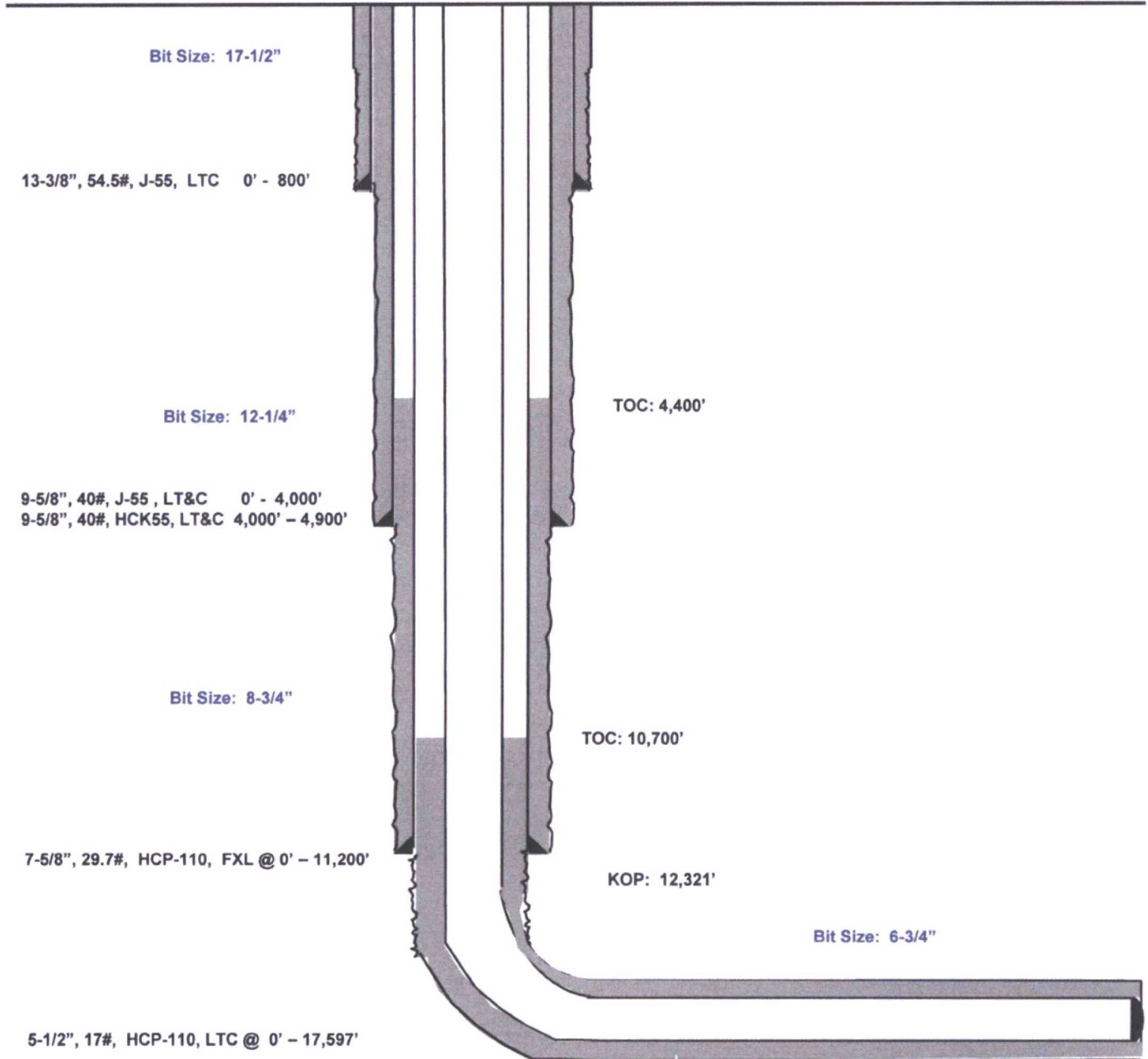


Thor 21 #709H
Lea County, New Mexico

175' FSL
439' FEL
Section 21
T-26-S, R-33-E

Proposed Wellbore
Revised 1/9/18
API: 30-025-43897

KB: 3,278'
GL: 3,253'



Lateral: 17,597' MD, 12,790' TVD

BH Location: 230' FNL & 960' FEL
Section 21
T-26-S, R-33-E



Lea County, NM (NAD 83 NME)

Thor 21 #709H

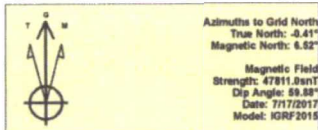
Plan #0.3

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: #709H

KB = 25' @ 3278.0usft
Northing 372666.00 Easting 777866.00 Latitude 32° 1' 19.875 N Longitude 103° 34' 12.486 W



To convert a Magnetic Direction to a True Direction, Add 6.52° East
To convert a True Direction to a Grid Direction, Subtract 0.40°

SECTION DETAILS

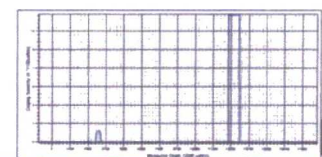
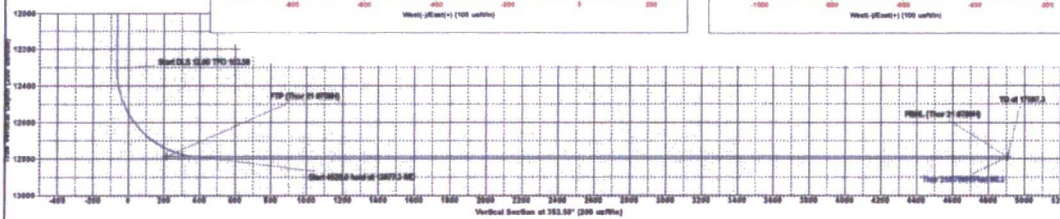
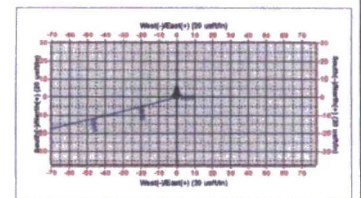
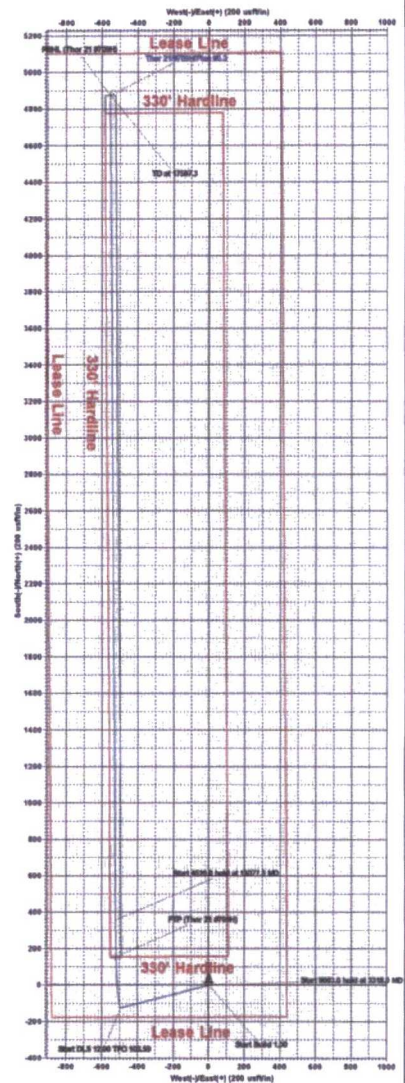
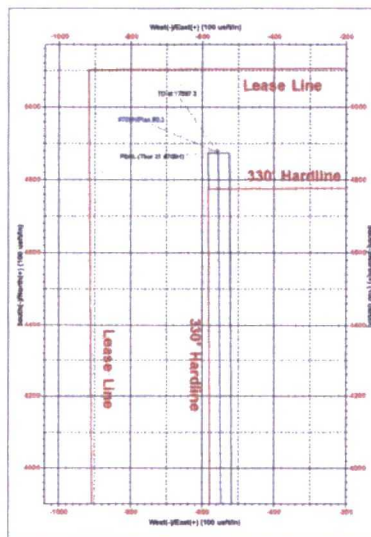
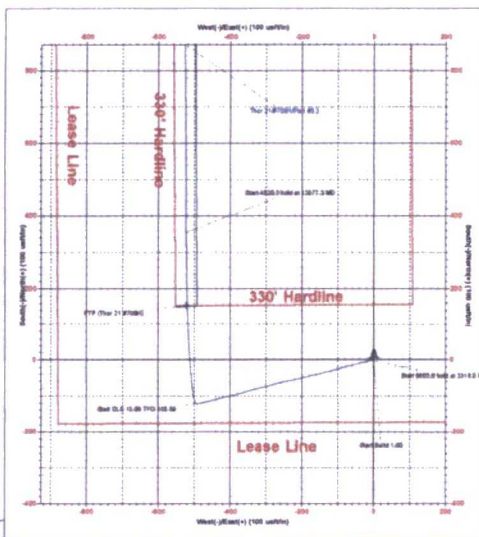
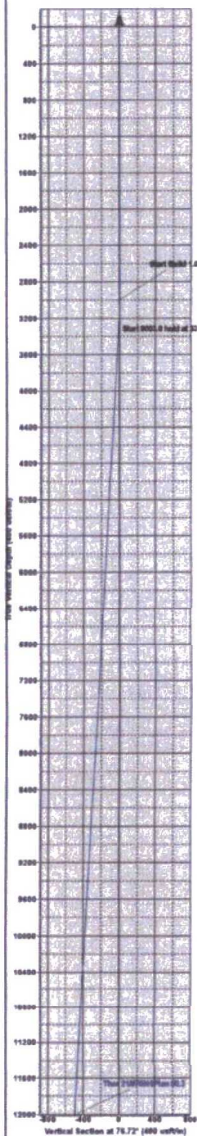
Sec	MD	Inc	Act	TVD	+N-S	+E-W	Diag	TFace	Vsect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	3005.0	0.00	0.00	3005.0	0.0	0.0	0.00	0.00	0.0		
3	3318.0	3.18	256.88	3317.9	-2.1	-8.6	1.00	256.88	-1.2		
4	12321.0	3.18	256.88	12307.0	-123.1	-482.2	0.00	0.00	-48.6		
5	12077.3	90.00	358.88	12790.0	354.1	-622.7	12.00	103.89	411.9		
6	17897.3	90.00	358.88	12790.0	4874.0	-666.0	0.00	0.00	4905.5	PSH, (Thor 21 #709H)	

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
PSH, (Thor 21 #709H)	12790.0	4874.0	-666.0	377829.00	777311.00
FTP (Thor 21 #709H)	12790.0	154.0	-621.0	372809.00	777348.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Thor 21

#709H

OH

Plan: Plan #0.3

Standard Planning Report

09 January, 2018



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
Design: Plan #0.3

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3278.0usft
MD Reference: KB = 25' @ 3278.0usft
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 Thor 21

Site Position: Northing: 372,646.00 usft Latitude: 32° 1' 19.875 N
From: Map Easting: 777,866.00 usft Longitude: 103° 34' 12.486 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.40 °

Well #709H

Well Position +N/-S 0.0 usft Northing: 372,646.00 usft Latitude: 32° 1' 19.875 N
 +E/-W 0.0 usft Easting: 777,866.00 usft Longitude: 103° 34' 12.486 W
Position Uncertainty 0.0 usft Wellhead Elevation: Ground Level: 3,253.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/17/2017	6.93	59.88	47,811.00403003

Design Plan #0.3

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	353.50

Plan Survey Tool Program Date 1/9/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,597.3 Plan #0.3 (OH)	MWD	
			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	
3,318.0	3.18	255.98	3,317.9	-2.1	-8.6	1.00	1.00	0.00	255.98	
12,321.0	3.18	255.98	12,307.0	-123.1	-493.2	0.00	0.00	0.00	0.00	
13,077.3	90.00	359.59	12,790.0	354.1	-522.7	12.00	11.48	13.70	103.59	
17,597.3	90.00	359.59	12,790.0	4,874.0	-555.0	0.00	0.00	0.00	0.00	PBHL (Thor 21 #709H)



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
Design: Plan #0.3

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3278.0usft
MD Reference: KB = 25' @ 3278.0usft
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	255.98	3,100.0	-0.2	-0.8	-0.1	1.00	1.00	0.00
3,200.0	2.00	255.98	3,200.0	-0.8	-3.4	-0.5	1.00	1.00	0.00
3,300.0	3.00	255.98	3,299.9	-1.9	-7.6	-1.0	1.00	1.00	0.00
3,318.0	3.18	255.98	3,317.9	-2.1	-8.6	-1.2	1.00	1.00	0.00
3,400.0	3.18	255.98	3,399.7	-3.2	-13.0	-1.8	0.00	0.00	0.00
3,500.0	3.18	255.98	3,499.6	-4.6	-18.4	-2.5	0.00	0.00	0.00
3,600.0	3.18	255.98	3,599.4	-5.9	-23.7	-3.2	0.00	0.00	0.00
3,700.0	3.18	255.98	3,699.2	-7.3	-29.1	-3.9	0.00	0.00	0.00
3,800.0	3.18	255.98	3,799.1	-8.6	-34.5	-4.7	0.00	0.00	0.00
3,900.0	3.18	255.98	3,898.9	-10.0	-39.9	-5.4	0.00	0.00	0.00
4,000.0	3.18	255.98	3,998.8	-11.3	-45.3	-6.1	0.00	0.00	0.00
4,100.0	3.18	255.98	4,098.6	-12.6	-50.7	-6.8	0.00	0.00	0.00
4,200.0	3.18	255.98	4,198.5	-14.0	-56.0	-7.6	0.00	0.00	0.00
4,300.0	3.18	255.98	4,298.3	-15.3	-61.4	-8.3	0.00	0.00	0.00
4,400.0	3.18	255.98	4,398.2	-16.7	-66.8	-9.0	0.00	0.00	0.00
4,500.0	3.18	255.98	4,498.0	-18.0	-72.2	-9.7	0.00	0.00	0.00
4,600.0	3.18	255.98	4,597.9	-19.4	-77.6	-10.5	0.00	0.00	0.00
4,700.0	3.18	255.98	4,697.7	-20.7	-82.9	-11.2	0.00	0.00	0.00
4,800.0	3.18	255.98	4,797.6	-22.1	-88.3	-11.9	0.00	0.00	0.00
4,900.0	3.18	255.98	4,897.4	-23.4	-93.7	-12.6	0.00	0.00	0.00
5,000.0	3.18	255.98	4,997.2	-24.7	-99.1	-13.4	0.00	0.00	0.00
5,100.0	3.18	255.98	5,097.1	-26.1	-104.5	-14.1	0.00	0.00	0.00
5,200.0	3.18	255.98	5,196.9	-27.4	-109.9	-14.8	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
Design: Plan #0.3

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3278.0usft
MD Reference: KB = 25' @ 3278.0usft
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	3.18	255.98	5,296.8	-28.8	-115.2	-15.5	0.00	0.00	0.00
5,400.0	3.18	255.98	5,396.6	-30.1	-120.6	-16.3	0.00	0.00	0.00
5,500.0	3.18	255.98	5,496.5	-31.5	-126.0	-17.0	0.00	0.00	0.00
5,600.0	3.18	255.98	5,596.3	-32.8	-131.4	-17.7	0.00	0.00	0.00
5,700.0	3.18	255.98	5,696.2	-34.1	-136.8	-18.4	0.00	0.00	0.00
5,800.0	3.18	255.98	5,796.0	-35.5	-142.2	-19.2	0.00	0.00	0.00
5,900.0	3.18	255.98	5,895.9	-36.8	-147.5	-19.9	0.00	0.00	0.00
6,000.0	3.18	255.98	5,995.7	-38.2	-152.9	-20.6	0.00	0.00	0.00
6,100.0	3.18	255.98	6,095.6	-39.5	-158.3	-21.4	0.00	0.00	0.00
6,200.0	3.18	255.98	6,195.4	-40.9	-163.7	-22.1	0.00	0.00	0.00
6,300.0	3.18	255.98	6,295.2	-42.2	-169.1	-22.8	0.00	0.00	0.00
6,400.0	3.18	255.98	6,395.1	-43.5	-174.5	-23.5	0.00	0.00	0.00
6,500.0	3.18	255.98	6,494.9	-44.9	-179.8	-24.3	0.00	0.00	0.00
6,600.0	3.18	255.98	6,594.8	-46.2	-185.2	-25.0	0.00	0.00	0.00
6,700.0	3.18	255.98	6,694.6	-47.6	-190.6	-25.7	0.00	0.00	0.00
6,800.0	3.18	255.98	6,794.5	-48.9	-196.0	-26.4	0.00	0.00	0.00
6,900.0	3.18	255.98	6,894.3	-50.3	-201.4	-27.2	0.00	0.00	0.00
7,000.0	3.18	255.98	6,994.2	-51.6	-206.7	-27.9	0.00	0.00	0.00
7,100.0	3.18	255.98	7,094.0	-53.0	-212.1	-28.6	0.00	0.00	0.00
7,200.0	3.18	255.98	7,193.9	-54.3	-217.5	-29.3	0.00	0.00	0.00
7,300.0	3.18	255.98	7,293.7	-55.6	-222.9	-30.1	0.00	0.00	0.00
7,400.0	3.18	255.98	7,393.6	-57.0	-228.3	-30.8	0.00	0.00	0.00
7,500.0	3.18	255.98	7,493.4	-58.3	-233.7	-31.5	0.00	0.00	0.00
7,600.0	3.18	255.98	7,593.2	-59.7	-239.0	-32.2	0.00	0.00	0.00
7,700.0	3.18	255.98	7,693.1	-61.0	-244.4	-33.0	0.00	0.00	0.00
7,800.0	3.18	255.98	7,792.9	-62.4	-249.8	-33.7	0.00	0.00	0.00
7,900.0	3.18	255.98	7,892.8	-63.7	-255.2	-34.4	0.00	0.00	0.00
8,000.0	3.18	255.98	7,992.6	-65.0	-260.6	-35.1	0.00	0.00	0.00
8,100.0	3.18	255.98	8,092.5	-66.4	-266.0	-35.9	0.00	0.00	0.00
8,200.0	3.18	255.98	8,192.3	-67.7	-271.3	-36.6	0.00	0.00	0.00
8,300.0	3.18	255.98	8,292.2	-69.1	-276.7	-37.3	0.00	0.00	0.00
8,400.0	3.18	255.98	8,392.0	-70.4	-282.1	-38.1	0.00	0.00	0.00
8,500.0	3.18	255.98	8,491.9	-71.8	-287.5	-38.8	0.00	0.00	0.00
8,600.0	3.18	255.98	8,591.7	-73.1	-292.9	-39.5	0.00	0.00	0.00
8,700.0	3.18	255.98	8,691.5	-74.5	-298.3	-40.2	0.00	0.00	0.00
8,800.0	3.18	255.98	8,791.4	-75.8	-303.6	-41.0	0.00	0.00	0.00
8,900.0	3.18	255.98	8,891.2	-77.1	-309.0	-41.7	0.00	0.00	0.00
9,000.0	3.18	255.98	8,991.1	-78.5	-314.4	-42.4	0.00	0.00	0.00
9,100.0	3.18	255.98	9,090.9	-79.8	-319.8	-43.1	0.00	0.00	0.00
9,200.0	3.18	255.98	9,190.8	-81.2	-325.2	-43.9	0.00	0.00	0.00
9,300.0	3.18	255.98	9,290.6	-82.5	-330.5	-44.6	0.00	0.00	0.00
9,400.0	3.18	255.98	9,390.5	-83.9	-335.9	-45.3	0.00	0.00	0.00
9,500.0	3.18	255.98	9,490.3	-85.2	-341.3	-46.0	0.00	0.00	0.00
9,600.0	3.18	255.98	9,590.2	-86.5	-346.7	-46.8	0.00	0.00	0.00
9,700.0	3.18	255.98	9,690.0	-87.9	-352.1	-47.5	0.00	0.00	0.00
9,800.0	3.18	255.98	9,789.9	-89.2	-357.5	-48.2	0.00	0.00	0.00
9,900.0	3.18	255.98	9,889.7	-90.6	-362.8	-48.9	0.00	0.00	0.00
10,000.0	3.18	255.98	9,989.5	-91.9	-368.2	-49.7	0.00	0.00	0.00
10,100.0	3.18	255.98	10,089.4	-93.3	-373.6	-50.4	0.00	0.00	0.00
10,200.0	3.18	255.98	10,189.2	-94.6	-379.0	-51.1	0.00	0.00	0.00
10,300.0	3.18	255.98	10,289.1	-96.0	-384.4	-51.8	0.00	0.00	0.00
10,400.0	3.18	255.98	10,388.9	-97.3	-389.8	-52.6	0.00	0.00	0.00
10,500.0	3.18	255.98	10,488.8	-98.6	-395.1	-53.3	0.00	0.00	0.00
10,600.0	3.18	255.98	10,588.6	-100.0	-400.5	-54.0	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
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Local Co-ordinate Reference:
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MD Reference:
North Reference:
Survey Calculation Method:
Well #709H
KB = 25' @ 3278.0usft
KB = 25' @ 3278.0usft
Grid
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,700.0	3.18	255.98	10,688.5	-101.3	-405.9	-54.8	0.00	0.00	0.00
10,800.0	3.18	255.98	10,788.3	-102.7	-411.3	-55.5	0.00	0.00	0.00
10,900.0	3.18	255.98	10,888.2	-104.0	-416.7	-56.2	0.00	0.00	0.00
11,000.0	3.18	255.98	10,988.0	-105.4	-422.1	-56.9	0.00	0.00	0.00
11,100.0	3.18	255.98	11,087.9	-106.7	-427.4	-57.7	0.00	0.00	0.00
11,200.0	3.18	255.98	11,187.7	-108.0	-432.8	-58.4	0.00	0.00	0.00
11,300.0	3.18	255.98	11,287.5	-109.4	-438.2	-59.1	0.00	0.00	0.00
11,400.0	3.18	255.98	11,387.4	-110.7	-443.6	-59.8	0.00	0.00	0.00
11,500.0	3.18	255.98	11,487.2	-112.1	-449.0	-60.6	0.00	0.00	0.00
11,600.0	3.18	255.98	11,587.1	-113.4	-454.3	-61.3	0.00	0.00	0.00
11,700.0	3.18	255.98	11,686.9	-114.8	-459.7	-62.0	0.00	0.00	0.00
11,800.0	3.18	255.98	11,786.8	-116.1	-465.1	-62.7	0.00	0.00	0.00
11,900.0	3.18	255.98	11,886.6	-117.5	-470.5	-63.5	0.00	0.00	0.00
12,000.0	3.18	255.98	11,986.5	-118.8	-475.9	-64.2	0.00	0.00	0.00
12,100.0	3.18	255.98	12,086.3	-120.1	-481.3	-64.9	0.00	0.00	0.00
12,200.0	3.18	255.98	12,186.2	-121.5	-486.6	-65.6	0.00	0.00	0.00
12,300.0	3.18	255.98	12,286.0	-122.8	-492.0	-66.4	0.00	0.00	0.00
12,321.0	3.18	255.98	12,307.0	-123.1	-493.2	-66.5	0.00	0.00	0.00
12,325.0	3.10	264.56	12,311.0	-123.1	-493.4	-66.5	12.00	-1.95	216.27
12,350.0	4.12	311.05	12,335.9	-122.6	-494.7	-65.9	12.00	4.07	185.98
12,375.0	6.51	331.33	12,360.8	-120.8	-496.1	-63.9	12.00	9.54	81.10
12,400.0	9.26	340.24	12,385.6	-117.7	-497.4	-60.6	12.00	11.00	35.64
12,425.0	12.12	345.03	12,410.1	-113.2	-498.8	-56.1	12.00	11.47	19.17
12,450.0	15.04	348.00	12,434.4	-107.5	-500.2	-50.2	12.00	11.68	11.87
12,475.0	17.99	350.02	12,458.4	-100.5	-501.5	-43.2	12.00	11.78	8.07
12,500.0	20.95	351.48	12,482.0	-92.3	-502.8	-34.8	12.00	11.84	5.86
12,525.0	23.92	352.60	12,505.1	-82.9	-504.1	-25.3	12.00	11.88	4.46
12,550.0	26.89	353.48	12,527.7	-72.2	-505.4	-14.6	12.00	11.90	3.53
12,575.0	29.87	354.20	12,549.7	-60.4	-506.7	-2.7	12.00	11.92	2.87
12,600.0	32.86	354.79	12,571.0	-47.5	-508.0	10.3	12.00	11.94	2.39
12,625.0	35.84	355.30	12,591.6	-33.4	-509.2	24.4	12.00	11.94	2.04
12,650.0	38.83	355.74	12,611.5	-18.3	-510.4	39.6	12.00	11.95	1.76
12,675.0	41.82	356.13	12,630.6	-2.2	-511.5	55.7	12.00	11.96	1.55
12,700.0	44.81	356.47	12,648.8	15.0	-512.6	72.9	12.00	11.96	1.38
12,725.0	47.80	356.78	12,666.0	33.0	-513.7	90.9	12.00	11.97	1.24
12,750.0	50.80	357.07	12,682.3	51.9	-514.7	109.8	12.00	11.97	1.13
12,775.0	53.79	357.32	12,697.6	71.7	-515.6	129.6	12.00	11.97	1.03
12,800.0	56.78	357.56	12,711.8	92.2	-516.6	150.1	12.00	11.97	0.96
12,825.0	59.78	357.79	12,725.0	113.5	-517.4	171.3	12.00	11.98	0.89
12,850.0	62.77	358.00	12,737.0	135.4	-518.2	193.1	12.00	11.98	0.84
12,875.0	65.77	358.20	12,747.9	157.9	-519.0	215.6	12.00	11.98	0.80
12,887.8	67.30	358.30	12,752.9	169.6	-519.3	227.3	12.00	11.98	0.77
FTP (Thor 21 #709H)									
12,900.0	68.76	358.39	12,757.5	180.9	-519.7	238.5	12.00	11.98	0.75
12,925.0	71.76	358.57	12,766.0	204.4	-520.3	262.0	12.00	11.98	0.73
12,950.0	74.75	358.75	12,773.2	228.4	-520.8	285.8	12.00	11.98	0.71
12,975.0	77.75	358.92	12,779.1	252.6	-521.3	310.0	12.00	11.98	0.69
13,000.0	80.74	359.09	12,783.8	277.2	-521.8	334.4	12.00	11.98	0.67
13,025.0	83.74	359.25	12,787.1	302.0	-522.1	359.1	12.00	11.98	0.66
13,050.0	86.73	359.41	12,789.2	326.9	-522.4	383.9	12.00	11.98	0.65
13,077.3	90.00	359.59	12,790.0	354.1	-522.7	411.0	12.00	11.98	0.65
13,100.0	90.00	359.59	12,790.0	376.8	-522.8	433.6	0.00	0.00	0.00
13,200.0	90.00	359.59	12,790.0	476.8	-523.5	533.0	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
Design: Plan #0.3

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3278.0usft
MD Reference: KB = 25' @ 3278.0usft
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	359.59	12,790.0	576.8	-524.2	632.5	0.00	0.00	0.00
13,400.0	90.00	359.59	12,790.0	676.8	-525.0	731.9	0.00	0.00	0.00
13,500.0	90.00	359.59	12,790.0	776.8	-525.7	831.3	0.00	0.00	0.00
13,600.0	90.00	359.59	12,790.0	876.8	-526.4	930.8	0.00	0.00	0.00
13,700.0	90.00	359.59	12,790.0	976.8	-527.1	1,030.2	0.00	0.00	0.00
13,800.0	90.00	359.59	12,790.0	1,076.8	-527.8	1,129.6	0.00	0.00	0.00
13,900.0	90.00	359.59	12,790.0	1,176.8	-528.5	1,229.1	0.00	0.00	0.00
14,000.0	90.00	359.59	12,790.0	1,276.8	-529.3	1,328.5	0.00	0.00	0.00
14,100.0	90.00	359.59	12,790.0	1,376.8	-530.0	1,427.9	0.00	0.00	0.00
14,200.0	90.00	359.59	12,790.0	1,476.8	-530.7	1,527.4	0.00	0.00	0.00
14,300.0	90.00	359.59	12,790.0	1,576.8	-531.4	1,626.8	0.00	0.00	0.00
14,400.0	90.00	359.59	12,790.0	1,676.8	-532.1	1,726.3	0.00	0.00	0.00
14,500.0	90.00	359.59	12,790.0	1,776.8	-532.8	1,825.7	0.00	0.00	0.00
14,600.0	90.00	359.59	12,790.0	1,876.8	-533.6	1,925.1	0.00	0.00	0.00
14,700.0	90.00	359.59	12,790.0	1,976.8	-534.3	2,024.6	0.00	0.00	0.00
14,800.0	90.00	359.59	12,790.0	2,076.8	-535.0	2,124.0	0.00	0.00	0.00
14,900.0	90.00	359.59	12,790.0	2,176.8	-535.7	2,223.4	0.00	0.00	0.00
15,000.0	90.00	359.59	12,790.0	2,276.8	-536.4	2,322.9	0.00	0.00	0.00
15,100.0	90.00	359.59	12,790.0	2,376.8	-537.1	2,422.3	0.00	0.00	0.00
15,200.0	90.00	359.59	12,790.0	2,476.8	-537.8	2,521.7	0.00	0.00	0.00
15,300.0	90.00	359.59	12,790.0	2,576.8	-538.6	2,621.2	0.00	0.00	0.00
15,400.0	90.00	359.59	12,790.0	2,676.8	-539.3	2,720.6	0.00	0.00	0.00
15,500.0	90.00	359.59	12,790.0	2,776.8	-540.0	2,820.1	0.00	0.00	0.00
15,600.0	90.00	359.59	12,790.0	2,876.8	-540.7	2,919.5	0.00	0.00	0.00
15,700.0	90.00	359.59	12,790.0	2,976.8	-541.4	3,018.9	0.00	0.00	0.00
15,800.0	90.00	359.59	12,790.0	3,076.8	-542.1	3,118.4	0.00	0.00	0.00
15,900.0	90.00	359.59	12,790.0	3,176.8	-542.9	3,217.8	0.00	0.00	0.00
16,000.0	90.00	359.59	12,790.0	3,276.8	-543.6	3,317.2	0.00	0.00	0.00
16,100.0	90.00	359.59	12,790.0	3,376.8	-544.3	3,416.7	0.00	0.00	0.00
16,200.0	90.00	359.59	12,790.0	3,476.8	-545.0	3,516.1	0.00	0.00	0.00
16,300.0	90.00	359.59	12,790.0	3,576.8	-545.7	3,615.5	0.00	0.00	0.00
16,400.0	90.00	359.59	12,790.0	3,676.8	-546.4	3,715.0	0.00	0.00	0.00
16,500.0	90.00	359.59	12,790.0	3,776.8	-547.1	3,814.4	0.00	0.00	0.00
16,600.0	90.00	359.59	12,790.0	3,876.8	-547.9	3,913.9	0.00	0.00	0.00
16,700.0	90.00	359.59	12,790.0	3,976.8	-548.6	4,013.3	0.00	0.00	0.00
16,800.0	90.00	359.59	12,790.0	4,076.8	-549.3	4,112.7	0.00	0.00	0.00
16,900.0	90.00	359.59	12,790.0	4,176.8	-550.0	4,212.2	0.00	0.00	0.00
17,000.0	90.00	359.59	12,790.0	4,276.7	-550.7	4,311.6	0.00	0.00	0.00
17,100.0	90.00	359.59	12,790.0	4,376.7	-551.4	4,411.0	0.00	0.00	0.00
17,200.0	90.00	359.59	12,790.0	4,476.7	-552.2	4,510.5	0.00	0.00	0.00
17,300.0	90.00	359.59	12,790.0	4,576.7	-552.9	4,609.9	0.00	0.00	0.00
17,400.0	90.00	359.59	12,790.0	4,676.7	-553.6	4,709.3	0.00	0.00	0.00
17,500.0	90.00	359.59	12,790.0	4,776.7	-554.3	4,808.8	0.00	0.00	0.00
17,597.3	90.00	359.59	12,790.0	4,874.0	-555.0	4,905.5	0.00	0.00	0.00

PBHL (Thor 21 #709H)



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Thor 21
Well: #709H
Wellbore: OH
Design: Plan #0.3

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3278.0usft
MD Reference: KB = 25' @ 3278.0usft
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
FTP (Thor 21 #709H) - plan misses target center by 40.2usft at 12887.8usft MD (12752.9 TVD, 169.6 N, -519.3 E) - Point	0.00	0.01	12,790.0	154.0	-521.0	372,800.00	777,345.00	32° 1' 21.435 N	103° 34' 18.525 W
PBHL (Thor 21 #709H) - plan hits target center - Rectangle (sides W60.0 H0.0 D4,722.0)	90.00	359.59	12,790.0	4,874.0	-555.0	377,520.00	777,311.00	32° 2' 8.144 N	103° 34' 18.533 W