119A

475 - 07 - 574

OCD-ARTESIA

Form 3160-3
(April 2004)

SEP 25 2007
OCD-ARTESIA

HIGH CAVEKARST

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No
NM LC-070678-A

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
Condor 8 Federal 1 H

2 Name of Operator
Devon Energy Production Company, LP

9 API Well No.
30-015-35829

3a Address **20 North Broadway**
Oklahoma City, Oklahoma City 73102-8260

3b. Phone No. *(include area code)*
405-552-8198

10. Field and Pool, or Exploratory
Red Lake; Glorieta-Yeso,

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **1770 FNL & 2525 FWL, Unit F**
At proposed prod. zone **2310 FNL & 330 FWL, Unit E**

11 Sec , T R M or Blk and Survey or Area
Sec 8, T18S R27E, Unit F; Unit E

14 Distance in miles and direction from nearest town or post office*
Approximately 8 miles southeast of Artesia, NM

12 County or Parish
Eddy County

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any)	16. No of acres in lease	17 Spacing Unit dedicated to this well
246'	**120 acres**	**80 acres**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No on file
101'	**4816' MD 2800' TVD**	**CO-1104**
21 Elevations (Show whether DF, KDB, RT, GL, etc)	22 Approximate date work will start*	23 Estimated duration
3423' GL	**09/30/2007**	**30 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)*	Date
	Norvella Adams	**08/21/2007**

Title **Sr. Staff Eng. Tech**

Approved by *(Signature)* **/s/ James Stovall**	Name *(Printed/Typed)* **/s/ James Stovall**	Date SEP 23 2007
Title **FIELD MANAGER**	Office **BLM-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)

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

NSL Required to Produce

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 and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 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

API Number	Pool Code	Pool Name
	51120	Red Lake; Glorieta-Yeso

Property Code	Property Name	Well Number
36757	CONDOR "8" FEDERAL	1H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY LP	3423'

Surface Location

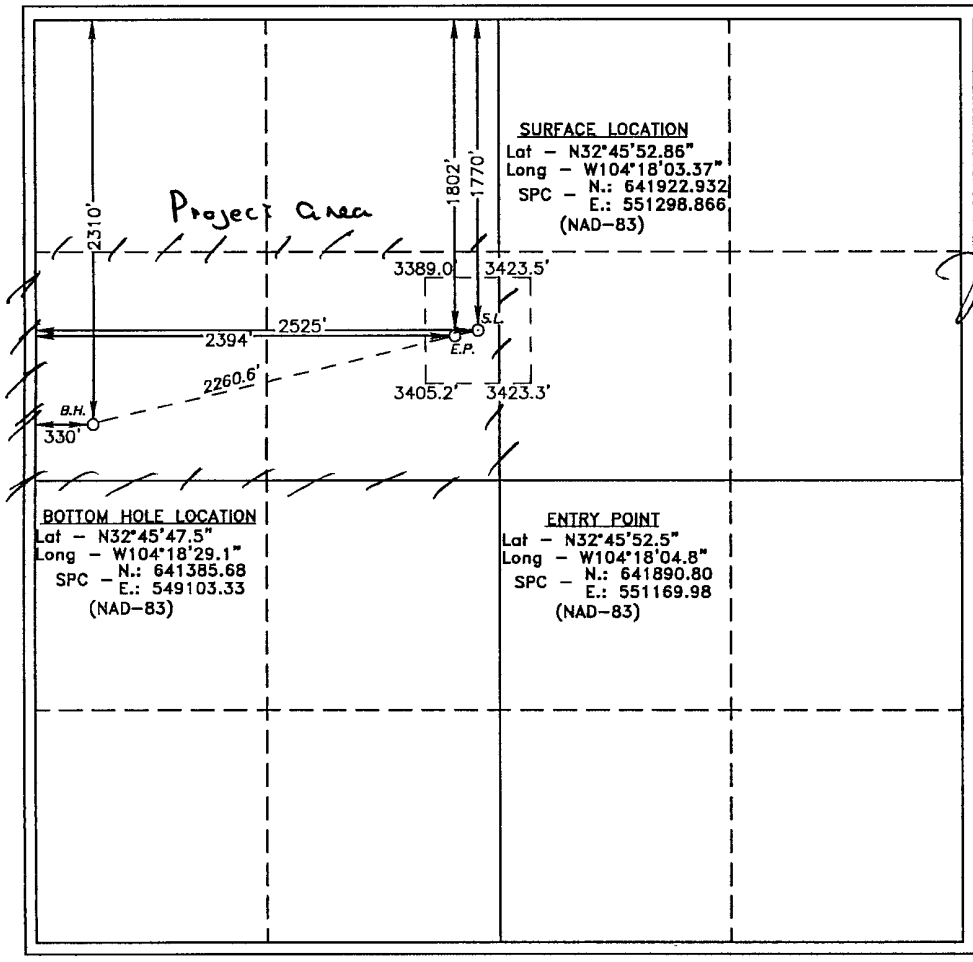
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	8	18 S	27 E		1770	NORTH	2525	WEST	EDDY

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
E	8	18 S	27 E		2310	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
80			

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



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 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.

8/21/07
Signature Date

Norvella Adams
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

JULY 13, 2007
Date Surveyed

Signature & Seal of Professional Surveyor

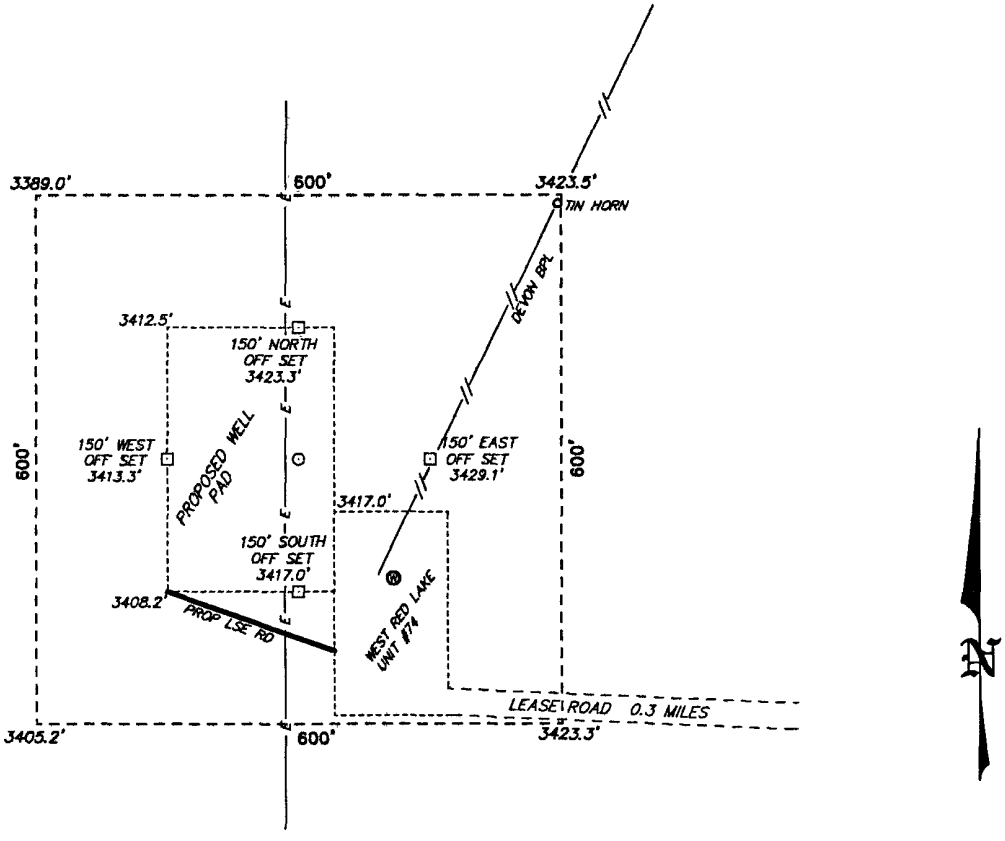
GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 8, TOWNSHIP 18 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

DETAIL OF WELL PAD



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF CO. RD. 227 (LITTLE DIAMOND) AND CO. RD. 201 (CHALK BLUFF), GO SOUTHWEST 0.6 MILES TO LEASE ROAD, ON LEASE ROAD GO 0.3 MILES WEST TO WEST RED LAKE UNIT #74 AND PROPOSED LEASE ROAD.

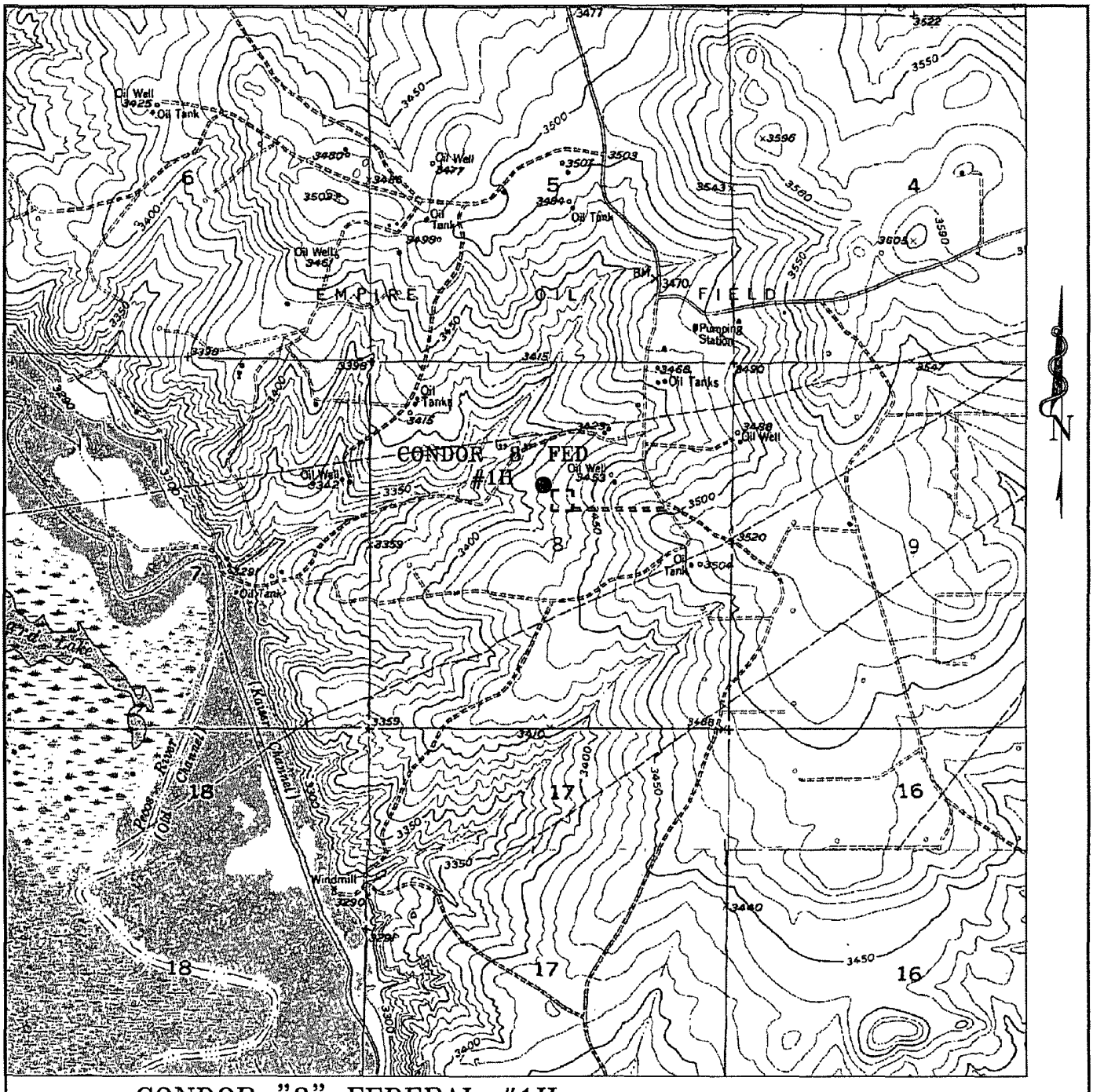
DEVON ENERGY PROD. CO., L.P.

REF: CONDOR "8" FEDERAL #1H / DETAIL OF WELL PAD TOPO

THE CONDOR "8" FEDERAL #1H LOCATED 1770' FROM THE NORTH LINE AND 2525' FROM THE WEST LINE OF SECTION 8, 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: 18278	Drawn By: J. M. SMALL		
Date: 07-16-2007	Disk: 18278W JMS	Survey Date: 07-13-2007	Sheet 1 of 1 Sheets



CONDOR "8" FEDERAL #1H
Located at 1770' FNL AND 2525' FWL
Section 8, Township 18 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield
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:	JMS 18278T
Survey Date:	07-13-2007
Scale:	1" = 2000'
Date:	07-16-2007

DEVON ENERGY PROD. CO., L.P.

DRILLING PROGRAM

Devon Energy Production Company, LP
Condor 8 Federal 1H
Surface Location: 1770' FNL & 2525' FWL, Unit F, Sec 8 T18S R27E, Eddy, NM
Bottom Hole Location: 2310' FNL & 330' FWL, Unit E, Sec 8 T18S R27E, Eddy, NM

1. Geologic Name of Surface Formation

a. Permian

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

a.	Queen	613'	
b.	Grayburg	1011'	Oil & Gas
c.	San Andres	1223'	Oil & Gas
d.	Glorieta	2606'	Oil & Gas
e.	Yeso	2736'	Oil & Gas
f.	Total Depth	4800'	

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 3200' and circulating cement back to surface. The Yeso intervals will be isolated by setting 5 ½" casing to total depth and circulating cement back to surface.

3. Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17 1/2"	0' – 625'	13 3/8"	0'- 625'	48#	ST&C	H-40
12 1/4"	0'- 3200'	8 5/8"	0'- 3200'	32#	LT&C	J-55
7 7/8"	0-2700'	5 1/2"	0-2700'	17#	LT&C	N-80
7 7/8"	2700-3200'	5 1/2"	2700-3200'	17#	BT&C	N-80
7 7/8"	3200' – TD	5 1/2"	3200' - TD	17#	LT&C	N-80

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13 3/8"	2.53	1.28	10.73
8 5/8"	1.7	2.7	4.15
5 1/2"	4.32	5.32	7.31

4. Cement Program: (Note yields; and dv tool depths if multiple stages)

a. 13 3/8" Surface Lead with 350 sx (35:65) Poz C + 2% $CaCl_2$ + ¼ lbs/sx Celloflake, and 6% Bentonite; 12.8 ppg, 1.83 cf/sx, 9.76 gps. Tail with 200 sx

		Class C + 2% $CaCl_2$ + ¼ lbs/sx Celloflake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
b. 8 5/8"	Intermediate	Lead with 525 sx (35:65) Poz C + 5% NaCl + ¼ lbs/sx Cello Flake + 6% Bentonite; 12.7 ppg, 1.94 cf/sx, 10.51 gps. Tail with 1035 sx (60:40) Poz C + 5% NaCl + 0.75% BA-10 + ¼ lbs/sx Cello Flake + 0.4% Sodium Metasilicate + 4% MPA-1; 13.8 ppg, 1.37 cf/sx, 6.33 gps. TOC = 0.
Cement plug for Pilot Hole @ 3500'		550 sx Class H + 5% NaCl + 1.2% CD-31
c. 5 1/2"	Production	Lead with 265 sx (35:65) Poz C + 5% NaCl + ¼ lbs/sx Celloflake + 6% Bentonite; 12.7 ppg, 1.94 cf/sx, 10.51 gps.. Tail with 390 sx Class H + ¼ lbs/sx Cello Flake + 0.4% CD-32 + 1.4% Sodium Metasilicate + 20 lbs/sx ASCA-1; 15.60 ppg, 1.42 cf/sx, 5.98 gps. TOC = 0.

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

5. Pressure Control Equipment:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (3/5 K system) double ram type (3000/5000 psi WP) preventor and a bag-type (Hydril) preventor (3000/5000 psi WP) and rotating head. Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4 ½" drill pipe rams on bottom. **The 3K annular BOP will be nippled up on the 13 3/8" casing and tested to 1000 psi high and 250 low with rig pump. The 5K double BOP will be nippled up on the 9 5/8" and tested as per Onshore Order #2.**

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 3000/5000 psi WP rating.

6. Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 625'	8.4 – 9.4	32-34	NC	Fresh Water
625'– 3500'	10.0	28	NC	Brine
KOP to TD				
2230'– 3200'	10.0	28	NC	Brine
3200'-4816'	10.0	28	NC	Brine

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

7. **Auxiliary Well Control and Monitoring Equipment:**
   a. A Kelly cock will be in the drill string at all times.
   b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
   c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 8 5/8" casing shoe until 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.

8. **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.

9. **Potential Hazards:**
   a. No abnormal pressures or temperatures are expected. A H2S contingency plan will be provided. 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°.

10. **Anticipated Starting Date and Duration of Operations:**
   a. 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 30 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

Planned Wellpath Report

Plan #1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Devon Energy**	Slot	**#1H_SHL**
Area	**Andrews County, TX**	Well	**#1H**
Field	**(Condor) Section 8 T18S R27E**	Wellbore	**#1H PWB**
Facility	**Condor 8 Federal #1H**		

REPORT SETUP INFORMATION			
Projection System	**NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet**	Software System	**WellArchitect™ 1.2**
North Reference	**Grid**	User	**Gomeoscr**
Scale	**0.999909**	Report Generated	**07/23/07** at **16:08:45**
Wellbore last revised	**07/23/07**	Database/Source file	**WellArchitectDB/#1H_PWI**

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	**East [feet]**	**Easting [US feet]**	**Northing [US feet]**	**Latitude [°]**	**Longitude [°]**
Slot Location	**0.00**	**0.00**	551298.87	641922.93	32 45 52.837N	104 18 03.337W
Facility Reference Pt			**551298.87**	**641922.93**	32 45 52.837N	104 18 03.337W
Field Reference Pt			**551298.87**	**641922.93**	32 45 52.837N	104 18 03.337W

WELLPATH DATUM

Calculation method	**Minimum curvature**	Rig on #1H_SHL (RT) to Facility Vertical Datum	**0.00 feet**
Horizontal Reference Pt	**Slot**	Rig on #1H_SHL (RT) to GRN. ELEV.	**3423.00 feet**
Vertical Reference Pt	**Rig on #1H_SHL (RT)**	Facility Vertical Datum to Mud Line (Facility)	**0.00 feet**
MD Reference Pt	**Rig on #1H_SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**GRN. ELEV.**	Section Azimuth	**256.25°**

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Planned Wellpath Report

Plan #1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Devon Energy**	Slot	**#1H_SHL**
Area	**Andrews County, TX**	Well	**#1H**
Field	**(Condor) Section 8 T18S R27E**	Wellbore	**#1H PWB**
Facility	**Condor 8 Federal #1H**		

WELLPATH DATA (29 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments
0.00	0.000	256.250	0.00	0.00	0.00	0.00	0.00	Tie On
2230.00	0.000	256.250	2230.00	0.00	0.00	0.00	0.00	KOP
2330.00†	10.050	256.250	2329.49	8.75	-2.08	-8.50	10.05	
2430.00†	20.100	256.250	2425.92	34.72	-8.25	-33.73	10.05	
2530.00†	30.150	256.250	2516.35	77.13	-18.33	-74.92	10.05	
2630.00†	40.200	256.250	2597.98	134.66	-32.01	-130.80	10.05	
2730.00†	50.250	256.250	2668.32	205.56	-48.86	-199.67	10.05	
2830.00†	60.300	256.250	2725.21	287.64	-68.37	-279.40	10.05	
2930.00†	70.350	256.250	2766.91	378.40	-89.94	-367.55	10.05	
3030.00†	80.400	256.250	2792.12	475.03	-112.91	-461.42	10.05	
3125.56	90.004	256.250	2800.11	570.14	-135.52	-553.80	10.05	EOC
3130.00†	90.004	256.250	2800.11	574.58	-136.57	-558.12	0.00	
3230.00†	90.004	256.250	2800.10	674.58	-160.34	-655.25	0.00	
3330.00†	90.004	256.250	2800.09	774.58	-184.11	-752.39	0.00	
3430.00†	90.004	256.250	2800.09	874.58	-207.88	-849.52	0.00	
3530.00†	90.004	256.250	2800.08	974.58	-231.65	-946.65	0.00	
3630.00†	90.004	256.250	2800.08	1074.58	-255.42	-1043.79	0.00	
3730.00†	90.004	256.250	2800.07	1174.58	-279.18	-1140.92	0.00	
3830.00†	90.004	256.250	2800.06	1274.58	-302.95	-1238.06	0.00	
3930.00†	90.004	256.250	2800.06	1374.58	-326.72	-1335.19	0.00	
4030.00†	90.004	256.250	2800.05	1474.58	-350.49	-1432.33	0.00	
4130.00†	90.004	256.250	2800.04	1574.58	-374.26	-1529.46	0.00	
4230.00†	90.004	256.250	2800.04	1674.58	-398.03	-1626.59	0.00	
4330.00†	90.004	256.250	2800.03	1774.58	-421.80	-1723.73	0.00	
4430.00†	90.004	256.250	2800.02	1874.58	-445.57	-1820.86	0.00	

devon

Planned Wellpath Report

Plan #1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Devon Energy**	Slot	**#1H_SHL**
Area	**Andrews County, TX**	Well	**#1H**
Field	**(Condor) Section 8 T18S R27E**	Wellbore	**#1H PWB**
Facility	**Condor 8 Federal #1H**		

WELLPATH DATA (29 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments
4530.00†	90.004	256.250	2800.02	1974.58	-469.33	-1918.00	0.00	
4630.00†	90.004	256.250	2800.01	2074.58	-493.10	-2015.13	0.00	
4730.00†	90.004	256.250	2800.01	2174.58	-516.87	-2112.26	0.00	
4815.94	90.004	256.250	2800.00	2260.53	-537.30	-2195.74	0.00	#1H BHL

HOLE & CASING SECTIONS Ref Wellbore: #1H PWB Ref Wellpath: Plan #1

String/Diameter	Start MD [feet]	End MD [feet]	Interval [feet]	Start TVD [feet]	End TVD [feet]	Start N/S [feet]	Start E/W [feet]	End N/S [feet]	End E/W [feet]
8.75in Open Hole	2230.00	3125.56	895.56	2230.00	2800.11	0.00	0.00	-135.52	-553.81
6.25in Open Hole	3125.59	4815.94	1690.35	2800.11	2800.00	-135.52	-553.83	-537.30	-2195.74

TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
1) #1H BHL	4815.94	2800.00	-537.30	-2195.74	**549103.33**	**641385.68**	32 45 47.526N	104 18 29.051W	point

Devon Energy

Location: Andrews County, TX
Field: (Condor) Section 8 T18S R27E
Facility: Condor 8 Federal #1H

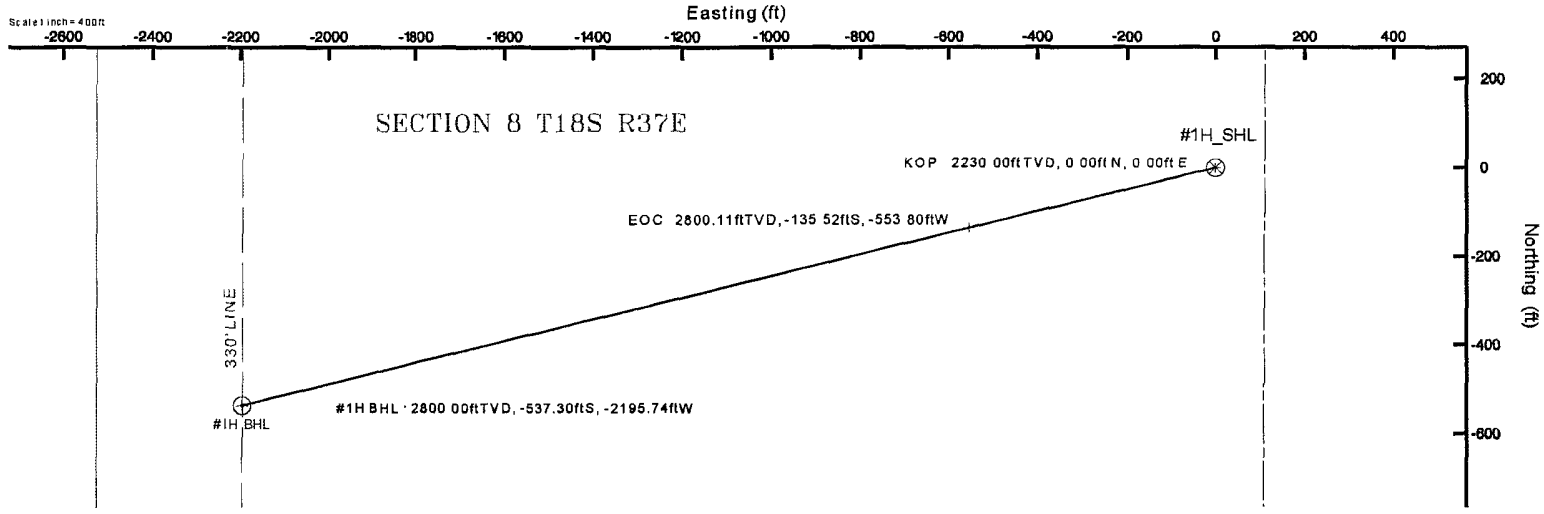
Slot: #1H_SHL
Well: #1H
Wellbore: #1H PWB

BAKER HUGHES INTEQ

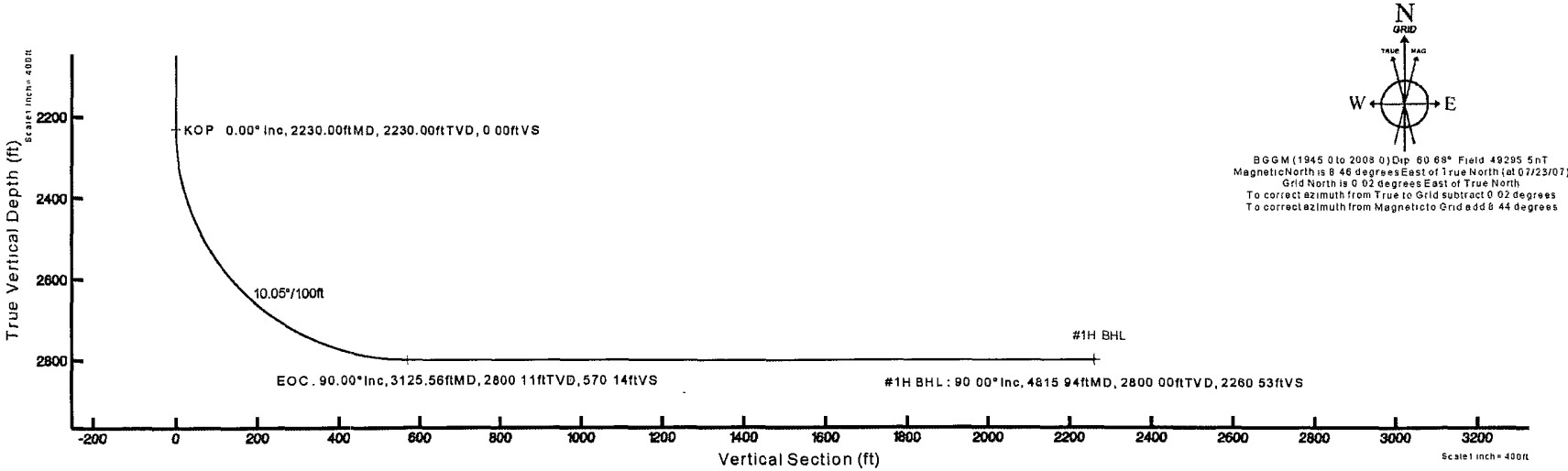
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	LocalN (ft)	LocalE (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	256.250	0.00	0.00	0.00	0.00	0.00
KOP	2230.00	0.000	256.250	2230.00	0.00	0.00	0.00	0.00
EOC	3125.56	90.004	256.250	2800.11	-135.52	-553.80	10.05	570.14
#1H BHL	4815.94	90.004	256.250	2800.00	-537.30	-2195.74	0.00	2260.53

Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on #1H_SHL(RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on #1H_SHL(RT)	North Reference: Grid north
Rig on #1H_SHL(RT) to GRN_ELEV: 3423 feet	Scale: True distance
GRN_ELEV to Mud line (Facility - Condor 8 Federal #1H): 3423 feet	Depths are in feet
Coordinates are in feet reference slot	Created by: gomezvr on 7/23/2007



SECTION / HARD LINES ARE ESTIMATE ONLY AND ARE SUBJECT TO CUSTOMER APROVAL



Azimuth 256.25° with reference 0.00 N, 0.00 E from wellhead

BGGM (1945.0 to 2008.0) Dip: 60.68° Field: 49295.5nT
Magnetic North is 8.46 degrees East of True North (at 07/23/07)
Grid North is 0.02 degrees East of True North
To correct azimuth from True to Grid subtract 0.02 degrees
To correct azimuth from Magnetic to Grid add 8.44 degrees

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

3 MWP

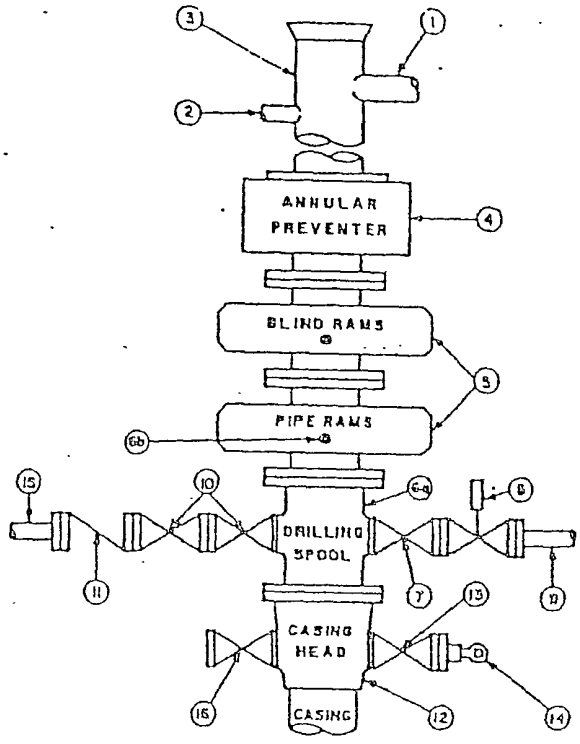
EXHIBIT # 1

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
	—— or ——		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL			
16	Flanged valve	1-13/16"	

CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

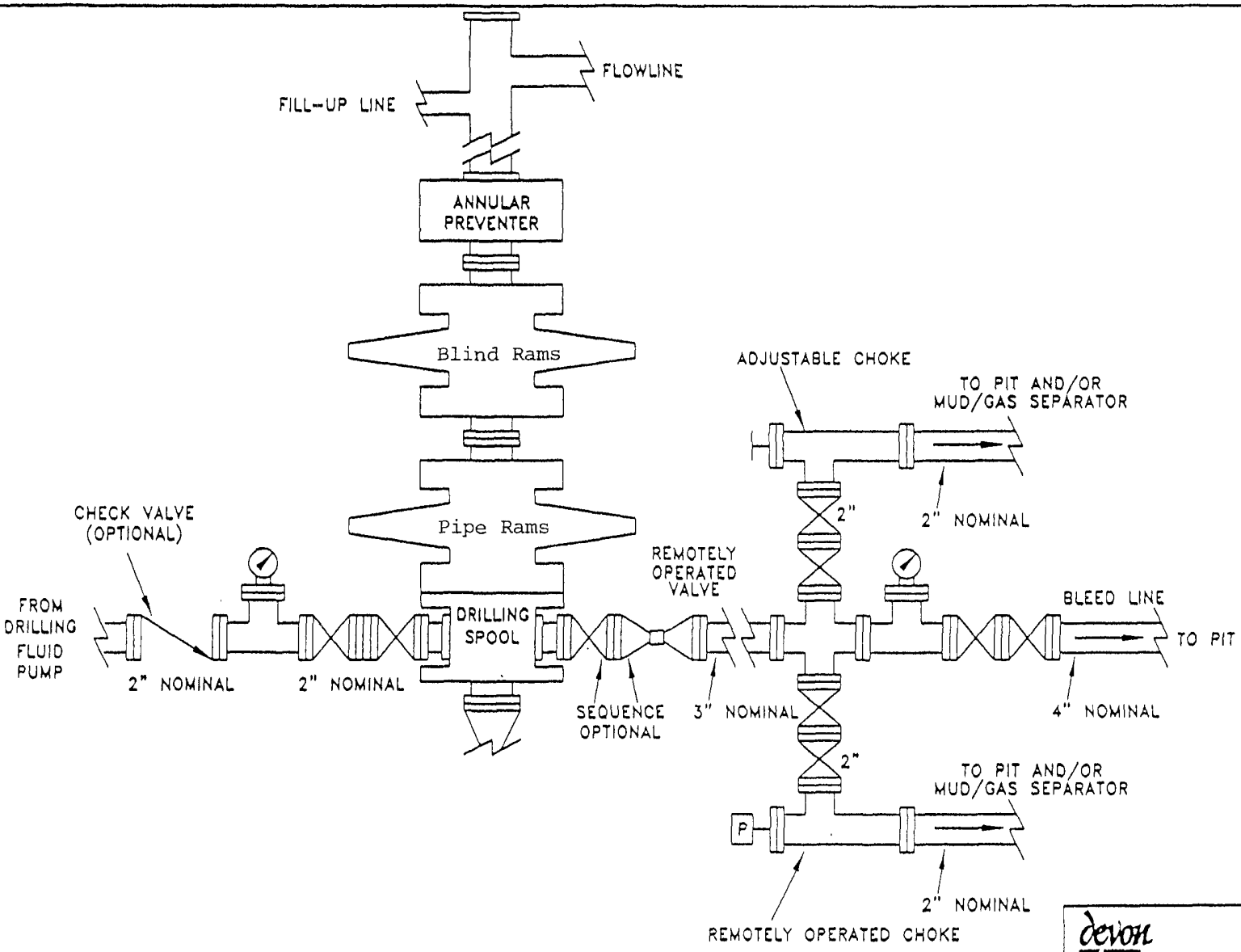
1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located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

MEC TO FURNISH:

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

GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.



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AREA NAME

COUNTY, STATE

SCHEMATIC

PROPOSED 5-M BOPE AND CHOKE ARRANGEMENT

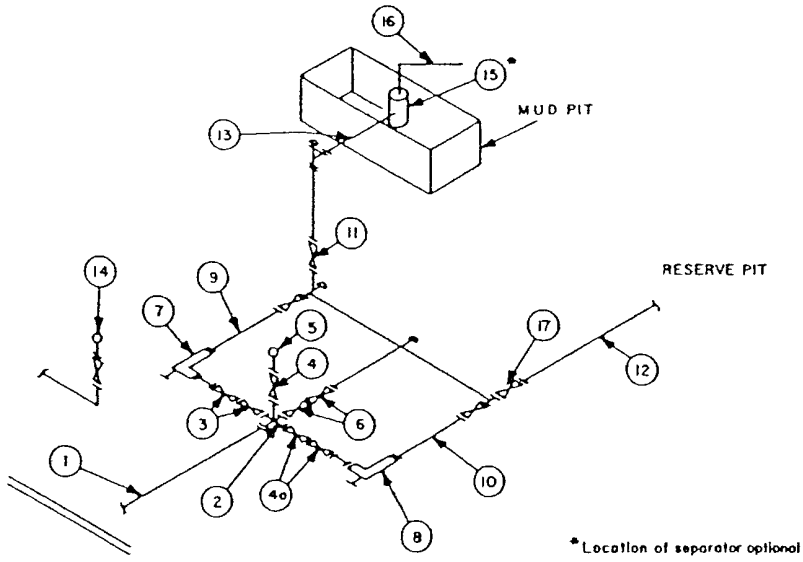
s:\..\nm\plats
5mbope.dwg

SC

10/00

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

3 MWP - 5 MWP - 10 MWP



BEYOND SUBSTRUCTURE

MINIMUM REQUIREMENTS										
		3,000 MWP			5,000 MWP			10,000 MWP		
No.		I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x3"									10,000
3	Valves(1) Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate ☐ Plug ☐(2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves(1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke(3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2'x5'			2'x5'			2'x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

(1) Only one required in Class 3M.

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

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

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2. All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
3. All lines shall be securely anchored.
4. Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
5. Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
6. Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
7. Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.

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Devon Energy Corporation
20 North Broadway
Oklahoma City, Oklahoma 73102-8260

Hydrogen Sulfide (H_2S) Contingency Plan

For

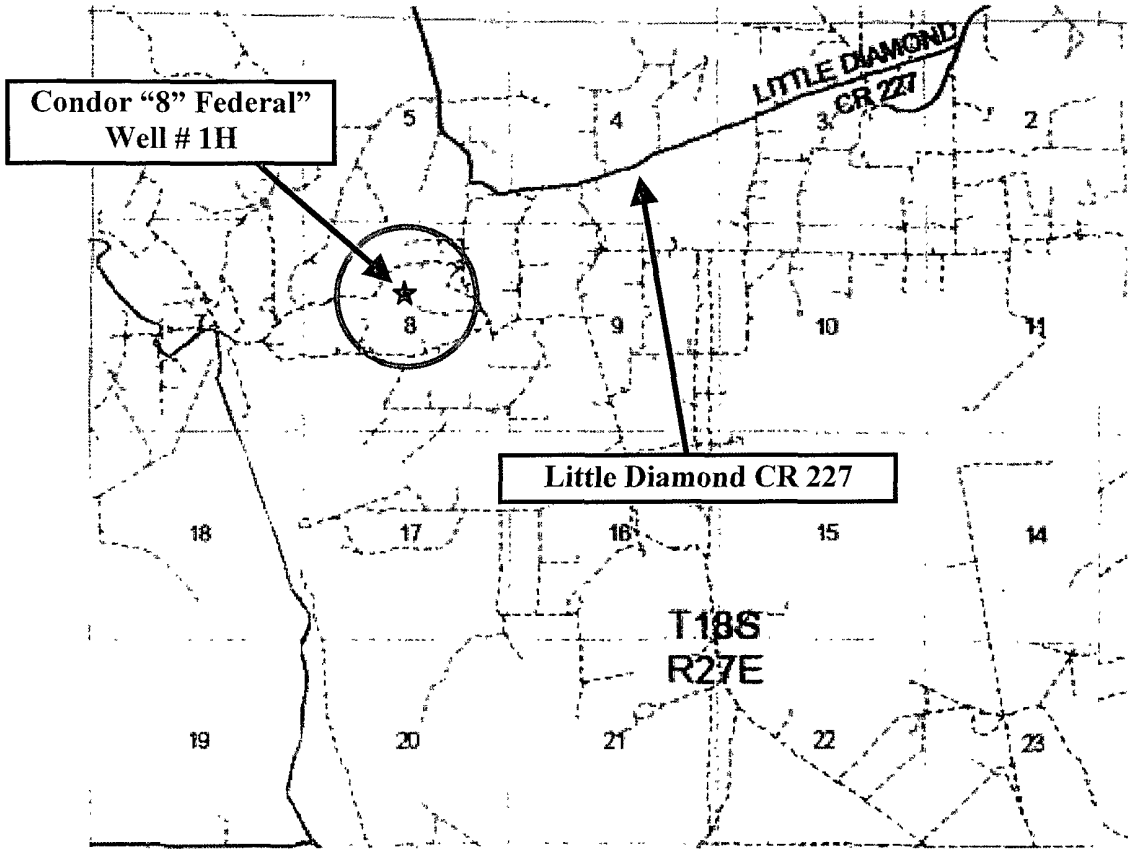
Condor "8" Federal" Well # 1H

1770' FNL & 2525' FWL,
Sec-8, T-18S R-27E

Eddy County NM

Condor "8" Federal" Well # 1H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.



Assumed 100 ppm ROE = 3000' (Radius of Exposure); 100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated on lease road to CR 227. Crews should then move to block access to the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There may no homes or buildings within or near the ROE. **Immediate response** should include the evacuation of any person(s) potentially affected by toxic or flammable gasses. Evacuation of the downwind areas should occur first. Perimeter monitoring should then be established to ensure safe areas.

Emergency Procedures

In the case of a release of gas containing H_2S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system' to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr-ation
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Devon Energy Corp. Company Call List

Artesia (505)	Cellular	Office	Home
Foreman – Robert Bell	748-7448	748-0178	746-2991
Asst. Foreman –Tommy Polly	748-5290	748-0165	748-2846
Joe Johnston	513-0630	748-0171	627-6917
Linda Berryman	513-0534	748-0177	628-1864
Engineer – Marcos Ortiz	(405) 317-0666	(405) 552-8152	(405) 381-4350

Agency Call List

Eddy County (505)

Artesia

State Police	746-2703
City Police	746-2703
Sheriff's Office	746-9888
Ambulance	911
Fire Department	746-2701
LEPC (Local Emergency Planning Committee)	746-2122
NMOCD	748-1283

Carlsbad

State Police	885-3137
City Police	885-2111
Sheriff's Office	887-7551
Ambulance	911
Fire Department	885-2111
LEPC (Local Emergency Planning Committee)	887-3798
US Bureau of Land Management	887-6544
New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 HR	(505) 827-9126
National Emergency Response Center (Washington, DC)	(800) 424-8802

Emergency Services

Boots & Coots IWC	1-800-256-9688 or (281) 931-8884
Cudd Pressure Control	(915) 699-0139 or (915) 563-3356
Halliburton	(505) 746-2757
B. J. Services	(505) 746-3569

Give GPS position:

Flight For Life - Lubbock, TX	(806) 743-9911
Aerocare - Lubbock, TX	(806) 747-8923
Med Flight Air Amb - Albuquerque, NM	(505) 842-4433
Lifeguard Air Med Svc. Albuquerque, NM	(505) 272-3115

Prepared in conjunction with
Wade Rohloff of;

Compliance Services
PO Box 2136 Hobbs NM 88240 (505) 631-9561

SURFACE USE PLAN
Devon Energy Production Company, LP
Condor 8 Federal 1H
Surface Location: 1770' FNL & 2525' FWL, Unit F, Sec 8 T18S R27E, Eddy, NM
Bottom Hole Location: 2310' FNL & 330' FWL, Unit E, Sec 8 T18S R27E, Eddy, NM

1. **Existing Roads:**
   a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
   b. All roads into the location are depicted on Exhibit 3.
   c. Directions to Location: From the junction of Co. Rd. 227 (Little Diamond) and Co. Rd. 201 (Chalk Bluff), go southwest 0.6 miles to lease road, on lease road go 0.3 miles west to West Red Lake Unit # 74 and proposed lease road.

2. **New or Reconstructed Access Roads:**
   a. The well site layout, Form C-102 shows the existing trail road.
   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 shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

4. **Location of Existing and/or Proposed Production Facilities:**
   a. In the event the well is found productive, the Hawk tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
   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. We intend to lay flowlines from the Condor 8 Federal 1H to the Hawk tank battery. 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 D 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. We will close the pits 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 (Use the appropriate A-C option; delete other two)

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)

Don Mayberry
Superintendent

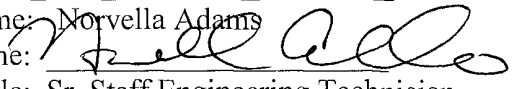
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250

(505) 748-3371 (office)
(505) 746-4945 (home)

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 _21th___ day of __August__, 2007.
Printed Name: Norvella Adams
Signed Name: 
Position Title: Sr. Staff Engineering Technician
Address: 20 North Broadway, OKC OK 73102
Telephone: (405) 552-8198
Field Representative (if not above signatory):
Address (if different from above):
Telephone (if different from above):
E-mail (optional): norvella.adams@dvn.com

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

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.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone as identified in the geologic 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, (505) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it has been reported in Section 12 measuring 224 ppm in gas streams and 4 ppm in STVs from the Queen-Grayburg-San Andres; Section 13 measuring 760 ppm in gas streams and 20 ppm in STVs from the Artesia Group; Section 17 measuring 29,600 ppm in gas streams and 100 ppm in STVs from the Abo.**

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.

3. When floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set at **approximately 625** 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 **8-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above.

3. 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.

4. 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. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

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: (505) 706-2779

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