



Lea County, NM (NAD 83 NME)

Cobalt 32 State #709H

Plan #0.1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #709H

KB = 25 @ 3450.0ust 3425.0
Northing 425815.00 Easting 799679.00 Latitude 32° 10' 2.420 N Longitude 103° 29' 54.364 W

Azimuths to Grid North
True North: -0.44°
Magnetic North: 8.33°
Magnetic Field
Strength: 47778.3snT
Dip Angle: 60.01°
Date: 10/22/2018
Model: IGRF2018

To convert a Magnetic Direction to a Grid Direction, Add 8.33°
To convert a Magnetic Direction to a True Direction, Add 8.77° East
To convert a True Direction to a Grid Direction, Subtract 0.44°

SECTION DETAILS

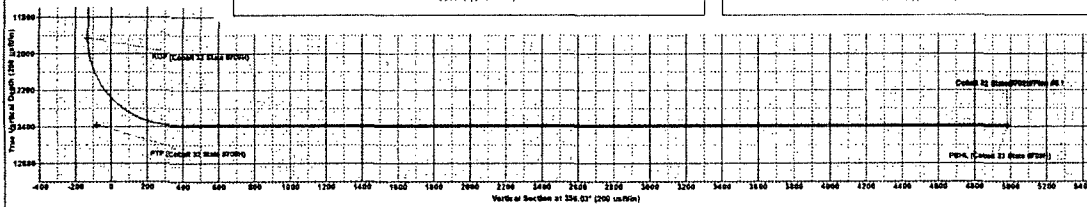
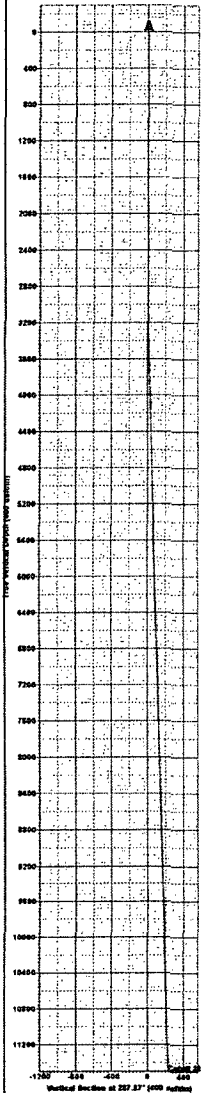
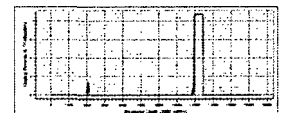
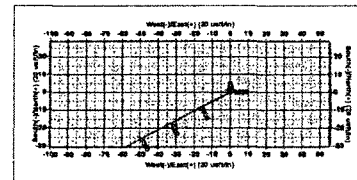
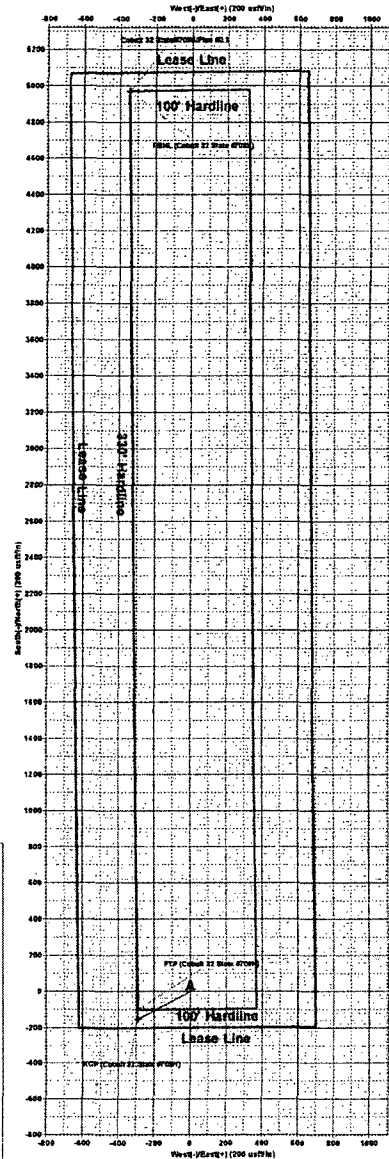
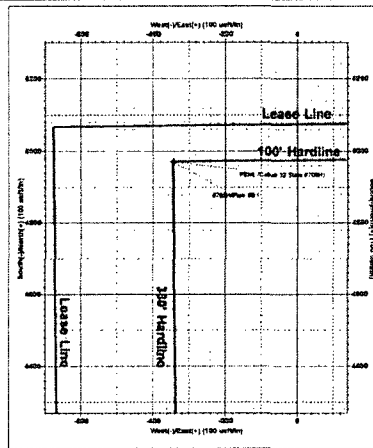
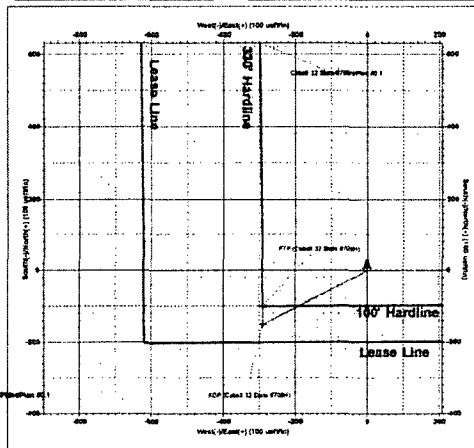
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSeet	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3106.8	2.13	242.58	3106.8	-0.9	-1.8	2.00	242.58	-0.8	
4	11812.0	2.13	242.58	11805.9	-150.1	-289.2	0.00	0.00	-129.7	
5	11918.8	0.00	0.00	11912.5	-151.0	-291.0	2.00	180.00	-130.5	KOP (Cobalt 32 State #709H)
6	12668.8	90.00	359.40	12390.0	326.4	-296.0	12.00	359.40	346.1	
7	17313.4	90.00	359.40	12390.0	4971.0	-345.0	0.00	0.00	4983.0	PBHL (Cobalt 32 State #709H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (Cobalt 32 State #709H)	11912.5	-151.0	-291.0	425815.00	799679.00
FTP (Cobalt 32 State #709H)	12390.0	-101.0	-291.0	425814.00	799688.00
PBHL (Cobalt 32 State #709H)	12390.0	4971.0	-345.0	430086.00	799734.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Cobalt 32 State

#709H

OH

Plan: Plan #0.1

Standard Planning Report

05 October, 2018



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3450.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3450.0usft
Site:	Cobalt 32 State	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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	Cobalt 32 State		
Site Position:	Map	Northings:	425,645.00 usft
From:		Easting:	803,691.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 2.406 N
		Longitude:	103° 29' 7.689 W
		Grid Convergence:	0.45 °

Well	#709H		
Well Position	+N/-S	-30.0 usft	Northings:
	+E/-W	-4,012.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	10/5/2018	6.77
			Dip Angle
			(°)
			Field Strength
			(nT)
			47,778.32911645

Design	Plan #0.1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.03

Plan Survey Tool Program	Date 10/5/2018		
Depth From	Depth To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Remarks
1	0.0	17,313.4 Plan #0.1 (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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,106.6	2.13	242.58	3,106.6	-0.9	-1.8	2.00	2.00	0.00	242.58	
11,812.0	2.13	242.58	11,805.9	-150.1	-289.2	0.00	0.00	0.00	0.00	
11,918.6	0.00	0.01	11,912.5	-151.0	-291.0	2.00	-2.00	0.00	180.00	KOP (Cobalt 32 State
12,668.6	90.00	359.40	12,390.0	326.4	-296.0	12.00	12.00	-0.08	359.40	
17,313.4	90.00	359.40	12,390.0	4,971.0	-345.0	0.00	0.00	0.00	0.00	PBHL (Cobalt 32 Stat



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Cobalt 32 State
Well: #709H
Wellbore: OH
Design: Plan #0.1

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25 @ 3450.0usft
MD Reference: KB = 25 @ 3450.0usft
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
3,106.6	2.13	242.58	3,106.6	-0.9	-1.8	-0.8	2.00	2.00	0.00
3,200.0	2.13	242.58	3,199.9	-2.5	-4.8	-2.2	0.00	0.00	0.00
3,300.0	2.13	242.58	3,299.8	-4.2	-8.1	-3.7	0.00	0.00	0.00
3,400.0	2.13	242.58	3,399.8	-5.9	-11.4	-5.1	0.00	0.00	0.00
3,500.0	2.13	242.58	3,499.7	-7.7	-14.8	-6.6	0.00	0.00	0.00
3,600.0	2.13	242.58	3,599.6	-9.4	-18.1	-8.1	0.00	0.00	0.00
3,700.0	2.13	242.58	3,699.6	-11.1	-21.4	-9.6	0.00	0.00	0.00
3,800.0	2.13	242.58	3,799.5	-12.8	-24.7	-11.1	0.00	0.00	0.00
3,900.0	2.13	242.58	3,899.4	-14.5	-28.0	-12.5	0.00	0.00	0.00
4,000.0	2.13	242.58	3,999.4	-16.2	-31.3	-14.0	0.00	0.00	0.00
4,100.0	2.13	242.58	4,099.3	-17.9	-34.6	-15.5	0.00	0.00	0.00
4,200.0	2.13	242.58	4,199.2	-19.6	-37.9	-17.0	0.00	0.00	0.00
4,300.0	2.13	242.58	4,299.1	-21.4	-41.2	-18.5	0.00	0.00	0.00
4,400.0	2.13	242.58	4,399.1	-23.1	-44.5	-19.9	0.00	0.00	0.00
4,500.0	2.13	242.58	4,499.0	-24.8	-47.8	-21.4	0.00	0.00	0.00
4,600.0	2.13	242.58	4,598.9	-26.5	-51.1	-22.9	0.00	0.00	0.00
4,700.0	2.13	242.58	4,698.9	-28.2	-54.4	-24.4	0.00	0.00	0.00
4,800.0	2.13	242.58	4,798.8	-29.9	-57.7	-25.9	0.00	0.00	0.00
4,900.0	2.13	242.58	4,898.7	-31.6	-61.0	-27.3	0.00	0.00	0.00
5,000.0	2.13	242.58	4,998.7	-33.4	-64.3	-28.8	0.00	0.00	0.00
5,100.0	2.13	242.58	5,098.6	-35.1	-67.6	-30.3	0.00	0.00	0.00
5,200.0	2.13	242.58	5,198.5	-36.8	-70.9	-31.8	0.00	0.00	0.00
5,300.0	2.13	242.58	5,298.5	-38.5	-74.2	-33.3	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 @ 3450.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3450.0usft
Site:	Cobalt 32 State	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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)
5,400.0	2.13	242.58	5,398.4	-40.2	-77.5	-34.8	0.00	0.00	0.00
5,500.0	2.13	242.58	5,498.3	-41.9	-80.8	-36.2	0.00	0.00	0.00
5,600.0	2.13	242.58	5,598.2	-43.6	-84.1	-37.7	0.00	0.00	0.00
5,700.0	2.13	242.58	5,698.2	-45.4	-87.4	-39.2	0.00	0.00	0.00
5,800.0	2.13	242.58	5,798.1	-47.1	-90.7	-40.7	0.00	0.00	0.00
5,900.0	2.13	242.58	5,898.0	-48.8	-94.0	-42.2	0.00	0.00	0.00
6,000.0	2.13	242.58	5,998.0	-50.5	-97.3	-43.6	0.00	0.00	0.00
6,100.0	2.13	242.58	6,097.9	-52.2	-100.6	-45.1	0.00	0.00	0.00
6,200.0	2.13	242.58	6,197.8	-53.9	-103.9	-46.6	0.00	0.00	0.00
6,300.0	2.13	242.58	6,297.8	-55.6	-107.2	-48.1	0.00	0.00	0.00
6,400.0	2.13	242.58	6,397.7	-57.3	-110.5	-49.6	0.00	0.00	0.00
6,500.0	2.13	242.58	6,497.6	-59.1	-113.8	-51.0	0.00	0.00	0.00
6,600.0	2.13	242.58	6,597.6	-60.8	-117.1	-52.5	0.00	0.00	0.00
6,700.0	2.13	242.58	6,697.5	-62.5	-120.4	-54.0	0.00	0.00	0.00
6,800.0	2.13	242.58	6,797.4	-64.2	-123.7	-55.5	0.00	0.00	0.00
6,900.0	2.13	242.58	6,897.3	-65.9	-127.0	-57.0	0.00	0.00	0.00
7,000.0	2.13	242.58	6,997.3	-67.6	-130.3	-58.4	0.00	0.00	0.00
7,100.0	2.13	242.58	7,097.2	-69.3	-133.6	-59.9	0.00	0.00	0.00
7,200.0	2.13	242.58	7,197.1	-71.1	-136.9	-61.4	0.00	0.00	0.00
7,300.0	2.13	242.58	7,297.1	-72.8	-140.2	-62.9	0.00	0.00	0.00
7,400.0	2.13	242.58	7,397.0	-74.5	-143.5	-64.4	0.00	0.00	0.00
7,500.0	2.13	242.58	7,496.9	-76.2	-146.8	-65.8	0.00	0.00	0.00
7,600.0	2.13	242.58	7,596.9	-77.9	-150.1	-67.3	0.00	0.00	0.00
7,700.0	2.13	242.58	7,696.8	-79.6	-153.4	-68.8	0.00	0.00	0.00
7,800.0	2.13	242.58	7,796.7	-81.3	-156.8	-70.3	0.00	0.00	0.00
7,900.0	2.13	242.58	7,896.7	-83.1	-160.1	-71.8	0.00	0.00	0.00
8,000.0	2.13	242.58	7,996.6	-84.8	-163.4	-73.3	0.00	0.00	0.00
8,100.0	2.13	242.58	8,096.5	-86.5	-166.7	-74.7	0.00	0.00	0.00
8,200.0	2.13	242.58	8,196.4	-88.2	-170.0	-76.2	0.00	0.00	0.00
8,300.0	2.13	242.58	8,296.4	-89.9	-173.3	-77.7	0.00	0.00	0.00
8,400.0	2.13	242.58	8,396.3	-91.6	-176.6	-79.2	0.00	0.00	0.00
8,500.0	2.13	242.58	8,496.2	-93.3	-179.9	-80.7	0.00	0.00	0.00
8,600.0	2.13	242.58	8,596.2	-95.0	-183.2	-82.1	0.00	0.00	0.00
8,700.0	2.13	242.58	8,696.1	-96.8	-186.5	-83.6	0.00	0.00	0.00
8,800.0	2.13	242.58	8,796.0	-98.5	-189.8	-85.1	0.00	0.00	0.00
8,900.0	2.13	242.58	8,896.0	-100.2	-193.1	-86.6	0.00	0.00	0.00
9,000.0	2.13	242.58	8,995.9	-101.9	-196.4	-88.1	0.00	0.00	0.00
9,100.0	2.13	242.58	9,095.8	-103.6	-199.7	-89.5	0.00	0.00	0.00
9,200.0	2.13	242.58	9,195.8	-105.3	-203.0	-91.0	0.00	0.00	0.00
9,300.0	2.13	242.58	9,295.7	-107.0	-206.3	-92.5	0.00	0.00	0.00
9,400.0	2.13	242.58	9,395.6	-108.8	-209.6	-94.0	0.00	0.00	0.00
9,500.0	2.13	242.58	9,495.5	-110.5	-212.9	-95.5	0.00	0.00	0.00
9,600.0	2.13	242.58	9,595.5	-112.2	-216.2	-96.9	0.00	0.00	0.00
9,700.0	2.13	242.58	9,695.4	-113.9	-219.5	-98.4	0.00	0.00	0.00
9,800.0	2.13	242.58	9,795.3	-115.6	-222.8	-99.9	0.00	0.00	0.00
9,900.0	2.13	242.58	9,895.3	-117.3	-226.1	-101.4	0.00	0.00	0.00
10,000.0	2.13	242.58	9,995.2	-119.0	-229.4	-102.9	0.00	0.00	0.00
10,100.0	2.13	242.58	10,095.1	-120.8	-232.7	-104.3	0.00	0.00	0.00
10,200.0	2.13	242.58	10,195.1	-122.5	-236.0	-105.8	0.00	0.00	0.00
10,300.0	2.13	242.58	10,295.0	-124.2	-239.3	-107.3	0.00	0.00	0.00
10,400.0	2.13	242.58	10,394.9	-125.9	-242.6	-108.8	0.00	0.00	0.00
10,500.0	2.13	242.58	10,494.9	-127.6	-245.9	-110.3	0.00	0.00	0.00
10,600.0	2.13	242.58	10,594.8	-129.3	-249.2	-111.8	0.00	0.00	0.00
10,700.0	2.13	242.58	10,694.7	-131.0	-252.5	-113.2	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EQG Resources - Midland	TVD Reference:	KB = 25 @ 3450.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3450.0usft
Site:	Cobalt 32 State	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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)
10,800.0	2.13	242.58	10,794.6	-132.7	-255.8	-114.7	0.00	0.00	0.00
10,900.0	2.13	242.58	10,894.6	-134.5	-259.1	-116.2	0.00	0.00	0.00
11,000.0	2.13	242.58	10,994.5	-136.2	-262.4	-117.7	0.00	0.00	0.00
11,100.0	2.13	242.58	11,094.4	-137.9	-265.7	-119.2	0.00	0.00	0.00
11,200.0	2.13	242.58	11,194.4	-139.6	-269.0	-120.6	0.00	0.00	0.00
11,300.0	2.13	242.58	11,294.3	-141.3	-272.3	-122.1	0.00	0.00	0.00
11,400.0	2.13	242.58	11,394.2	-143.0	-275.6	-123.6	0.00	0.00	0.00
11,500.0	2.13	242.58	11,494.2	-144.7	-278.9	-125.1	0.00	0.00	0.00
11,600.0	2.13	242.58	11,594.1	-146.5	-282.2	-126.6	0.00	0.00	0.00
11,700.0	2.13	242.58	11,694.0	-148.2	-285.5	-128.0	0.00	0.00	0.00
11,800.0	2.13	242.58	11,794.0	-149.9	-288.8	-129.5	0.00	0.00	0.00
11,812.0	2.13	242.58	11,805.9	-150.1	-289.2	-129.7	0.00	0.00	0.00
11,900.0	0.37	242.58	11,893.9	-151.0	-290.9	-130.5	2.00	-2.00	0.00
11,918.6	0.00	0.01	11,912.5	-151.0	-291.0	-130.5	2.00	-2.00	0.00
KOP (Cobalt 32 State #709H)									
11,925.0	0.77	359.40	11,918.9	-151.0	-291.0	-130.4	12.00	12.00	0.00
11,950.0	3.77	359.40	11,943.9	-150.0	-291.0	-129.5	12.00	12.00	0.00
11,975.0	6.77	359.40	11,968.8	-147.7	-291.0	-127.2	12.00	12.00	0.00
12,000.0	9.77	359.40	11,993.5	-144.1	-291.1	-123.6	12.00	12.00	0.00
12,025.0	12.77	359.40	12,018.0	-139.2	-291.1	-118.7	12.00	12.00	0.00
12,050.0	15.77	359.40	12,042.3	-133.0	-291.2	-112.5	12.00	12.00	0.00
12,075.0	18.77	359.40	12,066.1	-125.6	-291.3	-105.1	12.00	12.00	0.00
12,100.0	21.77	359.40	12,089.6	-116.9	-291.4	-96.5	12.00	12.00	0.00
12,125.0	24.77	359.40	12,112.6	-107.1	-291.5	-86.6	12.00	12.00	0.00
12,150.0	27.77	359.40	12,135.0	-96.0	-291.6	-75.6	12.00	12.00	0.00
12,175.0	30.77	359.40	12,156.8	-83.8	-291.7	-63.4	12.00	12.00	0.00
12,200.0	33.77	359.40	12,177.9	-70.4	-291.8	-50.1	12.00	12.00	0.00
12,225.0	36.77	359.40	12,198.3	-56.0	-292.0	-35.7	12.00	12.00	0.00
12,250.0	39.77	359.40	12,217.9	-40.5	-292.2	-20.2	12.00	12.00	0.00
12,275.0	42.77	359.40	12,236.7	-24.0	-292.3	-3.7	12.00	12.00	0.00
12,300.0	45.77	359.40	12,254.6	-6.6	-292.5	13.7	12.00	12.00	0.00
12,322.5	48.47	359.40	12,269.9	9.9	-292.7	30.1	12.00	12.00	0.00
FTP (Cobalt 32 State #709H)									
12,325.0	48.77	359.40	12,271.6	11.8	-292.7	32.0	12.00	12.00	0.00
12,350.0	51.77	359.40	12,287.6	31.0	-292.9	51.2	12.00	12.00	0.00
12,375.0	54.77	359.40	12,302.5	51.0	-293.1	71.2	12.00	12.00	0.00
12,400.0	57.77	359.40	12,316.4	71.8	-293.3	92.0	12.00	12.00	0.00
12,425.0	60.77	359.40	12,329.2	93.3	-293.6	113.4	12.00	12.00	0.00
12,450.0	63.77	359.40	12,340.8	115.4	-293.8	135.5	12.00	12.00	0.00
12,475.0	66.77	359.40	12,351.3	138.1	-294.0	158.2	12.00	12.00	0.00
12,500.0	69.77	359.40	12,360.5	161.4	-294.3	181.3	12.00	12.00	0.00
12,525.0	72.77	359.40	12,368.5	185.0	-294.5	205.0	12.00	12.00	0.00
12,550.0	75.77	359.40	12,375.3	209.1	-294.8	229.0	12.00	12.00	0.00
12,575.0	78.77	359.40	12,380.8	233.5	-295.1	253.3	12.00	12.00	0.00
12,600.0	81.77	359.40	12,385.0	258.1	-295.3	277.9	12.00	12.00	0.00
12,625.0	84.77	359.40	12,388.0	282.9	-295.6	302.7	12.00	12.00	0.00
12,650.0	87.77	359.40	12,389.6	307.9	-295.8	327.6	12.00	12.00	0.00
12,668.6	90.00	359.40	12,390.0	326.4	-296.0	346.1	12.00	12.00	0.00
12,700.0	90.00	359.40	12,390.0	357.9	-296.4	377.5	0.00	0.00	0.00
12,800.0	90.00	359.40	12,390.0	457.9	-297.4	477.3	0.00	0.00	0.00
12,900.0	90.00	359.40	12,390.0	557.8	-298.5	577.2	0.00	0.00	0.00
13,000.0	90.00	359.40	12,390.0	657.8	-299.5	677.0	0.00	0.00	0.00
13,100.0	90.00	359.40	12,390.0	757.8	-300.6	776.8	0.00	0.00	0.00
13,200.0	90.00	359.40	12,390.0	857.8	-301.6	876.7	0.00	0.00	0.00



Planning Report

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Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3450.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3450.0usft
Site:	Cobalt 32 State	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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	359.40	12,390.0	957.8	-302.7	976.5	0.00	0.00	0.00
13,400.0	90.00	359.40	12,390.0	1,057.8	-303.7	1,076.3	0.00	0.00	0.00
13,500.0	90.00	359.40	12,390.0	1,157.8	-304.8	1,176.1	0.00	0.00	0.00
13,600.0	90.00	359.40	12,390.0	1,257.8	-305.9	1,276.0	0.00	0.00	0.00
13,700.0	90.00	359.40	12,390.0	1,357.8	-306.9	1,375.8	0.00	0.00	0.00
13,800.0	90.00	359.40	12,390.0	1,457.8	-308.0	1,475.6	0.00	0.00	0.00
13,900.0	90.00	359.40	12,390.0	1,557.8	-309.0	1,575.5	0.00	0.00	0.00
14,000.0	90.00	359.40	12,390.0	1,657.8	-310.1	1,675.3	0.00	0.00	0.00
14,100.0	90.00	359.40	12,390.0	1,757.8	-311.1	1,775.1	0.00	0.00	0.00
14,200.0	90.00	359.40	12,390.0	1,857.8	-312.2	1,874.9	0.00	0.00	0.00
14,300.0	90.00	359.40	12,390.0	1,957.8	-313.2	1,974.8	0.00	0.00	0.00
14,400.0	90.00	359.40	12,390.0	2,057.8	-314.3	2,074.6	0.00	0.00	0.00
14,500.0	90.00	359.40	12,390.0	2,157.8	-315.3	2,174.4	0.00	0.00	0.00
14,600.0	90.00	359.40	12,390.0	2,257.8	-316.4	2,274.2	0.00	0.00	0.00
14,700.0	90.00	359.40	12,390.0	2,357.7	-317.4	2,374.1	0.00	0.00	0.00
14,800.0	90.00	359.40	12,390.0	2,457.7	-318.5	2,473.9	0.00	0.00	0.00
14,900.0	90.00	359.40	12,390.0	2,557.7	-319.6	2,573.7	0.00	0.00	0.00
15,000.0	90.00	359.40	12,390.0	2,657.7	-320.6	2,673.6	0.00	0.00	0.00
15,100.0	90.00	359.40	12,390.0	2,757.7	-321.7	2,773.4	0.00	0.00	0.00
15,200.0	90.00	359.40	12,390.0	2,857.7	-322.7	2,873.2	0.00	0.00	0.00
15,300.0	90.00	359.40	12,390.0	2,957.7	-323.8	2,973.0	0.00	0.00	0.00
15,400.0	90.00	359.40	12,390.0	3,057.7	-324.8	3,072.9	0.00	0.00	0.00
15,500.0	90.00	359.40	12,390.0	3,157.7	-325.9	3,172.7	0.00	0.00	0.00
15,600.0	90.00	359.40	12,390.0	3,257.7	-326.9	3,272.5	0.00	0.00	0.00
15,700.0	90.00	359.40	12,390.0	3,357.7	-328.0	3,372.3	0.00	0.00	0.00
15,800.0	90.00	359.40	12,390.0	3,457.7	-329.0	3,472.2	0.00	0.00	0.00
15,900.0	90.00	359.40	12,390.0	3,557.7	-330.1	3,572.0	0.00	0.00	0.00
16,000.0	90.00	359.40	12,390.0	3,657.7	-331.2	3,671.8	0.00	0.00	0.00
16,100.0	90.00	359.40	12,390.0	3,757.7	-332.2	3,771.7	0.00	0.00	0.00
16,200.0	90.00	359.40	12,390.0	3,857.7	-333.3	3,871.5	0.00	0.00	0.00
16,300.0	90.00	359.40	12,390.0	3,957.7	-334.3	3,971.3	0.00	0.00	0.00
16,400.0	90.00	359.40	12,390.0	4,057.7	-335.4	4,071.1	0.00	0.00	0.00
16,500.0	90.00	359.40	12,390.0	4,157.6	-336.4	4,171.0	0.00	0.00	0.00
16,600.0	90.00	359.40	12,390.0	4,257.6	-337.5	4,270.8	0.00	0.00	0.00
16,700.0	90.00	359.40	12,390.0	4,357.6	-338.5	4,370.6	0.00	0.00	0.00
16,800.0	90.00	359.40	12,390.0	4,457.6	-339.6	4,470.4	0.00	0.00	0.00
16,900.0	90.00	359.40	12,390.0	4,557.6	-340.6	4,570.3	0.00	0.00	0.00
17,000.0	90.00	359.40	12,390.0	4,657.6	-341.7	4,670.1	0.00	0.00	0.00
17,100.0	90.00	359.40	12,390.0	4,757.6	-342.8	4,769.9	0.00	0.00	0.00
17,200.0	90.00	359.40	12,390.0	4,857.6	-343.8	4,869.8	0.00	0.00	0.00
17,300.0	90.00	359.40	12,390.0	4,957.6	-344.9	4,969.6	0.00	0.00	0.00
17,313.4	90.00	359.40	12,390.0	4,971.0	-345.0	4,983.0	0.00	0.00	0.00

PBHL (Cobalt 32 State #709H)



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3450.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3450.0usft
Site:	Cobalt 32 State	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
KOP (Cobalt 32 State #7	0.00	0.01	11,912.5	-151.0	-291.0	425,464.00	799,388.00	32° 10' 0.948 N	103° 29' 57.763 W
- plan hits target center									
- Point									
FTP (Cobalt 32 State #7	0.00	0.01	12,390.0	-101.0	-291.0	425,514.00	799,388.00	32° 10' 1.443 N	103° 29' 57.759 W
- plan misses target center by 163.4usft at 12322.5usft MD (12269.9 TVD, 9.9 N, -292.7 E)									
- Point									
PBHL (Cobalt 32 State #	0.00	0.00	12,390.0	4,971.0	-345.0	430,586.00	799,334.00	32° 10' 51.635 N	103° 29' 57.930 W
- plan hits target center									
- Point									