

100333 OCD
FEB 23 2018
RECEIVED



Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#602H

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



Azimuths to Grid North
True North: -0.46°
Magnetic North: 6.36°
Magnetic Field
Strength: 47775.7nT
Dip Angle: 59.91°
Date: 3/22/2018
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.36°
To convert a Magnetic Direction to a True Direction, Add 6.82° East
To convert a True Direction to a Grid Direction, Subtract 0.46°

WELL DETAILS: #602H

3322.0
kB = 25 @ 3347.0usft
Northing 383080.00 Easting 808390.00 32° 3' 0.850 N 103° 28' 16.880 W

SECTION DETAILS

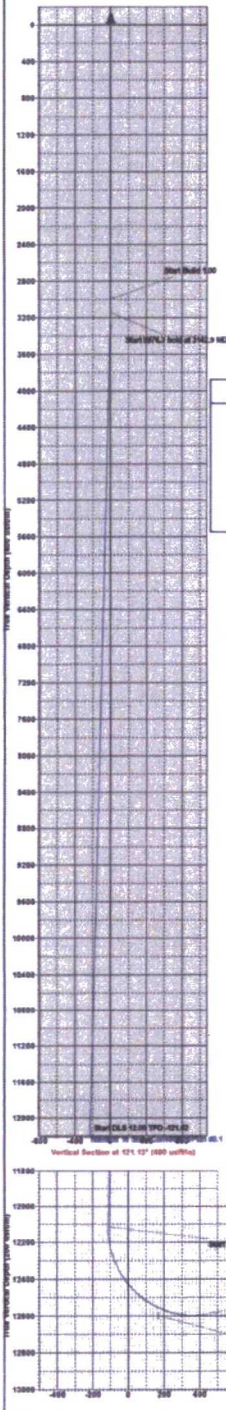
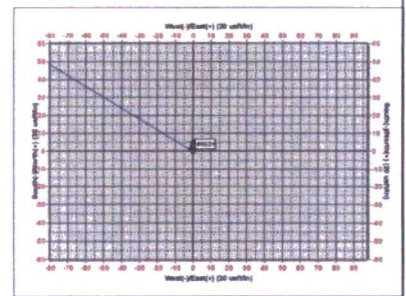
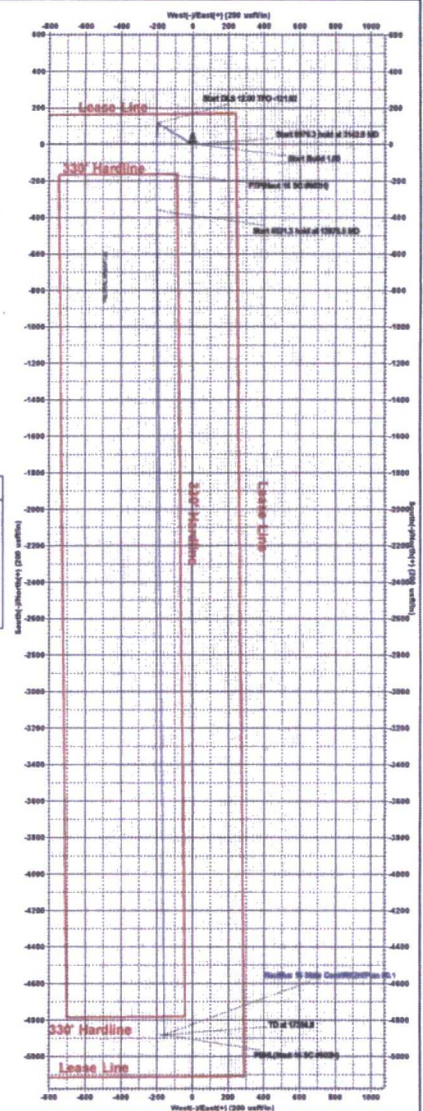
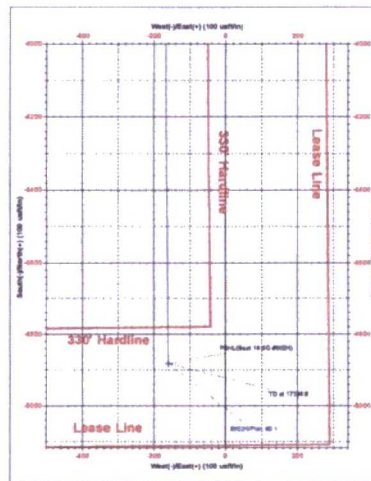
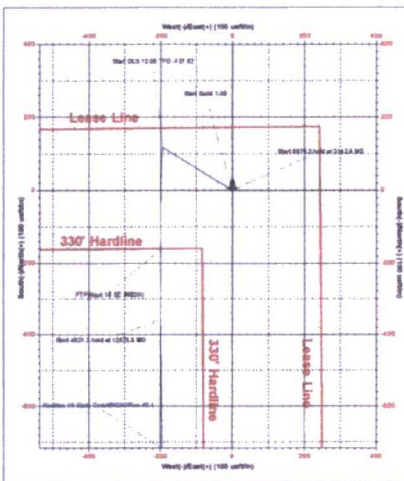
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0
3142.9	1.43	301.13	3142.9	0.9	-1.5	1.00	301.13	-0.9
12119.2	1.43	301.13	12116.4	116.6	-193.1	0.00	0.00	-110.2
12875.5	90.00	179.50	12600.0	-360.9	-199.3	12.00	-121.62	367.2
17396.8	90.00	179.50	12600.0	-4882.0	-160.0	0.00	0.00	4884.6

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP(Nautilus 16 SC #602H)	12600.0	-161.0	-201.0	382919.00	808195.00
FTP(Nautilus 16 SC #602H)	12600.0	-4882.0	-160.0	378195.00	808235.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#602H

OH

Plan: Plan #0.1

Standard Planning Report

22 February, 2018



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Nautilus 16 State Com
Well: #602H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #602H
TVD Reference: kB = 25 @ 3347.0usft
MD Reference: kB = 25 @ 3347.0usft
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 Nautilus 16 State Com

Site Position: Northing: 383,047.00 usft Latitude: 32° 3' 0.681 N
From: Map Easting: 806,402.00 usft Longitude: 103° 28' 40.085 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16" Grid Convergence: 0.45°

Well #602H

Well Position +N/-S 33.0 usft Northing: 383,080.00 usft Latitude: 32° 3' 0.850 N
 +E/-W 1,997.0 usft Easting: 808,399.00 usft Longitude: 103° 28' 16.880 W
Position Uncertainty 0.0 usft **Wellhead Elevation:** Ground Level: 3,322.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/22/2018	6.82	59.91	47,775.70764233

Design Plan #0.1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	181.88

Plan Survey Tool Program Date 2/22/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,396.8 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	
3,142.9	1.43	301.13	3,142.9	0.9	-1.5	1.00	1.00	0.00	301.13	
12,119.2	1.43	301.13	12,116.4	116.6	-193.1	0.00	0.00	0.00	0.00	
12,875.5	90.00	179.50	12,600.0	-360.9	-199.3	12.00	11.71	-16.08	-121.62	
17,396.8	90.00	179.50	12,600.0	-4,882.0	-160.0	0.00	0.00	0.00	0.00	PBHL(Naut 16 SC #6)



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #602H
 Wellbore: OH
 Design: Plan #0.1

Local Co-ordinate Reference: Well #602H
 TVD Reference: kB = 25 @ 3347.0usft
 MD Reference: kB = 25 @ 3347.0usft
 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)
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	301.13	3,100.0	0.5	-0.7	-0.4	1.00	1.00	0.00
3,142.9	1.43	301.13	3,142.9	0.9	-1.5	-0.9	1.00	1.00	0.00
3,200.0	1.43	301.13	3,200.0	1.7	-2.7	-1.6	0.00	0.00	0.00
3,300.0	1.43	301.13	3,299.9	2.9	-4.9	-2.8	0.00	0.00	0.00
3,400.0	1.43	301.13	3,399.9	4.2	-7.0	-4.0	0.00	0.00	0.00
3,500.0	1.43	301.13	3,499.9	5.5	-9.1	-5.2	0.00	0.00	0.00
3,600.0	1.43	301.13	3,599.8	6.8	-11.3	-6.4	0.00	0.00	0.00
3,700.0	1.43	301.13	3,699.8	8.1	-13.4	-7.7	0.00	0.00	0.00
3,800.0	1.43	301.13	3,799.8	9.4	-15.6	-8.9	0.00	0.00	0.00
3,900.0	1.43	301.13	3,899.7	10.7	-17.7	-10.1	0.00	0.00	0.00
4,000.0	1.43	301.13	3,999.7	12.0	-19.8	-11.3	0.00	0.00	0.00
4,100.0	1.43	301.13	4,099.7	13.3	-22.0	-12.5	0.00	0.00	0.00
4,200.0	1.43	301.13	4,199.7	14.5	-24.1	-13.8	0.00	0.00	0.00
4,300.0	1.43	301.13	4,299.6	15.8	-26.2	-15.0	0.00	0.00	0.00
4,400.0	1.43	301.13	4,399.6	17.1	-28.4	-16.2	0.00	0.00	0.00
4,500.0	1.43	301.13	4,499.6	18.4	-30.5	-17.4	0.00	0.00	0.00
4,600.0	1.43	301.13	4,599.5	19.7	-32.6	-18.6	0.00	0.00	0.00
4,700.0	1.43	301.13	4,699.5	21.0	-34.8	-19.8	0.00	0.00	0.00
4,800.0	1.43	301.13	4,799.5	22.3	-36.9	-21.1	0.00	0.00	0.00
4,900.0	1.43	301.13	4,899.4	23.6	-39.0	-22.3	0.00	0.00	0.00
5,000.0	1.43	301.13	4,999.4	24.9	-41.2	-23.5	0.00	0.00	0.00
5,100.0	1.43	301.13	5,099.4	26.2	-43.3	-24.7	0.00	0.00	0.00
5,200.0	1.43	301.13	5,199.3	27.4	-45.4	-25.9	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #602H
 Wellbore: OH
 Design: Plan #0.1

Local Co-ordinate Reference: Well #602H
 TVD Reference: kB = 25 @ 3347.0usft
 MD Reference: kB = 25 @ 3347.0usft
 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	1.43	301.13	5,299.3	28.7	-47.6	-27.2	0.00	0.00	0.00
5,400.0	1.43	301.13	5,399.3	30.0	-49.7	-28.4	0.00	0.00	0.00
5,500.0	1.43	301.13	5,499.3	31.3	-51.8	-29.6	0.00	0.00	0.00
5,600.0	1.43	301.13	5,599.2	32.6	-54.0	-30.8	0.00	0.00	0.00
5,700.0	1.43	301.13	5,699.2	33.9	-56.1	-32.0	0.00	0.00	0.00
5,800.0	1.43	301.13	5,799.2	35.2	-58.2	-33.2	0.00	0.00	0.00
5,900.0	1.43	301.13	5,899.1	36.5	-60.4	-34.5	0.00	0.00	0.00
6,000.0	1.43	301.13	5,999.1	37.8	-62.5	-35.7	0.00	0.00	0.00
6,100.0	1.43	301.13	6,099.1	39.0	-64.6	-36.9	0.00	0.00	0.00
6,200.0	1.43	301.13	6,199.0	40.3	-66.8	-38.1	0.00	0.00	0.00
6,300.0	1.43	301.13	6,299.0	41.6	-68.9	-39.3	0.00	0.00	0.00
6,400.0	1.43	301.13	6,399.0	42.9	-71.1	-40.6	0.00	0.00	0.00
6,500.0	1.43	301.13	6,498.9	44.2	-73.2	-41.8	0.00	0.00	0.00
6,600.0	1.43	301.13	6,598.9	45.5	-75.3	-43.0	0.00	0.00	0.00
6,700.0	1.43	301.13	6,698.9	46.8	-77.5	-44.2	0.00	0.00	0.00
6,800.0	1.43	301.13	6,798.8	48.1	-79.6	-45.4	0.00	0.00	0.00
6,900.0	1.43	301.13	6,898.8	49.4	-81.7	-46.7	0.00	0.00	0.00
7,000.0	1.43	301.13	6,998.8	50.6	-83.9	-47.9	0.00	0.00	0.00
7,100.0	1.43	301.13	7,098.8	51.9	-86.0	-49.1	0.00	0.00	0.00
7,200.0	1.43	301.13	7,198.7	53.2	-88.1	-50.3	0.00	0.00	0.00
7,300.0	1.43	301.13	7,298.7	54.5	-90.3	-51.5	0.00	0.00	0.00
7,400.0	1.43	301.13	7,398.7	55.8	-92.4	-52.7	0.00	0.00	0.00
7,500.0	1.43	301.13	7,498.6	57.1	-94.5	-54.0	0.00	0.00	0.00
7,600.0	1.43	301.13	7,598.6	58.4	-96.7	-55.2	0.00	0.00	0.00
7,700.0	1.43	301.13	7,698.6	59.7	-98.8	-56.4	0.00	0.00	0.00
7,800.0	1.43	301.13	7,798.5	61.0	-100.9	-57.6	0.00	0.00	0.00
7,900.0	1.43	301.13	7,898.5	62.2	-103.1	-58.8	0.00	0.00	0.00
8,000.0	1.43	301.13	7,998.5	63.5	-105.2	-60.1	0.00	0.00	0.00
8,100.0	1.43	301.13	8,098.4	64.8	-107.3	-61.3	0.00	0.00	0.00
8,200.0	1.43	301.13	8,198.4	66.1	-109.5	-62.5	0.00	0.00	0.00
8,300.0	1.43	301.13	8,298.4	67.4	-111.6	-63.7	0.00	0.00	0.00
8,400.0	1.43	301.13	8,398.4	68.7	-113.7	-64.9	0.00	0.00	0.00
8,500.0	1.43	301.13	8,498.3	70.0	-115.9	-66.1	0.00	0.00	0.00
8,600.0	1.43	301.13	8,598.3	71.3	-118.0	-67.4	0.00	0.00	0.00
8,700.0	1.43	301.13	8,698.3	72.6	-120.2	-68.6	0.00	0.00	0.00
8,800.0	1.43	301.13	8,798.2	73.8	-122.3	-69.8	0.00	0.00	0.00
8,900.0	1.43	301.13	8,898.2	75.1	-124.4	-71.0	0.00	0.00	0.00
9,000.0	1.43	301.13	8,998.2	76.4	-126.6	-72.2	0.00	0.00	0.00
9,100.0	1.43	301.13	9,098.1	77.7	-128.7	-73.5	0.00	0.00	0.00
9,200.0	1.43	301.13	9,198.1	79.0	-130.8	-74.7	0.00	0.00	0.00
9,300.0	1.43	301.13	9,298.1	80.3	-133.0	-75.9	0.00	0.00	0.00
9,400.0	1.43	301.13	9,398.0	81.6	-135.1	-77.1	0.00	0.00	0.00
9,500.0	1.43	301.13	9,498.0	82.9	-137.2	-78.3	0.00	0.00	0.00
9,600.0	1.43	301.13	9,598.0	84.2	-139.4	-79.6	0.00	0.00	0.00
9,700.0	1.43	301.13	9,697.9	85.5	-141.5	-80.8	0.00	0.00	0.00
9,800.0	1.43	301.13	9,797.9	86.7	-143.6	-82.0	0.00	0.00	0.00
9,900.0	1.43	301.13	9,897.9	88.0	-145.8	-83.2	0.00	0.00	0.00
10,000.0	1.43	301.13	9,997.9	89.3	-147.9	-84.4	0.00	0.00	0.00
10,100.0	1.43	301.13	10,097.8	90.6	-150.0	-85.6	0.00	0.00	0.00
10,200.0	1.43	301.13	10,197.8	91.9	-152.2	-86.9	0.00	0.00	0.00
10,300.0	1.43	301.13	10,297.8	93.2	-154.3	-88.1	0.00	0.00	0.00
10,400.0	1.43	301.13	10,397.7	94.5	-156.4	-89.3	0.00	0.00	0.00
10,500.0	1.43	301.13	10,497.7	95.8	-158.6	-90.5	0.00	0.00	0.00
10,600.0	1.43	301.13	10,597.7	97.1	-160.7	-91.7	0.00	0.00	0.00



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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	1.43	301.13	10,697.6	98.3	-162.8	-93.0	0.00	0.00	0.00
10,800.0	1.43	301.13	10,797.6	99.6	-165.0	-94.2	0.00	0.00	0.00
10,900.0	1.43	301.13	10,897.6	100.9	-167.1	-95.4	0.00	0.00	0.00
11,000.0	1.43	301.13	10,997.5	102.2	-169.2	-96.6	0.00	0.00	0.00
11,100.0	1.43	301.13	11,097.5	103.5	-171.4	-97.8	0.00	0.00	0.00
11,200.0	1.43	301.13	11,197.5	104.8	-173.5	-99.0	0.00	0.00	0.00
11,300.0	1.43	301.13	11,297.4	106.1	-175.7	-100.3	0.00	0.00	0.00
11,400.0	1.43	301.13	11,397.4	107.4	-177.8	-101.5	0.00	0.00	0.00
11,500.0	1.43	301.13	11,497.4	108.7	-179.9	-102.7	0.00	0.00	0.00
11,600.0	1.43	301.13	11,597.4	109.9	-182.1	-103.9	0.00	0.00	0.00
11,700.0	1.43	301.13	11,697.3	111.2	-184.2	-105.1	0.00	0.00	0.00
11,800.0	1.43	301.13	11,797.3	112.5	-186.3	-106.4	0.00	0.00	0.00
11,900.0	1.43	301.13	11,897.3	113.8	-188.5	-107.6	0.00	0.00	0.00
12,000.0	1.43	301.13	11,997.2	115.1	-190.6	-108.8	0.00	0.00	0.00
12,100.0	1.43	301.13	12,097.2	116.4	-192.7	-110.0	0.00	0.00	0.00
12,119.2	1.43	301.13	12,116.4	116.6	-193.1	-110.2	0.00	0.00	0.00
12,125.0	1.22	272.05	12,122.2	116.7	-193.3	-110.3	12.00	-3.64	-502.00
12,150.0	3.19	201.93	12,147.2	116.0	-193.8	-109.6	12.00	7.88	-280.49
12,175.0	6.07	191.03	12,172.1	114.1	-194.3	-107.7	12.00	11.53	-43.60
12,200.0	9.03	187.19	12,196.9	110.9	-194.8	-104.4	12.00	11.84	-15.37
12,225.0	12.01	185.23	12,221.4	106.3	-195.3	-99.9	12.00	11.92	-7.80
12,250.0	14.99	184.05	12,245.8	100.5	-195.7	-94.0	12.00	11.95	-4.73
12,275.0	17.99	183.25	12,269.7	93.4	-196.2	-86.9	12.00	11.97	-3.19
12,300.0	20.98	182.68	12,293.3	85.1	-196.6	-78.6	12.00	11.98	-2.30
12,325.0	23.97	182.24	12,316.4	75.5	-197.0	-69.1	12.00	11.98	-1.75
12,350.0	26.97	181.89	12,339.0	64.8	-197.4	-58.3	12.00	11.99	-1.38
12,375.0	29.97	181.61	12,360.9	52.9	-197.8	-46.4	12.00	11.99	-1.12
12,400.0	32.97	181.38	12,382.3	39.8	-198.1	-33.3	12.00	11.99	-0.94
12,425.0	35.96	181.18	12,402.9	25.7	-198.4	-19.2	12.00	11.99	-0.80
12,450.0	38.96	181.01	12,422.7	10.5	-198.7	-4.0	12.00	11.99	-0.69
12,475.0	41.96	180.86	12,441.7	-5.7	-199.0	12.2	12.00	11.99	-0.61
12,500.0	44.96	180.72	12,459.9	-22.9	-199.2	29.4	12.00	11.99	-0.54
12,525.0	47.96	180.60	12,477.1	-41.0	-199.4	47.5	12.00	11.99	-0.49
12,550.0	50.96	180.49	12,493.3	-60.0	-199.6	66.5	12.00	12.00	-0.44
12,575.0	53.96	180.39	12,508.6	-79.8	-199.8	86.3	12.00	12.00	-0.41
12,600.0	56.95	180.29	12,522.7	-100.4	-199.9	106.9	12.00	12.00	-0.38
12,625.0	59.95	180.21	12,535.8	-121.7	-200.0	128.2	12.00	12.00	-0.35
12,650.0	62.95	180.12	12,547.8	-143.7	-200.0	150.2	12.00	12.00	-0.33
12,675.0	65.95	180.05	12,558.5	-166.2	-200.1	172.7	12.00	12.00	-0.31
12,686.1	67.28	180.01	12,562.9	-176.4	-200.1	182.8	12.00	12.00	-0.30
FTP(Naut 16 SC #602H)									
12,700.0	68.95	179.97	12,568.1	-189.3	-200.1	195.8	12.00	12.00	-0.30
12,725.0	71.95	179.90	12,576.5	-212.9	-200.1	219.3	12.00	12.00	-0.29
12,750.0	74.95	179.83	12,583.6	-236.8	-200.0	243.3	12.00	12.00	-0.28
12,775.0	77.95	179.76	12,589.5	-261.1	-199.9	267.6	12.00	12.00	-0.27
12,800.0	80.95	179.70	12,594.1	-285.7	-199.8	292.1	12.00	12.00	-0.26
12,825.0	83.95	179.63	12,597.3	-310.5	-199.6	316.9	12.00	12.00	-0.26
12,850.0	86.95	179.57	12,599.3	-335.4	-199.5	341.8	12.00	12.00	-0.26
12,875.5	90.00	179.50	12,600.0	-360.9	-199.3	367.2	12.00	12.00	-0.26
12,900.0	90.00	179.50	12,600.0	-385.4	-199.1	391.7	0.00	0.00	0.00
13,000.0	90.00	179.50	12,600.0	-485.4	-198.2	491.6	0.00	0.00	0.00
13,100.0	90.00	179.50	12,600.0	-585.4	-197.3	591.5	0.00	0.00	0.00
13,200.0	90.00	179.50	12,600.0	-685.4	-196.4	691.5	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #602H
 Wellbore: OH
 Design: Plan #0.1

Local Co-ordinate Reference: Well #602H
 TVD Reference: KB = 25 @ 3347.0usft
 MD Reference: KB = 25 @ 3347.0usft
 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)
13,300.0	90.00	179.50	12,600.0	-785.4	-195.6	791.4	0.00	0.00	0.00
13,400.0	90.00	179.50	12,600.0	-885.4	-194.7	891.3	0.00	0.00	0.00
13,500.0	90.00	179.50	12,600.0	-985.4	-193.8	991.2	0.00	0.00	0.00
13,600.0	90.00	179.50	12,600.0	-1,085.4	-193.0	1,091.1	0.00	0.00	0.00
13,700.0	90.00	179.50	12,600.0	-1,185.4	-192.1	1,191.0	0.00	0.00	0.00
13,800.0	90.00	179.50	12,600.0	-1,285.4	-191.2	1,290.9	0.00	0.00	0.00
13,900.0	90.00	179.50	12,600.0	-1,385.4	-190.4	1,390.9	0.00	0.00	0.00
14,000.0	90.00	179.50	12,600.0	-1,485.4	-189.5	1,490.8	0.00	0.00	0.00
14,100.0	90.00	179.50	12,600.0	-1,585.4	-188.6	1,590.7	0.00	0.00	0.00
14,200.0	90.00	179.50	12,600.0	-1,685.4	-187.8	1,690.6	0.00	0.00	0.00
14,300.0	90.00	179.50	12,600.0	-1,785.4	-186.9	1,790.5	0.00	0.00	0.00
14,400.0	90.00	179.50	12,600.0	-1,885.3	-186.0	1,890.4	0.00	0.00	0.00
14,500.0	90.00	179.50	12,600.0	-1,985.3	-185.2	1,990.3	0.00	0.00	0.00
14,600.0	90.00	179.50	12,600.0	-2,085.3	-184.3	2,090.3	0.00	0.00	0.00
14,700.0	90.00	179.50	12,600.0	-2,185.3	-183.4	2,190.2	0.00	0.00	0.00
14,800.0	90.00	179.50	12,600.0	-2,285.3	-182.6	2,290.1	0.00	0.00	0.00
14,900.0	90.00	179.50	12,600.0	-2,385.3	-181.7	2,390.0	0.00	0.00	0.00
15,000.0	90.00	179.50	12,600.0	-2,485.3	-180.8	2,489.9	0.00	0.00	0.00
15,100.0	90.00	179.50	12,600.0	-2,585.3	-179.9	2,589.8	0.00	0.00	0.00
15,200.0	90.00	179.50	12,600.0	-2,685.3	-179.1	2,689.7	0.00	0.00	0.00
15,300.0	90.00	179.50	12,600.0	-2,785.3	-178.2	2,789.7	0.00	0.00	0.00
15,400.0	90.00	179.50	12,600.0	-2,885.3	-177.3	2,889.6	0.00	0.00	0.00
15,500.0	90.00	179.50	12,600.0	-2,985.3	-176.5	2,989.5	0.00	0.00	0.00
15,600.0	90.00	179.50	12,600.0	-3,085.3	-175.6	3,089.4	0.00	0.00	0.00
15,700.0	90.00	179.50	12,600.0	-3,185.3	-174.7	3,189.3	0.00	0.00	0.00
15,800.0	90.00	179.50	12,600.0	-3,285.3	-173.9	3,289.2	0.00	0.00	0.00
15,900.0	90.00	179.50	12,600.0	-3,385.3	-173.0	3,389.1	0.00	0.00	0.00
16,000.0	90.00	179.50	12,600.0	-3,485.3	-172.1	3,489.1	0.00	0.00	0.00
16,100.0	90.00	179.50	12,600.0	-3,585.3	-171.3	3,589.0	0.00	0.00	0.00
16,200.0	90.00	179.50	12,600.0	-3,685.3	-170.4	3,688.9	0.00	0.00	0.00
16,300.0	90.00	179.50	12,600.0	-3,785.3	-169.5	3,788.8	0.00	0.00	0.00
16,400.0	90.00	179.50	12,600.0	-3,885.3	-168.7	3,888.7	0.00	0.00	0.00
16,500.0	90.00	179.50	12,600.0	-3,985.3	-167.8	3,988.6	0.00	0.00	0.00
16,600.0	90.00	179.50	12,600.0	-4,085.3	-166.9	4,088.5	0.00	0.00	0.00
16,700.0	90.00	179.50	12,600.0	-4,185.3	-166.1	4,188.5	0.00	0.00	0.00
16,800.0	90.00	179.50	12,600.0	-4,285.3	-165.2	4,288.4	0.00	0.00	0.00
16,900.0	90.00	179.50	12,600.0	-4,385.3	-164.3	4,388.3	0.00	0.00	0.00
17,000.0	90.00	179.50	12,600.0	-4,485.3	-163.4	4,488.2	0.00	0.00	0.00
17,100.0	90.00	179.50	12,600.0	-4,585.2	-162.6	4,588.1	0.00	0.00	0.00
17,200.0	90.00	179.50	12,600.0	-4,685.2	-161.7	4,688.0	0.00	0.00	0.00
17,300.0	90.00	179.50	12,600.0	-4,785.2	-160.8	4,787.9	0.00	0.00	0.00
17,396.8	90.00	179.50	12,600.0	-4,882.0	-160.0	4,884.6	0.00	0.00	0.00

PBHL(Naut 16 SC #602H)



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Nautilus 16 State Com
Well: #602H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #602H
TVD Reference: kB = 25 @ 3347.0usft
MD Reference: kB = 25 @ 3347.0usft
North Reference: Grid
Survey Calculation Method: 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
PBHL(Naut 16 SC #602I - plan hits target center - Point	0.00	0.00	12,600.0	-4,882.0	-160.0	378,198.00	808,239.00	32° 2' 12.554 N	103° 28' 19.191 W
FTP(Naut 16 SC #602H; - plan misses target center by 40.1usft at 12686.1usft MD (12562.9 TVD, -176.4 N, -200.1 E) - Point	0.00	0.00	12,600.0	-161.0	-201.0	382,919.00	808,198.00	32° 2' 59.273 N	103° 28' 19.230 W

EOG RESOURCES, INC.
NAUTILUS 16 STATE COM #602H

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 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 #602H

- **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 #602H

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
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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