

RESUBMITTAL

OCD-ARTESIA

R-111-POTASH

Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-89052	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Devon Energy Production Company, LP		7. If Unit or CA Agreement, Name and No. 31920	
3a. Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260		8. Lease Name and Well No. Apache 25 Federal 10 H	
3b. Phone No. (include area code) 405-228-8699		9. API Well No. 30-015-35597	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SE 1/4 FSL & SE 1/4 910' FEL At proposed prod. zone S/2 SW 1/4 430' FSL & SW 1/4 SE 1/4 330' FWL		10. Field and Pool, or Exploratory Ingle Wells; Delaware	
11. Sec., T. R. M. or Blk. and Survey or Area Sec 25 T22S R30E		12. County or Parish Eddy County	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 16 miles northeast of Loving, 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 560	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth TVD 7555', MD 11,414''	20. BLM/BIA Bond No. on file CO-1104	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3339' GL	22. Approximate date work will start* 03/01/2007	23. Estimated duration 45 days	

24. Attachments

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

- 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).
- 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 <i>Judy A. Barnett</i>	Name (Printed/Typed) Judy A. Barnett	Date 01/16/2007
Title Regulatory Analyst		
Approved by (Signature) <i>W. Burkhardt</i>	Name (Printed/Typed)	Date APR 25 2007
Title STATE DIRECTOR		
Office NM STATE 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 1 YEAR

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)

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

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

**Additional Operator Remarks:**

Devon Energy Production Company, LP proposes to drill a Delaware well to 11,414' for commercial quantities of oil and gas. If the well is deemed noncommercial, the wellbore will be plugged and abandoned per Federal regulations. Devon Energy Production Co., LP plans to drill the well per the attached Drilling and Surface Use Plan.

**Directions To Location:** From the junction of State Hwy 62-180 and County Rd. 29 802 (WIPP), go north on County Rd. 802 for approximately 2.2 miles to lease road; on lease road proceed 0.8 miles west to Apache #2 and proposed location..

**Access Road:**

The existing two track lease road will be used. Archeological survey's will be requested for the pad and access road.

**H2S:**

No H2S is anticipated to be encountered.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
SUNDRY NOTICES AND REPORTS ON WELLS

OCD-ARTESIA

FORM APPROVED  
OMB NO. 1004-0135  
EXPIRES: NOVEMBER 30, 2000

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals

SUBMIT IN TRIPLICATE

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other \_\_\_\_\_

2. Name of Operator  
DEVON ENERGY PRODUCTION COMPANY, LP

3. Address and Telephone No.  
20 North Broadway, Oklahoma City, OK 73102 405-228-8699

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
SL: SEC 25 T22S R30E 810' FSL & 910' FEL  
BHL: SEC 25 T22S R30E 430' FSL & 330' FWL

5. Lease Serial No.

NM-89052

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Well Name and No.

Apache 25 Federal 10 #

9. API Well No.

10. Field and Pool, or Exploratory

Ingle Wells; Delaware

12. County or Parish 13. State

Eddy

NM

CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

- ☐ Acidize ☐ Deepen ☐ Production (Start/Resume)  
☐ Alter Casing ☐ Fracture Treat ☐ Reclamation  
☐ Casing Repair ☐ New Construction ☐ Recomplete  
☐ Change Plans ☐ Plug and Abandon ☐ Temporarily Abandon  
☐ Convert to Injection ☐ Plug Back ☐ Water Disposal

- ☐ Water Shut-Off  
☐ Well Integrity  
☒ Other Location Move

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal deepens directionally or recompletes horizontally, give subsurface location and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirement, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

Devon Energy Production Company, L. P. respectfully requests to move the location per the BLM (Barry Hunt) request due to topography; location has been pre-approved by Craig Cranston, Potash:

FROM: SEC 25 T22S R30E, SL: SE/4 510' FSL & SE/4 910' FEL and BHL: SEC 25 T22S R30E S/2 SW/4 430' FSL & SW/4 SE/4 330' FWL

TO: SEC 25 T22S R30E SL: S/2 SE/4 810' FSL & SE/4 910' FEL and BHL: SEC 25 T22S R30E S/2 SW/4 430' FSL & SW/4 SE/4 330' FWL

(C-102 and Directional Survey Attached)

14. I hereby certify that the foregoing is true and correct

Signed 

Name Judy A. Barnett  
Title Regulatory Analyst

Date 3/14/2007

(This space for Federal or State Office use)

Approved by \_\_\_\_\_ Title STATE DIRECTOR

Date \_\_\_\_\_

Conditions of approval, if any:

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

\*See Instruction on Reverse Side

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

Form C-102  
Revised October 12, 2005

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

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 <b>33745</b>	Pool Name INGLE WELLS
Property Code	Property Name APACHE "25" FEDERAL	Well Number 10 H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY LP	Elevation 3338'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	25	22 S	30 E		810	SOUTH	910	EAST	EDDY

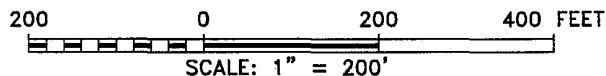
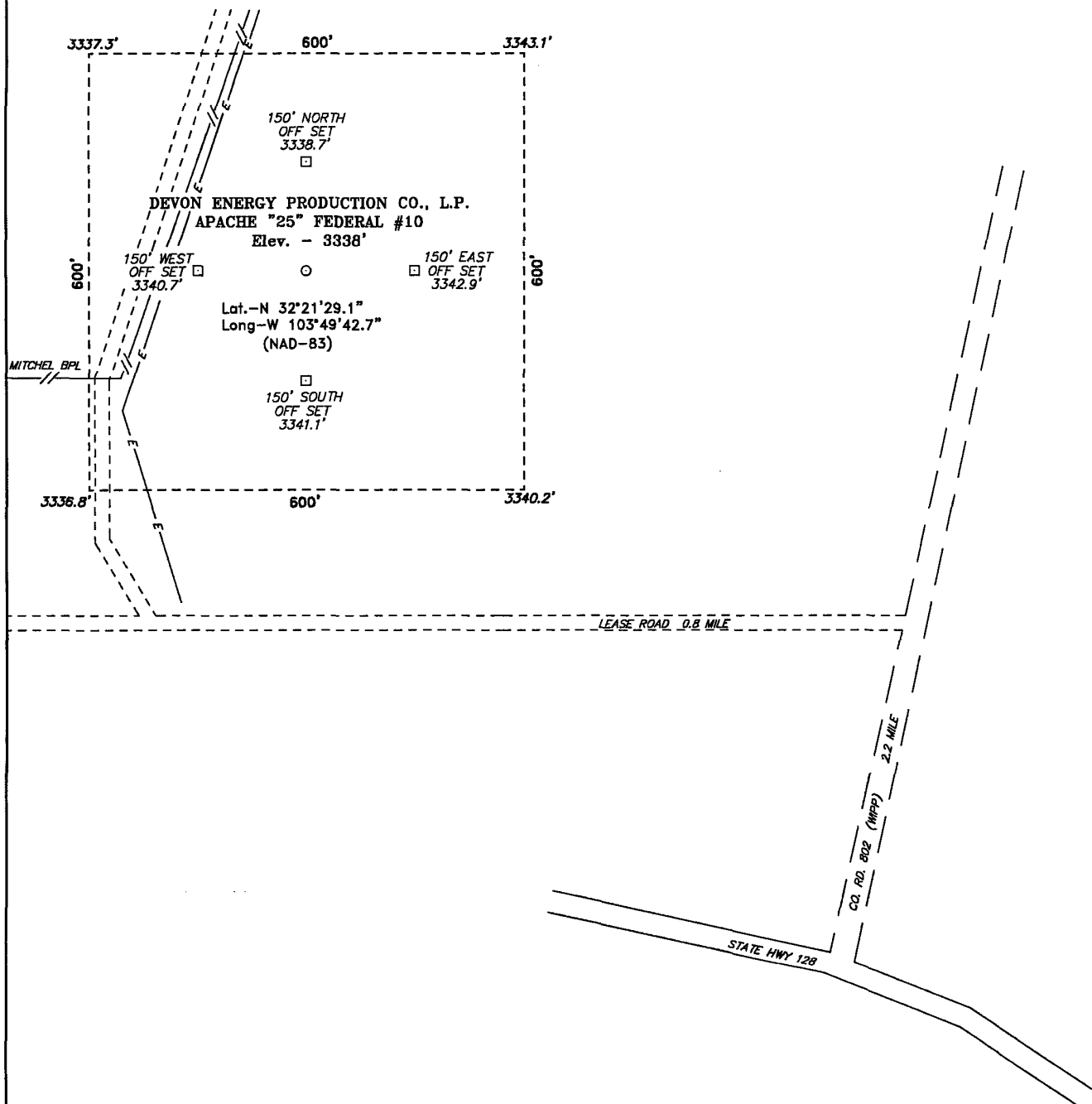
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	22 S	30 E		430	SOUTH	330	WEST	EDDY
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

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

<p>Producing Area</p> <p>Project Area</p> <p>BOTTOM HOLE LOCATION Lat - N32°21'25.5" Long - W103°50'29.8" (NAD-83)</p> <p>SURFACE LOCATION Lat - N32°21'29.1" Long - W103°49'42.7" (NAD-83)</p> <p>330' 430' 4057.8' 3337.3' 3543.1' 910' 3336.8' 810' 3340.2'</p>		<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p><i>Judy A. Barnett</i> 4/11/07 Signature Date</p> <p>Judy A. Barnett Printed Name Regulatory Analyst</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>DECEMBER 22 2006 Date Surveyed</p> <p>Signature &amp; Seal Professional Surveyor</p> <p>7977</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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SECTION 25, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF US. HWY 62-180 AND CO. RD. 802 (WIPP), PROCEED NORTH ON CO. RD. 802 FOR APPROX 2.2 MILES TO LEASE ROAD, ON LEASE ROAD PROCEED 0.8 MILES WEST TO APACHE #2 AND PROPOSED LOCATION.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 17813

Drawn By: J. M. SMALL

Date: 03-08-2007

Disk: 17813W JMS

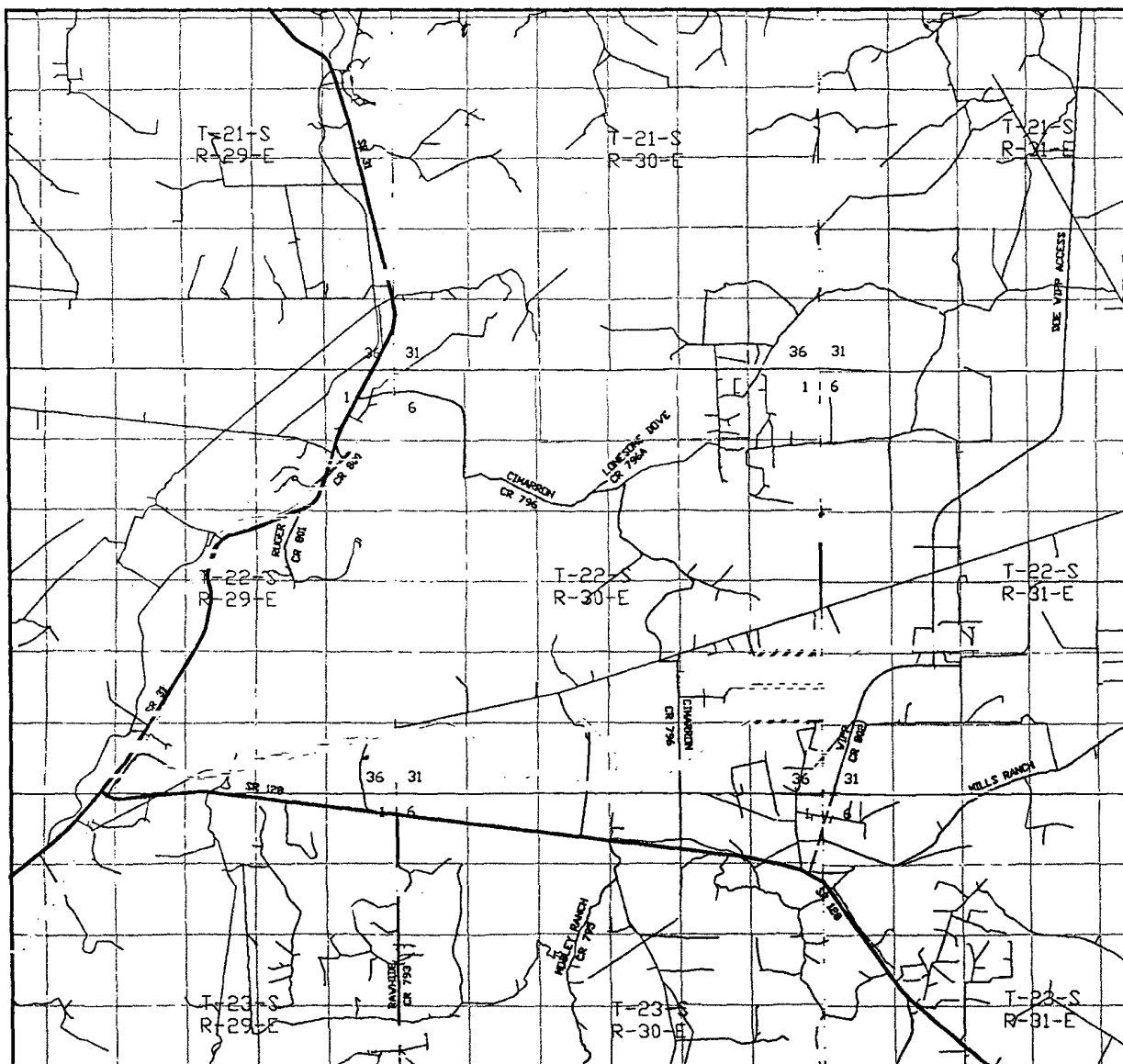
**DEVON ENERGY PROD. CO., L.P.**

REF: APACHE "25" FEDERAL #10 / WELL PAD TOPO

THE APACHE "25" FEDERAL No. 10, LOCATED 810'  
FROM THE SOUTH LINE AND 910' FROM THE EAST LINE OF  
SECTION 25, TOWNSHIP 22 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 03-05-2007

Sheet 1 of 1 Sheets



APACHE "25" FEDERAL #10 <sup>PA</sup>  
 Located at 810' FSL AND 910' FEL  
 Section 25, Township 22 South, Range 30 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  
 basin-surveys.com

W.O. Number: JMS 17851TR

Survey Date: 03-05-2007

Scale: 1" = 2 MILES

Date: 03-08-2007

DEVON ENERGY  
 PROD. CO., L.P.



# Planned Wellpath Report

Plan #2  
Page 1 of 3



INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#10H_SHL
Area	Eddy County, NM	Well	Apache #10H
Field	Section 25 T22S R30E (Apache)	Wellbore	#10H_PWB
Facility	Apache 25		

## 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	0.999937	Report Generated	03/15/07 at 10:52:41
Wellbore last revised	01/05/07	Database/Source file	WA_Midland/#10H_PV

## 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	697210.85	494370.02	32 21 29.100N	103 49 42.700W
Facility Reference Pt			697210.85	494370.02	32 21 29.100N	103 49 42.700W
Field Reference Pt			697212.28	494066.85	32 21 26.100N	103 49 42.700W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on #10H_SHL (RT) to Facility Vertical Datum	0.00 feet
Horizontal Reference Pt	Slot	Rig on #10H_SHL (RT) to Mean Sea Level	0.00 feet
Vertical Reference Pt	Rig on #10H_SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on #10H_SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	264.59°



# Planned Wellpath Report

Plan #2  
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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#10H_SHL
Area	Eddy County, NM	Well	Apache #10H
Field	Section 25 T22S R30E (Apache)	Wellbore	#10H_PWB
Facility	Apache 25		

## WELLPATH DATA (48 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	264.580	0.00	0.00	0.00	0.00	0.00	Tie On
7100.00	0.000	264.580	7100.00	0.00	0.00	0.00	0.00	KOP
7200.00†	11.937	264.580	7199.28	10.38	-0.98	-10.33	11.94	
7300.00†	23.873	264.580	7294.26	41.07	-3.88	-40.88	11.94	
7400.00†	35.810	264.580	7389.24	90.74	-8.77	-90.51	11.94	
7500.00†	47.746	264.580	7455.28	157.24	-14.85	-156.54	11.94	
7600.00†	59.683	264.580	7514.36	237.70	-22.45	-236.64	11.94	
7700.00†	71.620	264.580	7555.51	328.65	-31.04	-327.18	11.94	
7800.00†	83.556	264.580	7576.97	426.13	-40.25	-424.23	11.94	
7874.07	90.402	264.589	7579.93	500.09	-47.23	-497.85	2.00	EOB
7900.00†	90.402	264.589	7579.75	526.02	-49.68	-523.67	0.00	
8000.00†	90.402	264.589	7579.05	626.01	-59.11	-623.22	0.00	
8100.00†	90.402	264.589	7578.35	726.01	-68.54	-722.77	0.00	
8200.00†	90.402	264.589	7577.65	826.01	-77.97	-822.31	0.00	
8300.00†	90.402	264.589	7576.94	926.01	-87.40	-921.87	0.00	
8400.00†	90.402	264.589	7576.24	1026.00	-96.83	-1021.43	0.00	
8500.00†	90.402	264.589	7575.54	1126.00	-106.26	-1120.98	0.00	
8600.00†	90.402	264.589	7574.84	1226.00	-115.69	-1220.53	0.00	
8700.00†	90.402	264.589	7574.14	1326.00	-125.12	-1320.08	0.00	
8800.00†	90.402	264.589	7573.44	1425.99	-134.55	-1419.63	0.00	
8900.00†	90.402	264.589	7572.74	1525.99	-143.98	-1519.18	0.00	
9000.00†	90.402	264.589	7572.04	1625.99	-153.41	-1618.74	0.00	
9100.00†	90.402	264.589	7571.34	1725.99	-162.84	-1718.29	0.00	
9200.00†	90.402	264.589	7570.64	1825.99	-172.27	-1817.84	0.00	
9300.00†	90.402	264.589	7569.93	1925.98	-181.70	-1917.39	0.00	
9400.00†	90.402	264.589	7569.23	2025.98	-191.13	-2016.94	0.00	
9500.00†	90.402	264.589	7568.53	2125.98	-200.56	-2116.50	0.00	
9600.00†	90.402	264.589	7567.83	2225.98	-209.99	-2216.05	0.00	
9700.00†	90.402	264.589	7567.13	2325.98	-219.42	-2315.60	0.00	
9800.00†	90.402	264.589	7566.43	2425.97	-228.85	-2415.15	0.00	
9900.00†	90.402	264.589	7565.73	2525.97	-238.28	-2514.70	0.00	
10000.00†	90.402	264.589	7565.03	2625.97	-247.71	-2614.26	0.00	
10100.00†	90.402	264.589	7564.33	2725.96	-257.14	-2713.81	0.00	
10200.00†	90.402	264.589	7563.63	2825.96	-266.57	-2813.36	0.00	
10300.00†	90.402	264.589	7562.93	2925.96	-276.00	-2912.91	0.00	
10400.00†	90.402	264.589	7562.22	3025.96	-285.43	-3012.46	0.00	
10500.00†	90.402	264.589	7561.52	3125.95	-294.87	-3112.01	0.00	
10600.00†	90.402	264.589	7560.82	3225.95	-304.30	-3211.57	0.00	
10700.00†	90.402	264.589	7560.11	3325.95	-313.73	-3311.12	0.00	





# Planned Wellpath Report

Plan #2  
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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	#10H_SHL
Area	Eddy County, NM	Well	Apache #10H
Field	Section 25 T22S R30E (Apache)	Wellbore	#10H PWB
Facility	Apache 25		

## WELLPATH DATA (48 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments
10800.00†	90.402	264.589	7559.42	3425.95	-323.16	-3410.67	0.00	
10900.00†	90.402	264.589	7558.72	3525.94	-332.59	-3510.22	0.00	
11000.00†	90.402	264.589	7558.02	3625.94	-342.02	-3609.77	0.00	
11100.00†	90.402	264.589	7557.32	3725.94	-351.45	-3709.33	0.00	
11200.00†	90.402	264.589	7556.62	3825.93	-360.88	-3808.88	0.00	
11300.00†	90.402	264.589	7555.92	3925.93	-370.31	-3908.43	0.00	
11400.00†	90.402	264.589	7555.21	4025.93	-379.74	-4007.98	0.00	
11430.65	90.402	264.589	7555.00†	4056.58	-382.63	-4038.49	0.00	#10H BHL

## HOLE & CASING SECTIONS Ref Wellbore: #10H PWB Ref Wellpath: Plan #2

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	7100.00	7853.48	753.48	7100.00	7580.00	0.00	0.00	-45.29	-477.35
7.875in Open Hole	7853.48	11414.86	3561.38	7580.00	7555.11	-45.29	-477.35	-381.14	-4022.78

## TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
1) #10H BHL	11430.65	7555.00	-382.63	-4038.49	693172.62	493987.42	32 21 25.500N	103 50 29.800W	point

## SURVEY PROGRAM Ref Wellbore: #10H PWB Ref Wellpath: Plan #2

Start MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	11432.47	NaviTrak (Standard)		#10H PWB

devon

# Devon Energy

Location: Eddy County, NM  
Field: Section 25 T22S R30E (Apache)  
Facility: Apache 25

Slot: #10H\_SHL  
Well: Apache#10H  
Wellbore: #10H\_PWB

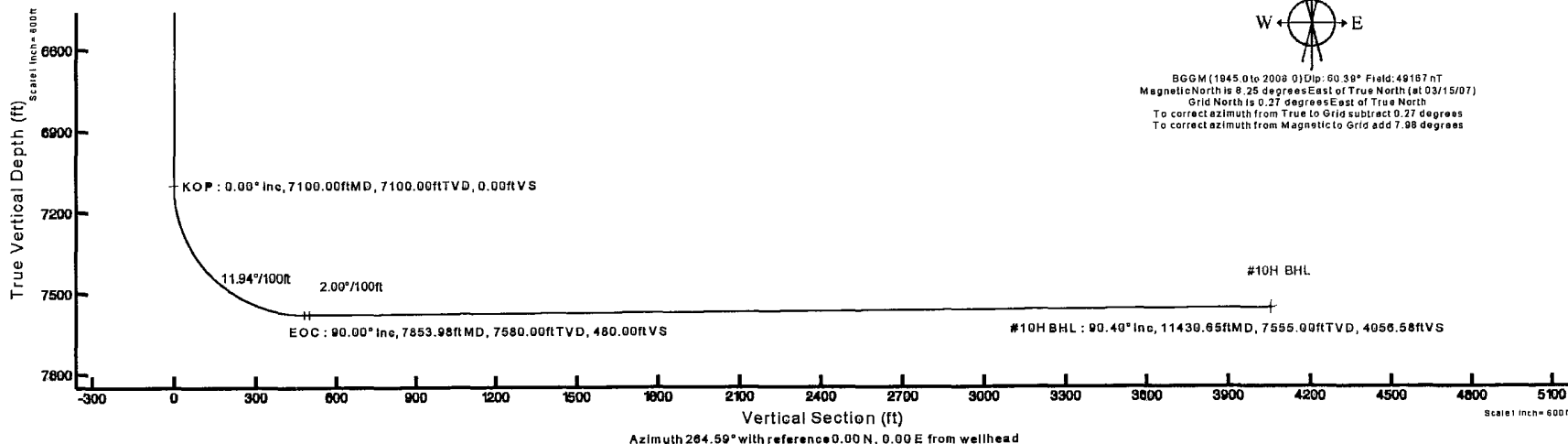
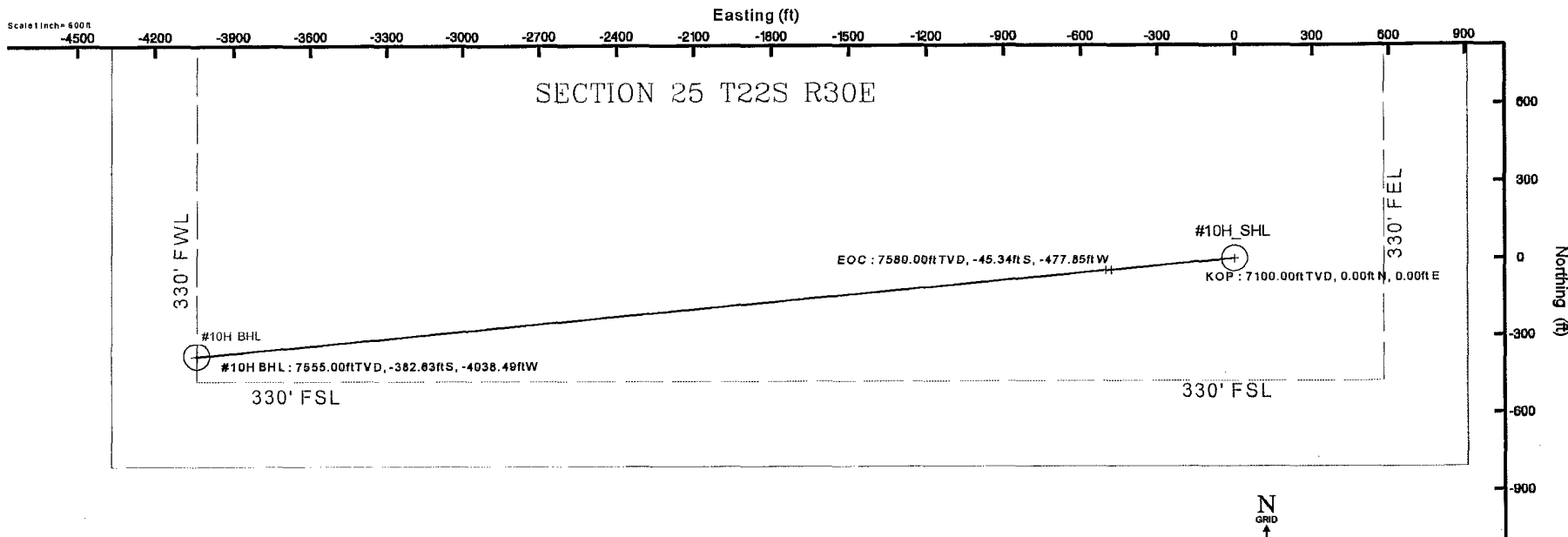


INTEQ

Well Profile Data							
DesignComment	MD (ft)	inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	0.00	0.000	264.589	0.00	0.00	0.00	0.00
KOP	7100.00	0.000	264.589	7100.00	0.00	0.00	0.00
EOC	7853.98	90.000	264.589	7580.00	-45.34	-477.85	480.00
EOB	7874.07	90.402	264.589	7579.93	-47.23	-497.85	500.09
#10HBHL	11430.05	90.402	264.589	7555.00	-382.63	-4038.49	4056.58

Plot reference wellpath is Plan #2

True vertical depths are referenced to Rig on #10H_SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on #10H_SHL (RT)	North Reference: Grid north
Rig on #10H_SHL (RT) to Mean Sea Level: 0 feet	Scale: True distance
Mean Sea Level to Mud line (Facility - Apache 25): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: GomeDacR on 3/15/2007



## DRILLING PROGRAM

Devon Energy Production Company, LP

*810'* ~~510'~~ **Apache 25 Federal 10 #** *6A*

Surface Location: ~~510'~~ FSL & 910' FEL, Lot P, Sec 25 T22S R30E, Eddy, NM

Bottom hole Location: 430' FSL & 330' FWL, Lot M, Sec 25 T22S R30E, Eddy, NM

1. **Geologic Name of Surface Formation**

a. Delaware

2. **Estimated tops of geological markers:**

a. Rustler	370'
b. Salado	770'
c. Base of Salt	3600'
d. Bell Canyon	3900'
e. Cherry Canyon	4800'
f. Brushy Canyon	6360'
g. Total Depth	7580'

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

a. Top of Fresh Water	370'	
b. Bell Canyon	4800'	Oil
c. Cherry Canyon	4800'	Oil
d. Brushy Canyon	6360'	Oil

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 630' and circulating cement back to surface. Fresh water sands will be protected by setting 9 5/8" casing at 3845' and circulating cement to surface. The Morrow intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing.

4. **Casing Program:**

<u>Hole Size</u>	<u>Interval</u>	<u>OD Csg</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17 1/2"	0' - 630'	13 3/8"	48#	ST&C	H-40
12 1/4"	630' - 3845'	9 5/8"	40#	ST&C	K-55
8 3/4"	3845' - 7100'	5 1/2"	17#	LT&C	J-55
7 7/8"	7100' - 11414'	5 1/2"	17#	BT&C	N-80

5. **Cement Program:**

a. 13 3/8" Surface	Cement to surface with 360 sx 35:65 Poz C, 2% bwoc CaCl, 1/4 pps Celloflake, 6% bwoc Bentonite, + 93.6% fresh wtr. Tail w/ 250 sx "Cl C", 2% bwoc CaCl, 1/4 pps Celloflake, + 56.3% fresh wtr.
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- b. 9 5/8" Intermediate Cement to surface with 980 sx 35:65 Poz C, + 5% bwow Sodium Cl, ¼ pps Celloflake, + 6% bwoc Bentonite, + 107.8% fresh wtr. Tail w/ 200 sx 60:40 Poz C + 4% bwoc MPA-1 + 5% bwow Sodium Cl, + .25 pps Celloflake + 0.4% bwoc Sodium Metasilicate + 64.7% fresh wtr.
- c. 5 1/2" Production Cement 1<sup>st</sup> Stage: w/ 830 sx (35:65) Poz C + 3% bwow Sodium Cl, + 0.25% bwoc R-3, ¼ pps Celloflake, 3 pps LCM-1, 0.3% bwoc FL-52 + 6% bwoc Bentonite + 102.5% fresh wtr. Tail w/ 735 sx Cl H + 0.35% bwoc R-3 + 0.4% bwoc CD-32 + 1.4% bwoc FL-62 + 0.1% bwoc ASA-301 + 0.2% bwoc Sodium Metasilicate + 20-pps ASA-301 + 0.2% bwoc Sodium Metasilicate, 20 pps ASCA-1 + 52.9% fresh wtr. DV @ 4000'. Stage 2: w/ 465 sx (35:65) Poz C, 5% bwow Sodium Cl, 0.25 pps Celloflake + 6% bwoc Bentonite + 107.8% fresh wtr. Tail w/ 100 sx (60:40) Poz C + 5 % bwow Sodium Cl + 0.25 pps Celloflake, + 0.4% bwoc Sodium Metasilicate, 4% bwoc MPA-1 + 64.7% fresh wtr.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 500' above the 9 5/8" casing shoe.

#### 6. Pressure Control Equipment:

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (5M system) double ram type (3000 psi WP) preventor and a bag-type (Hydril) preventor (3000 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 drilling head will be installed on the 13 3/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to 1200 psi with the rig pump before drilling out the 9 5/8" casing shoe (70% of 40#, K-55 casing). Prior to drilling out the 9 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

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

#### 7. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 620'	8.8	40-45	NC	Fresh Water
620' - 3845'	10	30	NC	Brine Water
3845-7100''	8.5-9.0	30-32	50-60	Fresh Wtr/Gel Starch
Horiz Section	8.5-9.0	30-32	50-60	Fresh Wtr/Gel Starch

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

**8. Auxiliary Well Control and Monitoring Equipment:**

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

**9. Logging, Coring, and Testing Program:**

- a. Drill stem tests will be based on geological sample shows.
- b. 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 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

**10. Potential Hazards:**

- a. No abnormal pressures or temperatures are expected. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3000 psi and Estimated BHT 120°.

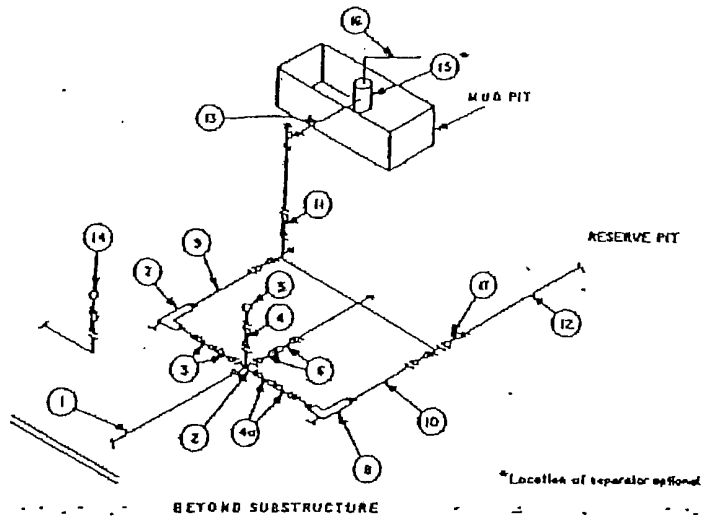
**11. Anticipated Starting Date and Duration of Operations:**

- 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 32 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.

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

3 MWP - 5 MWP - 10 MWP

Exhibit E



MINIMUM REQUIREMENTS										
No.		3,000 MWP			5,000 MWP			10,000 MWP		
		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 <input type="checkbox"/> Plug <input type="checkbox"/> (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/> (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 <input type="checkbox"/> Plug <input type="checkbox"/> (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 <input type="checkbox"/> Plug <input type="checkbox"/> (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 <input type="checkbox"/> Plug <input type="checkbox"/> (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.

# MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

3 MWP

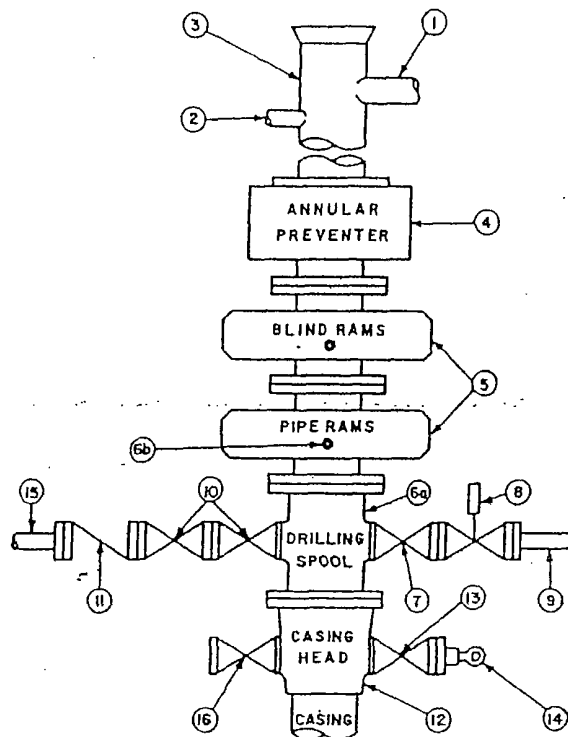
## STACK REQUIREMENTS

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		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/>	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/>	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/>	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"
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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.

Attachment to Exhibit #1  
NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP

*JE* *810'* **Apache 25 Federal 10 H** *OK*

Surface Location: ~~510'~~ FSL & 910' FEL, Lot P, Sec 25 T22S R30E, Eddy, NM

Bottom hole Location: 430' FSL & 330' FWL, Lot M, Sec 25 T22S R30E, Eddy, NM

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 preventer and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.



## **HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
  - a. Characteristics of H2S
  - b. Physical effects and hazards
  - c. Proper use of safety equipment and life support systems.
  - d. Principle and operation of H2S detectors, warning system and briefing areas
  - e. Evacuation procedures, routes and first aid.
  - f. Proper use of 30-minute pressure demand air pack.
2. H2S Detection and Alarm System
  - a. H2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
  - a. Windsock at mud pit area should be high enough to be visible
  - b. Windsock at briefing area should be high enough to be visible
  - c. There should be a windsock at entrance to location
4. Condition Flags and Signs
  - a. Warning Sign on access road to location
  - b. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well Control Equipment
  - a. See Exhibit "E" & "E-1"
6. Communication
  - a. While working under masks chalkboards will be used for communication.
  - b. Hand signals will be used where chalk board is inappropriate
  - c. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
7. Drill stem Testing
  - a. Exhausts will be watered
  - b. Flare line will be equipped with an electric igniter or a propane pilot light in case gas reaches the surface.
  - c. If the location is near to a dwelling a closed DST will be performed.
8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

If H2S is encountered, mud system will be altered if necessary to maintain control or formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Devon Energy Prod. Co. LP  
Well Name & No. 10H-Apache 25 Federal  
Location SHL: 0810 FSL, 0910 FEL, Section 25, T-22-S, R-30-E, Eddy County, NM  
Location BHL: 0430 FSL, 0330 FWL, Section 25, T-22-S, R-30-E, Eddy County, NM  
Lease: NM-89052

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### I. DRILLING OPERATIONS REQUIREMENTS:

A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:

1. Spudding well
2. Setting and/or Cementing of all casing strings
3. BOPE tests

- Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822

B. 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.

C. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)

### II. CASING:

A. The 13.375 inch surface casing shall be set at above the salt, at least 25 feet into the Rustler Anhydrite at approximately 630 feet and cemented to the surface.

1. 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.
2. Wait on cement (WOC) time for a primary cement job will be a minimum of 12 hours for a non-water basin, 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
4. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible flows in the Salado and Castile with possible Karst**

- B. The minimum required fill of cement behind the 9.625 inch intermediate casing is **cement shall circulate to surface**. If cement does not circulate see A.1 thru 4. **This string will be set at least 100 feet below the salt and no more than 600 feet below the salt, but above the Delaware Sandstone at approximately 3845'.**
- C. The minimum required fill of cement behind the 5-1/2 inch production casing is **cement shall circulate to surface**. If cement does not circulate see A.1 thru 4.

**Possible lost circulation or flows in the Delaware.**

- D. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- E. 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.

**III. PRESSURE CONTROL:**

- A. 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.
- B. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) PSI**.
- D. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
1. The tests shall be done by an independent service company.
  2. The results of the test shall be reported to the appropriate BLM office.
  3. 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.
  4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53. 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.

**Engineers can be reached at 505-706-2779 for any variances that might be necessary.**

**F Wright 2/6/07**