12-992

OCD Hobbs

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM 125054

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No. EBDU - NM 112723X

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. (35023) EAST BLINEBRY DRINKARD UN IT #107

2. Name of Operator APACHE CORPORATION (873)

9. API Well No. 30-025- 41335

3a. Address 303 VETERANS AIRPARK LN #3000 MIDLAND, TX 79705

3b. Phone No. (include area code) 432-818-1167

10. Field and Pool, or Exploratory (22900) EUNICE; BLI-TU-DRI, NORTH

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 820' FSL & 1650' FEL
At proposed prod. zone 1270' FSL & 1650' FEL

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11. Sec., T. R. M. or Blk. and Survey or Area SEC: 1 T21S R37E

14. Distance in miles and direction from nearest town or post office* Approx 8.6 miles Northeast of Eunice, N.M.

12. County or Parish LEA

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
820'	200 ACRES	40 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~480'	19. Proposed Depth TVD ~ 7250' MD ~ 7470'	20. BLM/BIA Bond No. on file BLM-CO-1463 NATIONWIDE / NMB 000736
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3531'	22. Approximate date work will start* As Soon As Approved	23. Estimated duration ~ 10 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
Sorina L Flores	SORINA L. FLORES	8/13/12

Title: SUPV OF DRILLING SERVICES

Approved by (Signature)	Name (Printed/Typed)	Date
/s/George MacDonell		AUG - 8 2013
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

Capitan Controlled Water Basin

K 08/14/13

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

AUG 16 2013

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Operator Name: APACHE CORPORATION

Street or Box: 303 VETERANS AIRPARK LANE, STE. 3000

City, State: Midland, TX

Zip Code: 79705

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No: NMNM-125054 EAST BLINEBRY DRINKARD UNIT #107

Legal Description of Land: SHL: 820' FSL & 1650' FEL BHL: 1270' FSL & 1650' FEL

UL: O Section: 1 Township: 21S Range: 37E

County: LEA State: NM

Bond Coverage: $150,000

Statewide Oil and Gas Surety Bond, APACHE CORPORATION.

BLM Bond File No.: BLM-CO-1463 NATIONWIDE

Signature: Bobby L Smith Printed Name: BOBBY L. SMITH

Title: DRILLING MANAGER, PERMIAN REGION

Date: 7/19/12

PRIVATE SURFACE OWNER AGREEMENT

OPERATOR: APACHE CORPORATION

WELL NAME: EAST BLINEBRY DRINKARD UNIT #107

UL: O SECTION: 1 TOWNSHIP: 21S RANGE: 37E

LOCATION: 820' FSL & 1650' FEL COUNTY: LEA STATE: NM

LEASE NUMBER: NMNM - 125054

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STATEMENT OF SURFACE USE

The surface to the subject land is owned by William Paige McNeill
PO BOX 1092
EUNICE, NM 882 41 505-433-9386

The surface owner has been contacted regarding the drilling of the subject well, and an agreement for surface use has been negotiated.

CERTIFICATION: I hereby certify that the statements made in this statement are to the best of my knowledge, true and correct.

NAME: JEREMY WARD

SIGNATURE: Jeremy Ward

DATE: 7-18-12

TITLE: DRILLING ENGINEER

To expedite your Application to Drill please fax the completed form to the
Bureau of Land Management (575) 234-5927 or (575) 885-9264
Attn: Legal Instruments Examiner
620 E. Green Street
Carlsbad, NM 88220

The original document with signature should be mailed as soon as possible.

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

APACHE CORPORATION (OGRID: 873) EAST BLINEBRY DRINKARD UNIT #107

Lease #: NMNM-125054 Projected TVD: 7250' MD: 7270' GL: 3466'
SHL: 820' FSL & 1650' FEL BHL: 1270' FSL & 1650' FEL UL: O SEC: 1 T21S R37E LEA COUNTY, NM

1. GEOLOGIC NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Quaternary Aeolian	Surf	San Andres	4293'
Rustler	1590'	Glorieta	5467'
Salt Top	1725'	Blinebry	5970' (Oil)
Salt Bottom	2733'	Tubb	6455' (Oil)
Yates	2885'	Drinkard	6780' (Oil)
Seven Rivers	3130'	ABO	7075'
Queen	3690'	TVD / MD	7250' / 7270'
Grayburg	4035'		
Depth to Ground Water:	~ 75'		

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All fresh water & prospectively valuable minerals, as described by BLM, encountered during drilling, will be recorded by depth and adequately protected. All oil & gas shows within zones of correlative rights will be tested to determine commercial potential. Surface fresh water sands will be protected by setting 12-1/4" csg @ 1640' & circ cmt back to surface. Hydrocarbon zones will be protected by setting 7-7/8" csg @ 7270'. Build @ ~1985'; EOB @ ~ 2235'; TVD @ 7250'; MD @ 7270'.

3. CASING PROGRAM: All casing is new & API approved

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
12-1/4"	0' – 1640'	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	0'-7270'	5-1/2"	17#	LTC	L-80	1.125	1.0	1.8

4. CEMENT PROGRAM:

A. 8-5/8" Surface cmt with (100% excess cmt; Cmt to Surface):

Lead: 620 sx Class C w/ 2% CaCl2 + 0.13# CF + 3# LCM1 + 0.005 gps FP-6L _ 4% Bentonite
(13.5 ppg, 1.75 yld) *Comp Strengths :* ***12 hr*** *– 500 psi* ***24 hr*** *– 782 psi*

Tail: 200 sx Class C w/ 1% CaCl2 + 0.13 # CF + 0.005 gps FP-6L
(14.8 ppg, 1.34 yld) *Comp Strengths :* ***12 hr*** *– 755 psi* ***24 hr*** *– 1347 psi*

B. 5-1/2" Production cmt with (30% excess cmt; cmt to surf):

Lead: 600 sx (35:65) Poz Cl C w/ 5% CaCL2 + 0.125 # CF + 3# LCM1 + 0.5% FL52 + 0.005gps FP6L + 6% Bentonite, 0.3% Sodium Metacilicate *(12.6ppg, 2.0 yld)* *Comp Strengths:* ***12 hr*** *– 603 psi* ***24 hr*** *– 850 psi*

Tail: 350 sx (50:50) Poz Cl C w/ 5% CaCL2 + 0.13% CF + 3# LCM1 + 0.005gps FP6L + 2% Bentonite + 1% FL25 + 1% BA58 + 0.1% Sodium Metasilicate *(14.2 ppg, 1.31 yld)* *Comp Strengths:* ***12 hr*** *– 850 psi* ***24 psi*** *– 1979 psi*

*** The above cmt volumes could be revised pending caliper measurement from open hole logs. TOC is designed to reach surface on Surface and Production. The above slurry design may change, but will meet BLM specifications.** *All slurries will be tested prior to loading to confirm thickening times & a lab report furnished to Apache. Fluid loss will be tested & reported on slurries with fluid loss additives. Lab test report will be furnished prior to pumping cement.*

5. PROPOSED CONTROL EQUIPMENT

"EXHIBIT 5" shows a 900 series 11" 3M psi WP BOP consisting of an annular bag type preventer, middle blind rams, bottom pipe rams. The BOP will be nippled up on the 8-5/8" csg and utilized continuously until TD is reached. The BOP will be tested at 2000 psi, maximum surface pressure is not expected to exceed 3M psi, BHP is calculated to be approximately 3190 psi. *All BOP's and associated equipment will be tested as per BLM *Drilling Operations Order #2*. The BOP will be operated and checked each 24 hr period & the blind rams will be operated & checked when the drill pipe is out of the hole. Functional tests will be documented on the daily driller's log. *"EXHIBIT 5"*also shows a 3M psi choke manifold with a 4" panic line. Full opening stabbing valve & Kelly cock will be on derrick floor in case of need. No abnormal pressures of temperatures are expected in this well. No nearby wells have encountered any problems.

See COA *Contingency: Apache respectfully requests a variance for using a flex hose contingent on type of rig used due to rig scheduling.*

6. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

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11" x 3000 psi Double BOP/Blind & pipe ram (3M BOP/BOPE to be used as 2M system)
4-1/2" x 3000 psi Kelly valve
11" x 3000 psi mud cross – H2S detector on production hole
Gate-type safety valve 3" choke line from BOP to manifold
2" adjustable chokes – 4" blow down line
Fill up line as per Onshore Order #2

7. PROPOSED MUD CIRCULATION SYSTEM: (Closed Loop System)

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' –1640'	8.3	28 – 32	NC	Fresh Water
1640 – 7100'	10	28 – 32	NC	Brine
7100' – TD	10.1 – 10.2	32 – 33	10 - 12	Cut Brine

***** The necessary mud products for weight addition and fluid loss control will be on location at all times. In order to run open hole logs & casing, the above mud properties may have to be altered to meet these needs.***

8. LOGGING, CORING & TESTING PROGRAM:

A. OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Spectral Gamma Ray, Caliper & Sonic from TD back to last csg shoe.
B. Run CNL, Gamma Ray from last csg shoe back to surface.
C. No cores or DST's are planned at this time. Mud log will be included on this well.
D. 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 & drill stem tests.

9. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. There is known presence of H_2S in this area. If H_2S is encountered the operator will comply with the provisions of *Onshore Oil & Gas Order No. 6 (SEE EXHIBIT 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: 3190 psi and estimated BHT : 115°.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Road and location construction will begin after BLM has approved APD. Anticipated spud date will be as soon after BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 10 - 15 days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

11. OTHER FACETS OF OPERATION:

After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Eunice, BLI-TU-DRI, North formations will be perforated and stimulated in order to establish production. The well will be swab tested & potentialed as an oil well.

Apache

Apache Corporation

Lea County, NM
Sec. 1, T21S, R37E
East Blinebry Drinkard Unit #107

Wellbore #1

Plan: Design #4

DDC Well Planning Report

10 January, 2012

DDC
The DIRECTIONAL DRILLING COMPANY

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well East Blinebry Drinkard Unit #107
Company:	Apache Corporation	**TVD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Site:	Sec. 1, T21S, R37E	**North Reference:**	Grid
Well:	East Blinebry Drinkard Unit #107	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #4		

Project Lea County, NM

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Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

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Site Sec. 1, T21S, R37E

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Site Position:		**Northing:**	548,813.80 usft	**Latitude:**	32° 30' 10.370 N
From:	Map	**Easting:**	876,234.20 usft	**Longitude:**	103° 6' 46.748 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.66 °

Well East Blinebry Drinkard Unit #107

Well Position	**+N/-S**	0.0 usft	**Northing:**	548,813.80 usft	**Latitude:**	32° 30' 10.370 N
	+E/-W	0.0 usft	**Easting:**	876,234.20 usft	**Longitude:**	103° 6' 46.748 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,531.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/4/2012	7.32	60.51	48,778

Design Design #4

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.40

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,985.0	0.00	0.00	1,985.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,235.2	5.00	359.40	2,234.9	10.9	-0.1	2.00	2.00	-0.24	359.40	
7,269.5	5.00	359.40	7,250.0	450.0	-4.7	0.00	0.00	0.00	0.00	PBHL EBDU #107 I

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Project:	Lea County, NM	**MD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Site:	Sec. 1, T21S, R37E	**North Reference:**	Grid
Well:	East Blinebry Drinkard Unit #107	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #4		

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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
1,590.0	0.00	0.00	1,590.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100' @ 1985' MD									
1,985.0	0.00	0.00	1,985.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.30	359.40	2,000.0	0.0	0.0	0.0	2.00	2.00	0.00
2,100.0	2.30	359.40	2,100.0	2.3	0.0	2.3	2.00	2.00	0.00
2,200.0	4.30	359.40	2,199.8	8.1	-0.1	8.1	2.00	2.00	0.00
EOB @ 2235' MD / 5° Inc / 359.40° Azm									
2,235.2	5.00	359.40	2,234.9	10.9	-0.1	10.9	2.00	2.00	0.00
2,300.0	5.00	359.40	2,299.4	16.6	-0.2	16.6	0.00	0.00	0.00
2,400.0	5.00	359.40	2,399.1	25.3	-0.3	25.3	0.00	0.00	0.00
2,500.0	5.00	359.40	2,498.7	34.0	-0.4	34.0	0.00	0.00	0.00
2,600.0	5.00	359.40	2,598.3	42.7	-0.4	42.7	0.00	0.00	0.00
2,700.0	5.00	359.40	2,697.9	51.5	-0.5	51.5	0.00	0.00	0.00
2,800.0	5.00	359.40	2,797.5	60.2	-0.6	60.2	0.00	0.00	0.00
Yates									
2,887.8	5.00	359.40	2,885.0	67.8	-0.7	67.8	0.00	0.00	0.00
2,900.0	5.00	359.40	2,897.1	68.9	-0.7	68.9	0.00	0.00	0.00
3,000.0	5.00	359.40	2,996.8	77.6	-0.8	77.6	0.00	0.00	0.00
3,100.0	5.00	359.40	3,096.4	86.3	-0.9	86.3	0.00	0.00	0.00
Seven Rivers									
3,133.7	5.00	359.40	3,130.0	89.3	-0.9	89.3	0.00	0.00	0.00
3,200.0	5.00	359.40	3,196.0	95.1	-1.0	95.1	0.00	0.00	0.00
3,300.0	5.00	359.40	3,295.6	103.8	-1.1	103.8	0.00	0.00	0.00
3,400.0	5.00	359.40	3,395.2	112.5	-1.2	112.5	0.00	0.00	0.00
3,500.0	5.00	359.40	3,494.9	121.2	-1.3	121.2	0.00	0.00	0.00
3,600.0	5.00	359.40	3,594.5	130.0	-1.4	130.0	0.00	0.00	0.00
Queen									
3,695.9	5.00	359.40	3,690.0	138.3	-1.5	138.3	0.00	0.00	0.00
3,700.0	5.00	359.40	3,694.1	138.7	-1.5	138.7	0.00	0.00	0.00
3,800.0	5.00	359.40	3,793.7	147.4	-1.5	147.4	0.00	0.00	0.00
3,900.0	5.00	359.40	3,893.3	156.1	-1.6	156.1	0.00	0.00	0.00
4,000.0	5.00	359.40	3,993.0	164.8	-1.7	164.8	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well East Blinebry Drinkard Unit #107
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Project:	Lea County, NM	**MD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Site:	Sec. 1, T21S, R37E	**North Reference:**	Grid
Well:	East Blinebry Drinkard Unit #107	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Grayburg									
4,042.2	5.00	359.40	4,035.0	168.5	-1.8	168.5	0.00	0.00	0.00
4,100.0	5.00	359.40	4,092.6	173.6	-1.8	173.6	0.00	0.00	0.00
4,200.0	5.00	359.40	4,192.2	182.3	-1.9	182.3	0.00	0.00	0.00
4,300.0	5.00	359.40	4,291.8	191.0	-2.0	191.0	0.00	0.00	0.00
San Andres									
4,301.2	5.00	359.40	4,293.0	191.1	-2.0	191.1	0.00	0.00	0.00
4,400.0	5.00	359.40	4,391.4	199.7	-2.1	199.7	0.00	0.00	0.00
4,500.0	5.00	359.40	4,491.1	208.4	-2.2	208.5	0.00	0.00	0.00
4,600.0	5.00	359.40	4,590.7	217.2	-2.3	217.2	0.00	0.00	0.00
4,700.0	5.00	359.40	4,690.3	225.9	-2.4	225.9	0.00	0.00	0.00
4,800.0	5.00	359.40	4,789.9	234.6	-2.5	234.6	0.00	0.00	0.00
4,900.0	5.00	359.40	4,889.5	243.3	-2.6	243.3	0.00	0.00	0.00
5,000.0	5.00	359.40	4,989.1	252.1	-2.6	252.1	0.00	0.00	0.00
5,100.0	5.00	359.40	5,088.8	260.8	-2.7	260.8	0.00	0.00	0.00
5,200.0	5.00	359.40	5,188.4	269.5	-2.8	269.5	0.00	0.00	0.00
5,300.0	5.00	359.40	5,288.0	278.2	-2.9	278.2	0.00	0.00	0.00
5,400.0	5.00	359.40	5,387.6	286.9	-3.0	287.0	0.00	0.00	0.00
Glorieta									
5,479.7	5.00	359.40	5,467.0	293.9	-3.1	293.9	0.00	0.00	0.00
5,500.0	5.00	359.40	5,487.2	295.7	-3.1	295.7	0.00	0.00	0.00
5,600.0	5.00	359.40	5,586.9	304.4	-3.2	304.4	0.00	0.00	0.00
5,700.0	5.00	359.40	5,686.5	313.1	-3.3	313.1	0.00	0.00	0.00
5,800.0	5.00	359.40	5,786.1	321.8	-3.4	321.8	0.00	0.00	0.00
5,900.0	5.00	359.40	5,885.7	330.6	-3.5	330.6	0.00	0.00	0.00
Top of Blinebry @ 5970' TVD - Blinebry									
5,984.6	5.00	359.40	5,970.0	337.9	-3.5	338.0	0.00	0.00	0.00
6,000.0	5.00	359.40	5,985.3	339.3	-3.6	339.3	0.00	0.00	0.00
6,100.0	5.00	359.40	6,085.0	348.0	-3.7	348.0	0.00	0.00	0.00
6,200.0	5.00	359.40	6,184.6	356.7	-3.7	356.7	0.00	0.00	0.00
6,300.0	5.00	359.40	6,284.2	365.4	-3.8	365.5	0.00	0.00	0.00
6,400.0	5.00	359.40	6,383.8	374.2	-3.9	374.2	0.00	0.00	0.00
Tubb									
6,471.5	5.00	359.40	6,455.0	380.4	-4.0	380.4	0.00	0.00	0.00
6,500.0	5.00	359.40	6,483.4	382.9	-4.0	382.9	0.00	0.00	0.00
6,600.0	5.00	359.40	6,583.0	391.6	-4.1	391.6	0.00	0.00	0.00
6,700.0	5.00	359.40	6,682.7	400.3	-4.2	400.3	0.00	0.00	0.00
Drinkard									
6,797.7	5.00	359.40	6,780.0	408.8	-4.3	408.9	0.00	0.00	0.00
6,800.0	5.00	359.40	6,782.3	409.0	-4.3	409.1	0.00	0.00	0.00
6,900.0	5.00	359.40	6,881.9	417.8	-4.4	417.8	0.00	0.00	0.00
7,000.0	5.00	359.40	6,981.5	426.5	-4.5	426.5	0.00	0.00	0.00
Abo									
7,093.8	5.00	359.40	7,075.0	434.7	-4.6	434.7	0.00	0.00	0.00
7,100.0	5.00	359.40	7,081.1	435.2	-4.6	435.2	0.00	0.00	0.00
7,200.0	5.00	359.40	7,180.8	443.9	-4.7	444.0	0.00	0.00	0.00
TD @ 7270' MD / 7250' TVD									
7,269.5	5.00	359.40	7,250.0	450.0	-4.7	450.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well East Blinebry Drinkard Unit #107
Company:	Apache Corporation	**TVD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3531.0usft (Original Well Elev)
Site:	Sec. 1, T21S, R37E	**North Reference:**	Grid
Well:	East Blinebry Drinkard Unit #107	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #4		

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Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL EBDU #107 De - plan hits target center - Point	0.00	0.01	7,250.0	450.0	-4.7	549,263.80	876,229.47	32° 30' 14.822 N	103° 6' 46.743 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,590.0	1,590.0	Rustler		0.00	359.40
2,887.8	2,885.0	Yates		0.00	359.40
3,133.7	3,130.0	Seven Rivers		0.00	359.40
3,695.9	3,690.0	Queen		0.00	359.40
4,042.2	4,035.0	Grayburg		0.00	359.40
4,301.2	4,293.0	San Andres		0.00	359.40
5,479.7	5,467.0	Glorieta		0.00	359.40
5,984.6	5,970.0	Blinebry		0.00	359.40
6,471.5	6,455.0	Tubb		0.00	359.40
6,797.7	6,780.0	Drinkard		0.00	359.40
7,093.8	7,075.0	Abo		0.00	359.40

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,985.0	1,985.0	0.0	0.0	Build 2°/100' @ 1985' MD
2,235.2	2,234.9	10.9	-0.1	EOB @ 2235' MD / 5° Inc / 359.40° Azm
5,984.6	5,970.0	337.9	-3.5	Top of Blinebry @ 5970' TVD
7,269.5	7,250.0	450.0	-4.7	TD @ 7270' MD / 7250' TVD

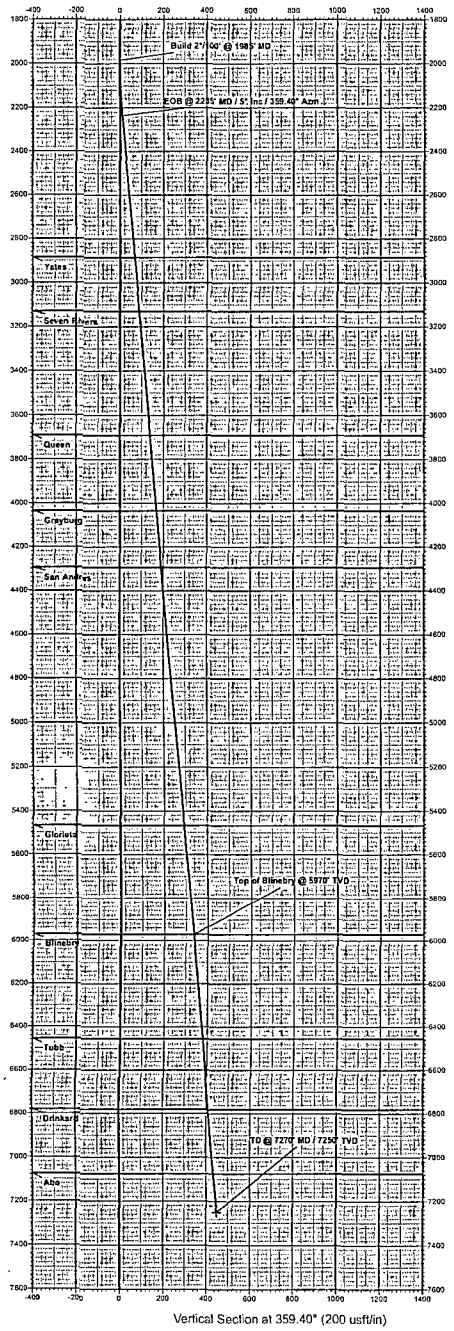
Company Name: Apache Corporation
East Blinebry Drinkard Unit #107
Lea County, NM
Rig: Original Well Elev
Created By: Shane Robbins
Date: 1/9/2012

East Blinebry Drinkard Unit #107
Lea County, NM
Q120013 & GC-1****

WELL DETAILS: East Blinebry Drinkard Unit #107

Ground Level: 3531.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	548813.80	876234.20	32° 30' 10.370 N	103° 6' 46.748 W



Vertical Section at 359.40° (200 usft/in)

Apache

RDC
The DIRECTIONAL DRILLING COMPANY

PROJECT DETAILS: Lea County, NM

Geodetic System:	US State Plane 1927 (Exact solution)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	New Mexico East 3001
System Datum:	Mean Sea Level

Azimuths to Grid North

Correction: 6.67°

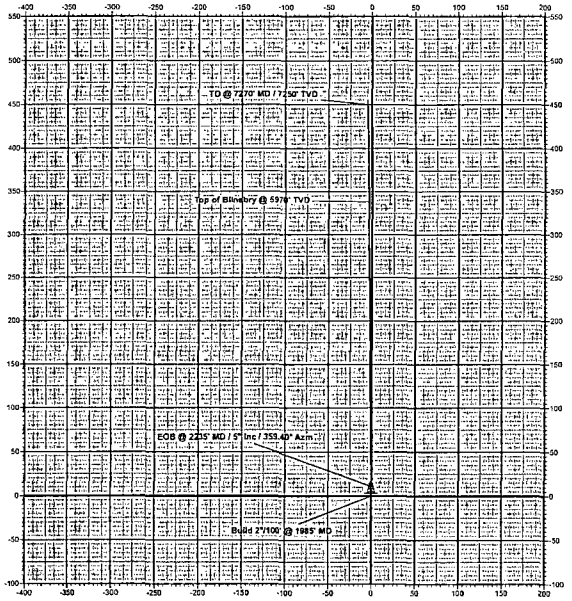
Magnetic Field
Strength: 48778.4snT
Dip Angle: 60.51°
Date: 1/4/2012
Model: IGRF2010

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL EBDU #107 Design #4 - plan hits target center	7250.0	450.0	-4.7	549263.80	876229.47	32° 30' 14.822 N	103° 6' 46.743 W

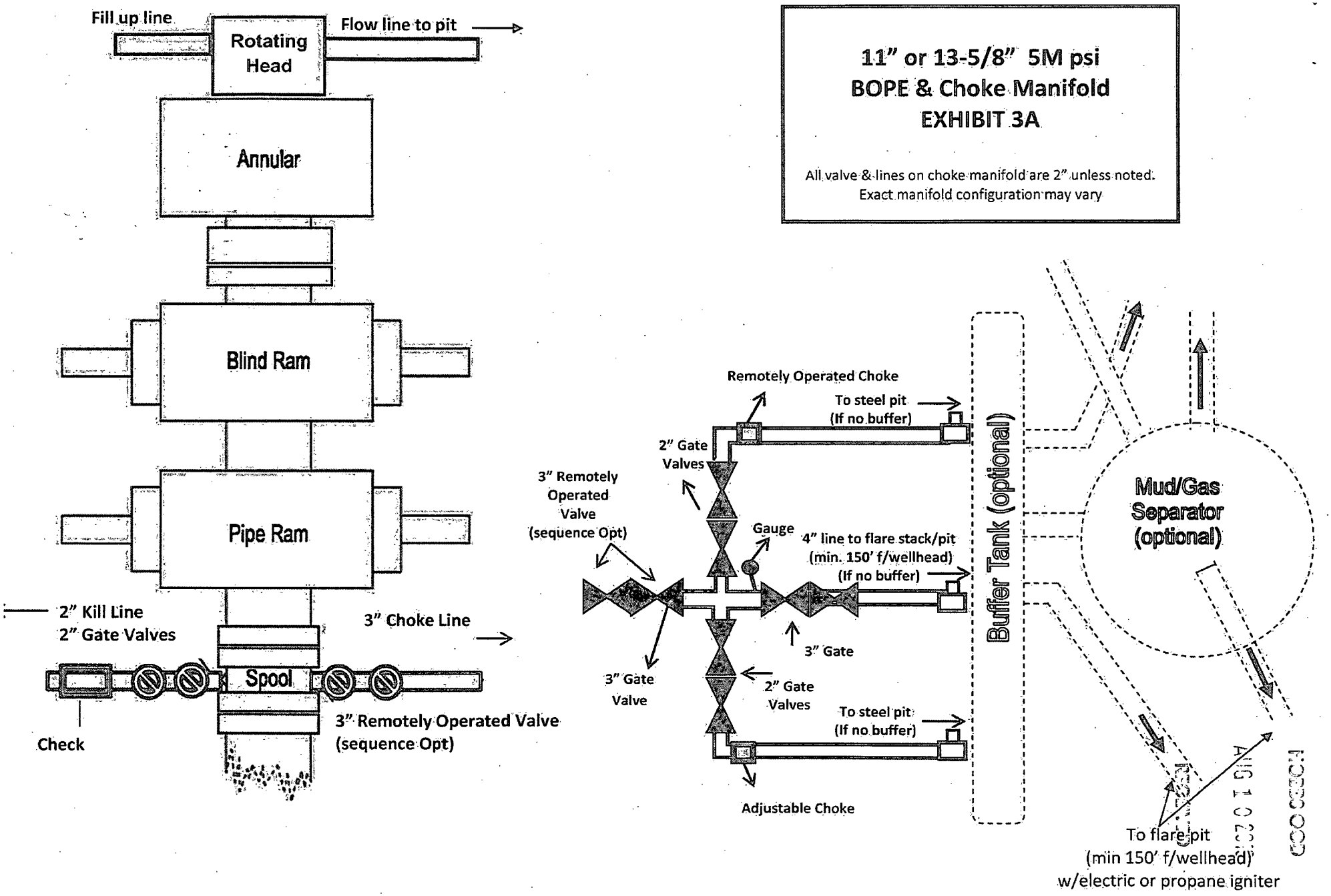
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1985.0	0.00	0.00	1985.0	0.0	0.0	0.0	0.0	Build 2°/100' @ 1985' MD
2235.2	5.00	359.40	2234.9	10.9	-0.1	10.9	10.9	EOB @ 2235' MD / 5° Inc / 359.40° Azm
5984.6	5.00	359.40	5970.0	337.9	-3.5	338.0	338.0	Top of Blinebry @ 5970' TVD
7269.5	5.00	359.40	7250.0	450.0	-4.7	450.0	450.0	TD @ 7270' MD / 7250' TVD



11" or 13-5/8" 5M psi BOPE & Choke Manifold EXHIBIT 3A

All valve & lines on choke manifold are 2" unless noted.
Exact manifold configuration may vary



Apache

Closed Loop Equipment Diagram
Exhibit 4