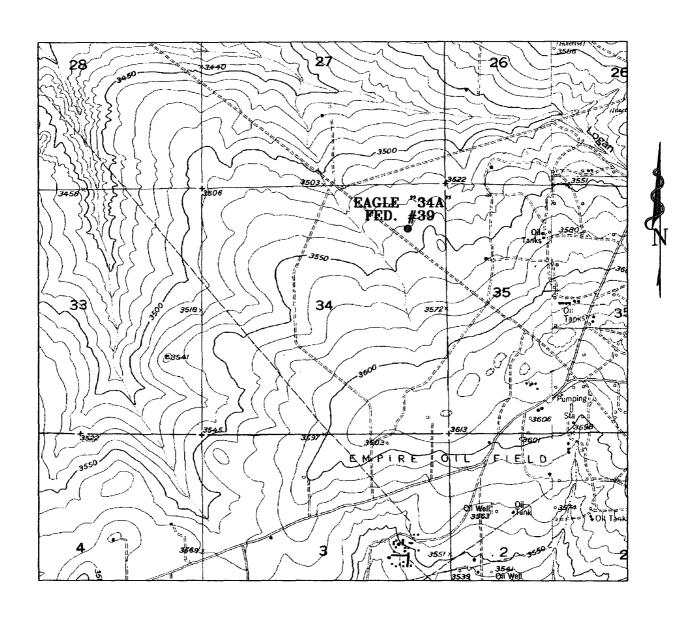
2040 South Pacheco Santa Fe, New Mexico 87504-2088

D AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

ADT	Neumbon			Pagi Cade		<del></del>		Pool Name		
API	Number									
Property C	ode	<del></del>	96836 RED LAKE GLORIETA YESO, NE Property Name Well Number				umber			
			EAGLE "34A" FEDERAL			39				
OGRID No	·.	<del> </del>	···			ator Nam			Eleva	
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Α	34	17 S	27 E		96	0	NORTH	815	EAST	EDDY
		•	Bottom	Hole Loc	cation l	f Diffe	rent From Sur	face		
UL or lot No.	Section	Township	Range	Lot Idn	Feet fro	om the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint o	r Infill   C	onsolidation	Code Or	der No.		L		L	l
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EAGLE "34A" FEDERAL #39
960' FNL AND 815' FEL
Section 34, Township 17 South, Range 27 East, N.M.P.M., Eddy County, New Mexico.

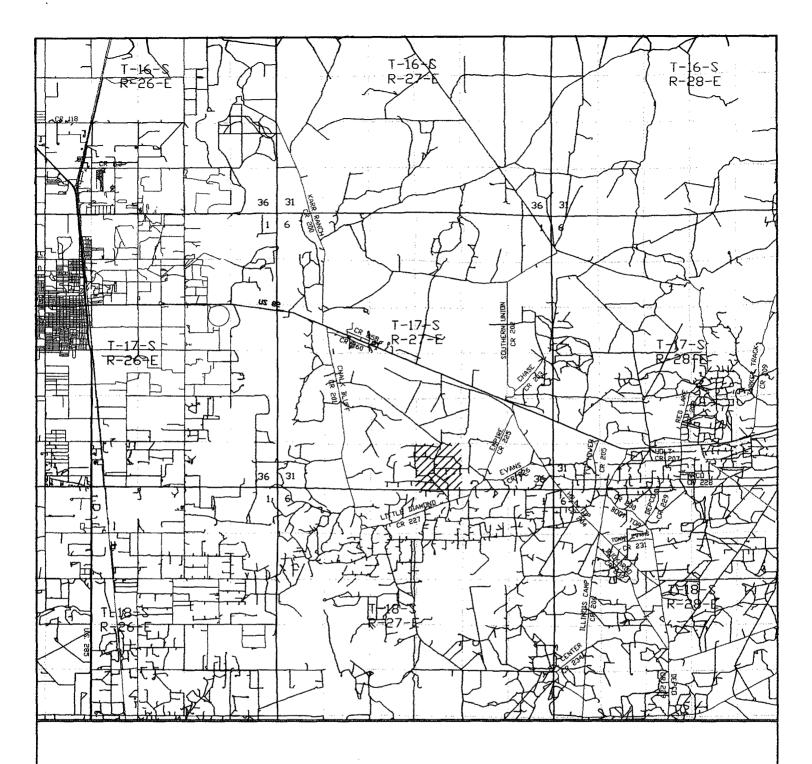
Date: 10-10-2003



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (505) 393-7316 — Office (505) 392-3074 — Fax basinsurveys.com

W.O. Numbe	r: 3671AA — KJG CD#4
	10-08-2003
Scale: 1" =	2000'

DEVON ENERGY PROD. CO., L.P.



EAGLE "34A" FEDERAL #39
960' FNL AND 815' FEL
Section 34, Township 17 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (505) 393-7316 — Office (505) 392-3074 — Fax basinsurveys.com

W.O. Number:	3671AA - KJG CD#4
Survey Date:	10-08-2003
Scale: 1" = 2	miles
Date: 10-10-	-2003

DEVON ENERGY PROD. CO., L.P.



### 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 2803

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

Assistant Field Manager

Lands and Minerals



20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260 Telephone: (405) 228-7512 Fax: (405) 552-4621

May 6, 2003

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

Re:

Master Drilling and Surface Use Program

Red Lake Field

### Dear Armando:

Per our conversation, we are submitting a Master Drilling and Surface Use Program, one original and three copies, for the Red Lake Field. I have enclosed the program and a map detailing the area for which we intend to use the program. It is my understanding that we submit the MDSUP for approval first and then submit the 3160-3 forms as they are needed.

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

Sincerely,

Karen Cottom

**Engineering Technician** 

Devon Energy Production Company, L.P.

Yaren Cotton

kc

**Enclosure** 

**APPROVED** 

JUN 5 2003

ALEXIS C. SWOBODA

# 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:

	rs as follows but not limi		
Section 2	NMNM 2029-634	NE4/NW4, NW4/NE4	T18S-R27E
	NMNM-B-1483		
Section 3	NMLC 065478-B	All of Section 3 except	T18S-R27E
	NMNM 015605	S2/N <del>24</del> W4-	
~ <del>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </del>	NMLC 061783-B		
Section 4	NMNM 033825	All of Section 4 except	T18S-R27E
	NMLC 055465-A	N2/NW4 and NW4/SW4	
	NMNM 29278		
•	NMNM 025530		
	NMLC 070937		
	NMLC 061783-A		
	NMNM 7720		
Section 25	NMNM 0558679	W2NW4	T17S-27E
Section 26	NMNM 0557370	E2 NE/4, E2SE/4, S/2	T17S-R27E
		SW/4	
	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	
<del></del>	NMNM 0557370	SW/4NW/4	
	NMLC050158	E/2NE/4, E/2NW/4	
	1		

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

NM 29270

SESE.

### 1. Geologic Name of Surface Formation:

#### Permian

### 2. Estimated Tops of Important Geologic Markers:

Queen	879'
Grayburg	1330'
San Andres	1610'
Glorieta-Yeso	2960'

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

### Water

Possible small amounts of fresh water from surface to 1130'.

<u>Oil</u>	
Grayburg:	1330'
San Andres:	1610'
Glorieta-Yeso	2960'

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.

### 4. <u>Casing Program:</u>

Hole Size	Interval Csg OD	Weight, Grade, Type
17 1/2" 12-1/4" 7-7/8"	0- 40' 14" 0-1150'355' 8-5/8" 0-TD 5-1/2"	Conductor, 0.30" wall 24#, J-55 ERW or seamless ST&C R-3 15.5# J-55,ERW, FBN or seamless LT&C, R-3

### 5. Cementing Program:

13 3/8" Conductor Casing:	Cemented with redimix to surface.
8 5/8" Surface Casing:	Cemented to surface with 350 sks Lite + 5% salt + 1/4 lb/sk cellophane flakes and 200 sks Class C + 2%
WITNESS	CaCl2 + 1/4 lb/sk cellophane flakes. Circulate to surface.
5-1/2" Production:	Cemented to surface with 380 sks Lite + 5#/sx salt + 1/4 lb/sk cellophane flakes and 370 sks 50:50 Pos 'C' w/3% salt, Fluid loss, 1/4#/sx flake.

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.

### 6. <u>Minimum Specifications for Pressure Control</u>:

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 4-1/2" drill pipe rams). 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 will be tested with the rig pump to 1000 psi.

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.

### 6. <u>Types and Characteristics of the Proposed Mud System:</u>

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

<u>Depth</u>	<u>Type</u>	Weight (ppg)	Viscosity (1/sec)	Water Loss (cc)
0-1150 300		8.4-8.8	34-38	No Control
300 1150' - TD	Fresh Water/Cut Brine	8.4-8.6	28-32	No Control

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 drill stem tests are planned.
- B. The open hole electrical logging program will be:

T. D. to 1150':

Dual Induction-Micro SFL with Gamma Ray, and Caliper

T. D. to 1150':

Compensated Neutron-Litho Density with Gamma Ray

and Caliper

T. D. to surface:

Gamma Ray/Neutron

C. No cores are planned.

### 9. <u>Abnormal Pressures, Temperatures and Potential Hazards</u>:

No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 90 degrees and maximum bottom hole pressure is 800 psi. No major loss circulation intervals have been encountered in adjacent wells. An H<sub>2</sub>S Drilling Operations Plan is included as Exhibit #6.

### 10. Anticipated Starting Date and Duration of Operations:

Road and location preparation will not be undertaken until approval has been received from the BLM. The anticipated spud date will be provided with each well application. The drilling operation should require approximately 10 days. If the well is deemed productive, completion operations will require, at minimum, an additional 30 days of testing to ascertain whether the well will be connected to an existing production facility.

# MASTER SURFACE USE AND OPERATING PLAN 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.

<u>UNIT AREA:</u> 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	NE4/NW4, NW4/NE4	T18S-R27E
	NMNM-B-1483		
Section 3	NMLC 065478-B	All of Section 3 except	T18S-R27E
	NMNM 015605	S2/N24	
	NMLC 061783-B		
Section 4	NMNM 033825	All of Section 4 except	T18S-R27E
	NMLC 055465-A	N2/NW4 and NW4/SW4	
	NMNM 29278		
	NMNM 025530		
	NMLC 070937		
	NMLC 061783-A		
	NMNM 7720		
Section 25	NMNM 0558679	W2NW4	T17S-27E
Section 26	NMNM 0557370	E2 NE/4, E2SE/4, S/2	T17S-R27E
		SW/4	
	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.

### 1. Existing Roads:

- A. The well site and elevation plat for each well will be provided with the 3160-3 when proposed.
- B. All roads to the location are shown on Exhibit #2 of each individual application.

  The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the roads prior to drilling will be done where necessary as determined during the onsite inspections.
- C. Directions to location will be provided for each individual well application.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on the lease.

### 2. Proposed Access Road

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

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

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

A. In the event the well is found productive, the collection facilities will be noted on the Application to Permit. We believe that existing facilities will be sufficient unless otherwise stated in the individual APD form. Existing facilities are listed below:

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

### EALGLE 27 BATT NW / SE OF SEC 27 ASAU SE / SE OF SEC 13

- B. If the well is productive, rehabilitation plans are as follows:
  - a. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
  - b. The drill site will then be contoured to the original natural state.

### 5. Methods of Handling Water Disposal:

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

### 6. Well Site Layout:

A. The drill pad layout will be shown on Exhibit 4 for each individual well. Dimensions

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

### 7. <u>Surface Ownership</u>:

The well site is owned by the Bureau of Land Management.

### 8. Other Information:

- A. The project area is classified as vegetations consisting of thick grasses, isolated creosote, and shallow silty sandy soil over gypsum.
- B. There is permanent water (Pecos River) to the west of the area covered by the Master Drilling and Surface use plan.
- C. A Cultural Resources Examination for each APD will be completed by Southern New Mexico Archeological Services, Inc. and forwarded to the Carlsbad, New Mexico BLM office.

### 9. <u>Lessee's and Operator's Representative</u>:

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

Gerald T. (Tom) Pepper	Don Mayberry
Operations Engineering Advisor	Superintendent

Devon Energy Production, L.P.	Devon Energy Production Company, L.P.
20 North Broadway Suite 1500	P.O. Box 250
Oklahoma City, OK 73102	Artesia, NM 88211-0250

(405) 552-4513 (office)	(505) 748-3371 (office)
(405) 728-8641 (home)	(505) 746-4945 (home)

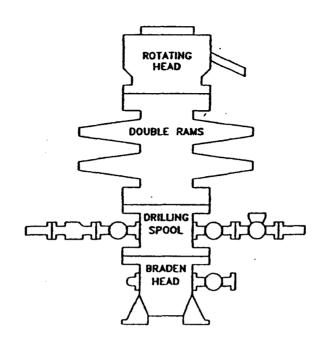
### Certification:

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

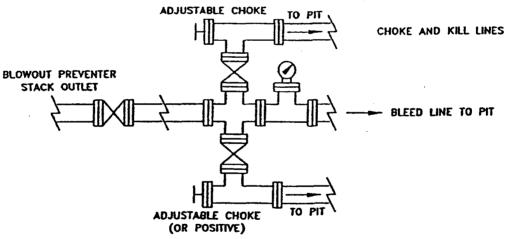
Date: 5/6/63
Signed: Signed: Gerald T. (Tom) Pepper
Operations Engineering Advisor

# 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.



### CHOKE MANIFOLD REQUIREMENT (2000 psi WP)



<u>devon</u> WES

WEST RED LAKE AREA

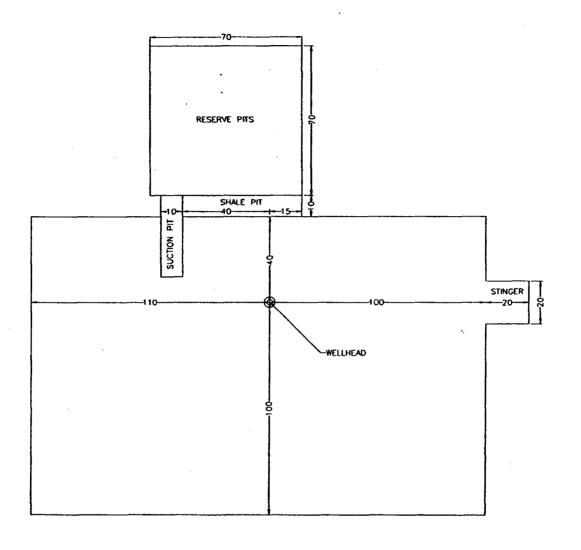
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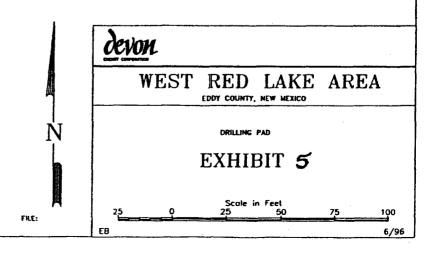
BLOWOUT PREVENTOR

C:\..\PROJECTS\EXPANDED (2000 P

==1,

8/98





### **DEVON ENERGY CORPORATION**

### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

### A. Hydrogen Sulfide Training

All rig crews and company personnel will receive training from a qualified instructor in the following areas prior to penetrating any hydrogen sulfide bearing formations during drilling operations:

- 1. The hazards and characteristics of hydrogen sulfide (H2S).
- 2. The proper use and maintenance of the H2S safety equipment and of personal protective equipment to be utilized at the location such as H2S detection monitors, alarms and warning systems, and breathing equipment. Briefing areas and evacuation procedures will also be discussed and established.
- 3. Proper rescue techniques and procedures will be discussed and established.

In addition to the above, supervisory personnel will be trained in the prevention of oil and gas well blowouts in accordance with Minerals Management Service Standards Subpart - 0 - 250 - 212.

Prior to penetrating any known H2S bearing formation, H2S training will be required at the rig sight for all rig crews and company personnel that have not previously received such training. This instruction will be provided by a qualified instructor with each individual being required to pass a 20 question test regarding H2S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H2S training.

This Hydrogen Sulfide Drilling And Operations Plan shall be available at the wellsite during drilling operations.

### B. H2S Safety Equipment And Systems

All H2S safety equipment and systems will be installed, tested, and operational when drilling operations reach a depth approximately 500° above any known or probable H2S bearing formation. The safety systems to be utilized during drilling operations are as follows:

### 1. Well Control Equipment

- (a) Double ram BOP with a properly sized closing unit and pipe rams to accommodate all pipe sizes in use.
- (b) A choke manifold with a minimum of one remote choke.

### 2. H2S Detection And Monitoring Equipment

- (a) Three (3) H2S detection monitors will be placed in service at the location. One monitor will be placed near the bell nipple on the rig floor; one will be placed at the rig substructure; and, one will be at the working mud pits or shale shaker. This monitoring system will have warning lights and audible alarms that will alert personnel when H2S levels reach 10 ppm.
- (b) One (1) Sensidyne Pump with the appropriate detection tubes will also be available to perform spot checks for H2S concentrations in any remote or isolated areas.
- 3. Protective Equipment For Essential Personnel

Protective equipment will consist of the following:

- (a) Four (4) five minute escape packs located at strategic points around the rig.
- (b) Two (2) thirty minute rescue packs to be located at the designated briefing areas.
- 4. Visual Warning System

Visual warning system will consist of the following:

- (a) Two wind direction indicators.
- (b) One condition / warning sign which will be posted on the road providing direct access to the location. The sign will contain lettering of sufficient size to be readable at a reasonable distance from the immediate location. The sign will inform the public that a hydrogen sulfide gas environment could be encountered at the location.

DEVON ENERGY COF JRATION Hydrogen Sulfide Drilli. Departions Plan

### 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

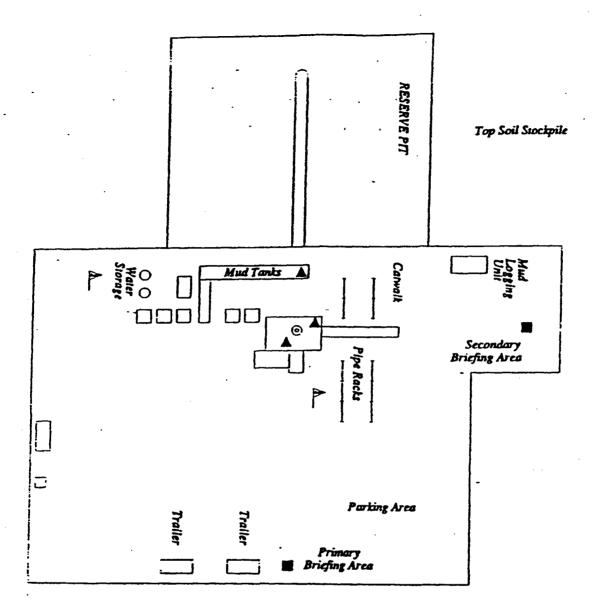
(a) All drill strings, casings, tubing, wellhead, blowout preventers, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

### 7. Communication

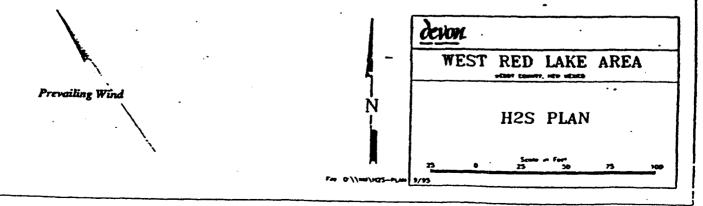
(a) Two way radio and cellular telephone communication will be available in company vehicles.

### 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.



- +25 MONITORS WITH ALARMS AT THE BELL NIPPLE, SUBSTRUCTURE, AND SHALE SHAKER WIND DIRECTION INDICATORS
- SAFE BRIEFING AREAS WITH CAUTION SIGNS AND PROTECTIVE BREATHING EQUIPMENT



Well name:

West Red Lake Area

Operator:

**Devon Energy Corporation** 

String type:

Surface

ocation:

**Eddy County, NM** 

Design parameters:

Collapse

Mud weight:

9.630 ppg Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor

1.125

**Environment:** 

H2S considered? Surface temperature:

No 75 °F 77 °F

4,000 ft

Bottom hole temperature: Temperature gradient:

0.20 °F/100ft

Minimum section length: 1,150 ft

**Burst:** 

Design factor

1.00

1.80 (J)

1.80 (J)

1.60 (J)

1.50 (J)

**Burst** 

Max anticipated surface

pressure: Internal gradient:

717 psi 0.000 psi/ft

Calculated BHP

No backup mud specified.

717 psi

**Buttress:** 

Body yield:

Tension:

Premium:

8 Round STC:

8 Round LTC:

1.50 (B)

Tension is based on buoyed weight. Neutral point: 984 ft

Non-directional string.

Re subsequent strings: Next setting depth: Next mud weight:

9.630 ppg Next setting BHP: 2,001 psi 12.000 ppg 1,150 ft Fracture mud wt:

Fracture depth: Injection pressure 717 psi

Run Seq	Segment Length	Size	Nominal Weight	Grade	End Finish	True Vert Depth	Measured Depth	Drift Diameter	Internal Capacity
1	(ft) 1150	(in) 8.625	(lbs/ft) 24.00	J-55	ST&C	(ft) 1150	(ft) 1150	(in) 7.972	(ft³) 55.4
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load (psi)	Strength (psi)	Design Factor	Load (psi)	Strength (psi)	Design Factor	Load (Kips)	Strength (Kips)	Design Factor
1	575	1370	2.38	717	2950	4.12	24	244	10.33 J

Prepared

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 & Kernler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

West Red Lake Area Well name:

Operator: **Devon Energy Corporation** 

String type: **Production** 

Mud weight:

Eddy County, NM Location:

Minimum design factors: Design parameters: Collapse

**Environment:** 

Collapse: H2S considered? Design factor 1.125

1.80 (J)

1.80 (J)

No 75 °F

Surface temperature: Bottom hole temperature: 95 °F Temperature gradient:

Non-directional string.

0.50 °F/100ft Minimum section length: 1,500 ft

1.00

**Burst:** 

Design factor

**Burst** 

Max anticipated surface

2,001 psi pressure: Internal gradient: 0.000 psi/ft Calculated BHP

Design is based on evacuated pipe.

2,001 psi

9.630 ppg

No backup mud specified.

Tension:

8 Round STC: 8 Round LTC:

> **Buttress:** Premium:

Body yield:

1.60 (J) 1.50 (J) 1.50 (B)

Tension is based on buoyed weight. Neutral point: 3,417 ft

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 (ft²)
1	4000	5.5	15.50	J-55	LT&C	4000	4000	4.825	125.4
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load (psi)	Strength (psi)	Design Factor	Load (psi)	Strength (psi)	Design Factor	Load (Kips)	Strength (Kips)	Design Factor
1	2001	4040	2.02	2001	4810	2.40	53	217	4.10 J

Prepared Jim Linville by: Devon Energy

Phone: (405) 228-4621 FAX: (405) 552-4621

Date: March 12,2001 Oklahoma City, Oklahoma

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 & Kernler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

### Charles Constituted and American Constitute of Constitute RED LAKE AREA APD ----272000 ACAPTOR : .385.24 -And the state of t American Committee of the Committee of t ----My Markey (1972) Annual Call Ma The second secon SECTION ! AND THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN T auffer gaffer, ander rate and the 37475362 PARTITION OF THE PARTY OF Section of the sectio The second secon Land to the second of Conservation of MA CONTROL OF THE PROPERTY OF Control Conference of the property of the Conference of the Confer A CONTROL OF THE CONT ACCOUNTS CONTROL CONTR to the same of the HOREST THE TYPE DESCRIPTION OF THE PROPERTY OF The state of the s Security 1998 1 (1997) Security 1 (1997) Securit STANCT. WEST. with with 357767 OUT DESIGNATION OF APPRENT TO 0422 The second secon A CONTRACT OF THE CONTRACT OF The second secon and resident ration,

### SPECIAL DRILLING STIPULATIONS

### THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's NameDevon Energy Production Company, L.PWell Name & No. Eagle 34A Fed. #39Location960F N L & 815F E L Sec. 34, T. 17S, R 27E.Lease No.NM-0557370County EddyStateNew Mexico
The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.
This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.
I. SPECIAL ENVIRONMENT REQUIREMENTS
( ) Lesser Prairie Chicken (stips attached) ( ) Flood plain (stips attached) ( ) Other
II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING
(x) The BLM will monitor construction of this drill site. Notify the (x) Carlsbad Field Office at (505) 234-5972 () Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.
(x) Roads and the drill pad for this well must be surfaced with6 inches of compacted caliche upon completion of well and it is determined to be a producer.
( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximatelyinches in depth. Approximatelycubic yards of topsoil material will be stockpiled for reclamation.
(x) Other. V-Door Southeast (Reserve pits to the Northeast).
III. WELL COMPLETION REQUIREMENTS
( ) A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.
(x) Surface Restoration: If the well is a producer, the reserve $pit(s)$ will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of $\frac{1}{2}$ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.
( ) A. Seed Mixture 1 (Loamy Sites) Side Oats Grama (Bouteloua curtipendula) 5.0 Sand Dropseed (Sporobolus cryptandrus) 1.0 Sand Lovegrass (Eragostis trichodes) 1.0 Plains Bristlegrass (Setaria magrostachya) 2.0
( ) C. Seed Mixture 3 (Shallow Sites) (x ) D. Seed Mixture 4 (Gypsum Sites) Side oats Grama (Boute curtipendula) 1.0 Alkali Sacaton (Sporobollud airoides) 1.0 Four-Wing Saltbush (Atriplex canescens) 5.0
( ) OTHER SEE ATTACHED SEED MIXTURE
Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.
(X) Other. Paint juniper green

### RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6 mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

<u>Reclamation</u>: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

### **OPTIONAL PIT CONSTRUCTION STANDARDS**

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be recontoured, all trash removed, and reseeded as specified in this permit.

### CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to processed by BLM.

### TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

### **CONDITIONS OF APPROVAL - DRILLING**

**Operator's Name:** 

**Devon Energy Production Company, LP** 

Well Name & No.

Eagle 34A Federal #39

Location:

960' FNL, 815' FEL, Section 34, T. 17 S., R. 27 E., Eddy County, New Mexico

Lease: NM-0557370

.....

### I. DRILLING OPERATIONS REQUIREMENTS:

- 1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County in sufficient time for a representative to witness:
  - A. Well spud
  - B. Cementing casing: 8-5/8 inch 5-1/2 inch
  - C. BOP tests
- 2. A Hydrogen Sulfide (H2S) Drilling Operation Contingency Plan shall be activated prior to drilling into the **Grayburg** formation. A copy of the plan shall be posted at the drilling site.
- 3. 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.
- 4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15-day time frame.
- 5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

### II. CASING:

- 1. The <u>8-5/8</u> inch surface casing shall be set at <u>approximately 300 feet and cement circulated to the surface</u>. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is <u>to be circulated to the surface.</u>

### **III. PRESSURE CONTROL:**

- 1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the <u>8-5/8</u> inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- 2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. A variance to test the BOP's with the rig pump to 1000 psi is granted.
- 3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

BLM Lease Number: NM-0557370 Company Reference: Devon Energy Well No. & Name: Eagle 34A Fed. #39

# STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS THE Carlsbad Field Office, BLM

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

### **GENERAL REQUIREMENTS**

- A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
- B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
- C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all

damages to Federal lands resulting therefrom, the Authorized

Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar.

Holder agrees to comply with the following stipulations:

### ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

/\_\_/ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

### 2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

/ <u>_x</u>	Ditching will be required on both	sides of th	e roadway	as shown	on the
	attached map or as staked in the	field.			

//	Flat-blading	is authorized	on segment(s)	delineated	on the	attached	map.

### 3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, outsloping, insloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

/_x_/ 400 foot intervals.	
	g intervals above.
 // locations delineated on the attached map	

- B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).
- C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

Example: 4% slope: spacing interval =  $\frac{400}{4}$  + 100 = 200 feet

4. TURNOUTS

3

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:

(	ENTER LINE OF ROADWAY	
8		8
*	TURNOUT - 10' WIDE	*
*725'6°	76*725	5'6*
	STANDARD TURNOUT - PLAN VIE	W

### 5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less

than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

### 6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

#### 7. MAINTENANCE

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

#### 8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

### 9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.

### 10. SPECIAL STIPULATIONS: None.