

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-42480
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Thor 21
8. Well Number 702H
9. OGRID Number 7377
10. Pool name or Wildcat WC-025 G-09 S263327G; Upper Wolfcamp

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR PROPOSALS.)	
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐	
2. Name of Operator EOG Resources, Inc.	
3. Address of Operator P.O. Box 2267 Midland, TX 79702	
4. Well Location Unit Letter <u>P</u> <u>230</u> feet from the <u>South</u> line and <u>350</u> feet from the <u>East</u> line Section <u>21</u> Township <u>26S</u> Range <u>33E</u> NMPM County <u>Lea</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3252' GR	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

EOG Resources requests changes to the APD for this well to reflect a change in casing design and TVD as attached.

Change in TVD from 12378', (17202' MD) TO: 12318' TVD; 17144' MD.

New casing design attached.

We also request that the well number be changed to 702H to reflect the wolfcamp pool.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Stan Wagner TITLE Regulatory Analyst DATE 4/21/15
Type or print name Stan Wagner E-mail address: PHONE: 432-686-3689

For State Use Only

APPROVED BY: [Signature] TITLE Petroleum Engineer DATE 04/22/15
Conditions of Approval (if any):

E-PERM KE

APR 22 2015

Revised Permit Information 4/20/15:

Well Name: Thor 21 No. 702H

Location:

SL: 230' FSL & 350' FEL, Section 21, T-26-S, R-33-E, Lea Co., N.M.

BHL: 230' FNL & 1040' FEL, Section 21, T-26-S, R-33-E, Lea Co., N.M.

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 1000'	10.75"	40.5#	J55	STC	1.125	1.25	1.60
9.875"	0-10,500'	7.625"	29.7#	HCP-110	LTC	1.125	1.25	1.60
6.75"	0'-17,144'	5.5"	17#	HCP-110	BTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
1000'	300	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)
	200	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
10,500' DV Tool w/ ECP @ 5,000'	315	10.8	3.68	Stage 1 Lead: Class C + 15.00 lbs/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sx Static Free
	250	15.6	1.19	Stage 1 Tail: Class H + 1.0% FL-52 + 0.6% CD-32 + 0.5% SMS + 1.0% Salt + 0.3% R-3
	550	12.7	2.22	Stage 2 Lead: Class 'C' + 2.0% SMS + 10.0% Slat + 0.55% R-21 + 0.25 pps Celloflake + 0.005 pps Static Free (TOC @ Surface)
	200	14.8	1.35	Stage 2 Tail: Class 'C' + 0.60% FL-62 + 0.7% CD-32 + 0.3% SMS + 2.0% Salt + 0.10% R-3 + 0.005 pps Static Free + 0.005 gps FP-6L
17,144'	625	14.2	1.35	50:50:2 Class H + 0.65% FL-52 + 0.70% CD-32 + 1.0% EC-1 + 0.40% SMS + 2.0% Salt + 0.05% R-3 + 0.005 pps Static Free + 0.005 gps FP-6L (TOC @ 11,000')

Mud Program:

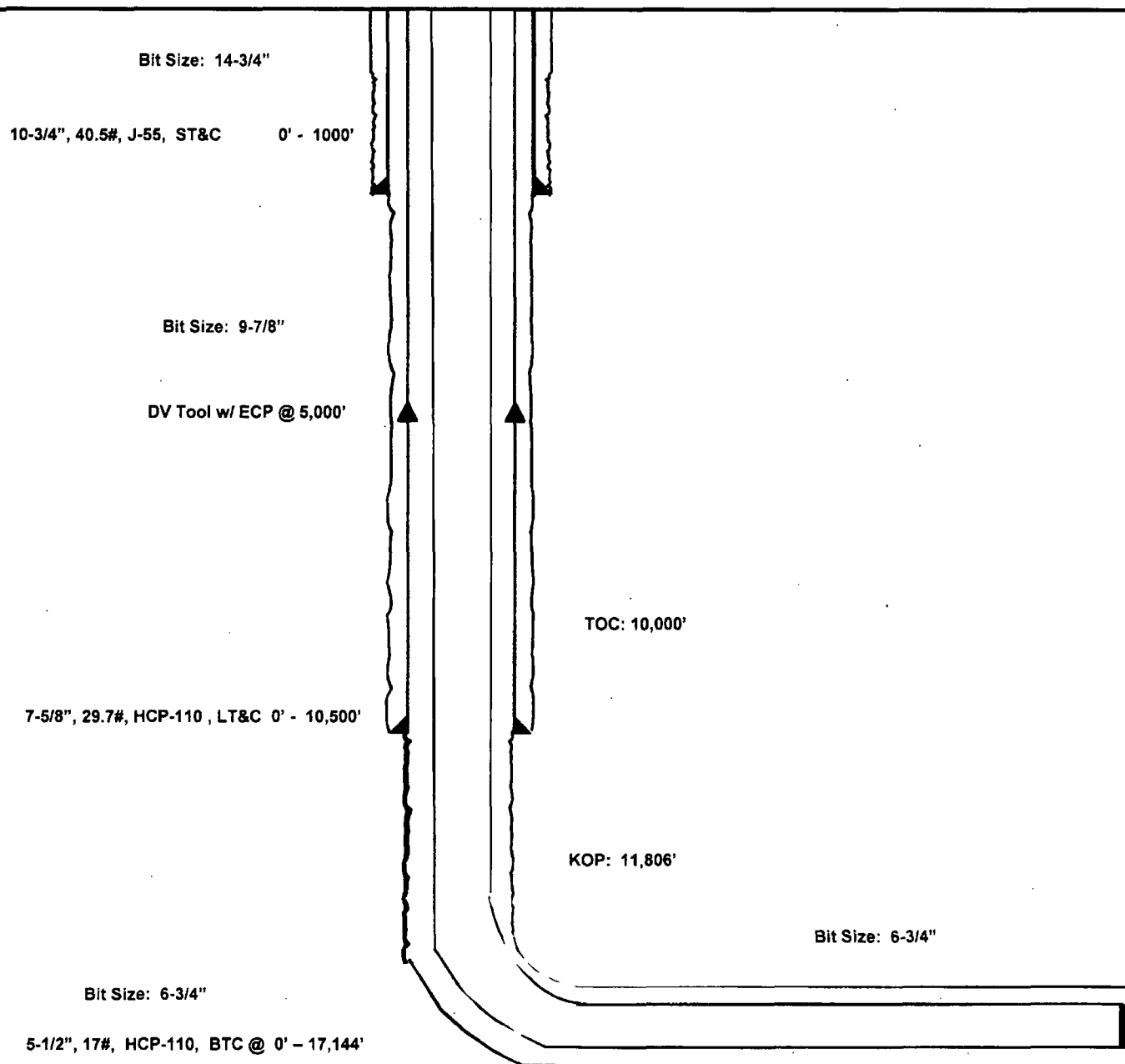
Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1000'	Fresh - Gel	8.6-8.8	28-34	N/c
1000' - 10,500'	Oil Base	8.7-9.4	58-68	N/c - 6
10,500' - 11,806'	Oil Base	8.7-9.4	58-68	N/c - 6
11,806' - 17,144' Lateral	Oil Base	9.0-9.5	58-68	N/c - 6

Thor 21 #702H

230' FSL
350' FEL
Section 21
T-26-S, R-33-E

Lea County, New Mexico
Proposed Wellbore
Revised 4/20/15
API: 30-025-42480

KB: 3,277'
GL: 3,252'



Lateral: 17,144' MD, 12,318' TVD

BH Location: 230' FNL & 1040' FEL
Section 21
T-26-S, R-33-E



Lea County, NM (NAD 27 NME)

Thor 21 #702H

H&P 260

Plan #4

PROJECT DETAILS: Lea County, NM (NAD 27 NME)

Geodetic System: US State Plane 1827 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #702H

Ground Level: 3252.0
KB = 25 @ 3277.0' (H&P 260)
Northing: 372644.00 Easting: 736784.00
Latitude: 32° 1' 15.952 N Longitude: 103° 34' 9.762 W



Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.78°
Magnetic Field
Strength: 48039.1 nT
Dip Angle: 58.50°
Date: 4/27/2015
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.78°
To convert a Magnetic Direction to a True Direction, Add 7.17° East
To convert a True Direction to a Grid Direction, Subtract 0.41°

SECTION DETAILS

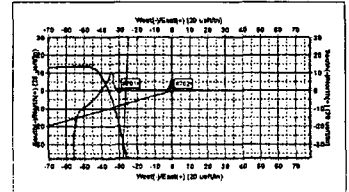
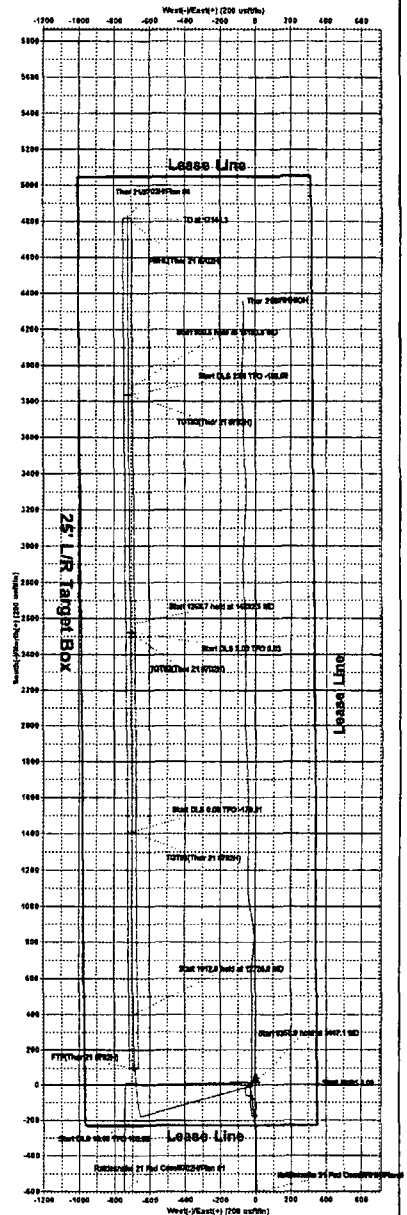
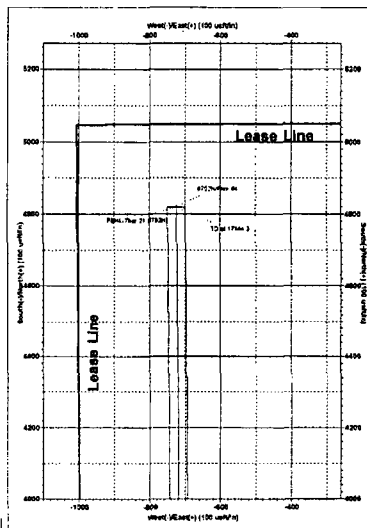
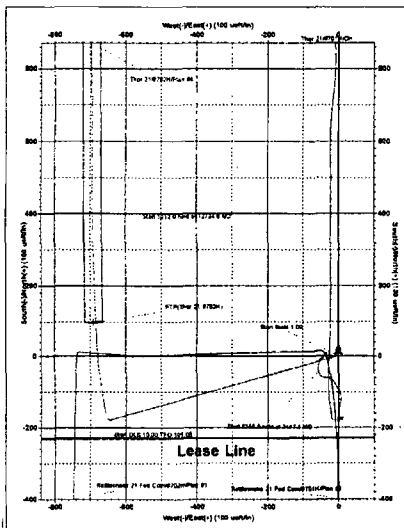
Sec	MD	Inc	Alt	TVD	+N-S	+E-W	Oleg	TFace	VSeal	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0		
3	3447.1	4.47	254.43	3446.7	-4.7	-19.8	1.00	254.43	-2.1		
4	11808.1	4.47	254.43	11780.2	-178.6	-444.6	0.00	0.00	-81.9		
5	12754.8	90.68	359.60	12361.0	393.7	-493.1	10.00	105.08	438.3		
6	15736.6	90.68	359.60	12361.0	1611.8	-700.2	0.00	0.00	1500.0		TGTW1(Thor 21 #702H)
7	14847.8	90.04	359.60	12344.0	2822.8	-707.9	0.04	-179.81	2690.0		TGTW2(Thor 21 #702H)
8	14892.5	90.59	359.60	12342.9	2667.6	-708.3	2.00	0.00	2644.2		TGTW3(Thor 21 #702H)
9	16161.2	90.93	359.60	12323.0	3836.0	-717.1	0.00	0.00	3809.0		TGTW4(Thor 21 #702H)
10	16183.8	90.28	359.60	12322.7	3868.6	-717.4	2.00	-180.00	3832.2		PBHL(Thor 21 #702H)
11	17144.3	90.28	359.60	12318.0	4818.0	-724.0	0.00	0.00	4873.1		PBHL(Thor 21 #702H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGTW1(Thor 21 #702H)	12381.0	1411.8	-755.2	374066.58	736067.82
TGTW2(Thor 21 #702H)	12344.0	2822.8	-707.9	375166.80	736060.06
TGTW3(Thor 21 #702H)	12323.0	3836.0	-717.1	376480.00	736050.87
PBHL(Thor 21 #702H)	12318.0	4818.0	-724.0	377482.00	736044.00
PTH(Thor 21 #702H)	12385.0	88.0	-491.0	377422.50	736077.00



Lea County, NM (NAD 27 NME)

Thor 21

#702H

OH



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Thor 21

#702H

OH

Plan: Plan #4

Standard Planning Report

20 April, 2015



EOG Resources, Inc.
Planning Report

Database: EDM 5000.1 Single User Db
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Thor 21
Well: #702H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3277.0usft (H&P 260)
MD Reference: KB = 25 @ 3277.0usft (H&P 260)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD 27 NME)		
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	Thor 21		
Site Position:	Northing:	372,644.00 usft	Latitude: 32° 1' 19.964 N
From: Map	Easting:	736,738.00 usft	Longitude: 103° 34' 10.110 W
Position Uncertainty:	0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.41 °

Well	#702H		
Well Position	+N/-S	0.0 usft	Northing: 372,644.00 usft
	+E/-W	30.0 usft	Easting: 736,768.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	3,252.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2015	4/27/2015	(°) 7.17	(°) 59.90	(nT) 48,039

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	351.46

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	
3,447.1	4.47	254.43	3,446.7	-4.7	-16.8	1.00	1.00	0.00	254.43	
11,806.1	4.47	254.43	11,780.2	-179.6	-844.5	0.00	0.00	0.00	0.00	
12,724.6	90.68	359.60	12,363.1	399.7	-693.1	10.00	9.39	11.45	105.08	
13,736.6	90.68	359.60	12,351.0	1,411.6	-700.2	0.00	0.00	0.00	0.00	TGT#1(Thor 21 #702)
14,847.8	90.04	359.60	12,344.0	2,522.8	-707.9	0.06	-0.06	0.00	-179.91	TGT#2(Thor 21 #702)
14,892.5	90.93	359.60	12,343.6	2,567.5	-708.3	2.00	2.00	0.00	0.03	
16,161.2	90.93	359.60	12,323.0	3,836.0	-717.1	0.00	0.00	0.00	0.00	TGT#3(Thor 21 #702)
16,193.8	90.28	359.60	12,322.7	3,868.5	-717.4	2.00	-2.00	0.00	-180.00	
17,144.3	90.28	359.60	12,318.0	4,818.0	-724.0	0.00	0.00	0.00	0.00	PBHL(Thor 21 #702H)



EOG Resources, Inc.
Planning Report

Database: EDM 5000.1 Single User Db
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Thor 21
Well: #702H
Wellbore: OH
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Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3277.0usft (H&P 260)
MD Reference: KB = 25 @ 3277.0usft (H&P 260)
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	254.43	3,100.0	-0.2	-0.8	-0.1	1.00	1.00	0.00
3,200.0	2.00	254.43	3,200.0	-0.9	-3.4	-0.4	1.00	1.00	0.00
3,300.0	3.00	254.43	3,299.9	-2.1	-7.6	-1.0	1.00	1.00	0.00
3,400.0	4.00	254.43	3,399.7	-3.7	-13.4	-1.7	1.00	1.00	0.00
3,447.1	4.47	254.43	3,446.7	-4.7	-16.8	-2.1	1.00	1.00	0.00
3,500.0	4.47	254.43	3,499.4	-5.8	-20.8	-2.6	0.00	0.00	0.00
3,600.0	4.47	254.43	3,599.1	-7.9	-28.3	-3.6	0.00	0.00	0.00
3,700.0	4.47	254.43	3,698.8	-10.0	-35.8	-4.5	0.00	0.00	0.00
3,800.0	4.47	254.43	3,798.5	-12.1	-43.3	-5.5	0.00	0.00	0.00
3,900.0	4.47	254.43	3,898.2	-14.2	-50.8	-6.5	0.00	0.00	0.00
4,000.0	4.47	254.43	3,997.9	-16.3	-58.3	-7.4	0.00	0.00	0.00
4,100.0	4.47	254.43	4,097.6	-18.3	-65.8	-8.4	0.00	0.00	0.00
4,200.0	4.47	254.43	4,197.3	-20.4	-73.3	-9.3	0.00	0.00	0.00
4,300.0	4.47	254.43	4,297.0	-22.5	-80.8	-10.3	0.00	0.00	0.00
4,400.0	4.47	254.43	4,396.6	-24.6	-88.4	-11.2	0.00	0.00	0.00
4,500.0	4.47	254.43	4,496.3	-26.7	-95.9	-12.2	0.00	0.00	0.00
4,600.0	4.47	254.43	4,596.0	-28.8	-103.4	-13.1	0.00	0.00	0.00
4,700.0	4.47	254.43	4,695.7	-30.9	-110.9	-14.1	0.00	0.00	0.00
4,800.0	4.47	254.43	4,795.4	-33.0	-118.4	-15.0	0.00	0.00	0.00
4,900.0	4.47	254.43	4,895.1	-35.1	-125.9	-16.0	0.00	0.00	0.00
5,000.0	4.47	254.43	4,994.8	-37.2	-133.4	-16.9	0.00	0.00	0.00
5,100.0	4.47	254.43	5,094.5	-39.3	-140.9	-17.9	0.00	0.00	0.00
5,200.0	4.47	254.43	5,194.2	-41.4	-148.4	-18.9	0.00	0.00	0.00



EOG Resources, Inc.

Planning Report

Database: EDM 5000.1 Single User Db
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Site: Thor 21
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Wellbore: OH
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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	4.47	254.43	5,293.9	-43.5	-155.9	-19.8	0.00	0.00	0.00
5,400.0	4.47	254.43	5,393.6	-45.6	-163.5	-20.8	0.00	0.00	0.00
5,500.0	4.47	254.43	5,493.3	-47.6	-171.0	-21.7	0.00	0.00	0.00
5,600.0	4.47	254.43	5,593.0	-49.7	-178.5	-22.7	0.00	0.00	0.00
5,700.0	4.47	254.43	5,692.7	-51.8	-186.0	-23.6	0.00	0.00	0.00
5,800.0	4.47	254.43	5,792.4	-53.9	-193.5	-24.6	0.00	0.00	0.00
5,900.0	4.47	254.43	5,892.1	-56.0	-201.0	-25.5	0.00	0.00	0.00
6,000.0	4.47	254.43	5,991.8	-58.1	-208.5	-26.5	0.00	0.00	0.00
6,100.0	4.47	254.43	6,091.5	-60.2	-216.0	-27.4	0.00	0.00	0.00
6,200.0	4.47	254.43	6,191.2	-62.3	-223.5	-28.4	0.00	0.00	0.00
6,300.0	4.47	254.43	6,290.9	-64.4	-231.0	-29.4	0.00	0.00	0.00
6,400.0	4.47	254.43	6,390.6	-66.5	-238.6	-30.3	0.00	0.00	0.00
6,500.0	4.47	254.43	6,490.3	-68.6	-246.1	-31.3	0.00	0.00	0.00
6,600.0	4.47	254.43	6,590.0	-70.7	-253.6	-32.2	0.00	0.00	0.00
6,700.0	4.47	254.43	6,689.6	-72.8	-261.1	-33.2	0.00	0.00	0.00
6,800.0	4.47	254.43	6,789.3	-74.9	-268.6	-34.1	0.00	0.00	0.00
6,900.0	4.47	254.43	6,889.0	-77.0	-276.1	-35.1	0.00	0.00	0.00
7,000.0	4.47	254.43	6,988.7	-79.0	-283.6	-36.0	0.00	0.00	0.00
7,100.0	4.47	254.43	7,088.4	-81.1	-291.1	-37.0	0.00	0.00	0.00
7,200.0	4.47	254.43	7,188.1	-83.2	-298.6	-37.9	0.00	0.00	0.00
7,300.0	4.47	254.43	7,287.8	-85.3	-306.1	-38.9	0.00	0.00	0.00
7,400.0	4.47	254.43	7,387.5	-87.4	-313.7	-39.8	0.00	0.00	0.00
7,500.0	4.47	254.43	7,487.2	-89.5	-321.2	-40.8	0.00	0.00	0.00
7,600.0	4.47	254.43	7,586.9	-91.6	-328.7	-41.8	0.00	0.00	0.00
7,700.0	4.47	254.43	7,686.6	-93.7	-336.2	-42.7	0.00	0.00	0.00
7,800.0	4.47	254.43	7,786.3	-95.8	-343.7	-43.7	0.00	0.00	0.00
7,900.0	4.47	254.43	7,886.0	-97.9	-351.2	-44.6	0.00	0.00	0.00
8,000.0	4.47	254.43	7,985.7	-100.0	-358.7	-45.6	0.00	0.00	0.00
8,100.0	4.47	254.43	8,085.4	-102.1	-366.2	-46.5	0.00	0.00	0.00
8,200.0	4.47	254.43	8,185.1	-104.2	-373.7	-47.5	0.00	0.00	0.00
8,300.0	4.47	254.43	8,284.8	-106.3	-381.2	-48.4	0.00	0.00	0.00
8,400.0	4.47	254.43	8,384.5	-108.3	-388.8	-49.4	0.00	0.00	0.00
8,500.0	4.47	254.43	8,484.2	-110.4	-396.3	-50.3	0.00	0.00	0.00
8,600.0	4.47	254.43	8,583.9	-112.5	-403.8	-51.3	0.00	0.00	0.00
8,700.0	4.47	254.43	8,683.6	-114.6	-411.3	-52.2	0.00	0.00	0.00
8,800.0	4.47	254.43	8,783.3	-116.7	-418.8	-53.2	0.00	0.00	0.00
8,900.0	4.47	254.43	8,882.9	-118.8	-426.3	-54.2	0.00	0.00	0.00
9,000.0	4.47	254.43	8,982.6	-120.9	-433.8	-55.1	0.00	0.00	0.00
9,100.0	4.47	254.43	9,082.3	-123.0	-441.3	-56.1	0.00	0.00	0.00
9,200.0	4.47	254.43	9,182.0	-125.1	-448.8	-57.0	0.00	0.00	0.00
9,300.0	4.47	254.43	9,281.7	-127.2	-456.3	-58.0	0.00	0.00	0.00
9,400.0	4.47	254.43	9,381.4	-129.3	-463.9	-58.9	0.00	0.00	0.00
9,500.0	4.47	254.43	9,481.1	-131.4	-471.4	-59.9	0.00	0.00	0.00
9,600.0	4.47	254.43	9,580.8	-133.5	-478.9	-60.8	0.00	0.00	0.00
9,700.0	4.47	254.43	9,680.5	-135.6	-486.4	-61.8	0.00	0.00	0.00
9,800.0	4.47	254.43	9,780.2	-137.6	-493.9	-62.7	0.00	0.00	0.00
9,900.0	4.47	254.43	9,879.9	-139.7	-501.4	-63.7	0.00	0.00	0.00
10,000.0	4.47	254.43	9,979.6	-141.8	-508.9	-64.7	0.00	0.00	0.00
10,100.0	4.47	254.43	10,079.3	-143.9	-516.4	-65.6	0.00	0.00	0.00
10,200.0	4.47	254.43	10,179.0	-146.0	-523.9	-66.6	0.00	0.00	0.00
10,300.0	4.47	254.43	10,278.7	-148.1	-531.4	-67.5	0.00	0.00	0.00
10,400.0	4.47	254.43	10,378.4	-150.2	-539.0	-68.5	0.00	0.00	0.00
10,500.0	4.47	254.43	10,478.1	-152.3	-546.5	-69.4	0.00	0.00	0.00
10,600.0	4.47	254.43	10,577.8	-154.4	-554.0	-70.4	0.00	0.00	0.00



EOG Resources, Inc.

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Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3277.0usft (H&P 260)
MD Reference: KB = 25 @ 3277.0usft (H&P 260)
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)
10,700.0	4.47	254.43	10,677.5	-156.5	-561.5	-71.3	0.00	0.00	0.00
10,800.0	4.47	254.43	10,777.2	-158.6	-569.0	-72.3	0.00	0.00	0.00
10,900.0	4.47	254.43	10,876.9	-160.7	-576.5	-73.2	0.00	0.00	0.00
11,000.0	4.47	254.43	10,976.6	-162.8	-584.0	-74.2	0.00	0.00	0.00
11,100.0	4.47	254.43	11,076.3	-164.9	-591.5	-75.1	0.00	0.00	0.00
11,200.0	4.47	254.43	11,175.9	-167.0	-599.0	-76.1	0.00	0.00	0.00
11,300.0	4.47	254.43	11,275.6	-169.0	-606.5	-77.1	0.00	0.00	0.00
11,400.0	4.47	254.43	11,375.3	-171.1	-614.0	-78.0	0.00	0.00	0.00
11,500.0	4.47	254.43	11,475.0	-173.2	-621.6	-79.0	0.00	0.00	0.00
11,600.0	4.47	254.43	11,574.7	-175.3	-629.1	-79.9	0.00	0.00	0.00
11,700.0	4.47	254.43	11,674.4	-177.4	-636.6	-80.9	0.00	0.00	0.00
11,806.1	4.47	254.43	11,780.2	-179.6	-644.5	-81.9	0.00	0.00	0.00
11,850.0	5.39	306.39	11,824.0	-178.9	-647.9	-80.6	10.00	2.09	118.28
11,900.0	9.29	332.05	11,873.6	-173.9	-651.6	-75.2	10.00	7.79	51.31
11,950.0	13.90	341.79	11,922.5	-164.6	-655.4	-65.4	10.00	9.24	19.49
12,000.0	18.72	346.67	11,970.5	-151.1	-659.1	-51.5	10.00	9.63	9.76
12,050.0	23.60	349.60	12,017.1	-133.5	-662.8	-33.5	10.00	9.78	5.85
12,100.0	28.53	351.57	12,062.0	-111.8	-666.4	-11.5	10.00	9.85	3.93
12,150.0	33.48	352.99	12,104.9	-86.3	-669.8	14.2	10.00	9.89	2.85
12,200.0	38.43	354.09	12,145.3	-57.1	-673.1	43.5	10.00	9.92	2.19
12,250.0	43.40	354.97	12,183.1	-24.5	-676.2	76.2	10.00	9.93	1.76
12,300.0	48.37	355.70	12,217.9	11.3	-679.1	112.0	10.00	9.94	1.46
12,350.0	53.35	356.33	12,249.4	49.9	-681.8	150.7	10.00	9.95	1.25
12,400.0	58.33	356.88	12,277.5	91.2	-684.2	191.9	10.00	9.96	1.10
12,447.9	63.10	357.35	12,300.9	132.9	-686.3	233.4	10.00	9.96	0.99
FTP(Thor 21 #702H)									
12,450.0	63.31	357.37	12,301.9	134.8	-686.4	235.3	10.00	9.96	0.94
12,500.0	68.29	357.83	12,322.4	180.4	-688.3	280.6	10.00	9.97	0.91
12,550.0	73.28	358.25	12,338.8	227.5	-689.9	327.5	10.00	9.97	0.84
12,600.0	78.26	358.65	12,351.1	276.0	-691.2	375.6	10.00	9.97	0.80
12,650.0	83.25	359.04	12,359.1	325.3	-692.2	424.5	10.00	9.97	0.77
12,700.0	88.23	359.41	12,362.8	375.1	-692.9	473.9	10.00	9.97	0.76
12,724.6	90.68	359.60	12,363.1	399.7	-693.1	498.2	10.00	9.97	0.75
12,800.0	90.68	359.60	12,362.2	475.1	-693.6	572.9	0.00	0.00	0.00
12,900.0	90.68	359.60	12,361.0	575.1	-694.3	671.9	0.00	0.00	0.00
13,000.0	90.68	359.60	12,359.8	675.1	-695.0	770.9	0.00	0.00	0.00
13,100.0	90.68	359.60	12,358.6	775.1	-695.7	869.8	0.00	0.00	0.00
13,200.0	90.68	359.60	12,357.4	875.1	-696.4	968.8	0.00	0.00	0.00
13,300.0	90.68	359.60	12,356.2	975.1	-697.1	1,067.8	0.00	0.00	0.00
13,400.0	90.68	359.60	12,355.0	1,075.1	-697.8	1,166.8	0.00	0.00	0.00
13,500.0	90.68	359.60	12,353.8	1,175.0	-698.5	1,265.8	0.00	0.00	0.00
13,600.0	90.68	359.60	12,352.6	1,275.0	-699.2	1,364.8	0.00	0.00	0.00
13,700.0	90.68	359.60	12,351.4	1,375.0	-699.9	1,463.8	0.00	0.00	0.00
13,736.8	90.68	359.60	12,351.0	1,411.6	-700.2	1,500.0	0.00	0.00	0.00
TGT#1(Thor 21 #702H)									
13,800.0	90.65	359.60	12,350.3	1,475.0	-700.6	1,562.7	0.06	-0.06	0.00
13,900.0	90.59	359.60	12,349.2	1,575.0	-701.3	1,661.7	0.06	-0.06	0.00
14,000.0	90.53	359.60	12,348.2	1,675.0	-702.0	1,760.7	0.06	-0.06	0.00
14,100.0	90.47	359.60	12,347.3	1,775.0	-702.7	1,859.7	0.06	-0.06	0.00
14,200.0	90.41	359.60	12,346.6	1,875.0	-703.4	1,958.7	0.06	-0.06	0.00
14,300.0	90.36	359.60	12,345.9	1,975.0	-704.1	2,057.7	0.06	-0.06	0.00
14,400.0	90.30	359.60	12,345.3	2,075.0	-704.8	2,156.7	0.06	-0.06	0.00
14,500.0	90.24	359.60	12,344.8	2,175.0	-705.5	2,255.7	0.06	-0.06	0.00
14,600.0	90.18	359.60	12,344.5	2,275.0	-706.2	2,354.6	0.06	-0.06	0.00



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Wellbore: OH
Design: Plan #4

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,700.0	90.12	359.60	12,344.2	2,375.0	-706.9	2,453.6	0.06	-0.06	0.00
14,800.0	90.07	359.60	12,344.0	2,475.0	-707.6	2,552.6	0.06	-0.06	0.00
14,847.8	90.04	359.60	12,344.0	2,522.8	-707.9	2,600.0	0.06	-0.06	0.00
TGT#2(Thor 21 #702H)									
14,892.5	90.93	359.60	12,343.6	2,567.5	-708.3	2,644.2	2.00	2.00	0.00
14,900.0	90.93	359.60	12,343.5	2,575.0	-708.3	2,651.6	0.00	0.00	0.00
15,000.0	90.93	359.60	12,341.9	2,674.9	-709.0	2,750.6	0.00	0.00	0.00
15,100.0	90.93	359.60	12,340.2	2,774.9	-709.7	2,849.6	0.00	0.00	0.00
15,200.0	90.93	359.60	12,338.6	2,874.9	-710.4	2,948.6	0.00	0.00	0.00
15,300.0	90.93	359.60	12,337.0	2,974.9	-711.1	3,047.5	0.00	0.00	0.00
15,400.0	90.93	359.60	12,335.4	3,074.9	-711.8	3,146.5	0.00	0.00	0.00
15,500.0	90.93	359.60	12,333.7	3,174.9	-712.5	3,245.5	0.00	0.00	0.00
15,600.0	90.93	359.60	12,332.1	3,274.9	-713.2	3,344.5	0.00	0.00	0.00
15,700.0	90.93	359.60	12,330.5	3,374.8	-713.9	3,443.4	0.00	0.00	0.00
15,800.0	90.93	359.60	12,328.9	3,474.8	-714.6	3,542.4	0.00	0.00	0.00
15,900.0	90.93	359.60	12,327.2	3,574.8	-715.3	3,641.4	0.00	0.00	0.00
16,000.0	90.93	359.60	12,325.6	3,674.8	-716.0	3,740.4	0.00	0.00	0.00
16,100.0	90.93	359.60	12,324.0	3,774.8	-716.7	3,839.4	0.00	0.00	0.00
16,161.2	90.93	359.60	12,323.0	3,836.0	-717.1	3,900.0	0.00	0.00	0.00
TGT#3(Thor 21 #702H)									
16,193.8	90.28	359.60	12,322.7	3,868.5	-717.4	3,932.2	2.00	-2.00	0.00
16,200.0	90.28	359.60	12,322.6	3,874.8	-717.4	3,938.3	0.00	0.00	0.00
16,300.0	90.28	359.60	12,322.1	3,974.8	-718.1	4,037.3	0.00	0.00	0.00
16,400.0	90.28	359.60	12,321.6	4,074.8	-718.8	4,136.3	0.00	0.00	0.00
16,500.0	90.28	359.60	12,321.2	4,174.8	-719.5	4,235.3	0.00	0.00	0.00
16,600.0	90.28	359.60	12,320.7	4,274.7	-720.2	4,334.3	0.00	0.00	0.00
16,700.0	90.28	359.60	12,320.2	4,374.7	-720.9	4,433.3	0.00	0.00	0.00
16,800.0	90.28	359.60	12,319.7	4,474.7	-721.6	4,532.3	0.00	0.00	0.00
16,900.0	90.28	359.60	12,319.2	4,574.7	-722.3	4,631.3	0.00	0.00	0.00
17,000.0	90.28	359.60	12,318.7	4,674.7	-723.0	4,730.3	0.00	0.00	0.00
17,100.0	90.28	359.60	12,318.2	4,774.7	-723.7	4,829.3	0.00	0.00	0.00
17,144.3	90.28	359.60	12,318.0	4,819.0	-724.0	4,873.1	0.00	0.00	0.00
PBHL(Thor 21 #702H)									



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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(Thor 21 #702H) - plan hits target center - Rectangle (sides W50.0 H0.0 D4,721.7)	90.00	359.60	12,318.0	4,819.0	-724.0	377,463.00	736,044.00	32° 2' 7.700 N	103° 34' 17.776 W
TGT#3(Thor 21 #702H) - plan hits target center - Point	0.00	0.00	12,323.0	3,836.0	-717.1	376,480.00	736,050.87	32° 1' 57.972 N	103° 34' 17.777 W
TGT#2(Thor 21 #702H) - plan hits target center - Point	0.00	0.00	12,344.0	2,522.8	-707.9	375,166.80	736,060.05	32° 1' 44.976 N	103° 34' 17.778 W
TGT#1(Thor 21 #702H) - plan hits target center - Point	0.00	0.00	12,351.0	1,411.6	-700.2	374,055.60	736,067.81	32° 1' 33.980 N	103° 34' 17.779 W
FTP(Thor 21 #702H) - plan misses target center by 71.4usft at 12447.9usft MD (12300.9 TVD, 132.9 N, -686.3 E) - Point	0.00	0.00	12,363.0	98.0	-691.0	372,742.00	736,077.00	32° 1' 20.980 N	103° 34' 17.780 W