

7027 farm N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
0670 Artesia, NM 88210

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER R-111-POTASH		5. Lease Serial No. NMNM80057 89051
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ 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.
3a. Address 20 North Broadway Oklahoma City, Oklahoma City 73102-8260	3b. Phone No. (include area code) 405-552-8198	8. Lease Name and Well No. Apache 24 Federal 10 33079
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2530 FSL & 330 FEL At proposed prod. zone 1650 FNL & 1650 FWL		9. API Well No. 30-015-34218
10. Field and Pool, or Exploratory Quahada Ridge, SE Delaware		11. Sec., T. R. M. or Blk. and Survey or Area Sec 24, T22S R30E
12. Distance in miles and direction from nearest town or post office* Approximately 46 miles west from Jal, NM		13. State NM
14. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	15. No. of acres in lease 1040 acres	16. Spacing Unit dedicated to this well 40 acres
17. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	18. Proposed Depth 7921' MD 7600' TVD	19. BLM/BIA Bond No. on file
20. Elevations (Show whether DF, KDB, RT, GL, etc.) 3392' GL	21. Approximate date work will start* 05/30/2005	22. Estimated duration 30 days

24. Attachments **CARLSBAD 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:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Norvella Adams	Date 04/22/2005
Title Sr. Staff Eng. Tech		

Approved by (Signature) /s/ Jesse J. Juen	Name (Printed/Typed) /s/ Jesse J. Juen	Date JUN 20 2005
Title FOR 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)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

WITNESS **13 3/8" Cement Job**

NSL-5239

**5-17
29.5**

Additional Operator Remarks:

Devon Energy Production Company, LP proposes to drill a Delaware well to 7921' 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 currently approved Master Drilling and Surface Use Plan (MDSUP) for the Quahada Ridge, SE Field as outlined in Attachment A.

Directions: From Hobbs, go 35.7 miles west to WIPP road; then south on WIPP road for 11.1 miles to lease road 0.6 mile south of MM 2; then southwest on lease road for 1.7 mile; then south for 100 feet to location.

State of New Mexico
Energy Minerals and Natural Resources

Form C-1
June 1, 2005

1220 S. St. Francis Dr., Hobbs, NM 88240
1220 S. St. Francis Dr., Santa Fe, NM 87505
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

RECEIVED

JUL 15 2005

ODD-ARTI

Operator: Devon Energy Production Company, L.P. Telephone: (405)-552-7802 e-mail address: Stephanie.Ysasaga@dvn.com

Address: P.O. Box 250 Artesia, NM 88211

Facility or well name: Apache 24 Federal 10 API #: 30-015-34218 U/L or Qtr/Qtr 1 Sec 24 T 22S R 30E

County: Eddy Latitude _____ Longitude _____ NAD: 1927 ☐ 1983 ☐

Surface Owner: Federal ☒ State ☐ Private ☐ Indian ☐

Pit

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness 12 mil Clay ☐

Pit Volume _____ bbl

Below-grade tank

Volume: _____ bbl Type of fluid: _____

Construction material: _____

Double-walled, with leak detection? Yes ☐ If not, explain why not. _____

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

Ranking Score (Total Points)

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if are burying in place) onsite ☐ offsite ☐ If offsite, name of facility _____ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒, or an (attached) alternative OCD-approved plan ☐.

Date: 07/15/05

Printed Name/Title Stephanie A. Ysasaga / Senior Engineering Technician Signature _____

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Field Supervisor

Printed Name/Title _____ Signature _____

JUL 18 2005

DISTRICT I
French Dr., Hobbs, NM 88240
DISTRICT II
11 South First, Artesia, NM 88210

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised March 17, 1999

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

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		Quahada Ridge, SE Delaware
Property Code	Property Name	Well Number
	APACHE "24" FEDERAL	10
OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION CO., L.P.	3392'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	22 S	30 E		2530	SOUTH	330	EAST	EDDY

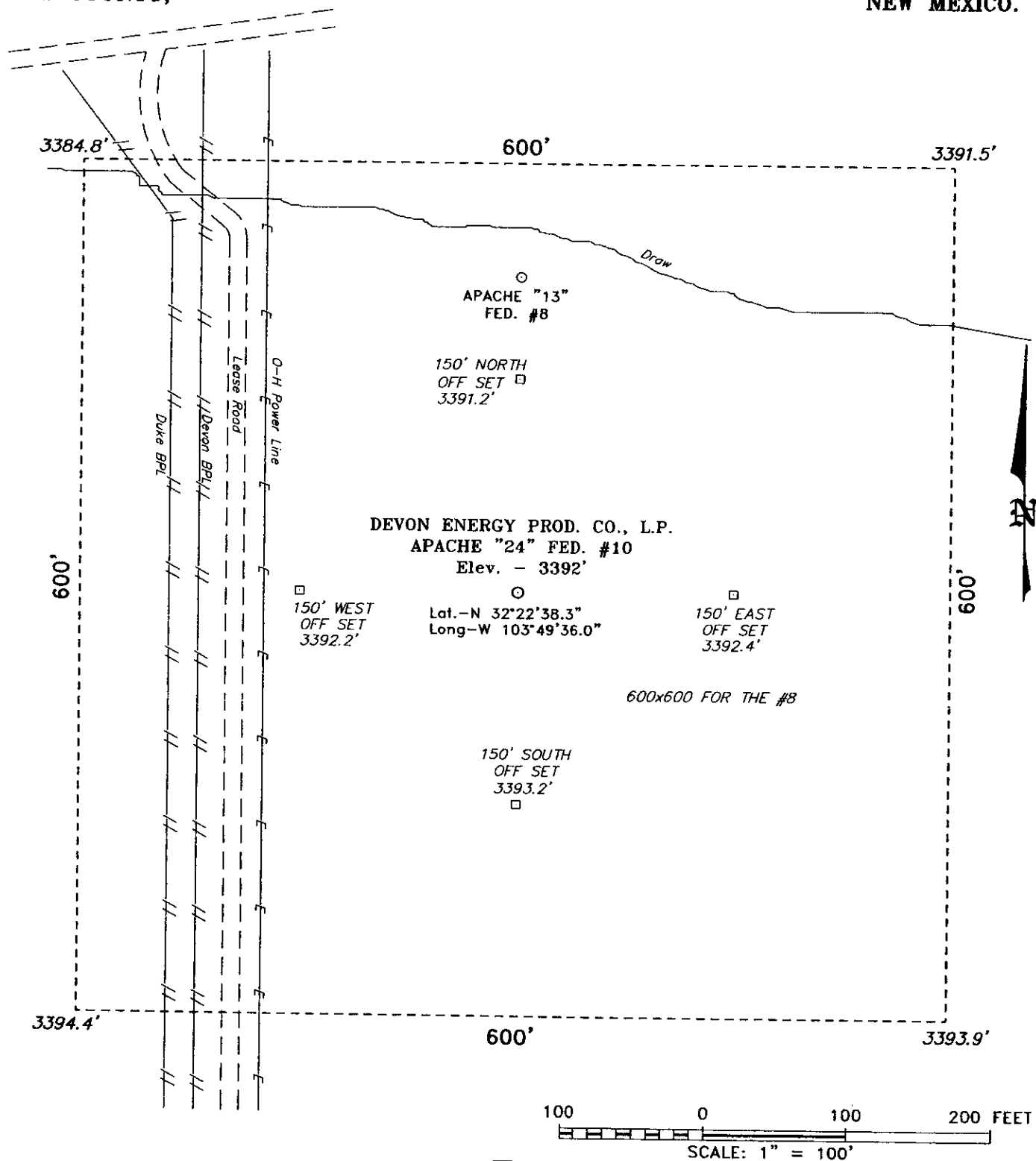
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	24	22 S	30 E		1650	NORTH	1650	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 the the information contained herein is true and complete to the best of my knowledge and belief. <i>Norvella Adams</i> Signature Norvella Adams Printed Name Sr. Staff Eng. Tech. Title March 4, 2005 Date SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. FEBRUARY 14, 2005 Date Surveyed <i>[Signature]</i> Signature and Seal of Professional Surveyor NEW MEXICO W.D. 167 5118 Certification No. Gary L. Jones 7977
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SECTION 24, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM HOBBS, GO 35.7 MILES WEST TO WIPP ROAD;
THENCE SOUTH ON WIPP ROAD FOR 11.1 MILES TO
LEASE ROAD 0.6 MILE SOUTH OF MM 2; THENCE
SOUTHWEST ON LEASE ROAD FOR 1.7 MILE; THENCE
SOUTH FOR 100 FEET TO LOCATION.

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

W.O. Number: 5118 Drawn By: K. GOAD

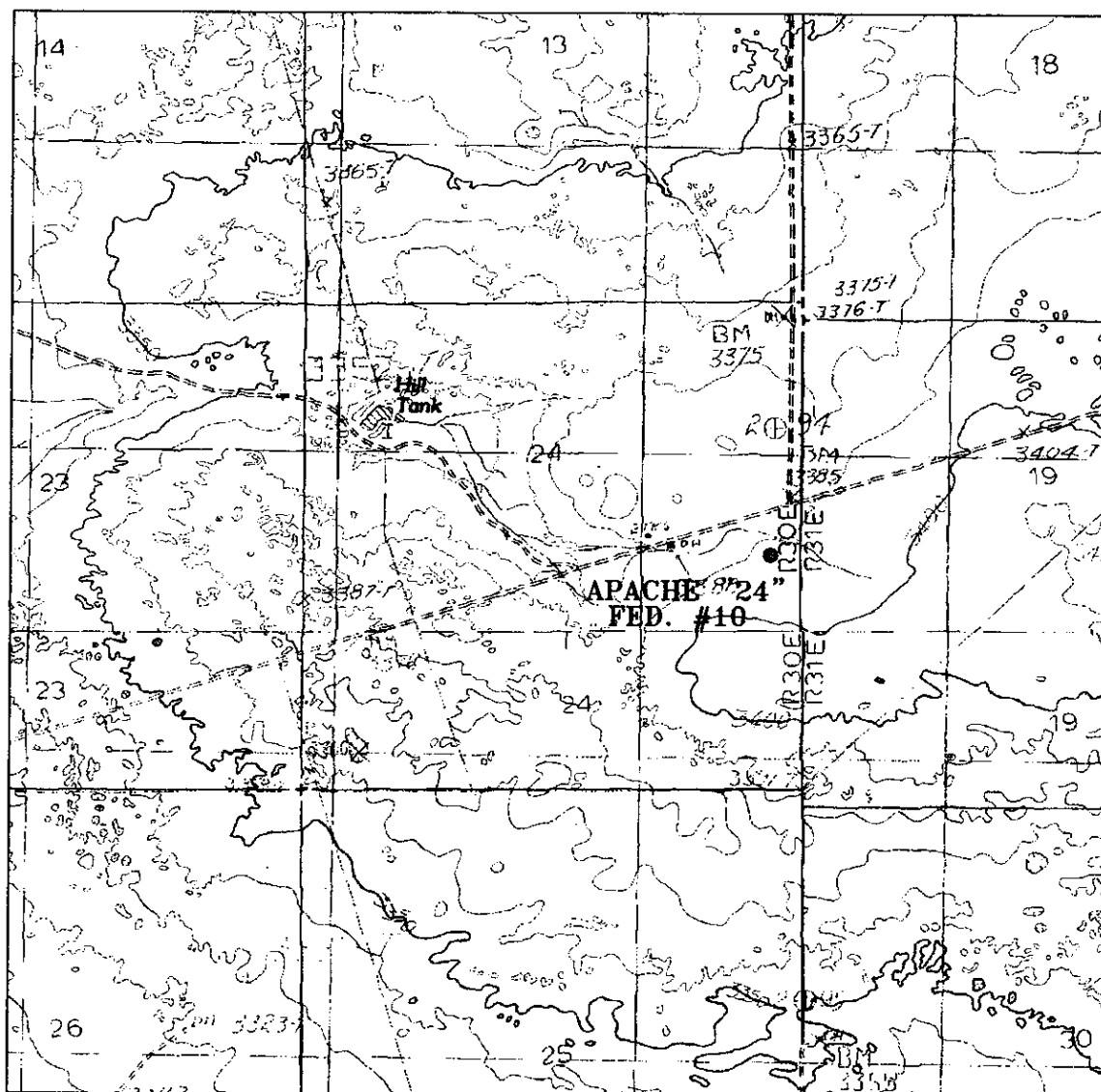
Date: 02-16-2005 Disk: KJG CD#4 - 5118A.DWG

DEVON ENERGY PROD. CO., L.P.

REF: APACHE "24" FED. No. 10 / Well Pad Topo

THE APACHE "24" FED No. 10 LOCATED 2530' FROM
THE SOUTH LINE AND 330' FROM THE EAST LINE OF
SECTION 24, TOWNSHIP 22 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 02-14-2005 Sheet 1 of 1 Sheets



APACHE "24" FEDERAL #10

Located at 2530' FSL and 330' FEL
 Section 24, Township 22 South, Range 30 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

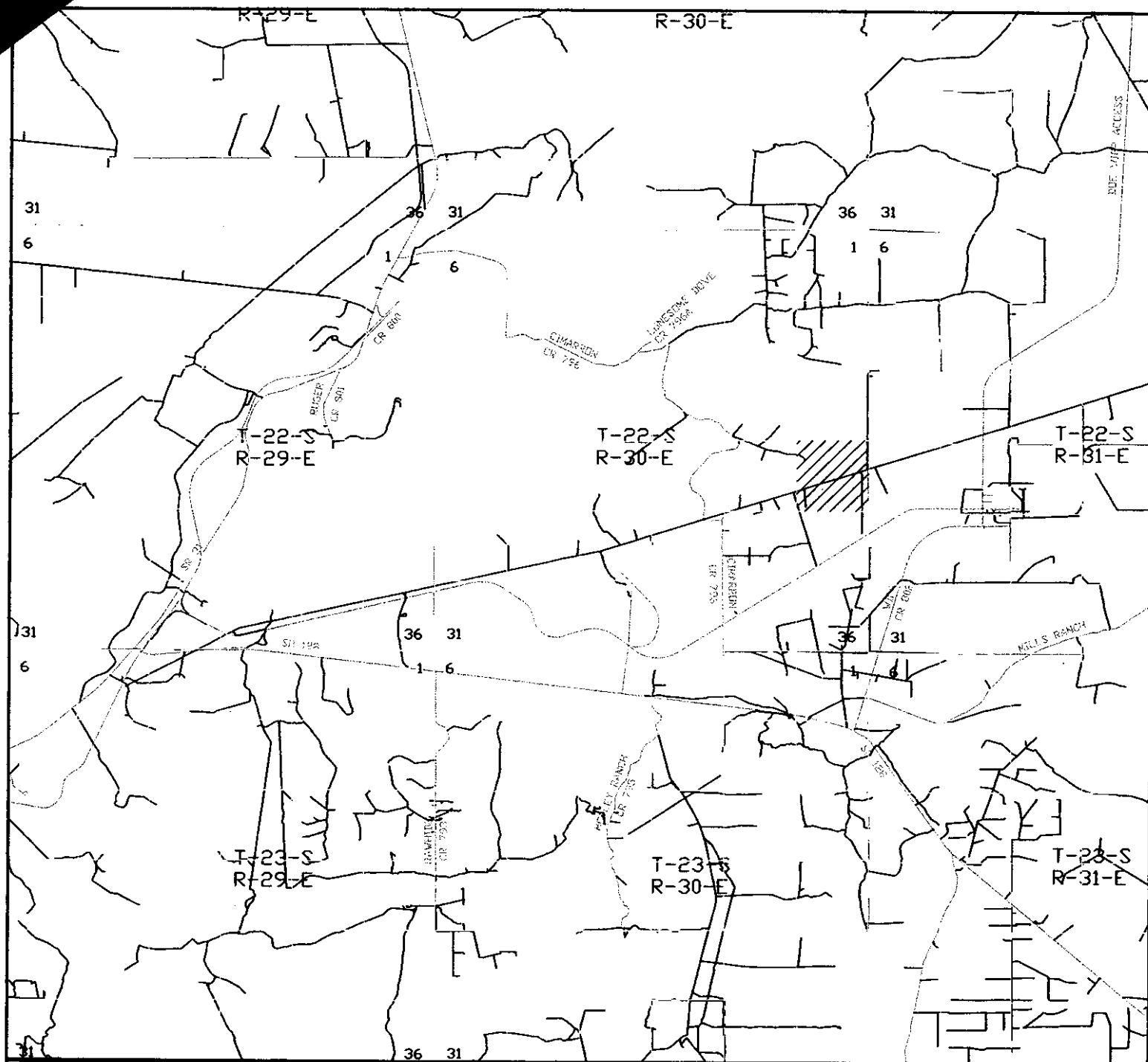
W.O. Number: 5118AA - KJC #1

Survey Date: 02-14-2005

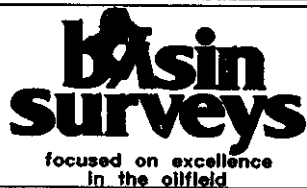
Scale: 1" = 2000'

Date: 02-16-2005

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



APACHE "24" FEDERAL #10
 Located at 2530' FSL and 330' FEL
 Section 24, Township 22 South, Range 30 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: 5118AA - KJG #1

Survey Date: 02-14-2005

Scale: 1" = 2 miles

Date: 02-16-2005

DEVON ENERGY
 PROD. CO., L.P.

Attachment A
Master Drilling Program
Delaware Formation on the Following Leases.

To be attached to Form 3160-3

UNIT AREA: Leases in the following sections, Townships and Ranges that are operated by Devon Energy Production Company, LP.

Lease Numbers as follows but not limited to:

Section	Lease Number	Description of Section	Township & Range
Section 12	NMNM89051	SE4/SE4	T22S R30E
Section 13	NMNM89051	E2, E2/SW4, SE4/NW4	T22S R30E
Section 24	NMNM89051	All of Section 24 except W2/NW4	T22S R30E
Section 25	NMNM89052	W2, NE4, S2/SE4	T22S R30E

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

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface'
Base of Salt	3690'
Delaware	3950'
Bone Spring	7720'
Total Depth	7860'

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

Upper Permian Sands	100'	Fresh Water
Delaware	3950'	Oil
Delaware	7475'	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 approximately 620' and circulating cement back to surface. The Potash and salt will be protected by setting 9 5/8" casing at 3845' and circulating cement to surface. The 7" production casing to be set at TD will be cemented to surface.

Casing Program:

Hole Size	Interval	Csg OD	Weight,	Grade	Type
17 1/2"	0 – 620'	13 3/8"	48#	H-40	ST&C
12 1/4"	0 – 3845'	9 5/8"	36# & 40#	J55	ST&C
8 3/4"	0 – 7900'	7"	23# & 26#	J55	LT&C
6 1/8"	Horiz section	Open hole			

5. Casing Cementing & Setting Depth:

13 3/8"	Surface :	Cement to surface with 350 sx 35:65 Poz Class C + 6% Bentonite + 2% CaCl ₂ + .25 lb/sk Cello Flake & tail w/250 sx Class Class C + 2% CaCl ₂ . Circulate cement to surface.
9 5/8"	Intermediate:	Cement to surface Lead w/977 sx 35:65 Poz Class C + 6% Bentonite +5% Sodium Chloride + .25 lbs/sk Cello Flake. Tail w/200 sx 60:40 Poz Class C + 4% MPA=1 + 5% Sodium Chloride + .4% Sodium Metasilicate + .25 lbs/sack Cello Flake. Circulate cement to surface.
7"	Production:	Cement 1 st Stage Lead w/ 225 sx 35:65 Poz Class C + 6% Bentonite + 3% Sodium Chloride + 0.3% FL-52 + 3 lb/sk LCM-1 + .25 lb/sack Cello Flake + .25% R-3. Tail w/510 sx 60:40 poz Class C + 4% MPA-1 + 2% Sodium Chloride +1% BA-10 +.75% EC-1+2 lbs/sk Kol Seal + .25 lbs/sk Cello Flake. Stage 2 lead w/203 sx 35:65 Poz Class C + 6% Bentonite + 5% Sodium Chloride + .25 lbs/sk Cello Flake, tail w/200 sx 60:40 Poz Class C + 4% MPA-1 + 5% Sodium Chloride + .4% Sodium Metasilicate + .25 lb/sk Cello Flake. Circulate cement to surface.

The above cement volumes could be revised pending the caliper measurement from the open hole logs.

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi WP) preventer and bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4 1/2" or 3 1/2"(depending on the hole size being drilled) drill pipe rams on bottom. Both BOP's will be nipped up on the 13 3/8" surface csg and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% of rated working pressure (2100 psi).

Pipe rams will be operated and checked weekly and the blind rams each time the drill pipe is out of the hole. These functional tests will be documented on the drillers log. A

2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 3000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

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

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity (1/sec)</u>	<u>Water Loss</u>
0' – 620'	Fresh Water	8.8	40-45	NC
620' – 3845'	Brine Water	10	30	NC
3845' – TD	Fresh Water/Gel/Starch	8.5 – 9.0	30-32	50-60
Horiz Section	Fresh Water/Gel/Starch	8.5 - 9.0	30-32	50-60

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 9 5/8" casing shoe until 7" casing is cemented.

8. Logging, Testing and Coring Program:

- A. Drillstem tests will be run on the basis of drilling shows.
- B. The open hole electrical logging program will be:
 - a. GR-AIT, GR-Compensated Neutron-Density from TD to 3845' and GR/CNL to surface. Selected SW cores may be taken in zones of interest.
 - b. No coring program is planned.
 - c. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Abnormal Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are foreseen. The anticipated bottom hole temperature at total depth is 122 degrees and maximum bottom hole pressure is 3500 psi. No Hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation intervals have been encountered in adjacent wells.

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 45 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.



Company: Devon Energy Field: Apache, Section 24, T22-S, R30-E Site: Apache 24 Federal #10H Well: Apache 24 Federal #10H Wellpath: Original Hole				Date: 4/14/2005 Co-ordinate(NE) Reference: Well: Apache 24 Federal #10H, True North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,287.66Azi) Plan: Plan #1 041405				Time: 14:11:02 Page: 1		
Field: Apache, Section 24, T22-S, R30-E										
Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level				Map Zone: Coordinate System: Geomagnetic Model:		New Mexico, Eastern Zone Well Centre igr2005				
Site: Apache 24 Federal #10H Eddy County, New Mexico										
Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 3392.00 ft		Northing: 501315.50 ft Easting: 656575.48 ft		Latitude: 32 22 37.980 N Longitude: 103 49 34.169 W North Reference: True Grid Convergence: 0.27 deg						
Well: Apache 24 Federal #10H										
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft				Northing: 501315.50 ft Easting: 656575.48 ft		Latitude: 32 22 37.960 N Longitude: 103 49 34.169 W				
Wellpath: Original Hole										
Current Datum: SITE Magnetic Data: 4/14/2005 Field Strength: 49337 nT Vertical Section: Depth From (TVD) ft 0.00		Height: 0.00 ft +N/-S ft 0.00		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.44 deg Mag Dip Angle: 60.44 deg +E/-W ft 0.00		Direction: deg 287.66				
Plan: Plan #1 041405 Principal: No										
				Date Composed: 4/14/2005 Version: 1 Tied-to: From Surface						
Plan Section Information										
MD ft	Incl deg	Azimuth deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5920.00	0.00	0.00	5920.00	0.00	0.00	0.00	0.00	0.00	0.00	
6939.97	30.00	287.66	6894.00	79.17	-248.68	2.94	2.94	0.00	287.66	
7491.10	30.00	287.66	7371.29	162.77	-511.26	0.00	0.00	0.00	0.00	
7991.05	90.00	287.66	7610.00	288.20	-905.23	12.00	12.00	0.00	0.00	
8005.87	90.44	287.66	7609.94	292.70	-919.35	3.00	3.00	0.01	0.11	
10576.45	90.44	287.66	7590.00	1072.54	-3368.71	0.00	0.00	0.00	0.00	Apache 24 Fed 10H PBHL
Survey										
MD ft	Incl deg	Azimuth deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1200.00	0.00	0.00	120							



PathFinder Planning Report

Company: Devon Energy
Field: Apache, Section 24, T22-S, R30-E
Site: Apache 24 Federal #10H
Well: Apache 24 Federal #10H
Wellpath: Original Hole

Date: 4/14/2005 Time: 14:11:02 Page: 2
Co-ordinate(NE) Reference: Well: Apache 24 Federal #10H, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,287.66Azi)
Plan: Plan #1 041405

Survey

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	0.00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5920.00	0.00	0.00	5920.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP w/2.9° Build Rates
6000.00	2.35	287.66	5999.98	0.50	-1.57	1.64	2.94	2.94	0.00	
6100.00	5.29	287.66	6099.74	2.52	-7.92	8.31	2.94	2.94	0.00	
6200.00	8.24	287.66	6199.04	6.09	-19.14	20.09	2.94	2.94	0.00	
6300.00	11.18	287.66	6297.59	11.21	-35.21	36.95	2.94	2.94	0.00	
6400.00	14.12	287.66	6395.16	17.85	-56.07	58.84	2.94	2.94	0.00	
6500.00	17.06	287.66	6491.47	26.00	-81.87	85.71	2.94	2.94	0.00	
6600.00	20.00	287.66	6586.27	35.64	-111.95	117.49	2.94	2.94	0.00	



PathFinder Planning Report

Company: Devon Energy
Field: Apache, Section 24, T22-S, R30-E
Site: Apache 24 Federal #10H
Well: Apache 24 Federal #10H
Wellpath: Original Hole

Date: 4/14/2005 Time: 14:11:02 Page: 3
Co-ordinate(N/E) Reference: Well: Apache 24 Federal #10H, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,267.66Az)
Plan: Plan #1 041405

Survey

MD ft	Incl deg	Azin deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6700.00	22.94	287.66	6679.32	48.74	-146.82	154.08	2.94	2.94	0.00	
6800.00	25.88	287.66	6770.37	59.28	-186.20	195.41	2.94	2.94	0.00	
6900.00	26.82	287.66	6859.18	73.22	-229.96	241.35	2.94	2.94	0.00	
6939.97	30.00	287.66	6894.00	79.17	-248.68	260.98	2.94	2.94	0.00	End of Build @ 30° Incln
7000.00	30.00	287.66	6945.99	88.28	-277.28	291.00	0.00	0.00	0.00	
7100.00	30.00	287.66	7032.59	103.45	-324.93	341.00	0.00	0.00	0.00	
7200.00	30.00	287.66	7119.19	118.62	-372.57	391.00	0.00	0.00	0.00	
7300.00	30.00	287.66	7205.79	133.78	-420.21	441.00	0.00	0.00	0.00	
7400.00	30.00	287.66	7292.40	148.95	-467.88	491.00	0.00	0.00	0.00	
7491.10	30.00	287.66	7371.29	162.77	-511.26	538.56	0.00	0.00	0.00	End of Hold/Begin 12° Bui
7500.00	31.07	287.66	7378.96	184.14	-515.57	541.07	12.00	12.00	0.00	
7525.00	34.07	287.66	7400.02	188.23	-528.39	554.53	12.00	12.00	0.00	
7550.00	37.07	287.66	7420.36	172.64	-542.25	569.07	12.00	12.00	0.00	
7575.00	40.07	287.66	7439.90	177.36	-557.10	584.66	12.00	12.00	0.00	
7600.00	43.07	287.66	7458.60	182.40	-572.90	601.24	12.00	12.00	0.00	
7625.00	46.07	287.66	7476.41	187.72	-589.62	618.78	12.00	12.00	0.00	
7650.00	49.07	287.66	7493.28	193.31	-607.20	637.23	12.00	12.00	0.00	
7675.00	52.07	287.66	7509.15	199.17	-625.60	656.54	12.00	12.00	0.00	
7700.00	55.07	287.66	7524.00	205.27	-644.76	676.66	12.00	12.00	0.00	
7725.00	58.07	287.66	7537.77	211.60	-664.64	697.51	12.00	12.00	0.00	
7750.00	61.07	287.66	7550.43	218.14	-685.18	719.07	12.00	12.00	0.00	
7775.00	64.07	287.66	7561.94	224.87	-706.32	741.25	12.00	12.00	0.00	
7800.00	67.07	287.66	7572.28	231.78	-728.01	764.01	12.00	12.00	0.00	
7825.00	70.07	287.66	7581.41	238.84	-750.18	787.28	12.00	12.00	0.00	
7850.00	73.07	287.66	7589.31	246.03	-772.78	811.00	12.00	12.00	0.00	
7875.00	76.07	287.66	7595.98	253.34	-795.74	835.09	12.00	12.00	0.00	
7900.00	79.07	287.66	7601.34	260.75	-819.00	859.50	12.00	12.00	0.00	
7925.00	82.07	287.66	7605.44	268.23	-842.50	884.16	12.00	12.00	0.00	
7950.00	85.07	287.66	7608.24	275.76	-866.17	909.00	12.00	12.00	0.00	
7975.00	88.07	287.66	7609.73	283.33	-889.94	933.98	12.00	12.00	0.00	
7991.05	90.00	287.66	7610.00	288.20	-905.23	950.00	12.00	12.00	0.00	
8005.87	90.44	287.66	7609.94	292.70	-919.35	964.82	3.00	3.00	0.01	
8100.00	90.44	287.66	7609.21	321.25	-1009.05	1058.95	0.00	0.00	0.00	
8200.00	90.44	287.66	7608.44	351.59	-1104.33	1158.95	0.00	0.00	0.00	
8300.00	90.44	287.66	7607.68	381.93	-1199.61	1258.94	0.00	0.00	0.00	
8400.00	90.44	287.66	7606.88	412.26	-1294.90	1358.94	0.00	0.00	0.00	
8500.00	90.44	287.66	7606.11	442.60	-1390.18	1458.94	0.00	0.00	0.00	
8600.00	90.44	287.66	7605.33	472.94	-1485.47	1558.94	0.00	0.00	0.00	
8700.00	90.44	287.66	7604.56	503.28	-1580.75	1658.93	0.00	0.00	0.00	
8800.00	90.44	287.66	7603.78	533.61	-1676.03	1758.93	0.00	0.00	0.00	
8900.00	90.44	287.66	7603.01	563.95	-1771.32	1858.93	0.00	0.00	0.00	
9000.00	90.44	287.66	7602.23	594.29	-1866.60	1958.92	0.00	0.00	0.00	
9100.00	90.44	287.66	7601.45	624.63	-1961.89	2058.92	0.00	0.00	0.00	
9200.00	90.44	287.66	7600.68	654.96	-2057.17	2158.92	0.00	0.00	0.00	
9300.00	90.44	287.66	7599.90	685.30	-2152.45	2258.91	0.00	0.00	0.00	
9400.00	90.44	287.66	7599.13	715.64	-2247.74	2358.91	0.00	0.00	0.00	
9500.00	90.44	287.66	7598.35	745.97	-2343.02	2458.91	0.00	0.00	0.00	
9600.00	90.44	287.66	7597.58	776.31	-2438.31	2558.91	0.00	0.00	0.00	
9700.00	90.44	287.66	7596.80	806.65	-2533.59	2658.90	0.00	0.00	0.00	
9800.00	90.44	287.66	7596.02	836.99	-2628.87	2758.90	0.00	0.00	0.00	
9900.00	90.44	287.66	7595.25	867.32	-2724.16	2858.90	0.00	0.00	0.00	
10000.00	90.44	287.66	7594.47	897.66	-2819.44	2958.89	0.00	0.00	0.00	
10100.00	90.44	287.66	7593.70	928.00	-2914.73	3058.89	0.00	0.00	0.00	



PathFinder Planning Report

Company: Devon Energy
 Field: Apache, Section 24, T22-S, R30-E
 Site: Apache 24 Federal #10H
 Well: Apache 24 Federal #10H
 Wellpath: Original Hole

Date: 4/14/2005 Time: 14:11:02 Page: 4
 Co-ordinate(N/E) Reference: Well: Apache 24 Federal #10H, True North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,287.66Azi)
 Plan: Plan #1 041405

Survey

MD ft	Incl deg	Azimuth deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10200.00	90.44	287.66	7592.92	958.34	-3010.01	3158.89	0.00	0.00	0.00	
10300.00	90.44	287.66	7592.14	988.87	-3105.29	3258.88	0.00	0.00	0.00	
10400.00	90.44	287.66	7591.37	1019.01	-3200.58	3358.88	0.00	0.00	0.00	
10500.00	90.44	287.66	7590.59	1049.35	-3295.86	3458.88	0.00	0.00	0.00	
10578.45	90.44	287.66	7590.00	1072.54	-3368.71	3535.33	0.00	0.00	0.00	Apache 24 Fed 10H PBHL

Targets

Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec	← Longitude → Deg Min Sec
Apache 24 Fed 10H PBHL		7590.00	1072.54	-3368.71	502372.06	653201.72	32 22 48.572 N	103 50 13.452 W
Target 1 @ 950' VS		7810.00	288.20	-805.23	501599.41	655668.89	32 22 40.812 N	103 49 44.725 W

Annotation

MD ft	TVD ft	
5920.00	5920.00	KOP w/2.9° Build Rates
6939.97	6894.00	End of Build @ 30° Inclination
7491.10	7371.29	End of Hold/Begin 12° Build

507130 Hz 001405 —