

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED



JAN 14 2015

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-0557256
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 APACHE CORPORATION (873)		7. If Unit or CA Agreement, Name and No.
3a. Address 303 VETERANS AIRPARK LN #1000 MIDLAND, TX 79705		8. Lease Name and Well No. <40164> ELLIOTT EM 20 FEDERAL #002
3b. Phone No. (include area code) 432-818-1167		9. API Well No. 30-018-025-42364
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1750' FNL & 845' FWL At proposed prod. zone SAME 2310' N + 990' W - per Sorina 4-9-14 DM		10. Field and Pool, or Exploratory Paddock <49210> Dinebry 045(0) <6660>; Tubbs 045(0) <60240> Drin Kerd <19190>; Wantz ASO <62700>
14. Distance in miles and direction from nearest town or post office* APPROX 5.5 MILES SOUTH OF EUNICE, NM		11. Sec., T. R. M. or Blk. and Survey or Area UL: E SEC: 20 T22S R37E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1120'	16. No. of acres in lease 200 ACRES	17. Spacing Unit dedicated to this well 40 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~ 200'	19. Proposed Depth TVD: 7500 MD: 7531	20. BLM/BIA Bond No. on file BLM-CO-1463 NATIONWIDE / NMB000736
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL: 3391'	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, must 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 must 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 BLM.

25. Signature 	Name (Printed/Typed) SORINA L. FLORES	Date 4/2/14
Title SUPV OF DRILLING SERVICES		
Approved by (Signature) 	Name (Printed/Typed) Steve Caffey	Date JAN - 5 2015
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.

(Continued on page 2)

Capitan Controlled Water Basin

K
01/15/15

NMOC)* WELL NEED DHC ADMINISTRATIVE ORDER FROM SANTA FE PRIOR TO DHC POOLS.

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JAN 20 2015

KE

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

HOBBSOCD

JAN 14 2015

APACHE CORPORATION (OGRID: 873) ELLIOTT EM 20 FEERAL #2

Lease #: NMNM-0557256 Projected TVD: 7500' MD: 7531' GL: 3394'

SHL: 1750' FNL & 845' FWL BHL: 2310' FNL & 990' FWL UL: E SEC: 20 T22S R37E LEA COUNTY, NM

RECEIVED

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	4014'
Rustler	1141'	Glorieta	5093'
Salt Top	1257'	Paddock	5141' (Oil)
Salt Bottom	2472'	Blinebry	5564' (Oil)
Yates	2650'	Tubb	6032' (Oil)
Seven Rivers	2880'	Drinkard	6441' (Oil)
Queen	3350'	ABO	6684'
Grayburg	3649	TD	TVD: 7500' MD: 7531'

Depth to Ground Water: ~ 75'

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 8-5/8" csg @ 1166' & circ cmt back to surface. Hydrocarbon zones will be protected by setting 5-1/2" csg @ 7600'.

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

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
11"	0' - 1166'	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	0' - 7531'	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: 210 sx Class C w/ 4% Gel + 2% CaCl₂ + 0.125#/sx CF + 0.25#/sx Defoamer
(13.5 ppg, 1.75 yld, 8.996 gal/sk) Comp Strengths: 12 hr - 786 psi 24 hr - 1213 psi

Tail: 200 sx Class C w/ 1% CaCl₂
(14.8 ppg, 1.34 yld, 6.32 gal/sk) Comp Strengths: 12 hr - 1565 psi 24 hr - 2442 psi

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

Lead: 540 sx Cl C (50:50) Poz w/ 5% Salt + 10% Gel + 3#/sx Kil-seal + 0.25% Defoamer + 0.125#/sx CF
(12.6ppg, 2.05 yld, 11.65 gal/sk) Comp Strengths: 12 hr - 156 psi 24 hr - 1081 psi

Tail: 520 sx PVL + 1.3% Salt + 5% Expanding cmt + 0.5% Gel suppressing agen + 0.1% Antisetting agent
(13.0 ppg, 1.48 yld, 7.617) Comp Strengths: 12 hr - 642 psi 24 psi - 1016 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.

If severe lost circ is encountered, Apache may 2-stage 5-1/2" csg w/DVT. An ECP may also be placed below DVT. TD of 11" hole is @ +/- 1166'. Assuming DVT is set @ +/- 3400', the following cmt will be used:

Cmt 1st stage w/ +/- 150sx Cl C 50/50 Poz lead (12.6#, 2.0yld) and +/- 520 sx PVL tail (14.2#, 1.31yld) 100% excess cmt

Cmt 2nd stage w/ +/- 390sx Cl C 50/50 Poz lead (12.6#, 2.0yld) and +/- 100 sx Cl C tail (14.8#, 1.33yld) 100% excess cmt

See COA
If DVT is set at different depth, cmt volumes will be adjusted accordingly.

5. PROPOSED CONTROL EQUIPMENT

"EXHIBIT 3A" 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 nipped 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 3344 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 3A" 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 or temperatures are expected in this well. No nearby wells have encountered any problems.

6. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

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)

See COA

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' - 1166'	8.4 - 8.6	32 - 35	NC	FW
1166' - 7531'	10.0-10.2	30 - 32	NC	FW/Brine

**** Visual mud monitoring equipment shall be in place to detect volume changes. A mud test shall be performed every 24 hrs after mudding up to determine, as applicable: density, visc, gel strength, filtration, and pH. The necessary mud products for weight addition & 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:

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

See COA
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 no known presence of H₂S in this area. If H₂S is encountered in quantities greater than 100ppm, the well will be shut in & H₂S equipment will be installed pursuant to *Onshore Oil & Gas Order #6 (SEE EXHIBIT 3)*. 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: 3344 psi & 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 is available. Move in operations and drilling is expected to take ~ 10 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 Paddock, Blinebry, Tubb, Drinkard & Wantz; ABO formations will be perforated and stimulated in order to establish production. The well will be swab tested & potentialized as an oil well.



Apache Corporation

Lea County, NM (NAD27 NME)

Elliott EM 20 Federal

#2

WB1/Job #1410097

Plan: Plan #1 01-13-14

Standard Planning Report

13 January, 2014





Phoenix Technology Services

Planning Report



Database: GCR DB
Company: Apache Corporation
Project: Lea County, NM (NAD27 NME)
Site: Elliott EM 20 Federal
Well: #2
Wellbore: WB1/Job #1410097
Design: Plan #1 01-13-14

Local Co-ordinate Reference: Well #2
TVD Reference: KB @ 3405.00usft (Capstar 120)
MD Reference: KB @ 3405.00usft (Capstar 120)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD27 NME)		
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		

Site	Elliott EM 20 Federal		
Site Position:		Northing:	503,726.84 usft
From:	Map	Easting:	852,840.61 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 22' 46.84344 N
		Longitude:	103° 11' 25.49816 W
		Grid Convergence:	0.61 °

Well	#2		
Well Position	+N/-S	0.00 usft	Northing: 503,726.84 usft
	+E/-W	0.00 usft	Easting: 852,840.61 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,394.00 usft
		Latitude:	32° 22' 46.84344 N
		Longitude:	103° 11' 25.49816 W

Wellbore	WB1/Job #1410097				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	01/13/14	7.20	60.32	48,481

Design	Plan #1 01-13-14			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	164.80

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,308.76	6.18	164.80	2,308.16	-16.04	4.36	2.00	2.00	53.38	164.80	
7,530.90	6.18	164.80	7,500.00	-558.14	151.59	0.00	0.00	0.00	0.00	PBHL-Elliott #2



Phoenix Technology Services

Planning Report



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Survey Calculation Method: Minimum Curvature

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 2°/100' Build									
2,100.00	2.00	164.80	2,099.98	-1.68	0.46	1.75	2.00	2.00	0.00
2,200.00	4.00	164.80	2,199.84	-6.73	1.83	6.98	2.00	2.00	0.00
2,300.00	6.00	164.80	2,299.45	-15.14	4.11	15.69	2.00	2.00	0.00
2,308.76	6.18	164.80	2,308.16	-16.04	4.36	16.62	2.00	2.00	0.00
Begin 6.18° Inc Hold									
2,400.00	6.18	164.80	2,398.87	-25.51	6.93	26.44	0.00	0.00	0.00
2,500.00	6.18	164.80	2,498.29	-35.89	9.75	37.19	0.00	0.00	0.00
2,600.00	6.18	164.80	2,597.71	-46.27	12.57	47.95	0.00	0.00	0.00
2,700.00	6.18	164.80	2,697.13	-56.65	15.39	58.71	0.00	0.00	0.00
2,800.00	6.18	164.80	2,796.55	-67.04	18.21	69.46	0.00	0.00	0.00
2,900.00	6.18	164.80	2,895.97	-77.42	21.03	80.22	0.00	0.00	0.00
3,000.00	6.18	164.80	2,995.39	-87.80	23.85	90.98	0.00	0.00	0.00
3,100.00	6.18	164.80	3,094.81	-98.18	26.67	101.73	0.00	0.00	0.00
3,200.00	6.18	164.80	3,194.23	-108.56	29.48	112.49	0.00	0.00	0.00
3,300.00	6.18	164.80	3,293.65	-118.94	32.30	123.25	0.00	0.00	0.00
3,400.00	6.18	164.80	3,393.07	-129.32	35.12	134.00	0.00	0.00	0.00
3,500.00	6.18	164.80	3,492.49	-139.70	37.94	144.76	0.00	0.00	0.00
3,600.00	6.18	164.80	3,591.91	-150.08	40.76	155.52	0.00	0.00	0.00
3,700.00	6.18	164.80	3,691.33	-160.46	43.58	166.28	0.00	0.00	0.00
3,800.00	6.18	164.80	3,790.75	-170.84	46.40	177.03	0.00	0.00	0.00
3,900.00	6.18	164.80	3,890.17	-181.22	49.22	187.79	0.00	0.00	0.00
4,000.00	6.18	164.80	3,989.59	-191.60	52.04	198.55	0.00	0.00	0.00
4,100.00	6.18	164.80	4,089.01	-201.98	54.86	209.30	0.00	0.00	0.00
4,200.00	6.18	164.80	4,188.43	-212.37	57.68	220.06	0.00	0.00	0.00
4,300.00	6.18	164.80	4,287.85	-222.75	60.50	230.82	0.00	0.00	0.00
4,400.00	6.18	164.80	4,387.27	-233.13	63.32	241.57	0.00	0.00	0.00
4,500.00	6.18	164.80	4,486.69	-243.51	66.14	252.33	0.00	0.00	0.00
4,600.00	6.18	164.80	4,586.11	-253.89	68.96	263.09	0.00	0.00	0.00
4,700.00	6.18	164.80	4,685.53	-264.27	71.78	273.84	0.00	0.00	0.00
4,800.00	6.18	164.80	4,784.95	-274.65	74.60	284.60	0.00	0.00	0.00
4,900.00	6.18	164.80	4,884.37	-285.03	77.42	295.36	0.00	0.00	0.00
5,000.00	6.18	164.80	4,983.79	-295.41	80.23	306.11	0.00	0.00	0.00
5,100.00	6.18	164.80	5,083.21	-305.79	83.05	316.87	0.00	0.00	0.00
5,200.00	6.18	164.80	5,182.63	-316.17	85.87	327.63	0.00	0.00	0.00
5,300.00	6.18	164.80	5,282.05	-326.55	88.69	338.38	0.00	0.00	0.00
5,400.00	6.18	164.80	5,381.47	-336.93	91.51	349.14	0.00	0.00	0.00
5,500.00	6.18	164.80	5,480.89	-347.31	94.33	359.90	0.00	0.00	0.00
5,600.00	6.18	164.80	5,580.31	-357.70	97.15	370.65	0.00	0.00	0.00
5,700.00	6.18	164.80	5,679.73	-368.08	99.97	381.41	0.00	0.00	0.00
5,800.00	6.18	164.80	5,779.15	-378.46	102.79	392.17	0.00	0.00	0.00
5,900.00	6.18	164.80	5,878.57	-388.84	105.61	402.92	0.00	0.00	0.00
6,000.00	6.18	164.80	5,977.99	-399.22	108.43	413.68	0.00	0.00	0.00
6,100.00	6.18	164.80	6,077.41	-409.60	111.25	424.44	0.00	0.00	0.00
6,200.00	6.18	164.80	6,176.82	-419.98	114.07	435.19	0.00	0.00	0.00
6,300.00	6.18	164.80	6,276.24	-430.36	116.89	445.95	0.00	0.00	0.00
6,400.00	6.18	164.80	6,375.66	-440.74	119.71	456.71	0.00	0.00	0.00
6,500.00	6.18	164.80	6,475.08	-451.12	122.53	467.46	0.00	0.00	0.00
6,600.00	6.18	164.80	6,574.50	-461.50	125.35	478.22	0.00	0.00	0.00
6,700.00	6.18	164.80	6,673.92	-471.88	128.17	488.98	0.00	0.00	0.00
6,800.00	6.18	164.80	6,773.34	-482.26	130.98	499.74	0.00	0.00	0.00
6,900.00	6.18	164.80	6,872.76	-492.64	133.80	510.49	0.00	0.00	0.00



Phoenix Technology Services

Planning Report



Database: GCR DB
Company: Apache Corporation
Project: Lea County, NM (NAD27 NME)
Site: Elliott EM 20 Federal
Well: #2
Wellbore: WB1/Job #1410097
Design: Plan #1 01-13-14

Local Co-ordinate Reference: Well #2
TVD Reference: KB @ 3405.00usft (Capstar 120)
MD Reference: KB @ 3405.00usft (Capstar 120)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
7,000.00	6.18	164.80	6,972.18	-503.03	136.62	521.25	0.00	0.00	0.00
7,100.00	6.18	164.80	7,071.60	-513.41	139.44	532.01	0.00	0.00	0.00
7,200.00	6.18	164.80	7,171.02	-523.79	142.26	542.76	0.00	0.00	0.00
7,300.00	6.18	164.80	7,270.44	-534.17	145.08	553.52	0.00	0.00	0.00
7,400.00	6.18	164.80	7,369.86	-544.55	147.90	564.28	0.00	0.00	0.00
7,500.00	6.18	164.80	7,469.28	-554.93	150.72	575.03	0.00	0.00	0.00
7,530.90	6.18	164.80	7,500.00	-558.14	151.59	578.36	0.00	0.00	0.00

TD at 7530.90 - PBHL-Elliot #2

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
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PBHL-Elliot #2	0.00	359.93	7,500.00	-558.14	151.59	503,168.70	852,992.20	32° 22' 41.30513 N	103° 11' 23.80029 W
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- plan hits target center
- Circle (radius 25.00)

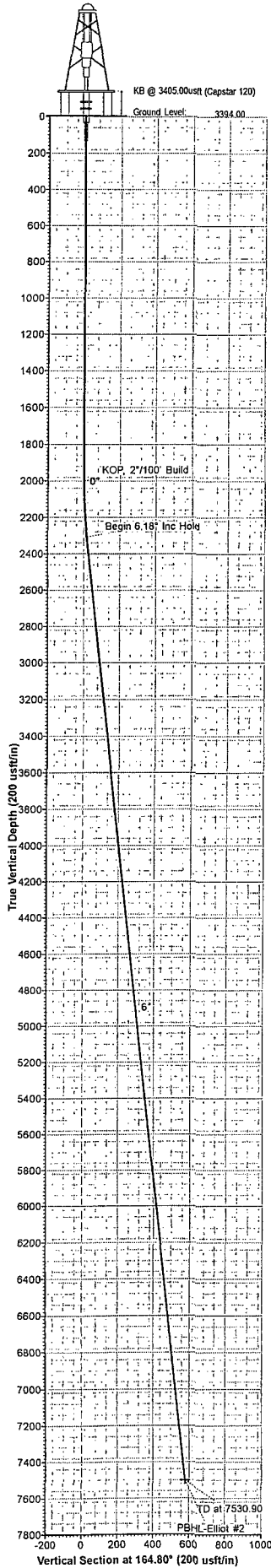
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.00	2,000.00	0.00	0.00	KOP, 2°/100' Build
2,308.76	2,308.16	-16.04	4.36	Begin 6.18° Inc Hold
7,530.90	7,500.00	-558.14	151.59	TD at 7530.90

Project: Lea County, NM (NAD27 NME)
Site: Elliott EM 20 Federal
Well: #2
Wellbore: WB1/Job #1410097
Design: Plan #1 01-13-14
Rig: Capstar 120




Azimuths to Grid North
True North: -0.61°
Magnetic North: 6.59°
Magnetic Field
Strength: 48481.3nT
Dip Angle: 60.32°
Date: 01/13/2014
Model: BGGM2013



WELL DETAILS										
+N-S		+E-W		Northing		Ground Level		3394.00		
0.00		0.00		503726.84		Easting		852840.61		Latitude 32° 22' 46.84344 N
										Longitude 103° 11' 25.49816 W

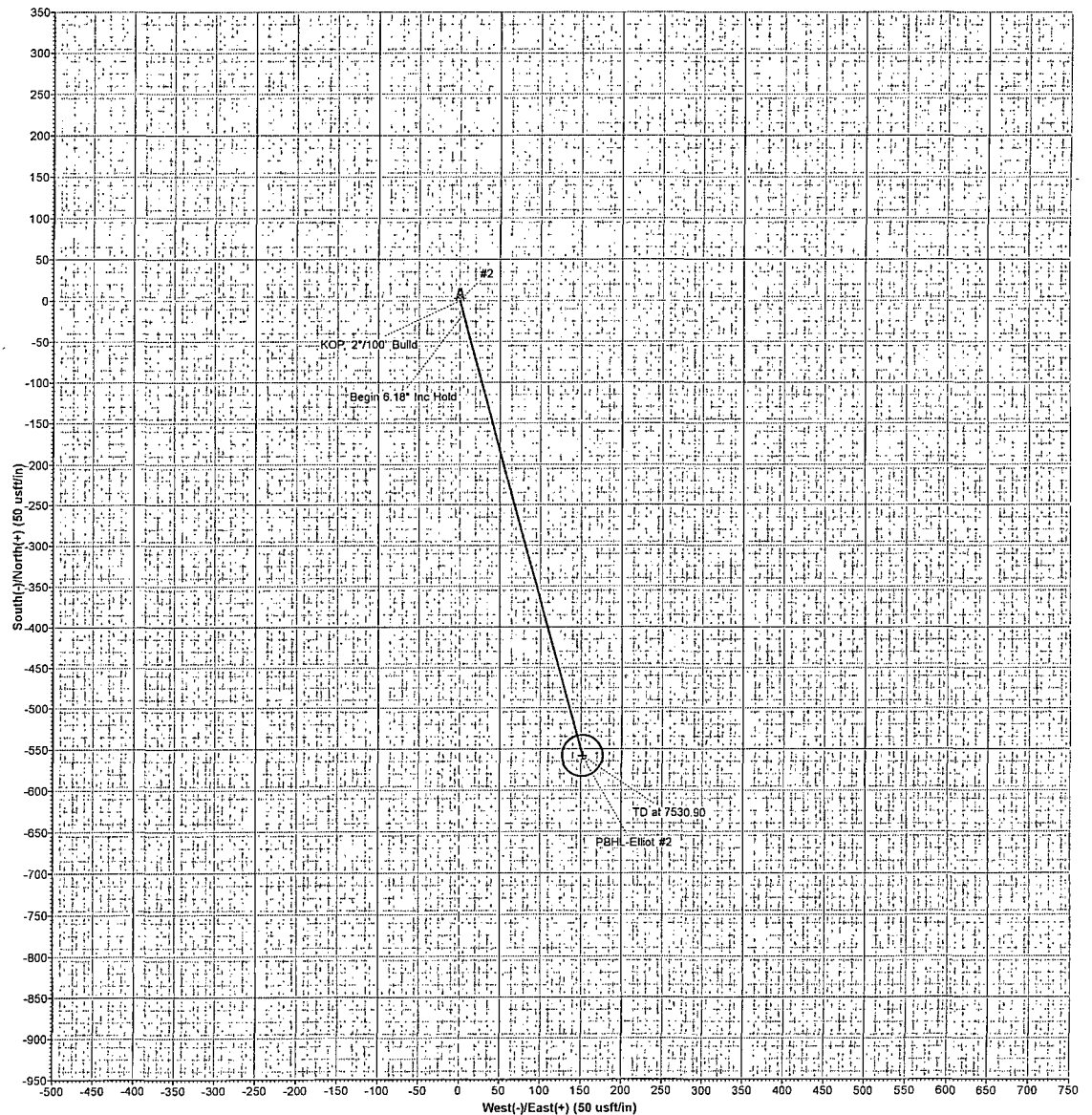
SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00		KOP, 2°/100° Build
3	2308.76	6.18	164.80	2308.16	-16.04	4.36	2.00	164.80	16.62		Begin 6.18° Inc Hold
4	7530.90	6.18	164.80	7500.00	-558.14	151.59	0.00	0.00	578.36	PBHL-Eliot #2	TD at 7530.90

DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL-Eliot #2	7500.00	-558.14	151.59	503168.70	852992.2032° 22' 41.30512 N	103° 11' 23.80029 W	Circle (Radius: 25.00)			
- plan hits target center										

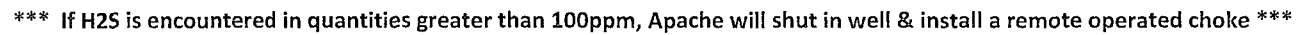
LEGEND										
 Plan #1 01-13-14										

CASING DETAILS										
No casing data is available										

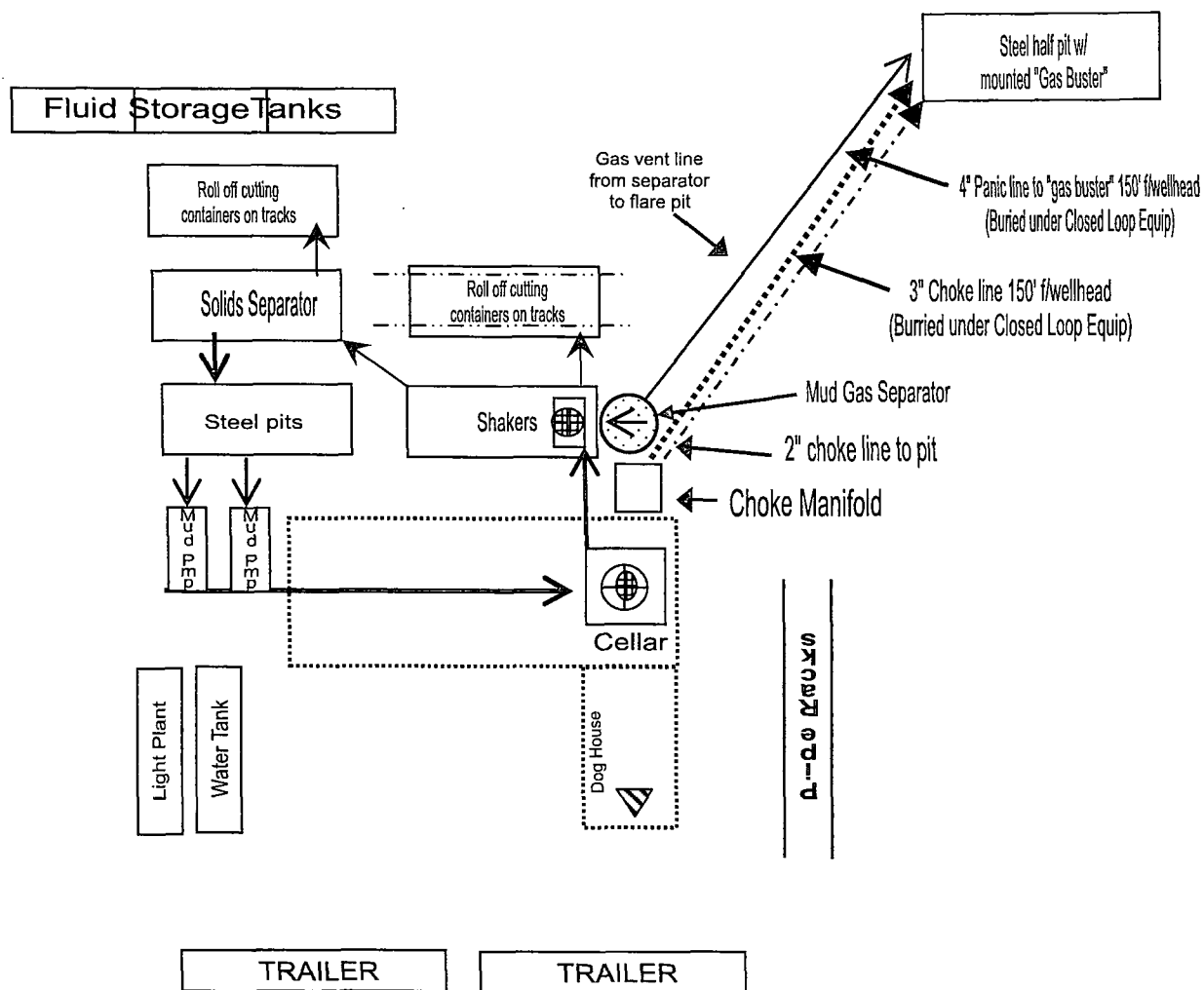
Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well #2, Grid North
Latitude: 32° 22' 46.84344 N
Longitude: 103° 11' 25.49816 W
Grid East: 852840.61
Grid North: 503726.84
Scale Factor: 1.000
Geomagnetic Model: BGGM2013
Sample Date: 13-Jan-14
Magnetic Declination: 7.20°
Dip Angle from Horizontal: 60.32°
Magnetic Field Strength: 48481
To convert a Magnetic Direction to a Grid Direction, Add 6.59°
To convert a Magnetic Direction to a True Direction, Add 7.20° East
To convert a True Direction to a Grid Direction, Subtract 0.61°



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



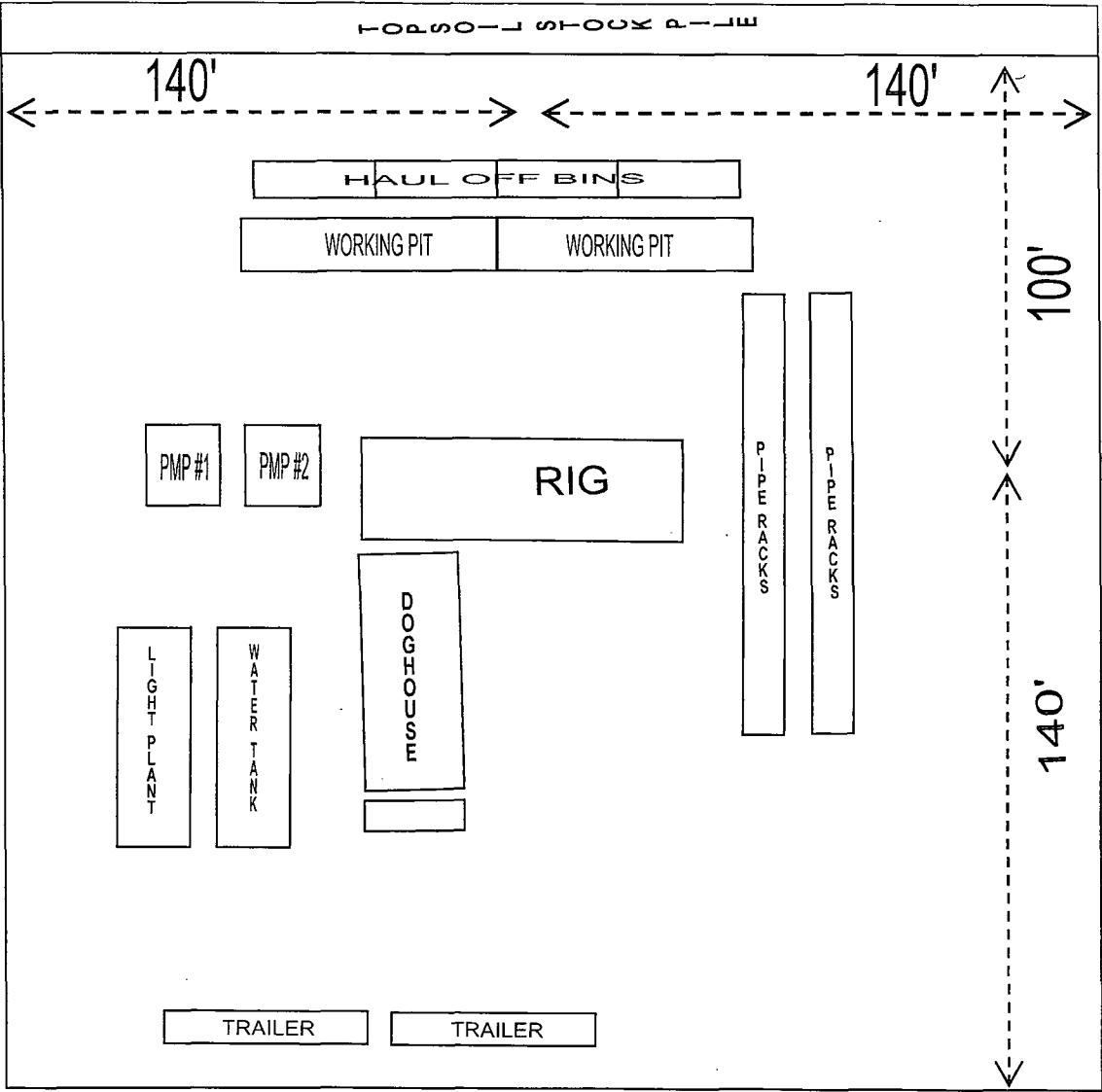
Elliott EM 20 Federal #2



Approx 30.2' of
new road

Existing lease road

RIG ORIENTATION & LAYOUT
ELLIOTT EM 20 FEDERAL #2
EXHIBIT 5



V DOOR

Approx 30.2' of new road
to existing lease road

Existing lease road

PRIVATE SURFACE OWNER AGREEMENT

OPERATOR: APACHE CORPORATION

WELL NAME: ELLIOTT EM 20 FEDERAL #2

UL: E SECTION: 20 TOWNSHIP: 22S RANGE: 37E

LOCATION: SHL: 1750' FNL & 845' FWL COUNTY: LEA STATE: NM
BHL: 2310' FNL & 990' FWL

LEASE NUMBER: NMNM - 0557256

STATEMENT OF SURFACE USE

The surface to the subject land is owned by THE MILLARD DECK ESTATE,
c/o BANK OF AMERICA, N.A., TRUSTEE of the MILLARD DECK TESTAMENTARY TRUST
under the LAST WILL and TESTAMENT of MILLARD DECK.

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: MAX GROVE

SIGNATURE: *Maxwell Grove*

DATE: 04/01/2014

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.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E. GREENE STREET
CARLSBAD, NM 88220

HOBBSCOCD

JAN 14 2015

RECEIVED

OPERATOR CERTIFICATION

I HEARBY CERTIFY THAT I, OR SOMEONE UNDER MY DIRECT SUPERVISION, HAVE INSPECTED THE DRILL SITE AND ACCESS ROUTE PROPOSED HEREIN; THAT I AM FAMILIAR WITH THE CONDITIONS WHICH CURRENTLY EXIST; THAT I HAVE FULL KNOWLEDGE OF STATE AND FEDERAL laws applicable to this operation; that the statements made in the APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 15th day of April 2014

Well: ELLIOTT EM 20 FEDERAL #2

Operator Name: APACHE CORPORATION

Signature: Maxwell Grove Printed Name: MAX GROVE

Title: Drilling Engineer Date: 04/01/2014

Email (optional): maxwell.grove@apachecorp.com

Street or Box: 303 Veterans Airpark Ln., Ste. 1000

City, State, Zip Code: Midland, TX 79705

Telephone: 281-302-2881

Field Representative (if not above signatory): _____

Address (if different from above): _____

Telephone (if different from above): _____

Email (optional): _____

Agents not directly employed by the operator must submit a letter from the operator authorizing that the agent to act or file this application on their behalf.