



Lea County, NM (NAD 83 NME)

Cobalt 32 State Com #704H

Plan #0.2

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

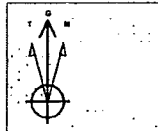
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #704H

KB = 25 @ 3444.0usft 3419.0
Northing 425635.00 Easting 802450.00 32° 10' 2.404 N 103° 29' 22.127 W

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	3244.7	4.89	257.81	3244.4	-2.2	-10.2	2.00	257.81	-0.6	
4	11659.1	4.89	257.81	11626.1	-153.8	-711.8	0.00	0.00	-42.1	KOP (Cobalt 32 State #704H)
5	11903.8	0.00	0.00	11872.5	-156.0	-722.0	2.00	180.00	-42.7	
6	12653.8	90.00	359.39	12350.0	321.4	-727.1	12.00	359.39	429.8	
7	17305.6	90.00	359.39	12350.0	4973.0	-777.0	0.00	0.00	5033.3	PBHL (Cobalt 32 State #704H)



Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.33°
Magnetic Field
Strength: 47792.0mT
Dip Angle: 60.01°
Date: 8/11/2018
Model: IGRF2015

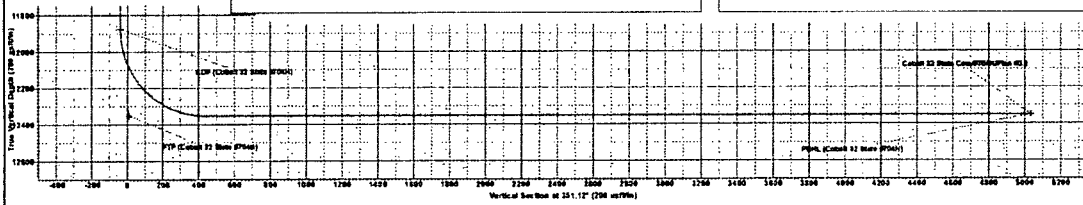
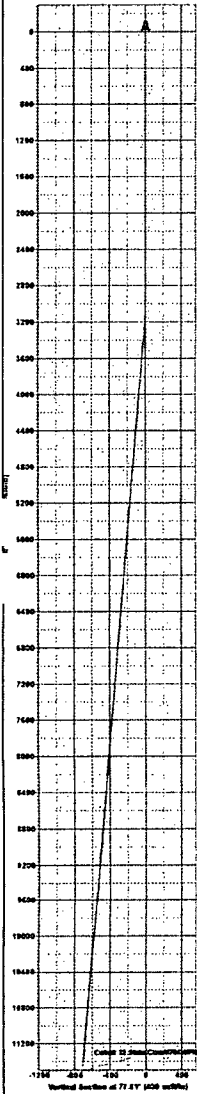
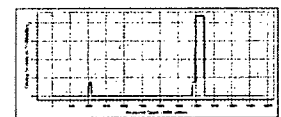
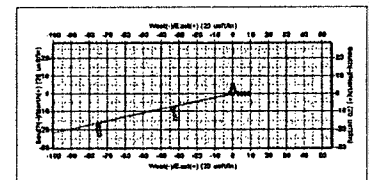
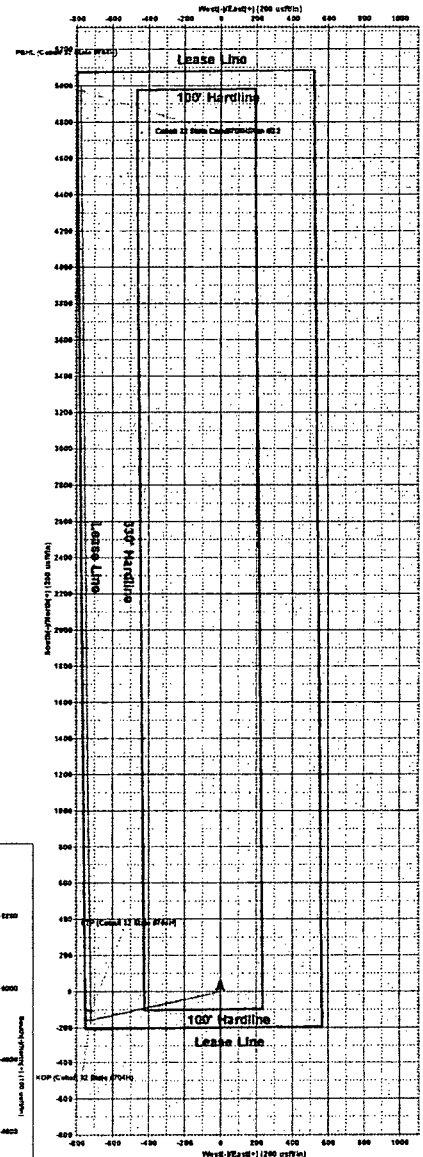
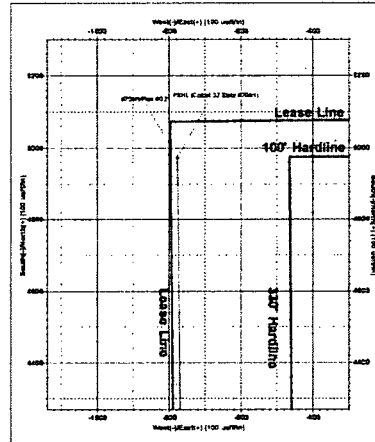
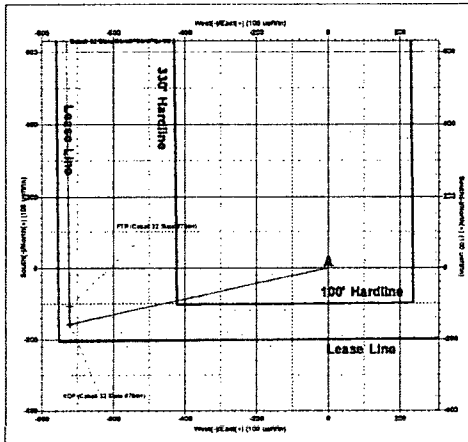
To convert a Magnetic Direction to a Grid Direction, Add 5.3°
To convert a Magnetic Direction to a True Direction, Add 6.78° East
To convert a True Direction to a Grid Direction, Subtract 0.45°

CASING DETAILS

No casing data is available

WELLSHORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Cobalt 32 State #704H)	11872.5	-156.0	-722.0	425618.00	801728.00
FTP (Cobalt 32 State #704H)	12360.0	-106.0	-721.0	425629.00	801728.00
PBHL (Cobalt 32 State #704H)	12350.0	4973.0	-777.0	425608.00	801873.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Cobalt 32 State Com

#704H

OH

Plan: Plan #0.2

Standard Planning Report

05 October, 2018



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #704H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3444.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3444.0usft
Site:	Cobalt 32 State Com	North Reference:	Grid
Well:	#704H	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	Cobalt 32 State Com		
Site Position:	Map	Northing:	425,635.00 usft
From:	Map	Easting:	802,483.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 2.401 N
		Longitude:	103° 29' 21.743 W
		Grid Convergence:	0.45 °

Well	#704H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	-33.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,419.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	8/21/2018	6.78
			Dip Angle
			60.01
			Field Strength
			47,791.97710477

Design	Plan #0.2		
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
			351.12

Plan Survey Tool Program	Date 10/5/2018		
Depth From	Depth To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
1	0.0	17,305.6 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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,244.7	4.89	257.81	3,244.4	-2.2	-10.2	2.00	2.00	0.00	257.81	
11,659.1	4.89	257.81	11,628.1	-153.8	-711.8	0.00	0.00	0.00	0.00	
11,903.8	0.00	0.00	11,872.5	-156.0	-722.0	2.00	-2.00	0.00	180.00	KOP (Cobalt 32 State
12,653.8	90.00	359.39	12,350.0	321.4	-727.1	12.00	12.00	-0.08	359.39	
17,305.6	90.00	359.39	12,350.0	4,973.0	-777.0	0.00	0.00	0.00	0.00	PBHL (Cobalt 32 Stat



Planning Report

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Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3444.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3444.0usft
Site:	Cobalt 32 State Com	North Reference:	Grid
Well:	#704H	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)
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	2.00	257.81	3,100.0	-0.4	-1.7	-0.1	2.00	2.00	0.00
3,200.0	4.00	257.81	3,199.8	-1.5	-6.8	-0.4	2.00	2.00	0.00
3,244.7	4.89	257.81	3,244.4	-2.2	-10.2	-0.6	2.00	2.00	0.00
3,300.0	4.89	257.81	3,299.5	-3.2	-14.8	-0.9	0.00	0.00	0.00
3,400.0	4.89	257.81	3,399.1	-5.0	-23.2	-1.4	0.00	0.00	0.00
3,500.0	4.89	257.81	3,498.8	-6.8	-31.5	-1.9	0.00	0.00	0.00
3,600.0	4.89	257.81	3,598.4	-8.6	-39.8	-2.4	0.00	0.00	0.00
3,700.0	4.89	257.81	3,698.0	-10.4	-48.2	-2.8	0.00	0.00	0.00
3,800.0	4.89	257.81	3,797.7	-12.2	-56.5	-3.3	0.00	0.00	0.00
3,900.0	4.89	257.81	3,897.3	-14.0	-64.8	-3.8	0.00	0.00	0.00
4,000.0	4.89	257.81	3,996.9	-15.8	-73.2	-4.3	0.00	0.00	0.00
4,100.0	4.89	257.81	4,096.6	-17.6	-81.5	-4.8	0.00	0.00	0.00
4,200.0	4.89	257.81	4,196.2	-19.4	-89.9	-5.3	0.00	0.00	0.00
4,300.0	4.89	257.81	4,295.9	-21.2	-98.2	-5.8	0.00	0.00	0.00
4,400.0	4.89	257.81	4,395.5	-23.0	-106.5	-6.3	0.00	0.00	0.00
4,500.0	4.89	257.81	4,495.1	-24.8	-114.9	-6.8	0.00	0.00	0.00
4,600.0	4.89	257.81	4,594.8	-26.6	-123.2	-7.3	0.00	0.00	0.00
4,700.0	4.89	257.81	4,694.4	-28.4	-131.6	-7.8	0.00	0.00	0.00
4,800.0	4.89	257.81	4,794.0	-30.2	-139.9	-8.3	0.00	0.00	0.00
4,900.0	4.89	257.81	4,893.7	-32.0	-148.2	-8.8	0.00	0.00	0.00
5,000.0	4.89	257.81	4,993.3	-33.8	-156.6	-9.3	0.00	0.00	0.00
5,100.0	4.89	257.81	5,092.9	-35.6	-164.9	-9.7	0.00	0.00	0.00
5,200.0	4.89	257.81	5,192.6	-37.4	-173.2	-10.2	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Cobalt 32 State Com
 Well: #704H
 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #704H
 TVD Reference: KB = 25 @ 3444.0usft
 MD Reference: KB = 25 @ 3444.0usft
 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	4.89	257.81	5,292.2	-39.2	-181.6	-10.7	0.00	0.00	0.00
5,400.0	4.89	257.81	5,391.8	-41.0	-189.9	-11.2	0.00	0.00	0.00
5,500.0	4.89	257.81	5,491.5	-42.8	-198.3	-11.7	0.00	0.00	0.00
5,600.0	4.89	257.81	5,591.1	-44.6	-206.6	-12.2	0.00	0.00	0.00
5,700.0	4.89	257.81	5,690.8	-46.4	-214.9	-12.7	0.00	0.00	0.00
5,800.0	4.89	257.81	5,790.4	-48.2	-223.3	-13.2	0.00	0.00	0.00
5,900.0	4.89	257.81	5,890.0	-50.0	-231.6	-13.7	0.00	0.00	0.00
6,000.0	4.89	257.81	5,989.7	-51.8	-239.9	-14.2	0.00	0.00	0.00
6,100.0	4.89	257.81	6,089.3	-53.6	-248.3	-14.7	0.00	0.00	0.00
6,200.0	4.89	257.81	6,188.9	-55.4	-256.6	-15.2	0.00	0.00	0.00
6,300.0	4.89	257.81	6,288.6	-57.2	-265.0	-15.7	0.00	0.00	0.00
6,400.0	4.89	257.81	6,388.2	-59.0	-273.3	-16.2	0.00	0.00	0.00
6,500.0	4.89	257.81	6,487.8	-60.9	-281.6	-16.6	0.00	0.00	0.00
6,600.0	4.89	257.81	6,587.5	-62.7	-290.0	-17.1	0.00	0.00	0.00
6,700.0	4.89	257.81	6,687.1	-64.5	-298.3	-17.6	0.00	0.00	0.00
6,800.0	4.89	257.81	6,786.7	-66.3	-306.6	-18.1	0.00	0.00	0.00
6,900.0	4.89	257.81	6,886.4	-68.1	-315.0	-18.6	0.00	0.00	0.00
7,000.0	4.89	257.81	6,986.0	-69.9	-323.3	-19.1	0.00	0.00	0.00
7,100.0	4.89	257.81	7,085.7	-71.7	-331.7	-19.6	0.00	0.00	0.00
7,200.0	4.89	257.81	7,185.3	-73.5	-340.0	-20.1	0.00	0.00	0.00
7,300.0	4.89	257.81	7,284.9	-75.3	-348.3	-20.6	0.00	0.00	0.00
7,400.0	4.89	257.81	7,384.6	-77.1	-356.7	-21.1	0.00	0.00	0.00
7,500.0	4.89	257.81	7,484.2	-78.9	-365.0	-21.6	0.00	0.00	0.00
7,600.0	4.89	257.81	7,583.8	-80.7	-373.3	-22.1	0.00	0.00	0.00
7,700.0	4.89	257.81	7,683.5	-82.5	-381.7	-22.6	0.00	0.00	0.00
7,800.0	4.89	257.81	7,783.1	-84.3	-390.0	-23.1	0.00	0.00	0.00
7,900.0	4.89	257.81	7,882.7	-86.1	-398.4	-23.5	0.00	0.00	0.00
8,000.0	4.89	257.81	7,982.4	-87.9	-406.7	-24.0	0.00	0.00	0.00
8,100.0	4.89	257.81	8,082.0	-89.7	-415.0	-24.5	0.00	0.00	0.00
8,200.0	4.89	257.81	8,181.6	-91.5	-423.4	-25.0	0.00	0.00	0.00
8,300.0	4.89	257.81	8,281.3	-93.3	-431.7	-25.5	0.00	0.00	0.00
8,400.0	4.89	257.81	8,380.9	-95.1	-440.1	-26.0	0.00	0.00	0.00
8,500.0	4.89	257.81	8,480.5	-96.9	-448.4	-26.5	0.00	0.00	0.00
8,600.0	4.89	257.81	8,580.2	-98.7	-456.7	-27.0	0.00	0.00	0.00
8,700.0	4.89	257.81	8,679.8	-100.5	-465.1	-27.5	0.00	0.00	0.00
8,800.0	4.89	257.81	8,779.5	-102.3	-473.4	-28.0	0.00	0.00	0.00
8,900.0	4.89	257.81	8,879.1	-104.1	-481.7	-28.5	0.00	0.00	0.00
9,000.0	4.89	257.81	8,978.7	-105.9	-490.1	-29.0	0.00	0.00	0.00
9,100.0	4.89	257.81	9,078.4	-107.7	-498.4	-29.5	0.00	0.00	0.00
9,200.0	4.89	257.81	9,178.0	-109.5	-506.8	-30.0	0.00	0.00	0.00
9,300.0	4.89	257.81	9,277.6	-111.3	-515.1	-30.4	0.00	0.00	0.00
9,400.0	4.89	257.81	9,377.3	-113.1	-523.4	-30.9	0.00	0.00	0.00
9,500.0	4.89	257.81	9,476.9	-114.9	-531.8	-31.4	0.00	0.00	0.00
9,600.0	4.89	257.81	9,576.5	-116.7	-540.1	-31.9	0.00	0.00	0.00
9,700.0	4.89	257.81	9,676.2	-118.5	-548.4	-32.4	0.00	0.00	0.00
9,800.0	4.89	257.81	9,775.8	-120.3	-556.8	-32.9	0.00	0.00	0.00
9,900.0	4.89	257.81	9,875.4	-122.1	-565.1	-33.4	0.00	0.00	0.00
10,000.0	4.89	257.81	9,975.1	-123.9	-573.5	-33.9	0.00	0.00	0.00
10,100.0	4.89	257.81	10,074.7	-125.7	-581.8	-34.4	0.00	0.00	0.00
10,200.0	4.89	257.81	10,174.4	-127.5	-590.1	-34.9	0.00	0.00	0.00
10,300.0	4.89	257.81	10,274.0	-129.3	-598.5	-35.4	0.00	0.00	0.00
10,400.0	4.89	257.81	10,373.6	-131.1	-606.8	-35.9	0.00	0.00	0.00
10,500.0	4.89	257.81	10,473.3	-132.9	-615.1	-36.4	0.00	0.00	0.00
10,600.0	4.89	257.81	10,572.9	-134.7	-623.5	-36.9	0.00	0.00	0.00



Planning Report

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 Design: Plan #0.2

Local Co-ordinate Reference: Well #704H
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 MD Reference: KB = 25 @ 3444.0usft
 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	4.89	257.81	10,672.5	-136.5	-631.8	-37.3	0.00	0.00	0.00
10,800.0	4.89	257.81	10,772.2	-138.3	-640.2	-37.8	0.00	0.00	0.00
10,900.0	4.89	257.81	10,871.8	-140.1	-648.5	-38.3	0.00	0.00	0.00
11,000.0	4.89	257.81	10,971.4	-141.9	-656.8	-38.8	0.00	0.00	0.00
11,100.0	4.89	257.81	11,071.1	-143.7	-665.2	-39.3	0.00	0.00	0.00
11,200.0	4.89	257.81	11,170.7	-145.5	-673.5	-39.8	0.00	0.00	0.00
11,300.0	4.89	257.81	11,270.3	-147.3	-681.9	-40.3	0.00	0.00	0.00
11,400.0	4.89	257.81	11,370.0	-149.1	-690.2	-40.8	0.00	0.00	0.00
11,500.0	4.89	257.81	11,469.6	-150.9	-698.5	-41.3	0.00	0.00	0.00
11,600.0	4.89	257.81	11,569.2	-152.7	-706.9	-41.8	0.00	0.00	0.00
11,659.1	4.89	257.81	11,628.1	-153.8	-711.8	-42.1	0.00	0.00	0.00
11,700.0	4.08	257.81	11,668.9	-154.5	-714.9	-42.3	2.00	-2.00	0.00
11,800.0	2.08	257.81	11,768.8	-155.6	-720.2	-42.6	2.00	-2.00	0.00
11,903.8	0.00	0.00	11,872.5	-156.0	-722.0	-42.7	2.00	-2.00	0.00
KOP (Cobalt 32 State #704H)									
11,925.0	2.55	359.39	11,893.7	-155.5	-722.0	-42.2	12.00	12.00	0.00
11,950.0	5.55	359.39	11,918.7	-153.8	-722.0	-40.5	12.00	12.00	0.00
11,975.0	8.55	359.39	11,943.5	-150.7	-722.1	-37.4	12.00	12.00	0.00
12,000.0	11.55	359.39	11,968.1	-146.3	-722.1	-33.1	12.00	12.00	0.00
12,025.0	14.55	359.39	11,992.4	-140.7	-722.2	-27.5	12.00	12.00	0.00
12,050.0	17.55	359.39	12,016.5	-133.8	-722.2	-20.7	12.00	12.00	0.00
12,075.0	20.55	359.39	12,040.1	-125.6	-722.3	-12.6	12.00	12.00	0.00
12,100.0	23.55	359.39	12,063.3	-116.2	-722.4	-3.3	12.00	12.00	0.00
12,125.0	26.55	359.39	12,085.9	-105.7	-722.5	7.1	12.00	12.00	0.00
12,150.0	29.55	359.39	12,108.0	-93.9	-722.7	18.8	12.00	12.00	0.00
12,175.0	32.55	359.39	12,129.4	-81.0	-722.8	31.5	12.00	12.00	0.00
12,200.0	35.55	359.39	12,150.1	-67.0	-723.0	45.4	12.00	12.00	0.00
12,225.0	38.55	359.39	12,170.0	-52.0	-723.1	60.3	12.00	12.00	0.00
12,250.0	41.55	359.39	12,189.2	-35.9	-723.3	76.2	12.00	12.00	0.00
12,275.0	44.55	359.39	12,207.4	-18.8	-723.5	93.1	12.00	12.00	0.00
12,300.0	47.55	359.39	12,224.8	-0.8	-723.7	110.9	12.00	12.00	0.00
12,302.6	47.86	359.39	12,226.6	1.1	-723.7	112.8	12.00	12.00	0.00
FTP (Cobalt 32 State #704H)									
12,325.0	50.55	359.39	12,241.2	18.1	-723.9	129.6	12.00	12.00	0.00
12,350.0	53.55	359.39	12,256.6	37.8	-724.1	149.1	12.00	12.00	0.00
12,375.0	56.55	359.39	12,270.9	58.3	-724.3	169.4	12.00	12.00	0.00
12,400.0	59.55	359.39	12,284.1	79.5	-724.5	190.4	12.00	12.00	0.00
12,425.0	62.55	359.39	12,296.2	101.3	-724.8	212.0	12.00	12.00	0.00
12,450.0	65.55	359.39	12,307.1	123.8	-725.0	234.2	12.00	12.00	0.00
12,475.0	68.55	359.39	12,316.9	146.8	-725.2	257.0	12.00	12.00	0.00
12,500.0	71.55	359.39	12,325.4	170.3	-725.5	280.3	12.00	12.00	0.00
12,525.0	74.55	359.39	12,332.7	194.2	-725.8	303.9	12.00	12.00	0.00
12,550.0	77.55	359.39	12,338.7	218.5	-726.0	327.9	12.00	12.00	0.00
12,575.0	80.55	359.39	12,343.5	243.0	-726.3	352.2	12.00	12.00	0.00
12,600.0	83.55	359.39	12,346.9	267.8	-726.5	376.7	12.00	12.00	0.00
12,625.0	86.55	359.39	12,349.1	292.7	-726.8	401.4	12.00	12.00	0.00
12,650.0	89.55	359.39	12,349.9	317.7	-727.1	426.1	12.00	12.00	0.00
12,653.8	90.00	359.39	12,350.0	321.4	-727.1	429.8	12.00	12.00	0.00
12,700.0	90.00	359.39	12,350.0	367.7	-727.5	475.6	0.00	0.00	0.00
12,800.0	90.00	359.39	12,350.0	467.7	-728.7	574.5	0.00	0.00	0.00
12,900.0	90.00	359.39	12,350.0	567.7	-729.8	673.5	0.00	0.00	0.00
13,000.0	90.00	359.39	12,350.0	667.7	-730.8	772.5	0.00	0.00	0.00
13,100.0	90.00	359.39	12,350.0	767.6	-731.9	871.4	0.00	0.00	0.00
13,200.0	90.00	359.39	12,350.0	867.6	-733.0	970.4	0.00	0.00	0.00



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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	359.39	12,350.0	967.6	-734.0	1,069.4	0.00	0.00	0.00
13,400.0	90.00	359.39	12,350.0	1,067.6	-735.1	1,168.3	0.00	0.00	0.00
13,500.0	90.00	359.39	12,350.0	1,167.6	-736.2	1,267.3	0.00	0.00	0.00
13,600.0	90.00	359.39	12,350.0	1,267.6	-737.3	1,366.2	0.00	0.00	0.00
13,700.0	90.00	359.39	12,350.0	1,367.6	-738.3	1,465.2	0.00	0.00	0.00
13,800.0	90.00	359.39	12,350.0	1,467.6	-739.4	1,564.2	0.00	0.00	0.00
13,900.0	90.00	359.39	12,350.0	1,567.6	-740.5	1,663.1	0.00	0.00	0.00
14,000.0	90.00	359.39	12,350.0	1,667.6	-741.6	1,762.1	0.00	0.00	0.00
14,100.0	90.00	359.39	12,350.0	1,767.6	-742.6	1,861.0	0.00	0.00	0.00
14,200.0	90.00	359.39	12,350.0	1,867.6	-743.7	1,960.0	0.00	0.00	0.00
14,300.0	90.00	359.39	12,350.0	1,967.6	-744.8	2,059.0	0.00	0.00	0.00
14,400.0	90.00	359.39	12,350.0	2,067.6	-745.8	2,157.9	0.00	0.00	0.00
14,500.0	90.00	359.39	12,350.0	2,167.6	-746.9	2,256.9	0.00	0.00	0.00
14,600.0	90.00	359.39	12,350.0	2,267.6	-748.0	2,355.8	0.00	0.00	0.00
14,700.0	90.00	359.39	12,350.0	2,367.6	-749.1	2,454.8	0.00	0.00	0.00
14,800.0	90.00	359.39	12,350.0	2,467.5	-750.1	2,553.8	0.00	0.00	0.00
14,900.0	90.00	359.39	12,350.0	2,567.5	-751.2	2,652.7	0.00	0.00	0.00
15,000.0	90.00	359.39	12,350.0	2,667.5	-752.3	2,751.7	0.00	0.00	0.00
15,100.0	90.00	359.39	12,350.0	2,767.5	-753.4	2,850.7	0.00	0.00	0.00
15,200.0	90.00	359.39	12,350.0	2,867.5	-754.4	2,949.6	0.00	0.00	0.00
15,300.0	90.00	359.39	12,350.0	2,967.5	-755.5	3,048.6	0.00	0.00	0.00
15,400.0	90.00	359.39	12,350.0	3,067.5	-756.6	3,147.5	0.00	0.00	0.00
15,500.0	90.00	359.39	12,350.0	3,167.5	-757.6	3,246.5	0.00	0.00	0.00
15,600.0	90.00	359.39	12,350.0	3,267.5	-758.7	3,345.5	0.00	0.00	0.00
15,700.0	90.00	359.39	12,350.0	3,367.5	-759.8	3,444.4	0.00	0.00	0.00
15,800.0	90.00	359.39	12,350.0	3,467.5	-760.9	3,543.4	0.00	0.00	0.00
15,900.0	90.00	359.39	12,350.0	3,567.5	-761.9	3,642.3	0.00	0.00	0.00
16,000.0	90.00	359.39	12,350.0	3,667.5	-763.0	3,741.3	0.00	0.00	0.00
16,100.0	90.00	359.39	12,350.0	3,767.5	-764.1	3,840.3	0.00	0.00	0.00
16,200.0	90.00	359.39	12,350.0	3,867.5	-765.1	3,939.2	0.00	0.00	0.00
16,300.0	90.00	359.39	12,350.0	3,967.5	-766.2	4,038.2	0.00	0.00	0.00
16,400.0	90.00	359.39	12,350.0	4,067.5	-767.3	4,137.1	0.00	0.00	0.00
16,500.0	90.00	359.39	12,350.0	4,167.5	-768.4	4,236.1	0.00	0.00	0.00
16,600.0	90.00	359.39	12,350.0	4,267.4	-769.4	4,335.1	0.00	0.00	0.00
16,700.0	90.00	359.39	12,350.0	4,367.4	-770.5	4,434.0	0.00	0.00	0.00
16,800.0	90.00	359.39	12,350.0	4,467.4	-771.6	4,533.0	0.00	0.00	0.00
16,900.0	90.00	359.39	12,350.0	4,567.4	-772.7	4,632.0	0.00	0.00	0.00
17,000.0	90.00	359.39	12,350.0	4,667.4	-773.7	4,730.9	0.00	0.00	0.00
17,100.0	90.00	359.39	12,350.0	4,767.4	-774.8	4,829.9	0.00	0.00	0.00
17,200.0	90.00	359.39	12,350.0	4,867.4	-775.9	4,928.8	0.00	0.00	0.00
17,305.6	90.00	359.39	12,350.0	4,973.0	-777.0	5,033.3	0.00	0.00	0.00
PBHL (Cobalt 32 State #704H)									



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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
KOP (Cobalt 32 State #7 - plan hits target center - Point	0.00	0.00	11,872.5	-156.0	-722.0	425,479.00	801,728.00	32° 10' 0.916 N	103° 29' 30.540 W
FTP (Cobalt 32 State #7 - plan misses target center by 163.4usft at 12302.6usft MD (12226.6 TVD, 1.1 N, -723.7 E) - Point	0.00	0.00	12,350.0	-106.0	-722.0	425,529.00	801,728.00	32° 10' 1.411 N	103° 29' 30.536 W
PBHL (Cobalt 32 State # - plan hits target center - Point	0.00	0.00	12,350.0	4,973.0	-777.0	430,608.00	801,673.00	32° 10' 51.672 N	103° 29' 30.713 W