

Revised Permit Information 5/24/18:

Well Name: Hearn 34 State Com No. 709H

Location:

SL: 275' FSL & 2397' FEL, Section 34, T-24-S, R-33-E, Lea Co., N.M.

BHL: 230' FNL & 2382' FEL, Section 27, T-24-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
17.5"	0 – 1,240'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4,000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4,000' – 5,000'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
8.75"	0 – 11,400'	7.625"	29.7#	HCP110	FXL	1.125	1.25	1.60
6.75"	0'-22,570'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
1,240'	697	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂ (TOC @ Surface)
	333	14.8	1.35	Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk)
5,000'	692	12.7	2.22	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)
	303	14.8	1.32	Tail: Class C + 0.13% C-20
11,400'	375	10.8	3.67	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,500')
	400	14.8	2.38	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
22,570'	950	14.8	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,900')

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,240'	Fresh - Gel	8.6-8.8	28-34	N/c
1,240' – 5,000'	Brine	10.0-10.2	28-34	N/c
5,000' – 11,400'	Oil Base	8.7-9.4	58-68	N/c - 6
11,400' – 22,570' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

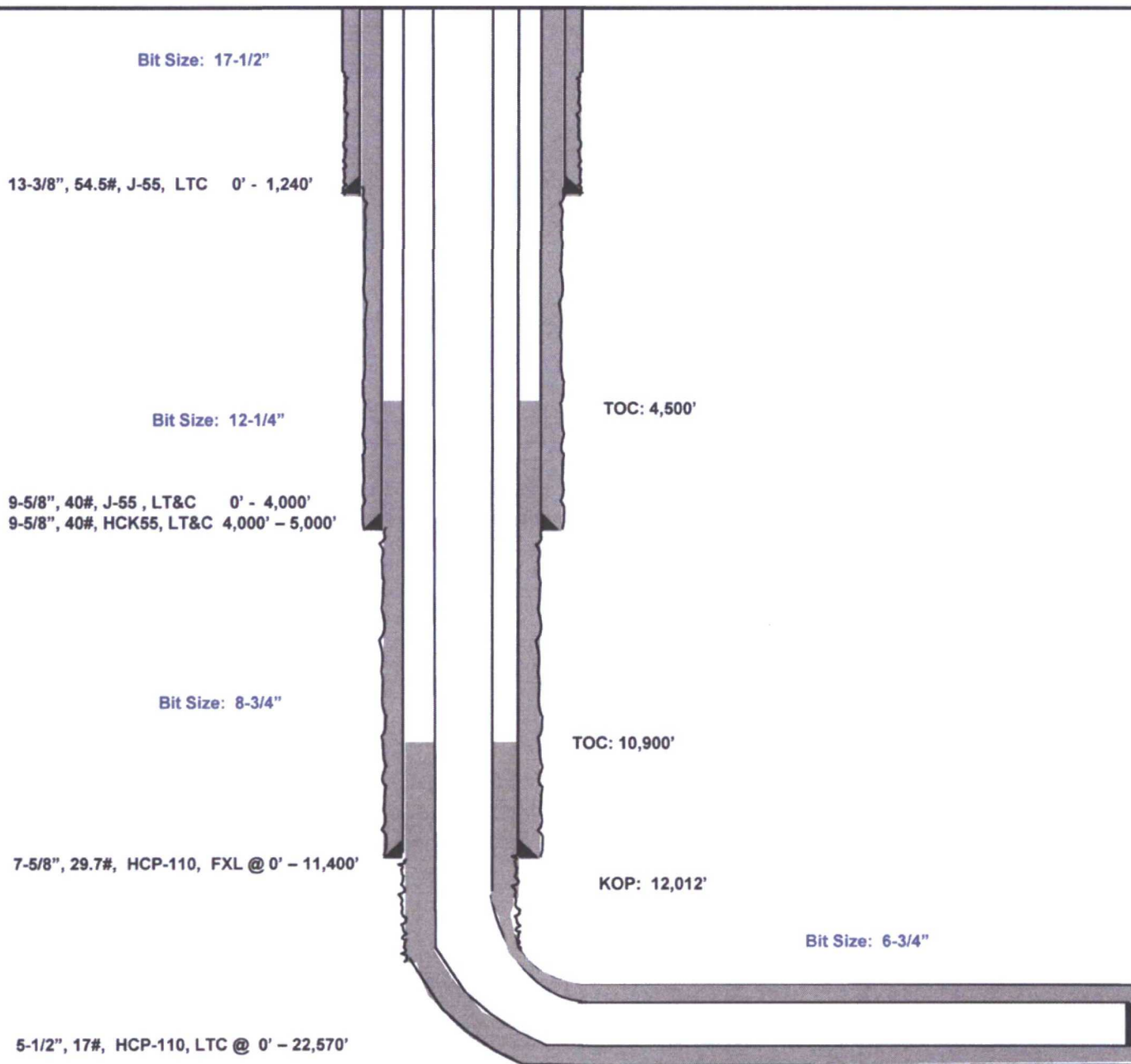
HOBBS OCD
MAY 25 2018
RECEIVED

Hearns 34 State Com #709H
Lea County, New Mexico

275' FSL
2397' FEL
Section 34
T-24-S, R-33-E

Proposed Wellbore
Revised 5/24/18
API: 30-025-43859

KB: 3,492'
GL: 3,467'



Lateral: 22,570' MD, 12,500' TVD

BH Location: 230' FNL & 2382' FEL
Section 27
T-24-S, R-33-E



Lea County, NM (NAD 83 NME)

Hearns 34 State Com #709H

Plan #0.2

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' @ 3482.0m
Northing 82258.00 Easting 780815.00 Latitude 32° 10' 3.350 N Longitude 103° 33' 33.821 W

SECTION DETAILS

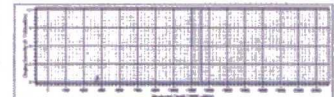
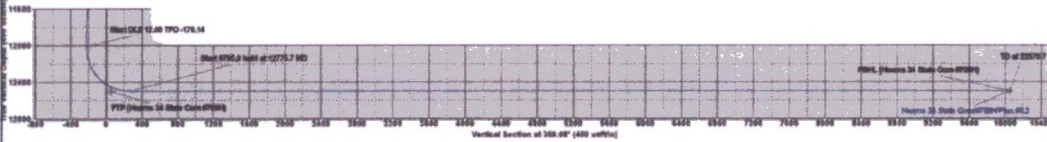
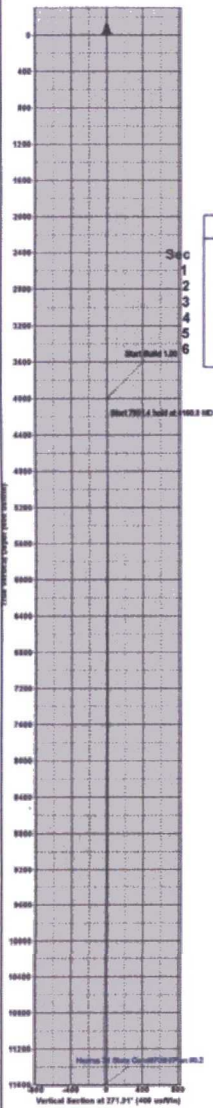
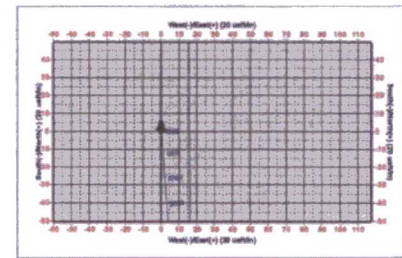
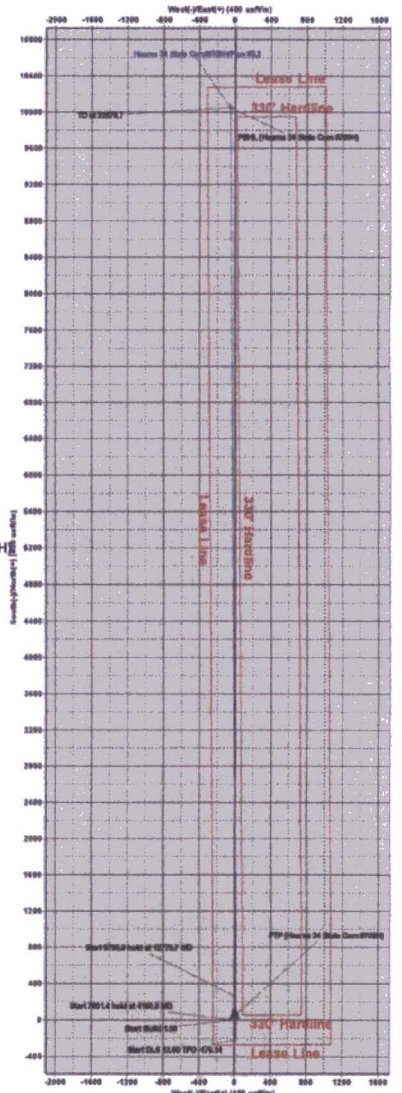
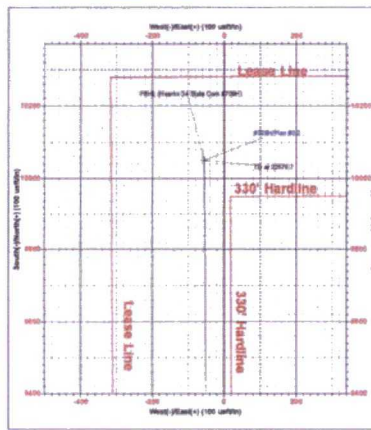
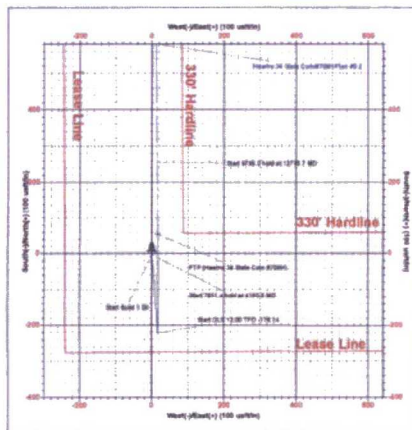
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1	4000.0	0.00	0.00	4000.0	0.0	0.00	0.00	0.0	
2	4160.8	1.61	175.73	4160.8	-2.3	0.2	175.73	-2.3	
3	12012.3	1.61	175.73	12009.2	-222.0	16.6	0.00	-222.1	
4	12775.7	90.00	359.59	12500.0	255.3	14.1	12.00	-176.14	
5	22570.7	90.00	359.59	12500.0	10050.0	-56.0	0.00	10050.2	PBHL (Hearns 34 State Com #709H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
F7P (Hearns 34 State Com #709H)	12500.0	56.0	16.0	429423.00	780850.00
PBHL (Hearns 34 State Com #709H)	12500.0	10050.0	-66.0	435918.00	780768.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hearns 34 State Com

#709H

OH

Plan: Plan #0.2

Standard Planning Report

24 May, 2018



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3492.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3492.0usft
Site:	Hearns 34 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Hearns 34 State Com		
Site Position:		Northing:	425,568.00 usft
From:	Map	Easting:	780,745.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 3.355 N
		Longitude:	103° 33' 34.635 W
		Grid Convergence:	0.41 °

Well	#709H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	70.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,467.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	6/14/2017	6.94
			Dip Angle
			(°)
			60.01
			Field Strength
			(nT)
			47,906.43260827

Design	Plan #0.2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			359.68

Plan Survey Tool Program	Date 5/24/2018		
Depth From	Depth To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
1	0.0	22,570.7 Plan #0.2 (OH)	MWD
			OWSG MWD - Standard

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,160.8	1.61	175.73	4,160.8	-2.3	0.2	1.00	1.00	0.00	175.73	
12,012.3	1.61	175.73	12,009.2	-222.0	16.6	0.00	0.00	0.00	0.00	
12,775.7	90.00	359.59	12,500.0	255.3	14.1	12.00	11.58	-23.07	-176.14	
22,570.7	90.00	359.59	12,500.0	10,050.0	-56.0	0.00	0.00	0.00	0.00	PBHL (Hearns 34 Sta



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Hearn 34 State Com
 Well: #709H
 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #709H
 TVD Reference: KB = 25' @ 3492.0usft
 MD Reference: KB = 25' @ 3492.0usft
 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	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
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	1.00	175.73	4,100.0	-0.9	0.1	-0.9	1.00	1.00	0.00
4,160.8	1.61	175.73	4,160.8	-2.3	0.2	-2.3	1.00	1.00	0.00
4,200.0	1.61	175.73	4,200.0	-3.3	0.2	-3.3	0.00	0.00	0.00
4,300.0	1.61	175.73	4,299.9	-6.1	0.5	-6.1	0.00	0.00	0.00
4,400.0	1.61	175.73	4,399.9	-8.9	0.7	-8.9	0.00	0.00	0.00
4,500.0	1.61	175.73	4,499.8	-11.7	0.9	-11.7	0.00	0.00	0.00
4,600.0	1.61	175.73	4,599.8	-14.5	1.1	-14.5	0.00	0.00	0.00
4,700.0	1.61	175.73	4,699.8	-17.3	1.3	-17.3	0.00	0.00	0.00
4,800.0	1.61	175.73	4,799.7	-20.1	1.5	-20.1	0.00	0.00	0.00
4,900.0	1.61	175.73	4,899.7	-22.9	1.7	-23.0	0.00	0.00	0.00
5,000.0	1.61	175.73	4,999.6	-25.7	1.9	-25.8	0.00	0.00	0.00
5,100.0	1.61	175.73	5,099.6	-28.5	2.1	-28.6	0.00	0.00	0.00
5,200.0	1.61	175.73	5,199.6	-31.3	2.3	-31.4	0.00	0.00	0.00



Planning Report

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 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #709H
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 MD Reference: KB = 25' @ 3492.0usft
 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	1.61	175.73	5,299.5	-34.1	2.5	-34.2	0.00	0.00	0.00
5,400.0	1.61	175.73	5,399.5	-36.9	2.8	-37.0	0.00	0.00	0.00
5,500.0	1.61	175.73	5,499.5	-39.7	3.0	-39.8	0.00	0.00	0.00
5,600.0	1.61	175.73	5,599.4	-42.5	3.2	-42.6	0.00	0.00	0.00
5,700.0	1.61	175.73	5,699.4	-45.3	3.4	-45.4	0.00	0.00	0.00
5,800.0	1.61	175.73	5,799.3	-48.1	3.6	-48.2	0.00	0.00	0.00
5,900.0	1.61	175.73	5,899.3	-50.9	3.8	-51.0	0.00	0.00	0.00
6,000.0	1.61	175.73	5,999.3	-53.7	4.0	-53.8	0.00	0.00	0.00
6,100.0	1.61	175.73	6,099.2	-56.5	4.2	-56.6	0.00	0.00	0.00
6,200.0	1.61	175.73	6,199.2	-59.3	4.4	-59.4	0.00	0.00	0.00
6,300.0	1.61	175.73	6,299.1	-62.1	4.6	-62.2	0.00	0.00	0.00
6,400.0	1.61	175.73	6,399.1	-64.9	4.8	-65.0	0.00	0.00	0.00
6,500.0	1.61	175.73	6,499.1	-67.7	5.1	-67.8	0.00	0.00	0.00
6,600.0	1.61	175.73	6,599.0	-70.5	5.3	-70.6	0.00	0.00	0.00
6,700.0	1.61	175.73	6,699.0	-73.3	5.5	-73.4	0.00	0.00	0.00
6,800.0	1.61	175.73	6,798.9	-76.1	5.7	-76.2	0.00	0.00	0.00
6,900.0	1.61	175.73	6,898.9	-78.9	5.9	-79.0	0.00	0.00	0.00
7,000.0	1.61	175.73	6,998.9	-81.7	6.1	-81.8	0.00	0.00	0.00
7,100.0	1.61	175.73	7,098.8	-84.5	6.3	-84.6	0.00	0.00	0.00
7,200.0	1.61	175.73	7,198.8	-87.3	6.5	-87.4	0.00	0.00	0.00
7,300.0	1.61	175.73	7,298.7	-90.1	6.7	-90.2	0.00	0.00	0.00
7,400.0	1.61	175.73	7,398.7	-92.9	6.9	-93.0	0.00	0.00	0.00
7,500.0	1.61	175.73	7,498.7	-95.7	7.1	-95.8	0.00	0.00	0.00
7,600.0	1.61	175.73	7,598.6	-98.5	7.4	-98.6	0.00	0.00	0.00
7,700.0	1.61	175.73	7,698.6	-101.3	7.6	-101.4	0.00	0.00	0.00
7,800.0	1.61	175.73	7,798.5	-104.1	7.8	-104.2	0.00	0.00	0.00
7,900.0	1.61	175.73	7,898.5	-106.9	8.0	-107.0	0.00	0.00	0.00
8,000.0	1.61	175.73	7,998.5	-109.7	8.2	-109.8	0.00	0.00	0.00
8,100.0	1.61	175.73	8,098.4	-112.5	8.4	-112.6	0.00	0.00	0.00
8,200.0	1.61	175.73	8,198.4	-115.3	8.6	-115.4	0.00	0.00	0.00
8,300.0	1.61	175.73	8,298.3	-118.1	8.8	-118.2	0.00	0.00	0.00
8,400.0	1.61	175.73	8,398.3	-120.9	9.0	-121.0	0.00	0.00	0.00
8,500.0	1.61	175.73	8,498.3	-123.7	9.2	-123.8	0.00	0.00	0.00
8,600.0	1.61	175.73	8,598.2	-126.5	9.4	-126.6	0.00	0.00	0.00
8,700.0	1.61	175.73	8,698.2	-129.3	9.7	-129.4	0.00	0.00	0.00
8,800.0	1.61	175.73	8,798.2	-132.1	9.9	-132.2	0.00	0.00	0.00
8,900.0	1.61	175.73	8,898.1	-134.9	10.1	-135.0	0.00	0.00	0.00
9,000.0	1.61	175.73	8,998.1	-137.7	10.3	-137.8	0.00	0.00	0.00
9,100.0	1.61	175.73	9,098.0	-140.5	10.5	-140.6	0.00	0.00	0.00
9,200.0	1.61	175.73	9,198.0	-143.3	10.7	-143.4	0.00	0.00	0.00
9,300.0	1.61	175.73	9,298.0	-146.1	10.9	-146.2	0.00	0.00	0.00
9,400.0	1.61	175.73	9,397.9	-148.9	11.1	-149.0	0.00	0.00	0.00
9,500.0	1.61	175.73	9,497.9	-151.7	11.3	-151.8	0.00	0.00	0.00
9,600.0	1.61	175.73	9,597.8	-154.5	11.5	-154.6	0.00	0.00	0.00
9,700.0	1.61	175.73	9,697.8	-157.3	11.7	-157.4	0.00	0.00	0.00
9,800.0	1.61	175.73	9,797.8	-160.1	12.0	-160.2	0.00	0.00	0.00
9,900.0	1.61	175.73	9,897.7	-162.9	12.2	-163.0	0.00	0.00	0.00
10,000.0	1.61	175.73	9,997.7	-165.7	12.4	-165.8	0.00	0.00	0.00
10,100.0	1.61	175.73	10,097.6	-168.5	12.6	-168.6	0.00	0.00	0.00
10,200.0	1.61	175.73	10,197.6	-171.3	12.8	-171.4	0.00	0.00	0.00
10,300.0	1.61	175.73	10,297.6	-174.1	13.0	-174.2	0.00	0.00	0.00
10,400.0	1.61	175.73	10,397.5	-176.9	13.2	-177.0	0.00	0.00	0.00
10,500.0	1.61	175.73	10,497.5	-179.7	13.4	-179.8	0.00	0.00	0.00
10,600.0	1.61	175.73	10,597.4	-182.5	13.6	-182.6	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Hearn 34 State Com
Well: #709H
Wellbore: OH
Design: Plan #0.2

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3492.0usft
MD Reference: KB = 25' @ 3492.0usft
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)
10,700.0	1.61	175.73	10,697.4	-185.3	13.8	-185.4	0.00	0.00	0.00
10,800.0	1.61	175.73	10,797.4	-188.1	14.0	-188.2	0.00	0.00	0.00
10,900.0	1.61	175.73	10,897.3	-190.9	14.3	-191.0	0.00	0.00	0.00
11,000.0	1.61	175.73	10,997.3	-193.7	14.5	-193.8	0.00	0.00	0.00
11,100.0	1.61	175.73	11,097.2	-196.5	14.7	-196.6	0.00	0.00	0.00
11,200.0	1.61	175.73	11,197.2	-199.3	14.9	-199.4	0.00	0.00	0.00
11,300.0	1.61	175.73	11,297.2	-202.1	15.1	-202.2	0.00	0.00	0.00
11,400.0	1.61	175.73	11,397.1	-204.9	15.3	-205.0	0.00	0.00	0.00
11,500.0	1.61	175.73	11,497.1	-207.7	15.5	-207.8	0.00	0.00	0.00
11,600.0	1.61	175.73	11,597.0	-210.5	15.7	-210.6	0.00	0.00	0.00
11,700.0	1.61	175.73	11,697.0	-213.3	15.9	-213.4	0.00	0.00	0.00
11,800.0	1.61	175.73	11,797.0	-216.1	16.1	-216.2	0.00	0.00	0.00
11,900.0	1.61	175.73	11,896.9	-218.9	16.3	-219.0	0.00	0.00	0.00
12,000.0	1.61	175.73	11,996.9	-221.7	16.6	-221.8	0.00	0.00	0.00
12,012.3	1.61	175.73	12,009.2	-222.0	16.6	-222.1	0.00	0.00	0.00
12,025.0	0.13	125.45	12,021.9	-222.2	16.6	-222.3	12.00	-11.59	-395.24
12,050.0	2.92	1.71	12,046.9	-221.6	16.6	-221.7	12.00	11.16	-494.96
12,075.0	5.92	0.63	12,071.8	-219.7	16.7	-219.7	12.00	12.00	-4.31
12,100.0	8.92	0.28	12,096.6	-216.4	16.7	-216.5	12.00	12.00	-1.42
12,125.0	11.92	0.10	12,121.2	-211.9	16.7	-212.0	12.00	12.00	-0.71
12,150.0	14.92	360.00	12,145.5	-206.1	16.7	-206.2	12.00	12.00	-0.43
12,175.0	17.92	359.92	12,169.5	-199.0	16.7	-199.1	12.00	12.00	-0.29
12,200.0	20.92	359.87	12,193.0	-190.7	16.7	-190.8	12.00	12.00	-0.21
12,225.0	23.92	359.83	12,216.1	-181.2	16.7	-181.3	12.00	12.00	-0.16
12,250.0	26.92	359.80	12,238.7	-170.5	16.6	-170.6	12.00	12.00	-0.12
12,275.0	29.92	359.78	12,260.7	-158.6	16.6	-158.7	12.00	12.00	-0.10
12,300.0	32.92	359.76	12,282.0	-145.5	16.5	-145.6	12.00	12.00	-0.08
12,325.0	35.92	359.74	12,302.7	-131.4	16.5	-131.5	12.00	12.00	-0.07
12,350.0	38.92	359.72	12,322.5	-116.2	16.4	-116.3	12.00	12.00	-0.06
12,375.0	41.92	359.71	12,341.5	-100.0	16.3	-100.1	12.00	12.00	-0.05
12,400.0	44.92	359.70	12,359.7	-82.8	16.2	-82.9	12.00	12.00	-0.05
12,425.0	47.92	359.69	12,376.9	-64.7	16.1	-64.8	12.00	12.00	-0.04
12,450.0	50.92	359.68	12,393.2	-45.7	16.0	-45.8	12.00	12.00	-0.04
12,475.0	53.92	359.67	12,408.4	-25.9	15.9	-26.0	12.00	12.00	-0.04
12,500.0	56.92	359.66	12,422.6	-5.3	15.8	-5.4	12.00	12.00	-0.03
12,525.0	59.92	359.65	12,435.7	16.0	15.7	15.9	12.00	12.00	-0.03
12,550.0	62.92	359.65	12,447.7	37.9	15.5	37.8	12.00	12.00	-0.03
12,575.0	65.92	359.64	12,458.5	60.5	15.4	60.4	12.00	12.00	-0.03
12,585.9	67.23	359.64	12,462.8	70.5	15.3	70.4	12.00	12.00	-0.03
FTP (Hearn 34 State Com #709H)									
12,600.0	68.92	359.63	12,468.1	83.5	15.3	83.5	12.00	12.00	-0.03
12,625.0	71.92	359.63	12,476.4	107.1	15.1	107.0	12.00	12.00	-0.03
12,650.0	74.92	359.62	12,483.6	131.0	14.9	131.0	12.00	12.00	-0.02
12,675.0	77.92	359.61	12,489.4	155.3	14.8	155.3	12.00	12.00	-0.02
12,700.0	80.92	359.61	12,494.0	179.9	14.6	179.8	12.00	12.00	-0.02
12,725.0	83.92	359.60	12,497.3	204.7	14.4	204.6	12.00	12.00	-0.02
12,750.0	86.92	359.60	12,499.3	229.6	14.3	229.5	12.00	12.00	-0.02
12,775.7	90.00	359.59	12,500.0	255.3	14.1	255.2	12.00	12.00	-0.02
12,800.0	90.00	359.59	12,500.0	279.6	13.9	279.5	0.00	0.00	0.00
12,900.0	90.00	359.59	12,500.0	379.6	13.2	379.5	0.00	0.00	0.00
13,000.0	90.00	359.59	12,500.0	479.6	12.5	479.5	0.00	0.00	0.00
13,100.0	90.00	359.59	12,500.0	579.6	11.8	579.5	0.00	0.00	0.00
13,200.0	90.00	359.59	12,500.0	679.6	11.1	679.5	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3492.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3492.0usft
Site:	Hearns 34 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

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	12,500.0	779.6	10.3	779.5	0.00	0.00	0.00
13,400.0	90.00	359.59	12,500.0	879.6	9.6	879.5	0.00	0.00	0.00
13,500.0	90.00	359.59	12,500.0	979.6	8.9	979.5	0.00	0.00	0.00
13,600.0	90.00	359.59	12,500.0	1,079.6	8.2	1,079.5	0.00	0.00	0.00
13,700.0	90.00	359.59	12,500.0	1,179.6	7.5	1,179.5	0.00	0.00	0.00
13,800.0	90.00	359.59	12,500.0	1,279.6	6.8	1,279.5	0.00	0.00	0.00
13,900.0	90.00	359.59	12,500.0	1,379.6	6.0	1,379.5	0.00	0.00	0.00
14,000.0	90.00	359.59	12,500.0	1,479.6	5.3	1,479.5	0.00	0.00	0.00
14,100.0	90.00	359.59	12,500.0	1,579.6	4.6	1,579.5	0.00	0.00	0.00
14,200.0	90.00	359.59	12,500.0	1,679.6	3.9	1,679.5	0.00	0.00	0.00
14,300.0	90.00	359.59	12,500.0	1,779.6	3.2	1,779.5	0.00	0.00	0.00
14,400.0	90.00	359.59	12,500.0	1,879.6	2.5	1,879.5	0.00	0.00	0.00
14,500.0	90.00	359.59	12,500.0	1,979.6	1.8	1,979.5	0.00	0.00	0.00
14,600.0	90.00	359.59	12,500.0	2,079.6	1.0	2,079.5	0.00	0.00	0.00
14,700.0	90.00	359.59	12,500.0	2,179.5	0.3	2,179.5	0.00	0.00	0.00
14,800.0	90.00	359.59	12,500.0	2,279.5	-0.4	2,279.5	0.00	0.00	0.00
14,900.0	90.00	359.59	12,500.0	2,379.5	-1.1	2,379.5	0.00	0.00	0.00
15,000.0	90.00	359.59	12,500.0	2,479.5	-1.8	2,479.5	0.00	0.00	0.00
15,100.0	90.00	359.59	12,500.0	2,579.5	-2.5	2,579.5	0.00	0.00	0.00
15,200.0	90.00	359.59	12,500.0	2,679.5	-3.3	2,679.5	0.00	0.00	0.00
15,300.0	90.00	359.59	12,500.0	2,779.5	-4.0	2,779.5	0.00	0.00	0.00
15,400.0	90.00	359.59	12,500.0	2,879.5	-4.7	2,879.5	0.00	0.00	0.00
15,500.0	90.00	359.59	12,500.0	2,979.5	-5.4	2,979.5	0.00	0.00	0.00
15,600.0	90.00	359.59	12,500.0	3,079.5	-6.1	3,079.5	0.00	0.00	0.00
15,700.0	90.00	359.59	12,500.0	3,179.5	-6.8	3,179.5	0.00	0.00	0.00
15,800.0	90.00	359.59	12,500.0	3,279.5	-7.6	3,279.5	0.00	0.00	0.00
15,900.0	90.00	359.59	12,500.0	3,379.5	-8.3	3,379.5	0.00	0.00	0.00
16,000.0	90.00	359.59	12,500.0	3,479.5	-9.0	3,479.5	0.00	0.00	0.00
16,100.0	90.00	359.59	12,500.0	3,579.5	-9.7	3,579.5	0.00	0.00	0.00
16,200.0	90.00	359.59	12,500.0	3,679.5	-10.4	3,679.5	0.00	0.00	0.00
16,300.0	90.00	359.59	12,500.0	3,779.5	-11.1	3,779.5	0.00	0.00	0.00
16,400.0	90.00	359.59	12,500.0	3,879.5	-11.8	3,879.5	0.00	0.00	0.00
16,500.0	90.00	359.59	12,500.0	3,979.5	-12.6	3,979.5	0.00	0.00	0.00
16,600.0	90.00	359.59	12,500.0	4,079.5	-13.3	4,079.5	0.00	0.00	0.00
16,700.0	90.00	359.59	12,500.0	4,179.5	-14.0	4,179.5	0.00	0.00	0.00
16,800.0	90.00	359.59	12,500.0	4,279.5	-14.7	4,279.5	0.00	0.00	0.00
16,900.0	90.00	359.59	12,500.0	4,379.5	-15.4	4,379.5	0.00	0.00	0.00
17,000.0	90.00	359.59	12,500.0	4,479.5	-16.1	4,479.5	0.00	0.00	0.00
17,100.0	90.00	359.59	12,500.0	4,579.5	-16.9	4,579.5	0.00	0.00	0.00
17,200.0	90.00	359.59	12,500.0	4,679.5	-17.6	4,679.5	0.00	0.00	0.00
17,300.0	90.00	359.59	12,500.0	4,779.5	-18.3	4,779.5	0.00	0.00	0.00
17,400.0	90.00	359.59	12,500.0	4,879.5	-19.0	4,879.5	0.00	0.00	0.00
17,500.0	90.00	359.59	12,500.0	4,979.5	-19.7	4,979.5	0.00	0.00	0.00
17,600.0	90.00	359.59	12,500.0	5,079.5	-20.4	5,079.5	0.00	0.00	0.00
17,700.0	90.00	359.59	12,500.0	5,179.5	-21.1	5,179.5	0.00	0.00	0.00
17,800.0	90.00	359.59	12,500.0	5,279.5	-21.9	5,279.5	0.00	0.00	0.00
17,900.0	90.00	359.59	12,500.0	5,379.5	-22.6	5,379.5	0.00	0.00	0.00
18,000.0	90.00	359.59	12,500.0	5,479.5	-23.3	5,479.5	0.00	0.00	0.00
18,100.0	90.00	359.59	12,500.0	5,579.5	-24.0	5,579.5	0.00	0.00	0.00
18,200.0	90.00	359.59	12,500.0	5,679.5	-24.7	5,679.5	0.00	0.00	0.00
18,300.0	90.00	359.59	12,500.0	5,779.5	-25.4	5,779.5	0.00	0.00	0.00
18,400.0	90.00	359.59	12,500.0	5,879.5	-26.2	5,879.5	0.00	0.00	0.00
18,500.0	90.00	359.59	12,500.0	5,979.5	-26.9	5,979.5	0.00	0.00	0.00
18,600.0	90.00	359.59	12,500.0	6,079.4	-27.6	6,079.5	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3492.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3492.0usft
Site:	Hearns 34 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

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)
18,700.0	90.00	359.59	12,500.0	6,179.4	-28.3	6,179.5	0.00	0.00	0.00
18,800.0	90.00	359.59	12,500.0	6,279.4	-29.0	6,279.5	0.00	0.00	0.00
18,900.0	90.00	359.59	12,500.0	6,379.4	-29.7	6,379.5	0.00	0.00	0.00
19,000.0	90.00	359.59	12,500.0	6,479.4	-30.4	6,479.5	0.00	0.00	0.00
19,100.0	90.00	359.59	12,500.0	6,579.4	-31.2	6,579.5	0.00	0.00	0.00
19,200.0	90.00	359.59	12,500.0	6,679.4	-31.9	6,679.5	0.00	0.00	0.00
19,300.0	90.00	359.59	12,500.0	6,779.4	-32.6	6,779.5	0.00	0.00	0.00
19,400.0	90.00	359.59	12,500.0	6,879.4	-33.3	6,879.5	0.00	0.00	0.00
19,500.0	90.00	359.59	12,500.0	6,979.4	-34.0	6,979.5	0.00	0.00	0.00
19,600.0	90.00	359.59	12,500.0	7,079.4	-34.7	7,079.5	0.00	0.00	0.00
19,700.0	90.00	359.59	12,500.0	7,179.4	-35.5	7,179.5	0.00	0.00	0.00
19,800.0	90.00	359.59	12,500.0	7,279.4	-36.2	7,279.5	0.00	0.00	0.00
19,900.0	90.00	359.59	12,500.0	7,379.4	-36.9	7,379.5	0.00	0.00	0.00
20,000.0	90.00	359.59	12,500.0	7,479.4	-37.6	7,479.5	0.00	0.00	0.00
20,100.0	90.00	359.59	12,500.0	7,579.4	-38.3	7,579.5	0.00	0.00	0.00
20,200.0	90.00	359.59	12,500.0	7,679.4	-39.0	7,679.5	0.00	0.00	0.00
20,300.0	90.00	359.59	12,500.0	7,779.4	-39.8	7,779.5	0.00	0.00	0.00
20,400.0	90.00	359.59	12,500.0	7,879.4	-40.5	7,879.5	0.00	0.00	0.00
20,500.0	90.00	359.59	12,500.0	7,979.4	-41.2	7,979.5	0.00	0.00	0.00
20,600.0	90.00	359.59	12,500.0	8,079.4	-41.9	8,079.5	0.00	0.00	0.00
20,700.0	90.00	359.59	12,500.0	8,179.4	-42.6	8,179.5	0.00	0.00	0.00
20,800.0	90.00	359.59	12,500.0	8,279.4	-43.3	8,279.5	0.00	0.00	0.00
20,900.0	90.00	359.59	12,500.0	8,379.4	-44.0	8,379.5	0.00	0.00	0.00
21,000.0	90.00	359.59	12,500.0	8,479.4	-44.8	8,479.5	0.00	0.00	0.00
21,100.0	90.00	359.59	12,500.0	8,579.4	-45.5	8,579.5	0.00	0.00	0.00
21,200.0	90.00	359.59	12,500.0	8,679.4	-46.2	8,679.5	0.00	0.00	0.00
21,300.0	90.00	359.59	12,500.0	8,779.4	-46.9	8,779.5	0.00	0.00	0.00
21,400.0	90.00	359.59	12,500.0	8,879.4	-47.6	8,879.5	0.00	0.00	0.00
21,500.0	90.00	359.59	12,500.0	8,979.4	-48.3	8,979.5	0.00	0.00	0.00
21,600.0	90.00	359.59	12,500.0	9,079.4	-49.1	9,079.5	0.00	0.00	0.00
21,700.0	90.00	359.59	12,500.0	9,179.4	-49.8	9,179.5	0.00	0.00	0.00
21,800.0	90.00	359.59	12,500.0	9,279.4	-50.5	9,279.5	0.00	0.00	0.00
21,900.0	90.00	359.59	12,500.0	9,379.4	-51.2	9,379.5	0.00	0.00	0.00
22,000.0	90.00	359.59	12,500.0	9,479.4	-51.9	9,479.5	0.00	0.00	0.00
22,100.0	90.00	359.59	12,500.0	9,579.4	-52.6	9,579.5	0.00	0.00	0.00
22,200.0	90.00	359.59	12,500.0	9,679.4	-53.3	9,679.5	0.00	0.00	0.00
22,300.0	90.00	359.59	12,500.0	9,779.4	-54.1	9,779.5	0.00	0.00	0.00
22,400.0	90.00	359.59	12,500.0	9,879.4	-54.8	9,879.5	0.00	0.00	0.00
22,500.0	90.00	359.59	12,500.0	9,979.3	-55.5	9,979.5	0.00	0.00	0.00
22,570.7	90.00	359.59	12,500.0	10,050.0	-56.0	10,050.2	0.00	0.00	0.00

PBHL (Hearns 34 State Com #709H)



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Hearn 34 State Corn
 Well: #709H
 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #709H
 TVD Reference: KB = 25' @ 3492.0usft
 MD Reference: KB = 25' @ 3492.0usft
 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 (Hearn 34 State C - plan misses target center by 40.3usft at 12585.9usft MD (12462.8 TVD, 70.5 N, 15.3 E) - Point	0.00	0.01	12,500.0	55.0	15.0	425,623.00	780,830.00	32° 10' 3.893 N	103° 33' 33.642 W
PBHL (Hearn 34 State - plan hits target center - Point	0.00	0.00	12,500.0	10,050.0	-56.0	435,618.00	780,759.00	32° 11' 42.801 N	103° 33' 33.631 W