

30-025-44057

HOBBS OCD
MAR 22 2018
RECEIVED



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Mamba 30 State

#703H

OH

Design: OH

PVA Report

14 February, 2018



PVA Report

Company:	EOG Resources - Midland			Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)			TVD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Site:	Mamba 30 State			MD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Well:	#703H			North Reference:	Grid
Wellbore:	OH			Survey Calculation Method:	Minimum Curvature
Design:	OH			Database:	EDM 5000.14

Project						Lea County, NM (NAD 83 NME)					
Map System:		US State Plane 1983				System Datum:		Mean Sea Level			
Geo Datum:		North American Datum 1983									
Map Zone:		New Mexico Eastern Zone									

Site						Mamba 30 State					
Site Position:				Northing:		430,807.00 usft		Latitude:		32° 10' 56.143 N	
From:		Map		Easting:		767,053.00 usft		Longitude:		103° 36' 13.509 W	
Position Uncertainty:		0.0 usft		Slot Radius:		13-3/16 "		Grid Convergence:		0.39 °	

Well						#703H							
Well Position		+N/-S		0.0 usft		Northing:		430,775.00 usft		Latitude:		32° 10' 55.826 N	
		+E/-W		0.0 usft		Easting:		767,053.00 usft		Longitude:		103° 36' 13.511 W	
Position Uncertainty		0.0 usft				Wellhead Elevation:		usft		Ground Level:		3,522.0 usft	

Wellbore						OH					
Magnetics		Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)	
		IGRF2015		9/25/2017		6.94		60.02		47,881.00726517	

Design						OH					
Audit Notes:											
Version:		1.0		Phase:		ACTUAL		Tie On Depth:		0.0	
Vertical Section:		Depth From (TVD)		+N/-S		+E/-W		Direction			
		(usft)		(usft)		(usft)		(°)			
		0.0		0.0		0.0		358.61			

Survey Program						Date 2/14/2018					
From (usft)		To (usft)		Survey (Wellbore)		Tool Name		Description			
151.0		17,196.0		Intrepid MWD (OH)		MWD		OWSG MWD - Standard			



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Site:	Mamba 30 State	MD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey										
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
151.0	0.80	185.80	151.0	-1.0	-0.1	0.53	0.53	0.00	-1.1	0.0
302.0	0.70	180.10	302.0	-3.0	-0.2	0.08	-0.07	-3.77	-3.0	-0.2
421.0	0.90	182.50	421.0	-4.7	-0.3	0.17	0.17	2.02	-4.7	-0.1
520.0	0.90	168.60	520.0	-6.2	-0.1	0.22	0.00	-14.04	-6.1	-1.4
615.0	0.90	166.60	614.9	-7.7	0.2	0.03	0.00	-2.11	-7.5	-1.6
710.0	0.70	184.00	709.9	-9.0	0.3	0.33	-0.21	18.32	-8.9	0.9
805.0	1.00	174.60	804.9	-10.4	0.4	0.35	0.32	-9.89	-10.4	-0.6
899.0	0.70	171.20	898.9	-11.8	0.5	0.32	-0.32	-3.62	-11.7	-1.3
994.0	0.90	185.30	993.9	-13.1	0.5	0.29	0.21	14.84	-13.0	1.7
1,122.0	1.30	197.40	1,121.9	-15.5	0.0	0.36	0.31	9.45	-14.8	4.6
1,275.0	1.10	181.90	1,274.9	-18.6	-0.6	0.25	-0.13	-10.13	-18.6	0.1
1,464.0	1.10	184.70	1,463.8	-22.2	-0.8	0.03	0.00	1.48	-22.2	1.1
1,653.0	2.10	191.80	1,652.7	-27.4	-1.6	0.54	0.53	3.76	-27.2	4.0
1,843.0	1.60	197.40	1,842.6	-33.4	-3.1	0.28	-0.26	2.95	-32.8	7.0
2,031.0	2.20	217.40	2,030.5	-38.7	-6.1	0.47	0.32	10.64	-34.5	18.7
2,221.0	1.20	224.00	2,220.5	-43.1	-9.7	0.54	-0.53	3.47	-37.7	22.9
2,410.0	2.00	235.80	2,409.4	-46.3	-13.8	0.46	0.42	6.24	-37.4	30.6
2,599.0	2.30	192.80	2,598.3	-51.9	-17.4	0.85	0.16	-22.75	-54.4	-5.4
2,789.0	0.80	247.50	2,788.2	-56.1	-19.4	1.03	-0.79	28.79	-39.4	44.4
2,978.0	2.00	302.90	2,977.1	-54.8	-23.4	0.89	0.63	29.31	10.1	58.8
3,168.0	1.20	170.50	3,167.1	-55.0	-25.9	1.55	-0.42	-69.68	-50.0	-34.6
3,357.0	2.90	149.50	3,356.0	-61.1	-23.1	0.97	0.90	-11.11	-40.8	-50.9
3,546.0	2.30	221.00	3,544.8	-68.0	-23.2	1.63	-0.32	37.83	-66.6	27.2
3,736.0	4.00	256.30	3,734.5	-72.5	-32.1	1.32	0.89	18.58	-48.3	62.9
3,925.0	2.20	151.20	3,923.4	-77.2	-36.8	2.67	-0.95	-55.61	-49.9	-69.5
4,114.0	4.70	127.40	4,112.0	-85.1	-28.9	1.50	1.32	-12.59	-28.7	-85.2

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3547.0ustf (Noram 28)
Site:	Mamba 30 State	MD Reference:	KB = 25 @ 3547.0ustf (Noram 28)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey	MD (ustf)	Inc (°)	Azi (grfd_north_azim)	TVD (ustf)	N/S (ustf)	EW (ustf)	DLeg (°/100ustf)	Build (°/100ustf)	Turn (°/100ustf)	High to Plan (ustf)	Right to Plan (ustf)
	4,304.0	0.80	35.50	4,301.8	-88.8	-21.9	2.52	-2.05	-48.37	86.0	-33.7
	4,493.0	1.40	208.10	4,480.8	-89.7	-22.3	1.16	0.32	91.32	-89.6	22.6
	4,682.0	2.70	218.20	4,679.7	-95.3	-26.1	0.71	0.69	5.34	-91.0	38.4
	4,872.0	3.40	218.00	4,869.4	-103.2	-32.3	0.37	0.37	-0.11	-101.2	38.1
	4,889.0	3.50	219.00	4,886.4	-104.0	-33.0	0.69	0.59	5.88	-101.6	39.9
	5,044.0	3.10	201.90	5,041.1	-111.6	-37.5	0.68	-0.26	-11.03	-117.5	6.8
	5,234.0	2.70	176.80	5,230.9	-120.8	-39.2	0.69	-0.21	-13.21	-114.5	-44.2
	5,423.0	1.50	172.20	5,419.7	-127.7	-38.6	0.64	-0.63	-2.43	-102.8	-46.1
	5,612.0	1.20	180.40	5,608.7	-132.1	-38.3	0.19	-0.16	4.34	-94.0	-24.3
	5,802.0	1.20	173.90	5,798.6	-136.1	-38.1	0.07	0.00	-3.42	-76.6	-26.6
	5,991.0	1.50	222.30	5,987.6	-139.9	-39.5	0.60	0.16	25.61	-56.5	33.2
	6,180.0	2.20	223.70	6,176.5	-144.4	-43.7	0.37	0.37	0.74	-43.8	26.3
	6,369.0	2.00	222.70	6,365.4	-149.4	-48.4	0.11	-0.11	-0.53	-33.0	17.6
	6,558.0	2.30	219.60	6,554.2	-154.8	-53.1	0.17	0.16	-1.64	-22.5	8.6
	6,748.0	2.10	226.70	6,744.1	-160.1	-58.1	0.18	-0.11	3.74	-10.9	2.6
	6,937.0	2.00	211.50	6,933.0	-165.3	-62.3	0.29	-0.05	-8.04	1.5	-5.6
	7,126.0	2.10	206.00	7,121.9	-171.2	-65.5	0.12	0.05	-2.91	14.9	-8.1
	7,315.0	2.50	209.50	7,310.7	-177.9	-69.1	0.22	0.21	1.85	26.2	-12.4
	7,505.0	2.60	194.70	7,500.5	-185.7	-72.2	0.35	0.05	-7.79	38.4	-5.0
	7,694.0	2.70	196.80	7,689.3	-194.1	-74.6	0.07	0.05	1.11	36.4	-6.0
	7,883.0	2.90	199.80	7,878.1	-202.8	-77.5	0.13	0.11	1.59	26.8	-7.6
	8,073.0	2.50	199.00	8,067.9	-211.3	-80.5	0.21	-0.21	-0.42	18.0	-7.3
	8,262.0	2.30	197.70	8,256.7	-218.8	-83.0	0.11	-0.11	-0.69	10.2	-7.0
	8,452.0	1.60	207.20	8,446.6	-224.8	-85.4	0.40	-0.37	5.00	2.5	-8.0
	8,641.0	0.80	201.50	8,635.6	-228.4	-87.0	0.43	-0.42	-3.02	-0.6	-7.9
	8,830.0	0.60	247.90	8,824.5	-230.0	-88.4	0.31	-0.11	24.55	-8.1	-4.1
	9,019.0	1.10	233.20	9,013.5	-231.4	-90.8	0.29	0.26	-7.78	-9.6	-6.2



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3547 Duff (Noram 25)
Site:	Mamba 30 State	MD Reference:	KB = 25 @ 3547 Duff (Noram 25)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey	MD (uoft)	Inc (°)	Azi (grid_north_azim)	TVD (uoft)	N/S (uoft)	EW (uoft)	DLeg (°/100uoft)	Build (°/100uoft)	Turn (°/100uoft)	Hght to Plan (uoft)	Right to Plan (uoft)
	9,209.0	1.10	208.80	9,203.5	-234.1	-93.2	0.24	0.00	-12.84	-9.6	-10.4
	9,398.0	1.50	191.70	9,392.4	-238.1	-94.5	0.29	0.21	-9.05	-10.3	-13.3
	9,587.0	0.70	248.20	9,581.4	-241.0	-96.1	0.67	-0.42	29.89	-19.3	3.4
	9,774.0	1.30	252.70	9,768.4	-242.0	-99.2	0.32	0.32	2.41	-22.2	5.0
	9,963.0	1.50	267.30	9,957.3	-242.8	-103.7	0.22	0.11	7.72	-24.8	10.9
	10,153.0	0.40	193.20	10,147.3	-243.5	-106.3	0.76	-0.58	-39.00	-18.7	-23.3
	10,342.0	0.70	169.30	10,336.3	-245.3	-106.3	0.20	0.16	-12.65	-9.4	-29.1
	10,532.0	1.10	195.20	10,526.3	-248.2	-106.5	0.30	0.21	13.63	-24.0	-21.6
	10,721.0	1.00	29.90	10,715.3	-248.5	-106.2	1.10	-0.05	-87.46	28.8	14.3
	10,910.0	2.70	31.90	10,904.2	-243.3	-103.0	0.90	0.90	1.06	23.2	13.4
	11,100.0	1.90	65.60	11,094.0	-238.2	-97.8	0.81	-0.42	17.74	19.8	0.7
	11,289.0	1.80	67.20	11,282.9	-235.8	-92.2	0.06	-0.05	0.85	13.7	0.2
	11,478.0	0.80	129.20	11,471.9	-235.5	-88.4	0.84	-0.53	32.80	4.0	-9.4
	11,668.0	0.60	237.20	11,661.9	-236.8	-88.2	0.60	-0.11	56.84	-10.8	0.4
	11,742.0	1.10	193.00	11,735.8	-237.7	-88.7	1.07	0.68	-59.73	-9.0	-7.5
	11,879.0	3.10	161.70	11,872.8	-242.5	-87.9	1.63	1.46	-22.85	-8.6	-11.7
	11,901.4	0.97	95.02	11,895.1	-243.1	-87.5	12.75	-9.49	-297.60	6.9	-13.1
KOP (Mamba 30 State #703H)											
	11,926.0	3.20	17.50	11,919.7	-242.5	-87.1	12.75	9.06	-315.20	14.1	3.6
	11,974.0	12.40	359.60	11,967.2	-236.1	-86.7	19.60	19.17	-37.29	9.8	7.3
	12,021.0	21.10	357.00	12,012.2	-222.5	-87.2	18.57	18.51	-5.53	3.5	7.9
	12,068.0	25.90	356.10	12,055.3	-203.8	-88.3	10.24	10.21	-1.91	-4.3	8.5
	12,115.0	31.50	354.80	12,096.5	-181.3	-90.1	11.99	11.91	-2.77	-12.6	9.5
	12,163.0	34.40	355.90	12,136.8	-155.3	-92.2	6.17	6.04	2.29	-20.4	11.2
	12,210.0	37.70	357.20	12,174.8	-127.7	-93.9	7.21	7.02	2.77	-26.5	12.9
	12,258.0	40.90	356.80	12,211.9	-97.4	-95.5	6.69	6.67	-0.83	-31.6	13.9
	12,305.0	43.90	356.80	12,246.6	-65.7	-97.3	6.38	6.38	0.00	-36.0	15.4



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Site:	Mamba 30 State	MD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,352.0	47.10	357.10	12,279.5	-32.3	-99.0	6.82	6.81	0.64	-36.8	17.1	
12,399.0	50.80	357.60	12,310.4	3.1	-100.7	7.91	7.87	1.06	-37.2	18.7	
12,447.0	53.80	357.80	12,339.8	41.1	-102.2	6.26	6.25	0.42	-36.3	20.1	
12,453.4	54.25	357.86	12,343.5	46.3	-102.4	6.99	6.96	0.90	-36.0	20.3	
HL Crossing, MD:12453.4', TVD:12343.5', N/S:46.3', E/W:-102.4', INC:54.25											
12,493.0	57.00	358.20	12,365.9	78.9	-103.5	6.99	6.96	0.86	-33.8	21.4	
12,514.5	60.29	358.29	12,377.1	97.3	-104.1	15.31	15.31	0.43	-32.5	21.9	
FTP (Mamba 30 State #703H)											
12,542.0	64.50	358.40	12,389.8	121.6	-104.8	15.31	15.31	0.39	-31.4	22.5	
12,589.0	68.80	358.90	12,408.4	164.8	-105.8	9.20	9.15	1.06	-29.9	23.4	
12,636.0	74.50	1.10	12,423.2	209.3	-105.8	12.91	12.13	4.68	-28.2	23.3	
12,683.0	78.90	3.20	12,434.0	255.0	-104.1	10.32	9.36	4.47	-26.7	21.3	
12,731.0	83.20	1.90	12,441.5	302.4	-101.9	9.35	8.96	-2.71	-25.0	18.7	
12,825.0	91.20	359.20	12,446.1	396.2	-101.1	8.98	8.51	-2.87	-22.1	17.0	
12,920.0	91.20	359.50	12,444.1	491.2	-102.1	0.32	0.00	0.32	-24.5	17.4	
13,015.0	88.00	359.60	12,444.8	586.1	-102.9	3.37	-3.37	0.11	-24.2	17.5	
13,110.0	89.70	0.80	12,446.7	681.1	-102.5	2.19	1.79	1.26	-22.7	16.4	
13,204.0	89.30	0.00	12,447.5	775.1	-101.9	0.95	-0.43	-0.85	-22.2	15.1	
13,299.0	89.20	359.60	12,448.7	870.1	-102.2	0.44	-0.11	-0.43	-21.4	14.7	
13,393.0	89.20	359.90	12,450.0	964.1	-102.6	0.32	0.00	0.32	-20.4	14.5	
13,488.0	89.10	359.30	12,451.5	1,059.1	-103.3	0.64	-0.11	-0.63	-19.4	14.4	
13,583.0	93.30	0.00	12,449.5	1,154.0	-103.9	4.48	4.42	0.74	-21.7	14.3	
13,678.0	94.20	1.10	12,443.2	1,248.8	-102.9	1.49	0.95	1.15	-28.3	12.7	
13,772.0	91.30	359.00	12,438.7	1,342.7	-102.9	3.81	-3.09	-2.23	-33.2	11.9	
13,867.0	92.00	359.00	12,436.0	1,437.7	-104.5	0.74	0.74	0.00	-36.4	12.9	
13,962.0	89.70	358.90	12,434.6	1,532.6	-106.3	2.42	-2.42	-0.11	-38.1	13.9	
14,027.8	88.80	358.41	12,435.5	1,598.4	-107.8	1.55	-1.37	-0.74	-37.5	15.0	
TGT 1 (Mamba 30 State #703H)											



PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Mamba 30 State
 Well: #703H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #703H
 TVD Reference: KB = 25' @ 3547.0usft (Noram 28)
 MD Reference: KB = 25' @ 3547.0usft (Noram 28)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,057.0	88.40	358.20	12,436.2	1,627.6	-108.7	1.55	-1.37	-0.74	-36.8	15.7	
14,151.0	86.70	357.50	12,440.2	1,721.4	-112.2	1.96	-1.81	-0.74	-32.6	18.5	
14,246.0	89.00	357.70	12,443.8	1,816.3	-116.2	2.43	2.42	0.21	-28.9	21.8	
14,341.0	91.70	0.10	12,443.2	1,911.2	-118.0	3.80	2.84	2.53	-29.3	22.9	
14,435.0	91.90	359.50	12,440.2	2,005.2	-118.3	0.67	0.21	-0.64	-32.1	22.5	
14,530.0	90.70	0.90	12,438.1	2,100.2	-118.0	1.94	-1.26	1.47	-34.0	21.5	
14,625.0	89.30	1.30	12,438.1	2,195.1	-116.2	1.53	-1.47	0.42	-33.9	19.0	
14,720.0	86.50	0.50	12,441.5	2,290.0	-114.7	3.07	-2.95	-0.84	-30.2	16.8	
14,845.0	92.30	2.00	12,442.9	2,415.0	-111.9	4.79	4.64	1.20	-28.6	13.2	
14,939.0	92.00	1.60	12,439.3	2,508.8	-109.0	0.53	-0.32	-0.43	-32.0	9.5	
15,034.0	90.90	1.00	12,436.9	2,603.8	-106.8	1.32	-1.16	-0.63	-34.2	6.7	
15,129.0	88.90	1.40	12,437.1	2,698.8	-104.9	2.15	-2.11	0.42	-33.9	4.0	
15,223.0	86.40	1.00	12,440.9	2,792.6	-102.9	2.69	-2.66	-0.43	-29.8	1.3	
15,318.0	88.50	0.50	12,445.2	2,887.5	-101.6	2.27	2.21	-0.53	-25.4	-0.6	
15,412.0	89.80	0.70	12,446.6	2,981.5	-100.7	1.40	1.38	0.21	-23.9	-2.3	
15,507.0	89.10	0.40	12,447.5	3,076.5	-99.7	0.80	-0.74	-0.32	-22.8	-3.9	
15,601.0	91.00	1.10	12,447.4	3,170.5	-98.5	2.15	2.02	0.74	-22.7	-5.8	
15,628.0	91.54	1.01	12,446.8	3,197.5	-98.0	2.02	2.00	-0.32	-23.2	-6.5	
TGT 2 (Mamba 30 State #703H)											
15,696.0	92.90	0.80	12,444.2	3,265.4	-96.9	2.02	2.00	-0.32	-25.5	-8.1	
15,791.0	91.50	1.20	12,440.5	3,360.3	-95.3	1.53	-1.47	0.42	-28.6	-10.4	
15,886.0	86.50	357.40	12,442.2	3,455.3	-96.4	6.61	-5.26	-4.00	-26.4	-10.0	
15,980.0	89.80	356.80	12,445.2	3,549.1	-101.2	3.57	3.51	-0.64	-22.8	-5.9	
16,075.0	89.40	359.00	12,445.9	3,644.0	-104.7	2.35	-0.42	2.32	-21.6	-3.1	
16,170.0	86.70	359.00	12,449.1	3,738.9	-106.3	2.84	-2.84	0.00	-17.8	-2.1	
16,264.0	90.90	359.60	12,451.1	3,832.9	-107.5	4.51	4.47	0.64	-15.3	-1.7	
16,359.0	87.50	358.80	12,452.4	3,927.9	-108.8	3.68	-3.58	-0.84	-13.4	-1.0	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Site:	Mamba 30 State	MD Reference:	KB = 25' @ 3547.0usft (Noram 28)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,454.0	88.70	358.10	12,455.5	4,022.8	-111.4	1.46	1.26	-0.74	-9.7	0.8	
16,549.0	91.40	358.80	12,455.5	4,117.7	-113.9	2.94	2.84	0.74	-9.3	2.7	
16,643.0	89.30	358.70	12,454.9	4,211.7	-116.0	2.24	-2.23	-0.11	-9.3	4.1	
16,738.0	90.70	358.70	12,454.9	4,306.7	-118.1	1.47	1.47	0.00	-8.8	5.5	
16,833.0	89.00	358.20	12,455.1	4,401.6	-120.7	1.87	-1.79	-0.53	-8.0	7.4	
16,928.0	89.90	357.80	12,456.0	4,496.6	-124.0	1.04	0.95	-0.42	-6.5	10.0	
17,022.0	91.50	357.80	12,454.9	4,590.5	-127.6	1.70	1.70	0.00	-7.1	13.0	
17,100.7	91.86	357.80	12,452.6	4,669.1	-130.7	0.46	0.46	0.00	-9.0	15.4	
HL Crossing, MD:17100.7', TVD:12452.6', N/S:4669.1', E/W:-130.7', INC:91.86											
17,130.0	92.00	357.80	12,451.6	4,698.4	-131.8	0.46	0.46	0.00	-9.8	16.3	
Final MWD Survey (MD= 17130.0')											
17,196.0	92.00	357.80	12,449.3	4,764.3	-134.3	0.00	0.00	0.00	-11.7	18.4	
Final Bit Projection (MD= 17196.0') - PBHL (Mamba 30 State #703H)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,453.4	12,343.5	46.3	-102.4	HL Crossing, MD:12453.4', TVD:12343.5', N/S:46.3', E/W:-102.4', INC:54.25
17,100.7	12,452.6	4,669.1	-130.7	HL Crossing, MD:17100.7', TVD:12452.6', N/S:4669.1', E/W:-130.7', INC:91.86
17,130.0	12,451.6	4,698.4	-131.8	Final MWD Survey (MD= 17130.0')
17,196.0	12,449.3	4,764.3	-134.3	Final Bit Projection (MD= 17196.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Mamba 30 State #703H

Noram 28

Plan #3

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #703H

KB = 25' @ 3547.0usft (Noram 28) 3522.0
Northing 430775.00 Easting 767053.00 Latitude 32° 10' 55.826 N Longitude 103° 36' 13.511 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
5078.0	0.00	0.00	5078.0	0.0	0.0	0.00	0.00	0.0	
5378.0	6.00	199.00	5377.5	-14.8	-5.1	2.00	199.00	-14.7	
7411.7	6.00	199.00	7400.0	-215.8	-74.3	0.00	0.00	-214.0	
7711.7	0.00	0.00	7699.5	-230.7	-79.4	2.00	180.00	-228.7	
11907.2	0.00	0.00	11895.0	-230.7	-79.4	0.00	0.00	-228.7	
12804.9	89.77	359.58	12468.0	340.0	-83.6	10.00	359.58	341.9	
14063.2	89.77	359.58	12473.0	1598.2	-92.8	0.00	0.00	1600.0	TGT 1 (Mamba 30 State #703H)
14080.2	90.11	359.58	12473.0	1615.2	-92.9	2.00	0.00	1616.9	
15663.5	90.11	359.58	12470.0	3198.4	-104.5	0.00	0.00	3200.0	TGT 2 (Mamba 30 State #703H)
15674.4	90.33	359.58	12470.0	3209.4	-104.6	2.00	0.00	3211.0	
17235.1	90.33	359.58	12461.0	4770.0	-116.0	0.00	0.00	4771.4	PBHL (Mamba 30 State #703H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT 1 (Mamba 30 State #703H)	12473.0	1598.2	-92.8	432373.29	766965.29
TGT 2 (Mamba 30 State #703H)	12470.0	3198.4	-104.5	433973.40	766848.48
PBHL (Mamba 30 State #703H)	12461.0	4770.0	-116.0	435845.00	766937.00
FTP (Mamba 30 State #703H)	12468.0	47.0	-81.0	430822.00	766973.00
KOP (Mamba 30 State #703H)	11895.0	-230.7	-79.4	430544.33	766973.57

