

30-025-47899

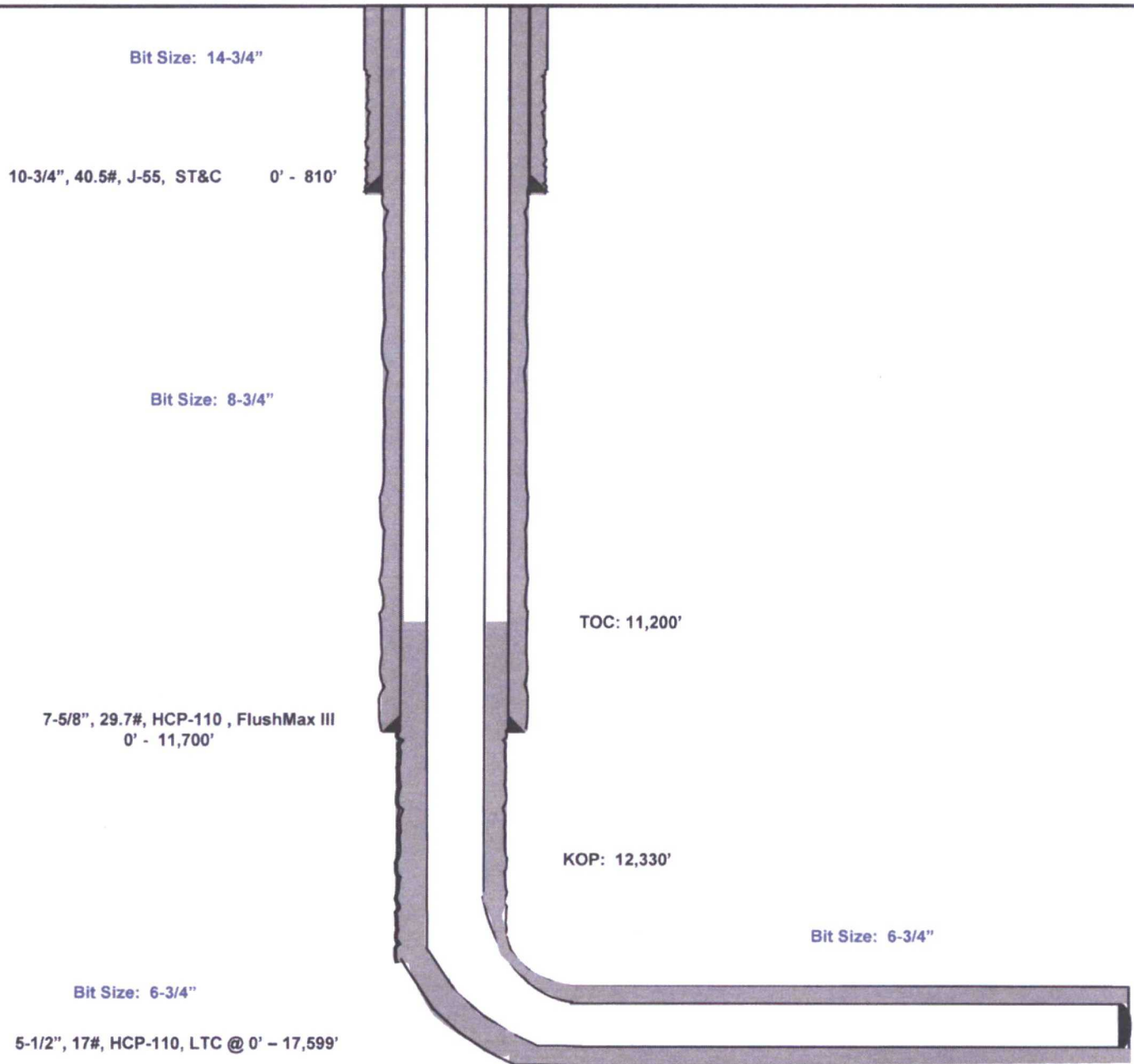
Nautilus 16 State Com #710H

Lea County, New Mexico
Proposed Wellbore

186' FNL
1727' FWL
Section 16
T-26-S, R-34-E

API: 30-025-*****

KB: 3,355'
GL: 3,330'



Lateral: 17,599' MD, 12,805' TVD

BH Location: 230' FSL & 1655' FWL
Section 16
T-26-S, R-34-E

Lea County, NM (NAD 83 NME)
 Nautilus 16 State Com #710H
 H&P 642
 Plan #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: #710H

KB= 25' @ 3355.0usft (H&P 642) 3330.0
 Northing 383047.90 Easting 806402.00 Latitude 32° 5' 0.981 N Longitude 103° 28' 40.985 W

SECTION DETAILS

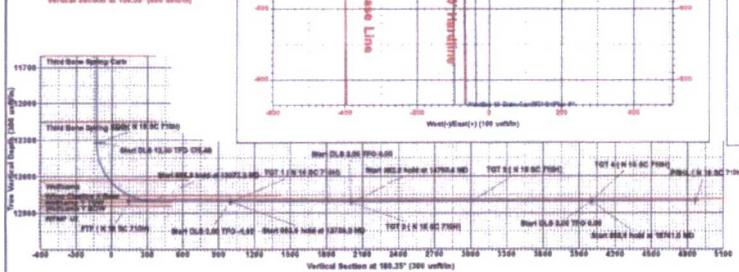
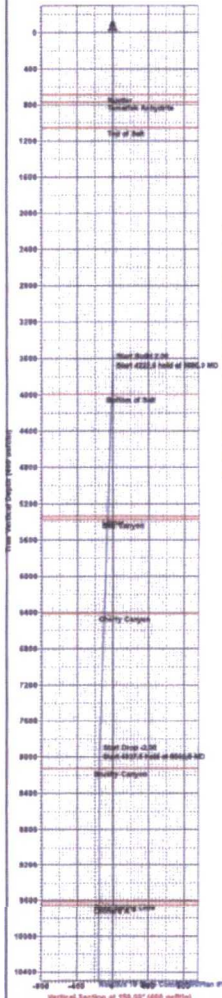
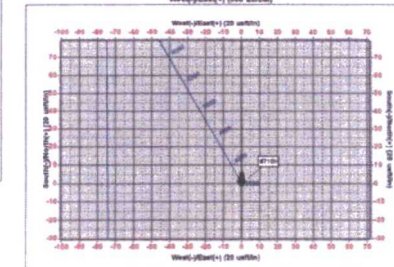
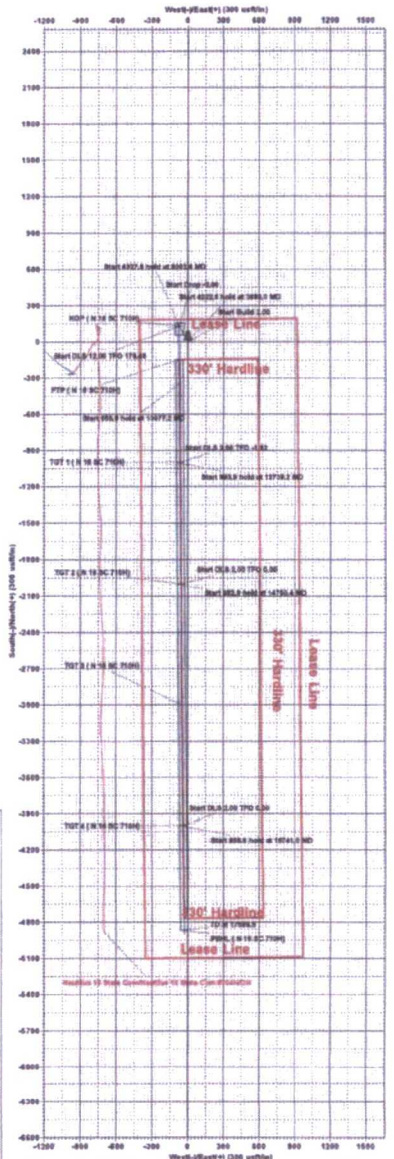
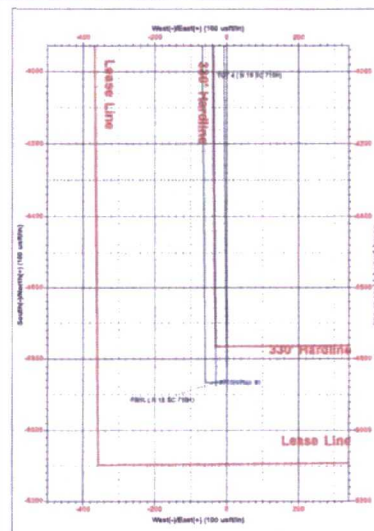
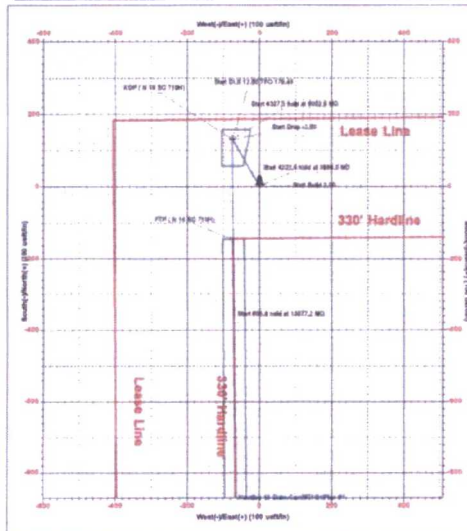
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3580.0	0.00	0.00	3580.0	0.0	0.0	0.00	0.00	0.0	
3	3680.0	2.00	330.00	3680.0	1.5	-0.9	2.00	330.00	-1.5	
4	7902.6	2.00	330.00	7900.0	129.1	-74.6	0.00	0.00	-128.7	
5	8002.6	0.00	0.00	8000.0	130.6	-75.4	2.00	160.00	-130.2	
6	12330.1	0.00	0.00	12327.5	130.6	-75.4	0.00	0.00	-130.2	
7	13077.2	89.65	179.48	12805.0	-343.9	-71.1	12.00	179.48	344.3	
8	13733.0	89.65	179.48	12809.0	-999.6	-65.2	0.00	0.00	1000.0	TGT 1 (N 16 SC 710H)
9	13739.2	89.77	179.48	12809.0	-1005.8	-65.2	2.00	-1.92	1006.2	
10	14733.1	89.77	179.48	12813.0	-1999.7	-56.1	0.00	0.00	2000.0	TGT 2 (N 16 SC 710H)
11	14780.4	90.12	179.48	12813.0	-2017.0	-55.9	2.00	0.00	2017.3	
12	15733.2	90.12	179.48	12811.0	-2999.8	-47.0	0.00	0.00	3000.0	TGT 3 (N 16 SC 710H)
13	16733.3	90.11	179.48	12809.0	-3999.8	-37.9	0.00	-180.00	4000.0	TGT 4 (N 16 SC 710H)
14	16741.0	90.27	179.48	12809.0	-4007.5	-37.8	2.00	0.00	4007.6	
15	17599.5	90.27	179.48	12805.0	-4866.0	-30.0	0.00	0.00	4866.1	PBHL (N 16 SC 710H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KDP (N 16 SC 710H)	12327.5	130.6	-75.4	383177.95	806328.67
FTP (N 16 SC 710H)	12906.0	-146.0	-73.0	382902.00	806329.00
PBHL (N 16 SC 710H)	12806.0	-4866.0	-30.0	379181.20	806372.00
TGT 1 (N 16 SC 710H)	12809.0	-999.6	-65.2	382047.40	806328.79
TGT 4 (N 16 SC 710H)	12809.0	-3999.8	-37.9	379047.20	806364.11
TGT 3 (N 16 SC 710H)	12811.0	-2999.8	-47.0	380047.20	806356.00
TGT 2 (N 16 SC 710H)	12813.0	-1999.7	-56.1	381047.30	806346.89



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#710H

OH

Plan: Plan #1

Standard Survey Report

19 July, 2017

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Nautilus 16 State Com
Well: #710H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #710H
TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
MD Reference: KB= 25' @ 3355.0usft (H&P 642)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

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 #710H

Well Position: +N/-S 0.0 usft Northing: 383,047.00 usft Latitude: 32° 3' 0.681 N
+E/-W 0.0 usft Easting: 806,402.00 usft Longitude: 103° 28' 40.085 W
Position Uncertainty: 0.0 usft Wellhead Elevation: usft Ground Level: 3,330.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/19/2017	6.89	59.92	47,836.26783377

Design Plan #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	180.35

Survey Tool Program Date 7/19/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,599.5	Plan #1 (OH)	MWD	MWD - Standard

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
695.0	0.00	0.00	695.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
779.0	0.00	0.00	779.0	0.0	0.0	0.0	0.00	0.00	0.00

Survey Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #710H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
 MD Reference: KB= 25' @ 3355.0usft (H&P 642)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

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)
Tamarisk Anhydrite									
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
1,062.0	0.00	0.00	1,062.0	0.0	0.0	0.0	0.00	0.00	0.00
Top of Salt									
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	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,580.0	0.00	0.00	3,580.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.40	330.00	3,600.0	0.1	0.0	-0.1	2.00	2.00	0.00
3,680.0	2.00	330.00	3,680.0	1.5	-0.9	-1.5	2.00	2.00	0.00
3,700.0	2.00	330.00	3,700.0	2.1	-1.2	-2.1	0.00	0.00	0.00
3,800.0	2.00	330.00	3,799.9	5.1	-3.0	-5.1	0.00	0.00	0.00
3,900.0	2.00	330.00	3,899.8	8.2	-4.7	-8.1	0.00	0.00	0.00
4,000.0	2.00	330.00	3,999.8	11.2	-6.5	-11.1	0.00	0.00	0.00
4,001.2	2.00	330.00	4,001.0	11.2	-6.5	-11.2	0.00	0.00	0.00
Bottom of Salt									
4,100.0	2.00	330.00	4,099.7	14.2	-8.2	-14.2	0.00	0.00	0.00
4,200.0	2.00	330.00	4,199.7	17.2	-9.9	-17.2	0.00	0.00	0.00
4,300.0	2.00	330.00	4,299.6	20.3	-11.7	-20.2	0.00	0.00	0.00

Survey Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #710H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
 MD Reference: KB= 25' @ 3355.0usft (H&P 642)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

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)
4,400.0	2.00	330.00	4,399.5	23.3	-13.4	-23.2	0.00	0.00	0.00
4,500.0	2.00	330.00	4,499.5	26.3	-15.2	-26.2	0.00	0.00	0.00
4,600.0	2.00	330.00	4,599.4	29.3	-16.9	-29.2	0.00	0.00	0.00
4,700.0	2.00	330.00	4,699.4	32.3	-18.7	-32.2	0.00	0.00	0.00
4,800.0	2.00	330.00	4,799.3	35.4	-20.4	-35.2	0.00	0.00	0.00
4,900.0	2.00	330.00	4,899.2	38.4	-22.2	-38.2	0.00	0.00	0.00
5,000.0	2.00	330.00	4,999.2	41.4	-23.9	-41.3	0.00	0.00	0.00
5,100.0	2.00	330.00	5,099.1	44.4	-25.7	-44.3	0.00	0.00	0.00
5,200.0	2.00	330.00	5,199.1	47.5	-27.4	-47.3	0.00	0.00	0.00
5,300.0	2.00	330.00	5,299.0	50.5	-29.1	-50.3	0.00	0.00	0.00
5,351.0	2.00	330.00	5,350.0	52.0	-30.0	-51.8	0.00	0.00	0.00
Lamar									
5,384.1	2.00	330.00	5,383.0	53.0	-30.6	-52.8	0.00	0.00	0.00
Bell Canyon									
5,400.0	2.00	330.00	5,398.9	53.5	-30.9	-53.3	0.00	0.00	0.00
5,500.0	2.00	330.00	5,498.9	56.5	-32.6	-56.3	0.00	0.00	0.00
5,600.0	2.00	330.00	5,598.8	59.5	-34.4	-59.3	0.00	0.00	0.00
5,700.0	2.00	330.00	5,698.7	62.6	-36.1	-62.3	0.00	0.00	0.00
5,800.0	2.00	330.00	5,798.7	65.6	-37.9	-65.4	0.00	0.00	0.00
5,900.0	2.00	330.00	5,898.6	68.6	-39.6	-68.4	0.00	0.00	0.00
6,000.0	2.00	330.00	5,998.6	71.6	-41.4	-71.4	0.00	0.00	0.00
6,100.0	2.00	330.00	6,098.5	74.7	-43.1	-74.4	0.00	0.00	0.00
6,200.0	2.00	330.00	6,198.4	77.7	-44.8	-77.4	0.00	0.00	0.00
6,300.0	2.00	330.00	6,298.4	80.7	-46.6	-80.4	0.00	0.00	0.00
6,400.0	2.00	330.00	6,398.3	83.7	-48.3	-83.4	0.00	0.00	0.00
6,422.7	2.00	330.00	6,421.0	84.4	-48.7	-84.1	0.00	0.00	0.00
Cherry Canyon									
6,500.0	2.00	330.00	6,498.3	86.7	-50.1	-86.4	0.00	0.00	0.00
6,600.0	2.00	330.00	6,598.2	89.8	-51.8	-89.4	0.00	0.00	0.00
6,700.0	2.00	330.00	6,698.1	92.8	-53.6	-92.5	0.00	0.00	0.00
6,800.0	2.00	330.00	6,798.1	95.8	-55.3	-95.5	0.00	0.00	0.00
6,900.0	2.00	330.00	6,898.0	98.8	-57.1	-98.5	0.00	0.00	0.00
7,000.0	2.00	330.00	6,998.0	101.9	-58.8	-101.5	0.00	0.00	0.00
7,100.0	2.00	330.00	7,097.9	104.9	-60.6	-104.5	0.00	0.00	0.00
7,200.0	2.00	330.00	7,197.8	107.9	-62.3	-107.5	0.00	0.00	0.00
7,300.0	2.00	330.00	7,297.8	110.9	-64.0	-110.5	0.00	0.00	0.00
7,400.0	2.00	330.00	7,397.7	113.9	-65.8	-113.5	0.00	0.00	0.00
7,500.0	2.00	330.00	7,497.7	117.0	-67.5	-116.5	0.00	0.00	0.00
7,600.0	2.00	330.00	7,597.6	120.0	-69.3	-119.6	0.00	0.00	0.00
7,700.0	2.00	330.00	7,697.5	123.0	-71.0	-122.6	0.00	0.00	0.00
7,800.0	2.00	330.00	7,797.5	126.0	-72.8	-125.6	0.00	0.00	0.00
7,902.6	2.00	330.00	7,900.0	129.1	-74.6	-128.7	0.00	0.00	0.00
8,002.6	0.00	0.00	8,000.0	130.6	-75.4	-130.2	2.00	-2.00	0.00
8,100.0	0.00	0.00	8,097.4	130.6	-75.4	-130.2	0.00	0.00	0.00

Survey Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3355.0usft (H&P 642)
Site:	Nautilus 16 State Com	MD Reference:	KB= 25' @ 3355.0usft (H&P 642)
Well:	#710H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.14

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)	
8,132.6	0.00	0.00	8,130.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
Brushy Canyon										
8,200.0	0.00	0.00	8,197.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,297.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,397.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,497.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,597.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,697.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,797.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,897.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,997.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,097.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,197.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,297.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,397.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,497.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,597.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,625.6	0.00	0.00	9,623.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
Bone Spring Lime										
9,664.6	0.00	0.00	9,662.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
Leonard A										
9,700.0	0.00	0.00	9,697.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,797.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,897.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,997.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,097.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,197.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,297.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,397.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,497.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,597.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,619.6	0.00	0.00	10,617.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
First Bone Spring Sand										
10,700.0	0.00	0.00	10,697.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,797.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
10,804.6	0.00	0.00	10,802.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
SBSG Shale										
10,900.0	0.00	0.00	10,897.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
11,000.0	0.00	0.00	10,997.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
11,100.0	0.00	0.00	11,097.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
11,142.6	0.00	0.00	11,140.0	130.6	-75.4	-130.2	0.00	0.00	0.00	
SBSG Sand										
11,200.0	0.00	0.00	11,197.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,297.4	130.6	-75.4	-130.2	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,397.4	130.6	-75.4	-130.2	0.00	0.00	0.00	

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Nautilus 16 State Corn
Well: #710H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #710H
TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
MD Reference: KB= 25' @ 3355.0usft (H&P 642)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

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)
11,500.0	0.00	0.00	11,497.4	130.6	-75.4	-130.2	0.00	0.00	0.00
11,600.0	0.00	0.00	11,597.4	130.6	-75.4	-130.2	0.00	0.00	0.00
11,606.6	0.00	0.00	11,604.0	130.6	-75.4	-130.2	0.00	0.00	0.00
Third Bone Spring Carb									
11,700.0	0.00	0.00	11,697.4	130.6	-75.4	-130.2	0.00	0.00	0.00
11,800.0	0.00	0.00	11,797.4	130.6	-75.4	-130.2	0.00	0.00	0.00
11,900.0	0.00	0.00	11,897.4	130.6	-75.4	-130.2	0.00	0.00	0.00
12,000.0	0.00	0.00	11,997.4	130.6	-75.4	-130.2	0.00	0.00	0.00
12,100.0	0.00	0.00	12,097.4	130.6	-75.4	-130.2	0.00	0.00	0.00
12,158.6	0.00	0.00	12,156.0	130.6	-75.4	-130.2	0.00	0.00	0.00
Third Bone Spring Sand									
12,200.0	0.00	0.00	12,197.4	130.6	-75.4	-130.2	0.00	0.00	0.00
12,300.0	0.00	0.00	12,297.4	130.6	-75.4	-130.2	0.00	0.00	0.00
12,330.1	0.00	0.00	12,327.5	130.6	-75.4	-130.2	0.00	0.00	0.00
12,350.0	2.39	179.48	12,347.4	130.2	-75.4	-129.8	12.00	12.00	0.00
12,375.0	5.39	179.48	12,372.3	128.5	-75.4	-128.1	12.00	12.00	0.00
12,400.0	8.39	179.48	12,397.1	125.5	-75.4	-125.1	12.00	12.00	0.00
12,425.0	11.39	179.48	12,421.8	121.2	-75.3	-120.8	12.00	12.00	0.00
12,450.0	14.39	179.48	12,446.1	115.7	-75.3	-115.2	12.00	12.00	0.00
12,475.0	17.39	179.48	12,470.2	108.8	-75.2	-108.4	12.00	12.00	0.00
12,500.0	20.39	179.48	12,493.8	100.7	-75.2	-100.3	12.00	12.00	0.00
12,525.0	23.39	179.48	12,517.0	91.4	-75.1	-91.0	12.00	12.00	0.00
12,550.0	26.39	179.48	12,539.7	80.9	-75.0	-80.4	12.00	12.00	0.00
12,575.0	29.39	179.48	12,561.8	69.2	-74.9	-68.7	12.00	12.00	0.00
12,600.0	32.39	179.48	12,583.2	56.4	-74.8	-55.9	12.00	12.00	0.00
12,625.0	35.39	179.48	12,604.0	42.4	-74.6	-42.0	12.00	12.00	0.00
12,650.0	38.39	179.48	12,624.0	27.4	-74.5	-27.0	12.00	12.00	0.00
12,669.5	40.72	179.48	12,639.0	15.0	-74.4	-14.6	12.00	12.00	0.00
Wolfcamp									
12,675.0	41.39	179.48	12,643.2	11.4	-74.4	-11.0	12.00	12.00	0.00
12,700.0	44.39	179.48	12,661.5	-5.6	-74.2	6.1	12.00	12.00	0.00
12,725.0	47.39	179.48	12,678.9	-23.5	-74.0	24.0	12.00	12.00	0.00
12,750.0	50.39	179.48	12,695.3	-42.4	-73.9	42.8	12.00	12.00	0.00
12,775.0	53.39	179.48	12,710.7	-62.0	-73.7	62.5	12.00	12.00	0.00
12,800.0	56.39	179.48	12,725.1	-82.5	-73.5	82.9	12.00	12.00	0.00
12,825.0	59.39	179.48	12,738.4	-103.7	-73.3	104.1	12.00	12.00	0.00
12,850.0	62.39	179.48	12,750.6	-125.5	-73.1	125.9	12.00	12.00	0.00
12,875.0	65.39	179.48	12,761.6	-147.9	-72.9	148.4	12.00	12.00	0.00
12,885.9	66.69	179.48	12,766.0	-157.9	-72.8	158.3	12.00	12.00	0.00
Wfmp Clastics X Base									
12,900.0	68.39	179.48	12,771.4	-170.9	-72.7	171.4	12.00	12.00	0.00
12,925.0	71.39	179.48	12,780.0	-194.4	-72.5	194.9	12.00	12.00	0.00
12,950.0	74.39	179.48	12,787.3	-218.3	-72.3	218.7	12.00	12.00	0.00
12,975.0	77.39	179.48	12,793.4	-242.5	-72.1	243.0	12.00	12.00	0.00

Survey Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3355.0usft (H&P 642)
Site:	Nautilus 16 State Com	MD Reference:	KB= 25' @ 3355.0usft (H&P 642)
Well:	#710H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.14

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)
12,982.4	78.27	179.48	12,795.0	-249.8	-72.0	250.2	12.00	12.00	0.00
Wolfcamp Y TOW									
13,000.0	80.39	179.48	12,798.3	-267.1	-71.8	267.5	12.00	12.00	0.00
13,025.0	83.39	179.48	12,801.8	-291.8	-71.6	292.2	12.00	12.00	0.00
13,050.0	86.39	179.48	12,804.0	-316.7	-71.4	317.1	12.00	12.00	0.00
13,077.2	89.65	179.48	12,805.0	-343.9	-71.1	344.3	12.00	12.00	0.00
13,100.0	89.65	179.48	12,805.1	-366.7	-70.9	367.1	0.00	0.00	0.00
13,200.0	89.65	179.48	12,805.7	-466.7	-70.0	467.1	0.00	0.00	0.00
13,300.0	89.65	179.48	12,806.3	-566.7	-69.1	567.1	0.00	0.00	0.00
13,400.0	89.65	179.48	12,806.9	-666.7	-68.2	667.1	0.00	0.00	0.00
13,500.0	89.65	179.48	12,807.6	-766.7	-67.3	767.1	0.00	0.00	0.00
13,600.0	89.65	179.48	12,808.2	-866.7	-66.4	867.0	0.00	0.00	0.00
13,700.0	89.65	179.48	12,808.8	-966.6	-65.5	967.0	0.00	0.00	0.00
13,733.0	89.65	179.48	12,809.0	-999.6	-65.2	1,000.0	0.00	0.00	0.00
13,739.2	89.77	179.48	12,809.0	-1,005.8	-65.2	1,006.2	2.00	2.00	-0.07
13,800.0	89.77	179.48	12,809.3	-1,066.6	-64.6	1,067.0	0.00	0.00	0.00
13,900.0	89.77	179.48	12,809.7	-1,166.6	-63.7	1,167.0	0.00	0.00	0.00
14,000.0	89.77	179.48	12,810.1	-1,266.6	-62.8	1,267.0	0.00	0.00	0.00
14,100.0	89.77	179.48	12,810.5	-1,366.6	-61.9	1,367.0	0.00	0.00	0.00
14,200.0	89.77	179.48	12,810.9	-1,466.6	-61.0	1,467.0	0.00	0.00	0.00
14,300.0	89.77	179.48	12,811.3	-1,566.6	-60.1	1,567.0	0.00	0.00	0.00
14,400.0	89.77	179.48	12,811.7	-1,666.6	-59.1	1,666.9	0.00	0.00	0.00
14,500.0	89.77	179.48	12,812.1	-1,766.6	-58.2	1,766.9	0.00	0.00	0.00
14,600.0	89.77	179.48	12,812.5	-1,866.6	-57.3	1,866.9	0.00	0.00	0.00
14,700.0	89.77	179.48	12,812.9	-1,966.6	-56.4	1,966.9	0.00	0.00	0.00
14,733.1	89.77	179.48	12,813.0	-1,999.7	-56.1	2,000.0	0.00	0.00	0.00
14,750.4	90.12	179.48	12,813.0	-2,017.0	-55.9	2,017.3	2.00	2.00	0.00
14,800.0	90.12	179.48	12,812.9	-2,066.6	-55.5	2,066.9	0.00	0.00	0.00
14,900.0	90.12	179.48	12,812.7	-2,166.6	-54.6	2,166.9	0.00	0.00	0.00
15,000.0	90.12	179.48	12,812.5	-2,266.6	-53.7	2,266.9	0.00	0.00	0.00
15,100.0	90.12	179.48	12,812.3	-2,366.6	-52.8	2,366.9	0.00	0.00	0.00
15,200.0	90.12	179.48	12,812.1	-2,466.6	-51.9	2,466.9	0.00	0.00	0.00
15,300.0	90.12	179.48	12,811.9	-2,566.6	-50.9	2,566.8	0.00	0.00	0.00
15,400.0	90.12	179.48	12,811.7	-2,666.6	-50.0	2,666.8	0.00	0.00	0.00
15,500.0	90.12	179.48	12,811.5	-2,766.6	-49.1	2,766.8	0.00	0.00	0.00
15,600.0	90.12	179.48	12,811.3	-2,866.6	-48.2	2,866.8	0.00	0.00	0.00
15,700.0	90.12	179.48	12,811.1	-2,966.6	-47.3	2,966.8	0.00	0.00	0.00
15,733.2	90.12	179.48	12,811.0	-2,999.8	-47.0	3,000.0	0.00	0.00	0.00
15,800.0	90.12	179.48	12,810.9	-3,066.6	-46.4	3,066.8	0.00	0.00	0.00
15,900.0	90.12	179.48	12,810.7	-3,166.5	-45.5	3,166.8	0.00	0.00	0.00
16,000.0	90.12	179.48	12,810.5	-3,266.5	-44.6	3,266.8	0.00	0.00	0.00
16,100.0	90.12	179.48	12,810.3	-3,366.5	-43.7	3,366.7	0.00	0.00	0.00
16,200.0	90.11	179.48	12,810.1	-3,466.5	-42.7	3,466.7	0.00	0.00	0.00

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Nautilus 16 State Com
Well: #710H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #710H
TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
MD Reference: KB= 25' @ 3355.0usft (H&P 642)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

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)
16,300.0	90.11	179.48	12,809.9	-3,566.5	-41.8	3,566.7	0.00	0.00	0.00
16,400.0	90.11	179.48	12,809.7	-3,666.5	-40.9	3,666.7	0.00	0.00	0.00
16,500.0	90.11	179.48	12,809.5	-3,766.5	-40.0	3,766.7	0.00	0.00	0.00
16,600.0	90.11	179.48	12,809.3	-3,866.5	-39.1	3,866.7	0.00	0.00	0.00
16,700.0	90.11	179.48	12,809.1	-3,966.5	-38.2	3,966.7	0.00	0.00	0.00
16,733.3	90.11	179.48	12,809.0	-3,999.8	-37.9	4,000.0	0.00	0.00	0.00
16,741.0	90.27	179.48	12,809.0	-4,007.5	-37.8	4,007.6	2.00	2.00	0.00
16,800.0	90.27	179.48	12,808.7	-4,066.5	-37.3	4,066.7	0.00	0.00	0.00
16,900.0	90.27	179.48	12,808.2	-4,166.5	-36.4	4,166.6	0.00	0.00	0.00
17,000.0	90.27	179.48	12,807.8	-4,266.5	-35.5	4,266.6	0.00	0.00	0.00
17,100.0	90.27	179.48	12,807.3	-4,366.5	-34.5	4,366.6	0.00	0.00	0.00
17,200.0	90.27	179.48	12,806.8	-4,466.5	-33.6	4,466.6	0.00	0.00	0.00
17,300.0	90.27	179.48	12,806.4	-4,566.5	-32.7	4,566.6	0.00	0.00	0.00
17,400.0	90.27	179.48	12,805.9	-4,666.5	-31.8	4,666.6	0.00	0.00	0.00
17,500.0	90.27	179.48	12,805.5	-4,766.5	-30.9	4,766.6	0.00	0.00	0.00
17,599.5	90.27	179.48	12,805.0	-4,866.0	-30.0	4,866.1	0.00	0.00	0.00

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
KOP (N 16 SC 710H) - plan hits target center - Polygon	0.00	0.00	12,327.5	130.6	-75.4	383,177.64	806,326.57	32° 3' 1.979 N	103° 28' 40.949 W
Point 1			12,327.5	25.0	-30.0	383,202.65	806,296.57		
Point 2			12,327.5	25.0	50.0	383,202.65	806,376.57		
Point 3			12,327.5	-75.0	30.0	383,102.65	806,356.57		
Point 4			12,327.5	-75.0	-30.0	383,102.65	806,296.57		
FTP (N 16 SC 710H) - plan misses target center by 40.9usft at 12888.9usft MD (12767.2 TVD, -180.6 N, -72.8 E) - Point	0.00	0.00	12,805.0	-145.0	-73.0	382,902.00	806,329.00	32° 2' 59.252 N	103° 28' 40.946 W
PBHL (N 16 SC 710H) - plan hits target center - Rectangle (sides W60.0 H0.0 D4,721.0)	90.00	179.48	12,805.0	-4,866.0	-30.0	378,181.00	806,372.00	32° 2' 12.533 N	103° 28' 40.881 W
TGT 4 (N 16 SC 710H) - plan hits target center - Point	0.00	0.00	12,809.0	-3,999.8	-37.9	379,047.20	806,364.11	32° 2' 21.105 N	103° 28' 40.893 W
TGT 1 (N 16 SC 710H) - plan hits target center - Point	0.00	0.00	12,809.0	-999.6	-65.2	382,047.40	806,336.78	32° 2' 50.795 N	103° 28' 40.934 W
TGT 3 (N 16 SC 710H) - plan hits target center - Point	0.00	0.00	12,811.0	-2,999.8	-47.0	380,047.20	806,355.00	32° 2' 31.001 N	103° 28' 40.907 W
TGT 2 (N 16 SC 710H) - plan hits target center - Point	0.00	0.00	12,813.0	-1,999.7	-56.1	381,047.30	806,345.89	32° 2' 40.898 N	103° 28' 40.921 W

Survey Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Nautilus 16 State Com
 Well: #710H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB= 25' @ 3355.0usft (H&P 642)
 MD Reference: KB= 25' @ 3355.0usft (H&P 642)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
695.0	695.0	Rustler				
779.0	779.0	Tamarisk Anhydrite				
1,062.0	1,062.0	Top of Salt				
4,001.2	4,001.0	Bottom of Salt				
5,351.0	5,350.0	Lamar				
5,384.1	5,383.0	Bell Canyon				
6,422.7	6,421.0	Cherry Canyon				
8,132.6	8,130.0	Brushy Canyon				
9,625.6	9,623.0	Bone Spring Lime				
9,664.6	9,662.0	Leonard A				
10,619.6	10,617.0	First Bone Spring Sand				
10,804.6	10,802.0	SBSG Shale				
11,142.6	11,140.0	SBSG Sand				
11,606.6	11,604.0	Third Bone Spring Carb				
12,158.6	12,156.0	Third Bone Spring Sand				
12,669.5	12,639.0	Wolfcamp				
12,885.9	12,766.0	Wfmp Clastics X Base				
12,982.4	12,795.0	Wolfcamp Y TOW				

Checked By: _____ Approved By: _____ Date: _____