

Permit Information:

Well Name: Mamba 30 State Com No. 502H

Location:

SL: 824' FNL & 493' FEL, Section 30, T-24-S, R-33-E, Lea Co., N.M.

BHL: 100' FSL & 1425' FEL, Section 30, T-24-S, R-33-E, Lea Co., N.M.

HOBBS OCD

JUL 05 2018

RECEIVED

44955

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 1200'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4000' - 5000'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-16,189'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
1200'	600	13.5	1.73	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	300	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,000'	900	12.7	2.22	Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ Surface)
	225	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
16,189'	375	10.8	3.67	60:40:0 Class C + 15.0 pps BA-90 + 4% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 2.55% R-21 + 8.0 pps LCM-1 (TOC @ 4500')
	400	11.8	2.38	50:50:10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.40% SMS + 2.0% Salt + 0.30% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake
	1300	14.2	1.28	50:50:2 Class H + 0.65% FL-52 + 0.45% CD-32 + 0.10% SMS + 2.0% Salt

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1200'	Fresh - Gel	8.6-8.8	28-34	N/c
1200' - 5,000'	Brine	10.0-10.2	28-34	N/c
5,000' - 10,739'	Cut Brine	8.4-9.0	28-34	N/c
10,739' - 16,189' Lateral	Cut Brine	9.0-9.5	40-42	8-10

**Mamba 30 State Com #502H
Lea County, New Mexico**

**824' FNL
493' FEL
Section 30
T-24-S, R-33-E**

Proposed Wellbore

API: 30-025-*****

**KB: 3,576'
GL: 3,551'**

Bit Size: 17-1/2"

13-3/8", 54.5#, J-55, STC 0' - 1200'

Bit Size: 12-1/4"

TOC: 4500'

9-5/8", 40#, J-55, LT&C 0' - 4000'
9-5/8", 40#, HCK55, LT&C 4000' - 5000'

Bit Size: 8-3/4"

KOP: 10,739'

Bit Size: 8-3/4"

5-1/2", 17#, P-110 or HCP110, LTC @ 0' - 16,189'

Lateral: 16,189' MD, 11,172' TVD

BH Location: 100' FSL & 1425' FEL
Section 30
T-24-S, R-33-E



Lea County, NM (NAD 83 NME)

Mamba 30 State #502H

Plan #0.1

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: 8602H

KB = 28 @ 3578.0usf 3551.0
Northing 634955.00 Easting 786508.00 Latitude 12° 11' 37.196 N Longitude 103° 38' 16.021 W

SECTION DETAILS

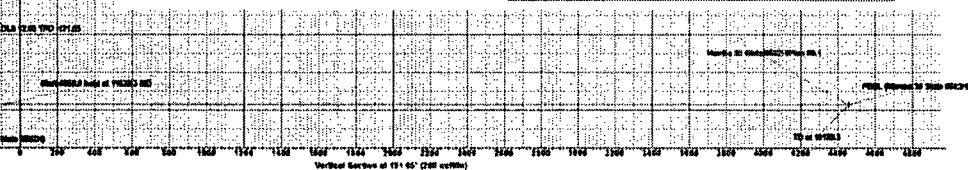
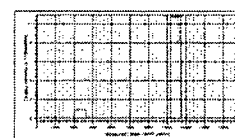
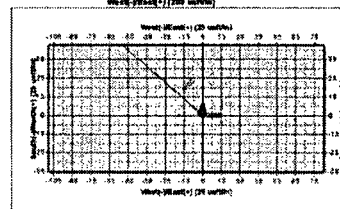
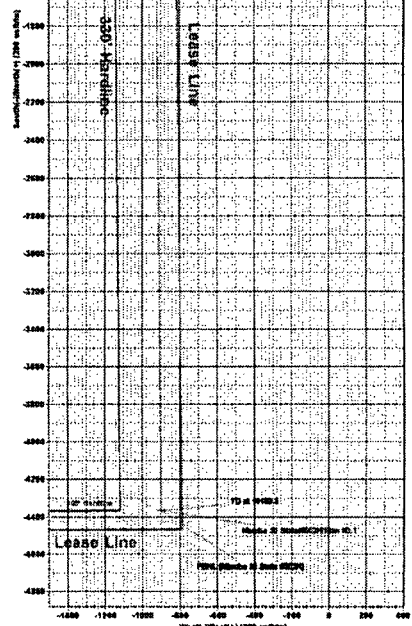
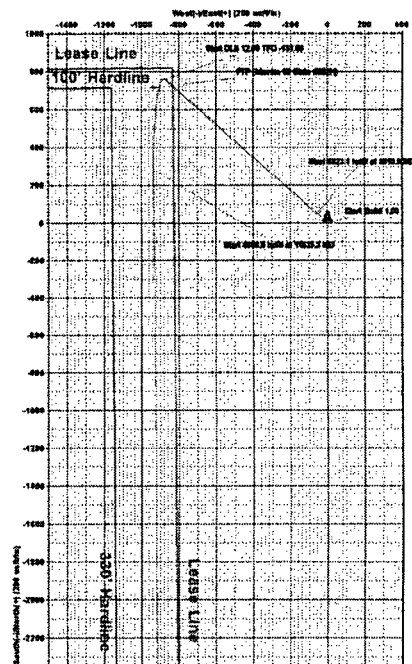
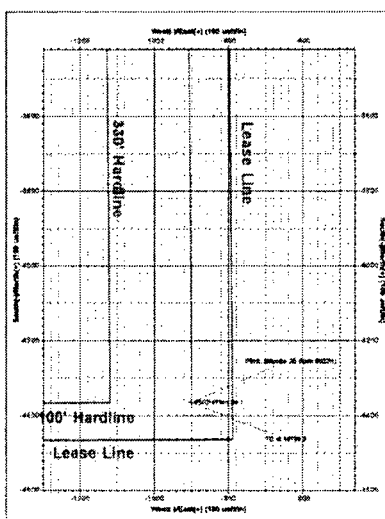
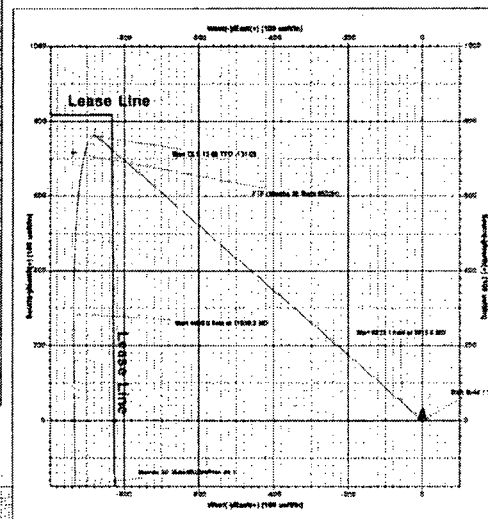
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3915.9	9.16	310.98	3912.0	47.9	-55.1	1.00	310.98	-35.8	
4	10739.0	9.16	310.98	10646.1	760.1	-878.0	0.00	0.00	-567.8	
5	11538.3	90.00	179.87	11172.0	284.9	-934.8	12.00	-131.05	-90.2	
6	16189.3	90.00	179.87	11172.0	-4365.0	-900.0	0.00	0.00	4456.8	PBHL (Mamba 30 State #502H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL (Mamba 30 State #502H)	11172.0	-4365.0	-900.0	430595.00	783899.00
FTP (Mamba 30 State #602H)	11172.0	718.0	-818.0	436886.00	785871.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Mamba 30 State

#502H

OH

Plan: Plan #0.1

Standard Planning Report

05 July, 2018



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Mamba 30 State
Well: #502H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #502H
TVD Reference: KB = 25 @ 3576.0usft
MD Reference: KB = 25 @ 3576.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

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: #502H
Well Position: +N/-S 4,143.0 usft Northing: 434,950.00 usft Latitude: 32° 11' 37.156 N
+E/-W -244.0 usft Easting: 766,809.00 usft Longitude: 103° 36' 16.021 W
Position Uncertainty: 0.0 usft Wellhead Elevation: Ground Level: 3,551.0 usft

Wellbore: OH
Magnetics: Model Name Sample Date Declination Dip Angle Field Strength
 (°) (°) (nT)
 IGRF2015 7/5/2018 6.85 60.02 47,807.85294826

Design: Plan #0.1
Audit Notes:
Version: Phase: PLAN Tie On Depth: 0.0
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
 (usft) (usft) (usft) (°)
 0.0 0.0 0.0 191.65

Plan Survey Tool Program: Date 7/5/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,189.3 Plan #0.1 (OH)	MWD	
			OWSG MWD - Standard	

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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,915.9	9.16	310.98	3,912.0	47.9	-55.1	1.00	1.00	0.00	310.98	
10,739.0	9.16	310.98	10,648.1	760.1	-875.0	0.00	0.00	0.00	0.00	
11,539.3	90.00	179.57	11,172.0	284.9	-934.8	12.00	10.10	-16.42	-131.05	
16,189.3	90.00	179.57	11,172.0	-4,365.0	-900.0	0.00	0.00	0.00	0.00	PBHL (Mamba 30 Sta

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Mamba 30 State
 Well: #502H
 Wellbore: OH
 Design: Plan #0.1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well #502H
 KB = 25 @ 3576.0usft
 KB = 25 @ 3576.0usft
 Grid
 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)
0.0	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
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
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	1.00	310.98	3,100.0	0.6	-0.7	-0.4	1.00	1.00	0.00
3,200.0	2.00	310.98	3,200.0	2.3	-2.6	-1.7	1.00	1.00	0.00
3,300.0	3.00	310.98	3,299.9	5.1	-5.9	-3.8	1.00	1.00	0.00
3,400.0	4.00	310.98	3,399.7	9.2	-10.5	-6.8	1.00	1.00	0.00
3,500.0	5.00	310.98	3,499.4	14.3	-16.5	-10.7	1.00	1.00	0.00
3,600.0	6.00	310.98	3,598.9	20.6	-23.7	-15.4	1.00	1.00	0.00
3,700.0	7.00	310.98	3,698.3	28.0	-32.2	-20.9	1.00	1.00	0.00
3,800.0	8.00	310.98	3,797.4	36.6	-42.1	-27.3	1.00	1.00	0.00
3,900.0	9.00	310.98	3,896.3	46.3	-53.3	-34.6	1.00	1.00	0.00
3,915.9	9.16	310.98	3,912.0	47.9	-55.1	-35.8	1.00	1.00	0.00
4,000.0	9.16	310.98	3,995.0	56.7	-65.3	-42.3	0.00	0.00	0.00
4,100.0	9.16	310.98	4,093.8	67.1	-77.3	-50.1	0.00	0.00	0.00
4,200.0	9.16	310.98	4,192.5	77.6	-89.3	-57.9	0.00	0.00	0.00
4,300.0	9.16	310.98	4,291.2	88.0	-101.3	-65.7	0.00	0.00	0.00
4,400.0	9.16	310.98	4,389.9	98.4	-113.3	-73.5	0.00	0.00	0.00
4,500.0	9.16	310.98	4,488.7	108.9	-125.3	-81.3	0.00	0.00	0.00
4,600.0	9.16	310.98	4,587.4	119.3	-137.3	-89.1	0.00	0.00	0.00
4,700.0	9.16	310.98	4,686.1	129.8	-149.4	-96.9	0.00	0.00	0.00
4,800.0	9.16	310.98	4,784.8	140.2	-161.4	-104.7	0.00	0.00	0.00
4,900.0	9.16	310.98	4,883.6	150.6	-173.4	-112.5	0.00	0.00	0.00
5,000.0	9.16	310.98	4,982.3	161.1	-185.4	-120.3	0.00	0.00	0.00
5,100.0	9.16	310.98	5,081.0	171.5	-197.4	-128.1	0.00	0.00	0.00
5,200.0	9.16	310.98	5,179.7	182.0	-209.4	-135.9	0.00	0.00	0.00

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MD Reference: KB = 25 @ 3576.0usft
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)
5,300.0	9.16	310.98	5,278.5	192.4	-221.5	-143.7	0.00	0.00	0.00
5,400.0	9.16	310.98	5,377.2	202.8	-233.5	-151.5	0.00	0.00	0.00
5,500.0	9.16	310.98	5,475.9	213.3	-245.5	-159.3	0.00	0.00	0.00
5,600.0	9.16	310.98	5,574.6	223.7	-257.5	-167.1	0.00	0.00	0.00
5,700.0	9.16	310.98	5,673.4	234.1	-269.5	-174.9	0.00	0.00	0.00
5,800.0	9.16	310.98	5,772.1	244.6	-281.5	-182.7	0.00	0.00	0.00
5,900.0	9.16	310.98	5,870.8	255.0	-293.5	-190.5	0.00	0.00	0.00
6,000.0	9.16	310.98	5,969.5	265.5	-305.6	-198.3	0.00	0.00	0.00
6,100.0	9.16	310.98	6,068.3	275.9	-317.6	-206.1	0.00	0.00	0.00
6,200.0	9.16	310.98	6,167.0	286.3	-329.6	-213.9	0.00	0.00	0.00
6,300.0	9.16	310.98	6,265.7	296.8	-341.6	-221.7	0.00	0.00	0.00
6,400.0	9.16	310.98	6,364.4	307.2	-353.6	-229.5	0.00	0.00	0.00
6,500.0	9.16	310.98	6,463.2	317.7	-365.6	-237.3	0.00	0.00	0.00
6,600.0	9.16	310.98	6,561.9	328.1	-377.7	-245.1	0.00	0.00	0.00
6,700.0	9.16	310.98	6,660.6	338.5	-389.7	-252.9	0.00	0.00	0.00
6,800.0	9.16	310.98	6,759.3	349.0	-401.7	-260.7	0.00	0.00	0.00
6,900.0	9.16	310.98	6,858.1	359.4	-413.7	-268.5	0.00	0.00	0.00
7,000.0	9.16	310.98	6,956.8	369.8	-425.7	-276.3	0.00	0.00	0.00
7,100.0	9.16	310.98	7,055.5	380.3	-437.7	-284.1	0.00	0.00	0.00
7,200.0	9.16	310.98	7,154.2	390.7	-449.8	-291.9	0.00	0.00	0.00
7,300.0	9.16	310.98	7,253.0	401.2	-461.8	-299.6	0.00	0.00	0.00
7,400.0	9.16	310.98	7,351.7	411.6	-473.8	-307.4	0.00	0.00	0.00
7,500.0	9.16	310.98	7,450.4	422.0	-485.8	-315.2	0.00	0.00	0.00
7,600.0	9.16	310.98	7,549.1	432.5	-497.8	-323.0	0.00	0.00	0.00
7,700.0	9.16	310.98	7,647.9	442.9	-509.8	-330.8	0.00	0.00	0.00
7,800.0	9.16	310.98	7,746.6	453.4	-521.8	-338.6	0.00	0.00	0.00
7,900.0	9.16	310.98	7,845.3	463.8	-533.9	-346.4	0.00	0.00	0.00
8,000.0	9.16	310.98	7,944.0	474.2	-545.9	-354.2	0.00	0.00	0.00
8,100.0	9.16	310.98	8,042.8	484.7	-557.9	-362.0	0.00	0.00	0.00
8,200.0	9.16	310.98	8,141.5	495.1	-569.9	-369.8	0.00	0.00	0.00
8,300.0	9.16	310.98	8,240.2	505.5	-581.9	-377.6	0.00	0.00	0.00
8,400.0	9.16	310.98	8,338.9	516.0	-593.9	-385.4	0.00	0.00	0.00
8,500.0	9.16	310.98	8,437.7	526.4	-606.0	-393.2	0.00	0.00	0.00
8,600.0	9.16	310.98	8,536.4	536.9	-618.0	-401.0	0.00	0.00	0.00
8,700.0	9.16	310.98	8,635.1	547.3	-630.0	-408.8	0.00	0.00	0.00
8,800.0	9.16	310.98	8,733.8	557.7	-642.0	-416.6	0.00	0.00	0.00
8,900.0	9.16	310.98	8,832.6	568.2	-654.0	-424.4	0.00	0.00	0.00
9,000.0	9.16	310.98	8,931.3	578.6	-666.0	-432.2	0.00	0.00	0.00
9,100.0	9.16	310.98	9,030.0	589.1	-678.0	-440.0	0.00	0.00	0.00
9,200.0	9.16	310.98	9,128.7	599.5	-690.1	-447.8	0.00	0.00	0.00
9,300.0	9.16	310.98	9,227.5	609.9	-702.1	-455.6	0.00	0.00	0.00
9,400.0	9.16	310.98	9,326.2	620.4	-714.1	-463.4	0.00	0.00	0.00
9,500.0	9.16	310.98	9,424.9	630.8	-726.1	-471.2	0.00	0.00	0.00
9,600.0	9.16	310.98	9,523.6	641.2	-738.1	-479.0	0.00	0.00	0.00
9,700.0	9.16	310.98	9,622.4	651.7	-750.1	-486.8	0.00	0.00	0.00
9,800.0	9.16	310.98	9,721.1	662.1	-762.2	-494.6	0.00	0.00	0.00
9,900.0	9.16	310.98	9,819.8	672.6	-774.2	-502.4	0.00	0.00	0.00
10,000.0	9.16	310.98	9,918.5	683.0	-786.2	-510.2	0.00	0.00	0.00
10,100.0	9.16	310.98	10,017.3	693.4	-798.2	-518.0	0.00	0.00	0.00
10,200.0	9.16	310.98	10,116.0	703.9	-810.2	-525.8	0.00	0.00	0.00
10,300.0	9.16	310.98	10,214.7	714.3	-822.2	-533.6	0.00	0.00	0.00
10,400.0	9.16	310.98	10,313.4	724.8	-834.3	-541.4	0.00	0.00	0.00
10,500.0	9.16	310.98	10,412.2	735.2	-846.3	-549.2	0.00	0.00	0.00
10,600.0	9.16	310.98	10,510.9	745.6	-858.3	-557.0	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Mamba 30 State
Well: #502H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #502H
TVD Reference: KB = 25 @ 3576.0usft
MD Reference: KB = 25 @ 3576.0usft
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)
10,700.0	9.16	310.98	10,609.6	756.1	-870.3	-564.8	0.00	0.00	0.00
10,739.0	9.16	310.98	10,648.1	760.1	-875.0	-567.8	0.00	0.00	0.00
10,750.0	8.35	304.09	10,659.0	761.2	-876.3	-568.5	12.00	-7.34	-62.48
10,775.0	7.10	283.61	10,683.8	762.5	-879.3	-569.3	12.00	-4.97	-81.92
10,800.0	7.01	259.02	10,708.6	762.6	-882.3	-568.7	12.00	-0.37	-98.36
10,825.0	8.11	237.62	10,733.4	761.4	-885.3	-566.9	12.00	4.39	-85.58
10,850.0	10.01	222.78	10,758.1	758.8	-888.3	-563.8	12.00	7.62	-59.35
10,875.0	12.36	213.07	10,782.6	755.0	-891.2	-559.5	12.00	9.37	-38.87
10,900.0	14.94	206.53	10,806.9	749.9	-894.1	-553.9	12.00	10.31	-26.16
10,925.0	17.64	201.91	10,830.9	743.5	-897.0	-547.0	12.00	10.84	-18.45
10,950.0	20.43	198.51	10,854.5	735.8	-899.8	-539.0	12.00	11.15	-13.61
10,975.0	23.27	195.90	10,877.7	726.9	-902.5	-529.7	12.00	11.36	-10.44
11,000.0	26.14	193.83	10,900.4	716.8	-905.2	-519.3	12.00	11.49	-8.27
11,025.0	29.04	192.15	10,922.6	705.6	-907.8	-507.7	12.00	11.59	-6.73
11,050.0	31.96	190.75	10,944.1	693.1	-910.3	-495.0	12.00	11.66	-5.60
11,075.0	34.88	189.56	10,965.0	679.6	-912.7	-481.3	12.00	11.71	-4.76
11,100.0	37.82	188.53	10,985.1	664.9	-915.0	-466.5	12.00	11.75	-4.11
11,125.0	40.77	187.63	11,004.5	649.3	-917.2	-450.7	12.00	11.78	-3.60
11,150.0	43.72	186.84	11,023.0	632.6	-919.4	-433.9	12.00	11.81	-3.19
11,175.0	46.68	186.12	11,040.6	615.0	-921.4	-416.2	12.00	11.83	-2.86
11,189.0	48.34	185.75	11,050.1	604.7	-922.4	-405.9	12.00	11.84	-2.65
FTP (Mamba 30 State #502H)									
11,200.0	49.64	185.47	11,057.3	596.4	-923.2	-397.7	12.00	11.85	-2.53
11,225.0	52.60	184.88	11,072.9	577.1	-925.0	-378.4	12.00	11.86	-2.38
11,250.0	55.57	184.33	11,087.6	556.9	-926.6	-358.3	12.00	11.87	-2.20
11,275.0	58.54	183.81	11,101.2	536.0	-928.1	-337.5	12.00	11.88	-2.05
11,300.0	61.51	183.33	11,113.7	514.3	-929.4	-316.1	12.00	11.88	-1.92
11,325.0	64.48	182.88	11,125.0	492.1	-930.6	-294.0	12.00	11.89	-1.82
11,350.0	67.45	182.45	11,135.2	469.3	-931.7	-271.5	12.00	11.90	-1.73
11,375.0	70.43	182.04	11,144.2	446.0	-932.6	-248.5	12.00	11.90	-1.65
11,400.0	73.41	181.64	11,152.0	422.2	-933.4	-225.1	12.00	11.90	-1.59
11,425.0	76.38	181.25	11,158.5	398.1	-934.0	-201.3	12.00	11.91	-1.55
11,450.0	79.36	180.87	11,163.7	373.7	-934.4	-177.3	12.00	11.91	-1.51
11,475.0	82.34	180.50	11,167.7	349.0	-934.7	-153.1	12.00	11.91	-1.48
11,500.0	85.32	180.14	11,170.4	324.1	-934.9	-128.7	12.00	11.91	-1.46
11,525.0	88.29	179.78	11,171.8	299.2	-934.9	-104.2	12.00	11.91	-1.45
11,539.3	90.00	179.57	11,172.0	284.9	-934.8	-90.2	12.00	11.91	-1.44
11,600.0	90.00	179.57	11,172.0	224.2	-934.3	-30.9	0.00	0.00	0.00
11,700.0	90.00	179.57	11,172.0	124.2	-933.6	66.9	0.00	0.00	0.00
11,800.0	90.00	179.57	11,172.0	24.2	-932.8	164.7	0.00	0.00	0.00
11,900.0	90.00	179.57	11,172.0	-75.8	-932.1	262.5	0.00	0.00	0.00
12,000.0	90.00	179.57	11,172.0	-175.8	-931.3	360.2	0.00	0.00	0.00
12,100.0	90.00	179.57	11,172.0	-275.8	-930.6	458.0	0.00	0.00	0.00
12,200.0	90.00	179.57	11,172.0	-375.8	-929.8	555.8	0.00	0.00	0.00
12,300.0	90.00	179.57	11,172.0	-475.8	-929.1	653.6	0.00	0.00	0.00
12,400.0	90.00	179.57	11,172.0	-575.8	-928.3	751.4	0.00	0.00	0.00
12,500.0	90.00	179.57	11,172.0	-675.8	-927.6	849.2	0.00	0.00	0.00
12,600.0	90.00	179.57	11,172.0	-775.8	-926.8	947.0	0.00	0.00	0.00
12,700.0	90.00	179.57	11,172.0	-875.8	-926.1	1,044.7	0.00	0.00	0.00
12,800.0	90.00	179.57	11,172.0	-975.8	-925.3	1,142.5	0.00	0.00	0.00
12,900.0	90.00	179.57	11,172.0	-1,075.8	-924.6	1,240.3	0.00	0.00	0.00
13,000.0	90.00	179.57	11,172.0	-1,175.8	-923.9	1,338.1	0.00	0.00	0.00
13,100.0	90.00	179.57	11,172.0	-1,275.8	-923.1	1,435.9	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Mamba 30 State
Well: #502H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #502H
TVD Reference: KB = 25 @ 3576.0usft
MD Reference: KB = 25 @ 3576.0usft
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)
13,200.0	90.00	179.57	11,172.0	-1,375.8	-922.4	1,533.7	0.00	0.00	0.00
13,300.0	90.00	179.57	11,172.0	-1,475.8	-921.6	1,631.5	0.00	0.00	0.00
13,400.0	90.00	179.57	11,172.0	-1,575.8	-920.9	1,729.2	0.00	0.00	0.00
13,500.0	90.00	179.57	11,172.0	-1,675.8	-920.1	1,827.0	0.00	0.00	0.00
13,600.0	90.00	179.57	11,172.0	-1,775.7	-919.4	1,924.8	0.00	0.00	0.00
13,700.0	90.00	179.57	11,172.0	-1,875.7	-918.6	2,022.6	0.00	0.00	0.00
13,800.0	90.00	179.57	11,172.0	-1,975.7	-917.9	2,120.4	0.00	0.00	0.00
13,900.0	90.00	179.57	11,172.0	-2,075.7	-917.1	2,218.2	0.00	0.00	0.00
14,000.0	90.00	179.57	11,172.0	-2,175.7	-916.4	2,316.0	0.00	0.00	0.00
14,100.0	90.00	179.57	11,172.0	-2,275.7	-915.6	2,413.8	0.00	0.00	0.00
14,200.0	90.00	179.57	11,172.0	-2,375.7	-914.9	2,511.5	0.00	0.00	0.00
14,300.0	90.00	179.57	11,172.0	-2,475.7	-914.1	2,609.3	0.00	0.00	0.00
14,400.0	90.00	179.57	11,172.0	-2,575.7	-913.4	2,707.1	0.00	0.00	0.00
14,500.0	90.00	179.57	11,172.0	-2,675.7	-912.6	2,804.9	0.00	0.00	0.00
14,600.0	90.00	179.57	11,172.0	-2,775.7	-911.9	2,902.7	0.00	0.00	0.00
14,700.0	90.00	179.57	11,172.0	-2,875.7	-911.1	3,000.5	0.00	0.00	0.00
14,800.0	90.00	179.57	11,172.0	-2,975.7	-910.4	3,098.3	0.00	0.00	0.00
14,900.0	90.00	179.57	11,172.0	-3,075.7	-909.6	3,196.0	0.00	0.00	0.00
15,000.0	90.00	179.57	11,172.0	-3,175.7	-908.9	3,293.8	0.00	0.00	0.00
15,100.0	90.00	179.57	11,172.0	-3,275.7	-908.1	3,391.6	0.00	0.00	0.00
15,200.0	90.00	179.57	11,172.0	-3,375.7	-907.4	3,489.4	0.00	0.00	0.00
15,300.0	90.00	179.57	11,172.0	-3,475.7	-906.7	3,587.2	0.00	0.00	0.00
15,400.0	90.00	179.57	11,172.0	-3,575.7	-905.9	3,685.0	0.00	0.00	0.00
15,500.0	90.00	179.57	11,172.0	-3,675.7	-905.2	3,782.8	0.00	0.00	0.00
15,600.0	90.00	179.57	11,172.0	-3,775.7	-904.4	3,880.5	0.00	0.00	0.00
15,700.0	90.00	179.57	11,172.0	-3,875.7	-903.7	3,978.3	0.00	0.00	0.00
15,800.0	90.00	179.57	11,172.0	-3,975.7	-902.9	4,076.1	0.00	0.00	0.00
15,900.0	90.00	179.57	11,172.0	-4,075.7	-902.2	4,173.9	0.00	0.00	0.00
16,000.0	90.00	179.57	11,172.0	-4,175.7	-901.4	4,271.7	0.00	0.00	0.00
16,100.0	90.00	179.57	11,172.0	-4,275.7	-900.7	4,369.5	0.00	0.00	0.00
16,189.3	90.00	179.57	11,172.0	-4,365.0	-900.0	4,456.8	0.00	0.00	0.00

PBHL (Mamba 30 State #502H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Mamba 30 State #1)	0.00	0.00	11,172.0	716.0	-938.0	435,666.00	765,871.00	32° 11' 44.304 N	103° 36' 26.880 W
- hit/miss target									
- Shape									
- Point									
- plan misses target center by 165.9usft at 11189.0usft MD (11050.1 TVD, 604.7 N, -922.4 E)									
PBHL (Mamba 30 State)	0.00	0.00	11,172.0	-4,365.0	-900.0	430,585.00	765,909.00	32° 10' 54.023 N	103° 36' 26.837 W
- plan hits target center									
- Point									

HOBBS OCD
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Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H₂S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

- Well control equipment
 - a. Flare line 150' from wellhead to be ignited by flare gun.
 - b. Choke manifold with a remotely operated choke.
 - c. Mud/gas separator
- Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H₂S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
 - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - c. Two wind socks will be placed in strategic locations, visible from all angles.

EOG RESOURCES, INC.
MAMBA 30 STATE COM #502H

■ **Mud program:**

The mud program has been designed to minimize the volume of H₂S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H₂S bearing zones.

■ **Metallurgy:**

All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.

■ **Communication:**

Communication will be via cell phones and land lines where available.

EOG RESOURCES, INC.
MAMBA 30 STATE COM #502H

Emergency Assistance Telephone List

PUBLIC SAFETY:	911 or
Lea County Sheriff's Department	(575) 396-3611
Rod Coffman	
Fire Department:	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174

EOG Resources, Inc.

EOG / Midland	Office (432) 686-3600
---------------	-----------------------

Company Drilling Consultants:

David Dominique	Cell (985) 518-5839
Mike Vann	Cell (817) 980-5507

Drilling Engineer

Steve Munsell	Office (432) 686-3609
	Cell (432) 894-1256

Drilling Manager

Floyd Hernandez	Office (432) 686-3716
	Cell (817) 682-4569

Drilling Superintendent

Jason Fitzgerald	Office (432) 848-9029
	Cell (318) 347-3916

H&P Drilling

H&P Drilling	Office (432) 563-5757
H&P 651 Drilling Rig	Rig (903) 509-7131

Tool Pusher:

Johnathan Craig	Cell (817) 760-6374
Brad Garrett	

Safety

Brian Chandler (HSE Manager)	Office (432) 686-3695
	Cell (817) 239-0251