

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Sante Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

HOBBS OGD

FEB 11 2014

RECEIVED

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Sante Fe, NM 87505

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025- 41649	² Pool Code 97900	³ Pool Name Red Hills; Upper Bone Spring Shale
⁴ Property Code 40383	⁵ Property Name NAUTILUS 16 STATE COM	⁶ Well Number #1H
⁷ OGRID No. 7377	⁸ Operator Name EOG RESOURCES, INC.	⁹ Elevation 3312'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	26-S	34-E	-	220'	NORTH	380'	EAST	LEA

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	26-S	34-E	-	230'	SOUTH	380'	EAST	LEA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

		SURFACE LOCATION NEW MEXICO EAST NAD 1927 X=768397 Y=382984 LAT.: N 32.0499773 LONG.: W 103.4670661		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 2/5/14 Signature Date Stan Wagner Printed Name E-mail Address
		UPPER MOST PERFORATION NEW MEXICO EAST NAD 1927 X=768398 Y=382874 LAT.: N 32.0496750 LONG.: W 103.4670658		18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief. 12/17/2013 Date of Survey Signature and Seal of Professional Surveyor MICHAEL BROWN NEW MEXICO 18329 PROFESSIONAL SURVEYOR Certificate Number
		LOWER MOST PERFORATION NEW MEXICO EAST NAD 1927 X=768438 Y=378253 LAT.: N 32.0369726 LONG.: W 103.4670561		
		BOTTOM HOLE LOCATION NEW MEXICO EAST NAD 1927 X=768439 Y=378153 LAT.: N 32.0369777 LONG.: W 103.4670559		

FEB 12 2014

Permit Information:

Well Name: Nautilus 16 State Com No. 1H

Location:

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

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

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

Nautilus 16 State Com #1H

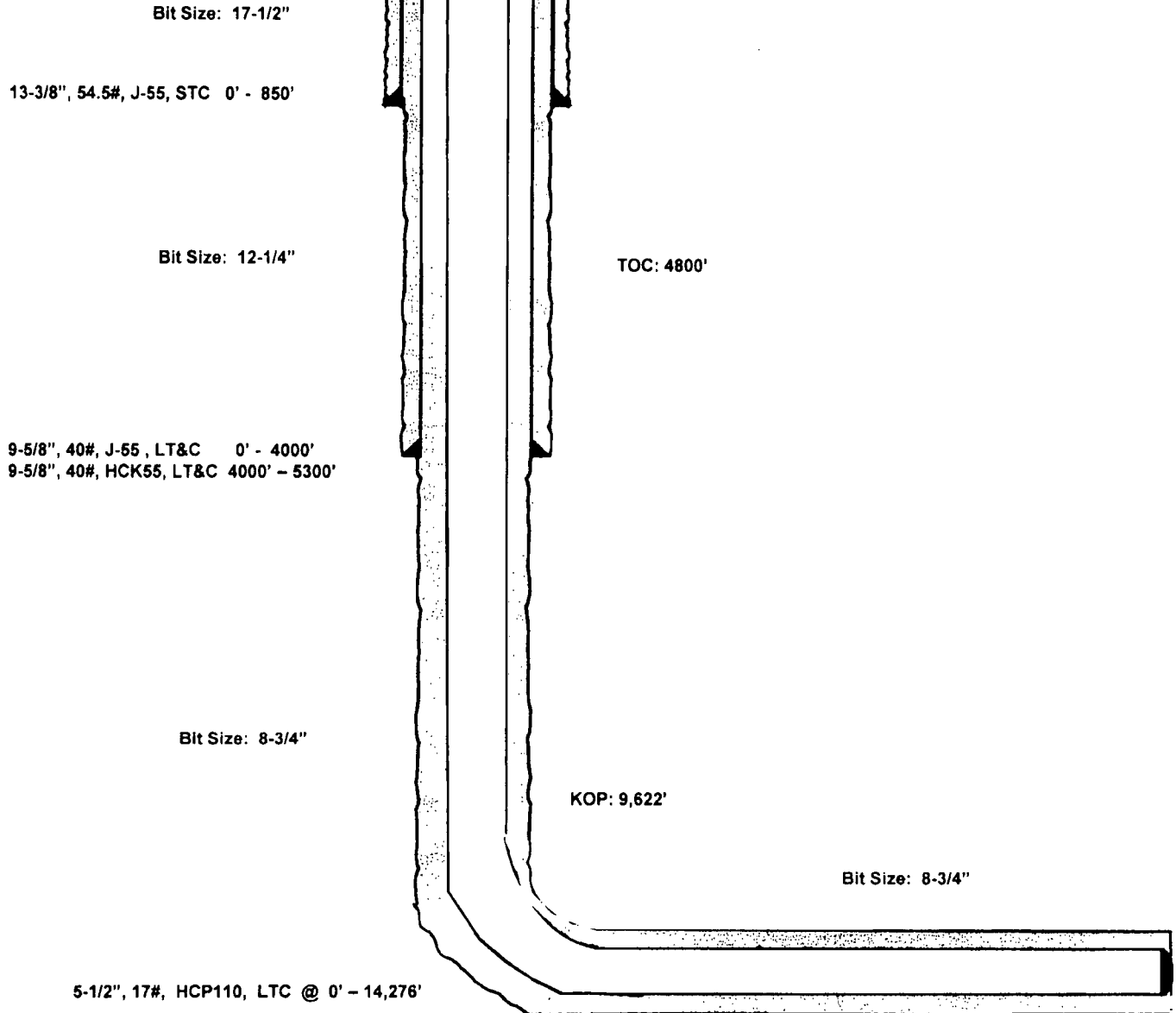
Lea County, New Mexico

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'



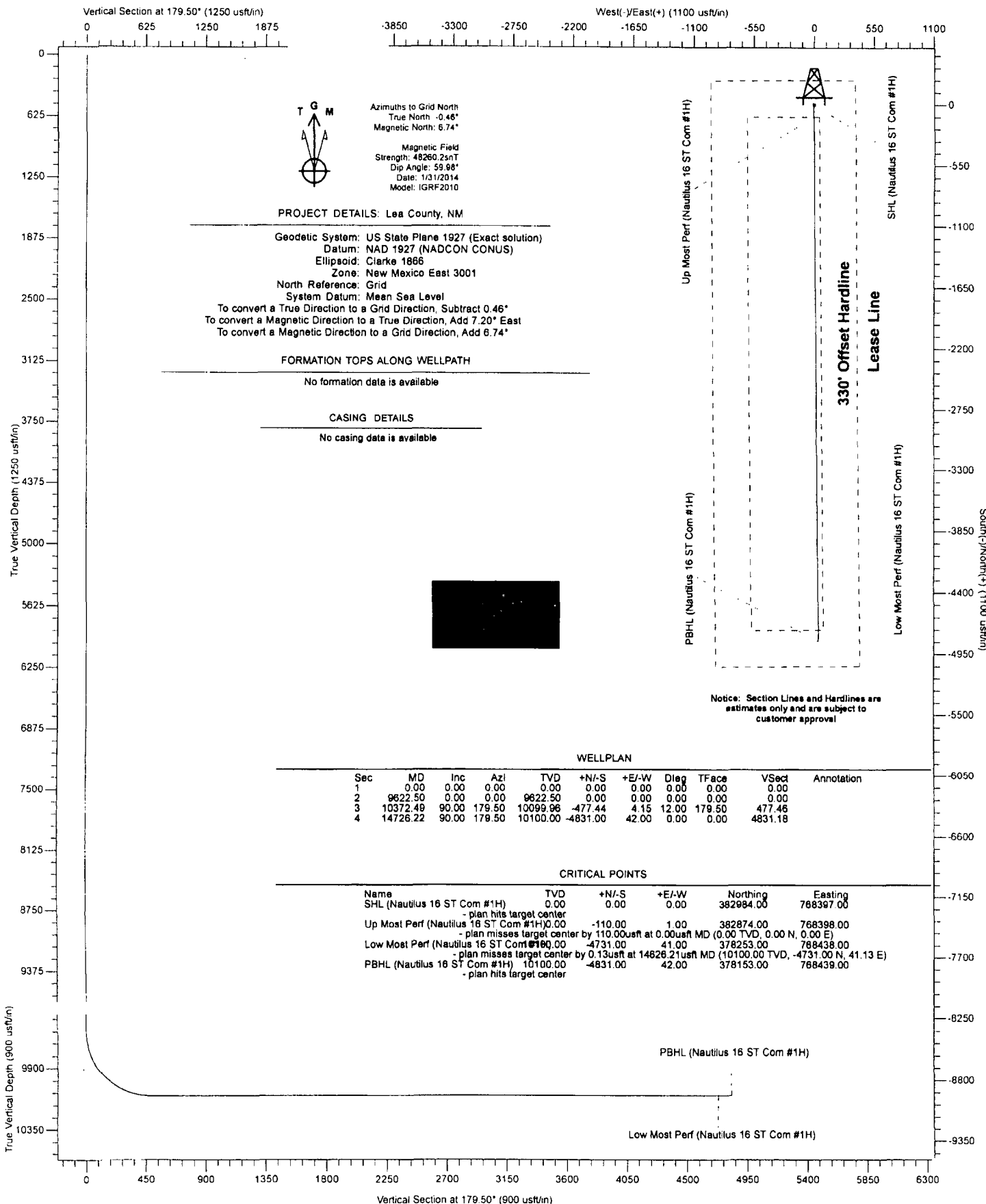
Lateral: 14,276' MD, 10,100' TVD

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



EOG Resources
Lea County, NM
Nautilus 16 State Com
Well #1H
Original Hole
Plan: Design #1 (Well #1H/Original Hole)
Well @ 3334.50usft (Nomac 133 RKB: 22.5' + GL: 3312')

gyrodata
Precision Wellbore Placement





Planning Report



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

Well: Well #1H

Survey Calculation Method: Minimum Curvature

Wellbore: Original Hole

Design: Design #1

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	Slot 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)	Bulld 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



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

Well: Well #1H

Survey Calculation Method: Minimum Curvature

Wellbore: Original Hole

Design: Design #1

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



Planning Report



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

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	-32.61	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

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

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)									



Planning Report



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

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	766,397.00	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	766,398.00	32° 2' 58.832 N	103° 28' 1.436 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	766,439.00	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	766,438.00	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/Escape packs — 4 packs shall be stored on the rig floor th 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