

Permit Information:

3D-025-41649

Well Name: Nautilus 16 State Com No. 1H

HOBBS OCD

Location:

SL: 220' FNL & 380' FEL, Section 16, T-26-S, R-34-E, Lea Co., N.M.

FEB 27 2014

BHL: 230' FSL & 380' FEL, Section 16, T-26-S, R-34-E, Lea Co., N.M.

RECEIVED

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 850'	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' - 5300'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-14,276'	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
850'	400	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)
	250	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,300'	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
14,276'	150	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 @ 4800')
	550	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
	1350	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 - 850'	Fresh - Gel	8.6-8.8	28-34	N/c
850' - 5,300'	Brine	10.0-10.2	28-34	N/c
5,300' - 9,622'	Cut Brine	8.4-9.0	28-34	N/c
KOP - 14,276' Lateral	Cut Brine	9.0-9.5	40-42	8-10

FEB 27 2014

Nautilus 16 State Com #1H

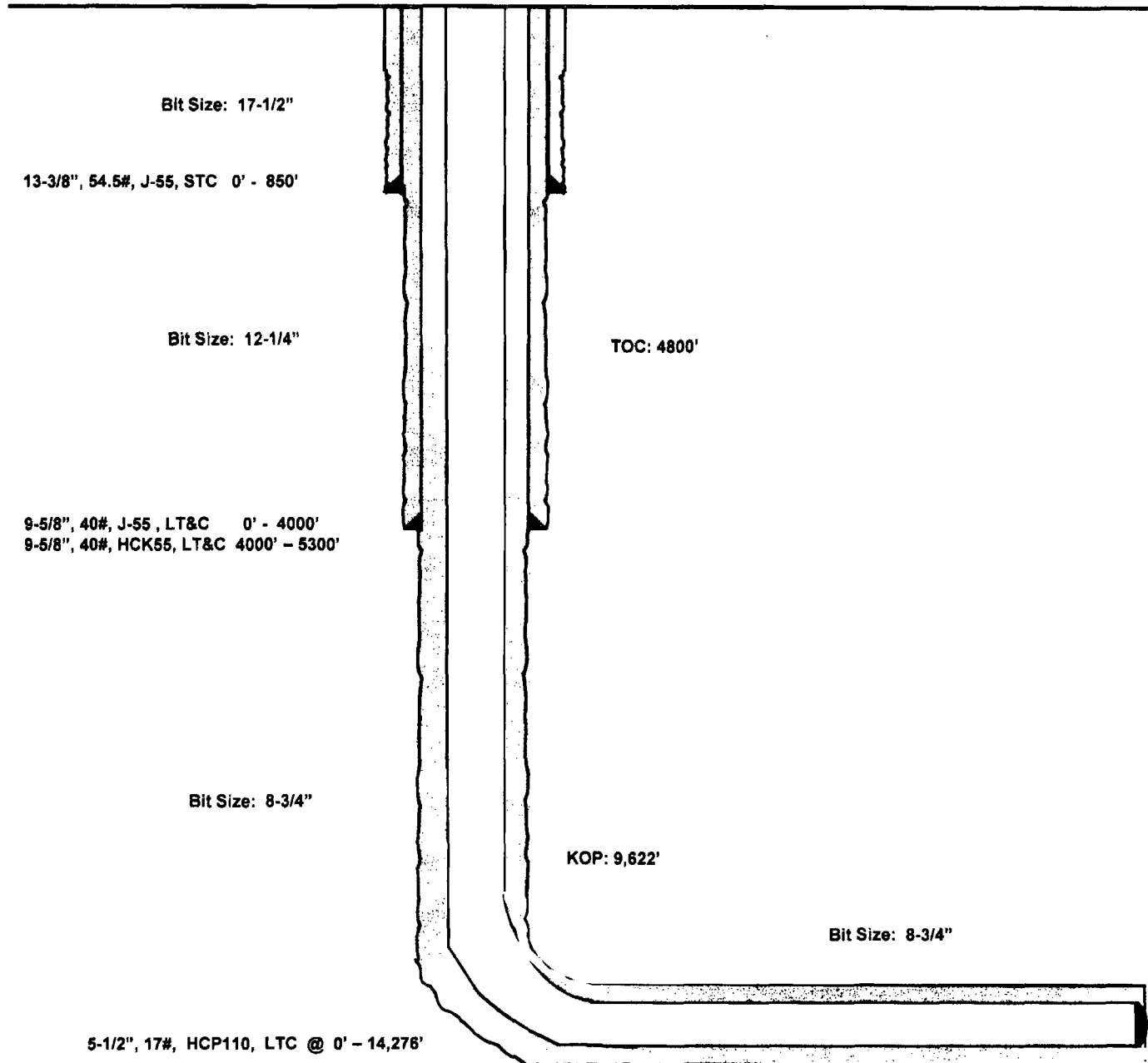
Lea County, New Mexico

**220' FNL
380' FEL
Section 16
T-26-S, R-34-E**

Proposed Wellbore

API: 30-025-

**KB: 3,334.5'
GL: 3,312.0'**



Lateral: 14,276' MD, 10,100' TVD

**BH Location: 230' FSL & 380' FEL
Section 16
T-26-S, R-34-E**

Database: EDM 5000.1 Single User Db
Company: EOG Resources
Project: Lea County, NM
Site: Nautilus 16 State Com
Well: Well #1H
Wellbore: Original Hole
Design: Design #1

Local Co-ordinate Reference: Well Well #1H
TVD Reference: Well @ 3334.50usft (Nomac 133 RKB: 22.5' + GL: 3312')
MD Reference: Well @ 3334.50usft (Nomac 133 RKB: 22.5' + GL: 3312')
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM		
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	Nautilus 16 State Com			
Site Position:		Northing:	382,984.00 usft	Latitude: 32° 2' 59.921 N
From:	Map	Easting:	768,397.00 usft	Longitude: 103° 28' 1.438 W
Position Uncertainty:	0.00 usft	Sit Radius:	13.20 in	Grid Convergence: 0.46 °

Well	Well #1H			
Well Position	+N/-S	0.00 usft	Northing: 382,984.00 usft	Latitude: 32° 2' 59.921 N
	+E/-W	0.00 usft	Easting: 768,397.00 usft	Longitude: 103° 28' 1.438 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 3,312.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/31/2014	7.20	59.98	48,260

Design	Design #1			
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	179.50

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,622.50	0.00	0.00	9,622.50	0.00	0.00	0.00	0.00	0.00	0.00	
10,372.49	90.00	179.50	10,099.96	-477.44	4.15	12.00	12.00	23.93	179.50	
14,726.22	90.00	179.50	10,100.00	-4,831.00	42.00	0.00	0.00	0.00	0.00	PBHL (Nautilus 16 ST)



Planning Report

gyrodata
Precision Wellbore Placement**Database:** EDM 5000.1 Single User Db
Company: EOG Resources**Project:** Lea County, NM**Site:** Nautilus 16 State Com**Well:** Well #1H**Wellbore:** Original Hole**Design:** Design #1**Local Co-ordinate Reference:****TVD Reference:****MD Reference:****North Reference:****Survey Calculation Method:**

Well Well #1H

Well @ 3334.50usft (Nomac 133 RKB: 22.5'
+ GL: 3312')Well @ 3334.50usft (Nomac 133 RKB: 22.5'
+ GL: 3312')

Grid

Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (Nautilus 16 ST Com #1H) - Up Most Perf (Nautilus 16 ST Com #1H)									
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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00

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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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,622.50	0.00	0.00	9,622.50	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	9.30	179.50	9,699.66	-6.28	0.05	6.28	12.00	12.00	0.00
9,800.00	21.30	179.50	9,795.94	-32.81	0.28	32.62	12.00	12.00	0.00
9,900.00	33.30	179.50	9,884.64	-78.39	0.68	78.40	12.00	12.00	0.00
10,000.00	45.30	179.50	9,961.88	-141.61	1.23	141.62	12.00	12.00	0.00
10,100.00	57.30	179.50	10,024.29	-219.51	1.91	219.52	12.00	12.00	0.00

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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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,200.00	69.30	179.50	10,069.14	-308.68	2.68	308.69	12.00	12.00	0.00
10,300.00	81.30	179.50	10,094.47	-405.23	3.52	405.24	12.00	12.00	0.00
10,372.49	90.00	179.50	10,099.96	-477.44	4.15	477.46	12.00	12.00	0.00
10,400.00	90.00	179.50	10,099.96	-504.95	4.39	504.97	0.00	0.00	0.00
10,500.00	90.00	179.50	10,099.97	-604.94	5.26	604.97	0.00	0.00	0.00
10,600.00	90.00	179.50	10,099.97	-704.94	6.13	704.97	0.00	0.00	0.00
10,700.00	90.00	179.50	10,099.97	-804.93	7.00	804.97	0.00	0.00	0.00
10,800.00	90.00	179.50	10,099.97	-904.93	7.87	904.97	0.00	0.00	0.00
10,900.00	90.00	179.50	10,099.97	-1,004.93	8.74	1,004.97	0.00	0.00	0.00
11,000.00	90.00	179.50	10,099.97	-1,104.92	9.61	1,104.97	0.00	0.00	0.00
11,100.00	90.00	179.50	10,099.97	-1,204.92	10.48	1,204.97	0.00	0.00	0.00
11,200.00	90.00	179.50	10,099.97	-1,304.92	11.34	1,304.97	0.00	0.00	0.00
11,300.00	90.00	179.50	10,099.97	-1,404.91	12.21	1,404.97	0.00	0.00	0.00
11,400.00	90.00	179.50	10,099.97	-1,504.91	13.08	1,504.97	0.00	0.00	0.00
11,500.00	90.00	179.50	10,099.97	-1,604.90	13.95	1,604.97	0.00	0.00	0.00
11,600.00	90.00	179.50	10,099.97	-1,704.90	14.82	1,704.97	0.00	0.00	0.00
11,700.00	90.00	179.50	10,099.98	-1,804.90	15.69	1,804.97	0.00	0.00	0.00
11,800.00	90.00	179.50	10,099.98	-1,904.89	16.56	1,904.97	0.00	0.00	0.00
11,900.00	90.00	179.50	10,099.98	-2,004.89	17.43	2,004.97	0.00	0.00	0.00
12,000.00	90.00	179.50	10,099.98	-2,104.89	18.30	2,104.97	0.00	0.00	0.00
12,100.00	90.00	179.50	10,099.98	-2,204.88	19.17	2,204.97	0.00	0.00	0.00
12,200.00	90.00	179.50	10,099.98	-2,304.88	20.04	2,304.97	0.00	0.00	0.00
12,300.00	90.00	179.50	10,099.98	-2,404.87	20.91	2,404.97	0.00	0.00	0.00
12,400.00	90.00	179.50	10,099.98	-2,504.87	21.78	2,504.97	0.00	0.00	0.00
12,500.00	90.00	179.50	10,099.98	-2,604.87	22.65	2,604.97	0.00	0.00	0.00
12,600.00	90.00	179.50	10,099.98	-2,704.86	23.52	2,704.97	0.00	0.00	0.00
12,700.00	90.00	179.50	10,099.98	-2,804.86	24.39	2,804.97	0.00	0.00	0.00
12,800.00	90.00	179.50	10,099.98	-2,904.86	25.25	2,904.97	0.00	0.00	0.00
12,900.00	90.00	179.50	10,099.99	-3,004.85	26.12	3,004.97	0.00	0.00	0.00
13,000.00	90.00	179.50	10,099.99	-3,104.85	26.99	3,104.97	0.00	0.00	0.00
13,100.00	90.00	179.50	10,099.99	-3,204.84	27.86	3,204.97	0.00	0.00	0.00
13,200.00	90.00	179.50	10,099.99	-3,304.84	28.73	3,304.97	0.00	0.00	0.00
13,300.00	90.00	179.50	10,099.99	-3,404.84	29.60	3,404.97	0.00	0.00	0.00
13,400.00	90.00	179.50	10,099.99	-3,504.83	30.47	3,504.97	0.00	0.00	0.00
13,500.00	90.00	179.50	10,099.99	-3,604.83	31.34	3,604.97	0.00	0.00	0.00
13,600.00	90.00	179.50	10,099.99	-3,704.83	32.21	3,704.97	0.00	0.00	0.00
13,700.00	90.00	179.50	10,099.99	-3,804.82	33.08	3,804.97	0.00	0.00	0.00
13,800.00	90.00	179.50	10,099.99	-3,904.82	33.95	3,904.97	0.00	0.00	0.00
13,900.00	90.00	179.50	10,099.99	-4,004.81	34.82	4,004.97	0.00	0.00	0.00
14,000.00	90.00	179.50	10,099.99	-4,104.81	35.69	4,104.97	0.00	0.00	0.00
14,100.00	90.00	179.50	10,100.00	-4,204.81	36.56	4,204.97	0.00	0.00	0.00
14,200.00	90.00	179.50	10,100.00	-4,304.80	37.43	4,304.97	0.00	0.00	0.00
14,300.00	90.00	179.50	10,100.00	-4,404.80	38.29	4,404.97	0.00	0.00	0.00
14,400.00	90.00	179.50	10,100.00	-4,504.80	39.16	4,504.97	0.00	0.00	0.00
14,500.00	90.00	179.50	10,100.00	-4,604.79	40.03	4,604.97	0.00	0.00	0.00
14,600.00	90.00	179.50	10,100.00	-4,704.79	40.90	4,704.97	0.00	0.00	0.00
14,626.21	90.00	179.50	10,100.00	-4,731.00	41.13	4,731.18	0.00	0.00	0.00
Low Most Perf (Nautilus 16 ST Com #1H)									
14,700.00	90.00	179.50	10,100.00	-4,804.78	41.77	4,804.97	0.00	0.00	0.00
14,726.22	90.00	179.50	10,100.00	-4,831.00	42.00	4,831.18	0.00	0.00	0.00
PBHL (Nautilus 16 ST Com #1H)									

Database: EDM 5000.1 Single User Db
Company: EOG Resources

Local Co-ordinate Reference: Well Well #1H
TVD Reference: Well @ 3334.50usft (Nomac 133 RKB: 22.5' + GL: 3312')

Project: Lea County, NM

MD Reference: Well @ 3334.50usft (Nomac 133 RKB: 22.5' + GL: 3312')

Site: Nautilus 16 State Com

North Reference: Grid
Survey Calculation Method: Minimum Curvature

Well: Well #1H

Wellbore: Original Hole

Design: Design #1

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
SHL (Nautilus 16 ST Cor - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	382,984.00	768,397.00	32° 2' 59.921 N	103° 28' 1.438 W
Up Most Perf (Nautilus 1 - plan misses target center by 110.00usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-110.00	1.00	382,874.00	768,398.00	32° 2' 58.832 N	103° 28' 1.438 W
PBHL (Nautilus 16 ST C - plan hits target center - Point	0.00	0.00	10,100.00	-4,831.00	42.00	378,153.00	768,439.00	32° 2' 12.112 N	103° 28' 1.400 W
Low Most Perf (Nautilus - plan misses target center by 0.13usft at 14626.21usft MD (10100.00 TVD, -4731.00 N, 41.13 E) - Point	0.00	0.00	10,100.00	-4,731.00	41.00	378,253.00	768,438.00	32° 2' 13.102 N	103° 28' 1.402 W

EOG RESOURCES, INC.
NAUTILUS 16 STATE COM #1H

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.
NAUTILUS 16 STATE COM #1H

- **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.
NAUTILUS 16 STATE COM #1H**

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:

Joe Light Cell (432) 894-3416

Louie Corman

Drilling Engineer

Kirby Castille Office (432) 686-3657

Cell (432) 559-4987

Drilling Manager

Steve Munsell Office (432) 686-3609

Cell (432) 894-1256

Drilling Superintendent

Ron Welch Office (432) 686-3695

Cell (432) 386-0592

Cactus Drilling

Nomac Drilling Office (405) 420-4601

Nomac 133 Drilling Rig Rig (432) 894-3416

Tool Pusher:

Brian Shelton Cell (405) 761-8527

Jesse Lee Cell (830) 505-0746

Safety

Reggie Phillips (HSE Manager) Office (432) 686-3747

Cell (432) 250-7507