

Well Name: WHIRLING WIND 11 FED COM	Well Location: T26S / R33E / SEC 11 / SWSE / 32.0542838 / -103.541667	County or Parish/State: LEA / NM
Well Number: 708H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM122621	Unit or CA Name:	Unit or CA Number:
US Well Number: 300254451600X1	Well Status: Drilling Well	Operator: EOG RESOURCES INCORPORATED

Notice of Intent

Type of Submission: Notice of Intent	Type of Action Other
Date Sundry Submitted: 03/01/2021	Time Sundry Submitted: 06:24
Date proposed operation will begin: 02/19/2021	

Procedure Description: EOG respectfully requests an amendment to our approved APD for this well to reflect the following changes: Change well number from 708H to 743H Update casing program to current design with 8-3/4” intermediate and to accommodate 6 inch production casing Change BHL to T-26-S R-33-E Sec 2 2539 feet FSL 1980 feet FEL Lea Co, NM Increase HSU to 480.44 acres

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- 8.75_35.7_lb_ft_Wedge_441_Int_Casing_20210301062354.pdf
- Whirling_Wind_11_Fed_743H_Permit_Info___Rev_Name__HSU__BHL__csg_REV_2___2.4.2021_20210301062112.pdf
- WHIRLINGWIND11FEDCOM_743H_C_102_20210205123306.pdf

Well Name: WHIRLING WIND 11 FED COM	Well Location: T26S / R33E / SEC 11 / SWSE / 32.0542838 / -103.541667	County or Parish/State: LEA / NM
Well Number: 708H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM122621	Unit or CA Name:	Unit or CA Number:
US Well Number: 300254451600X1	Well Status: Drilling Well	Operator: EOG RESOURCES INCORPORATED

Conditions of Approval

Additional Reviews

Whirling_Wind_11_FED_COM_743H_Drilling_COAs_20210303134030.pdf
6.000in_24_20210303133951.00
Whirling_Wind_11_Fed_743H_Permit_Info___Rev_Name___HSU___BHL___csg_REV_2___2.4.2021_20210303133815.pdf
Whirling_Wind_11_Fed_Com_743H_Planning_Report_20210303132924.pdf
Whirling_Wind_11_Fed_Com_743H_Wall_Plot_20210303132923.pdf

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: HARRELL	Signed on: MAR 01, 2021 06:24 AM
Name: EOG RESOURCES INCORPORATED	
Title: Regulatory Specialist	
Street Address: 1111 BAGBY SKY LOBBY2	
City: HOUSTON	State: TX
Phone: (713) 651-7000	
Email address:	

Field Representative

Representative Name: Star Harrell		
Street Address: 5509 CHAMPIONS DRIVE		
City: MIDLAND	State: TX	Zip: 79706
Phone: (432)848-9161		
Email address: Star_Harrell@eogresources.com		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 03/15/2021
Signature: Chris Walls	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Sante Fe, NM 87505

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-44516	² Pool Code 98094	³ Pool Name BOBCAT DRAW;UPPER WOLFCAMP
⁴ Property Code 316203	⁵ Property Name WHIRLING WIND 11 FED COM	
⁷ OGRID No. 7377	⁸ Operator Name EOG RESOURCES, INC.	⁶ Well Number 743H ⁹ Elevation 3351'

¹⁰Surface Location

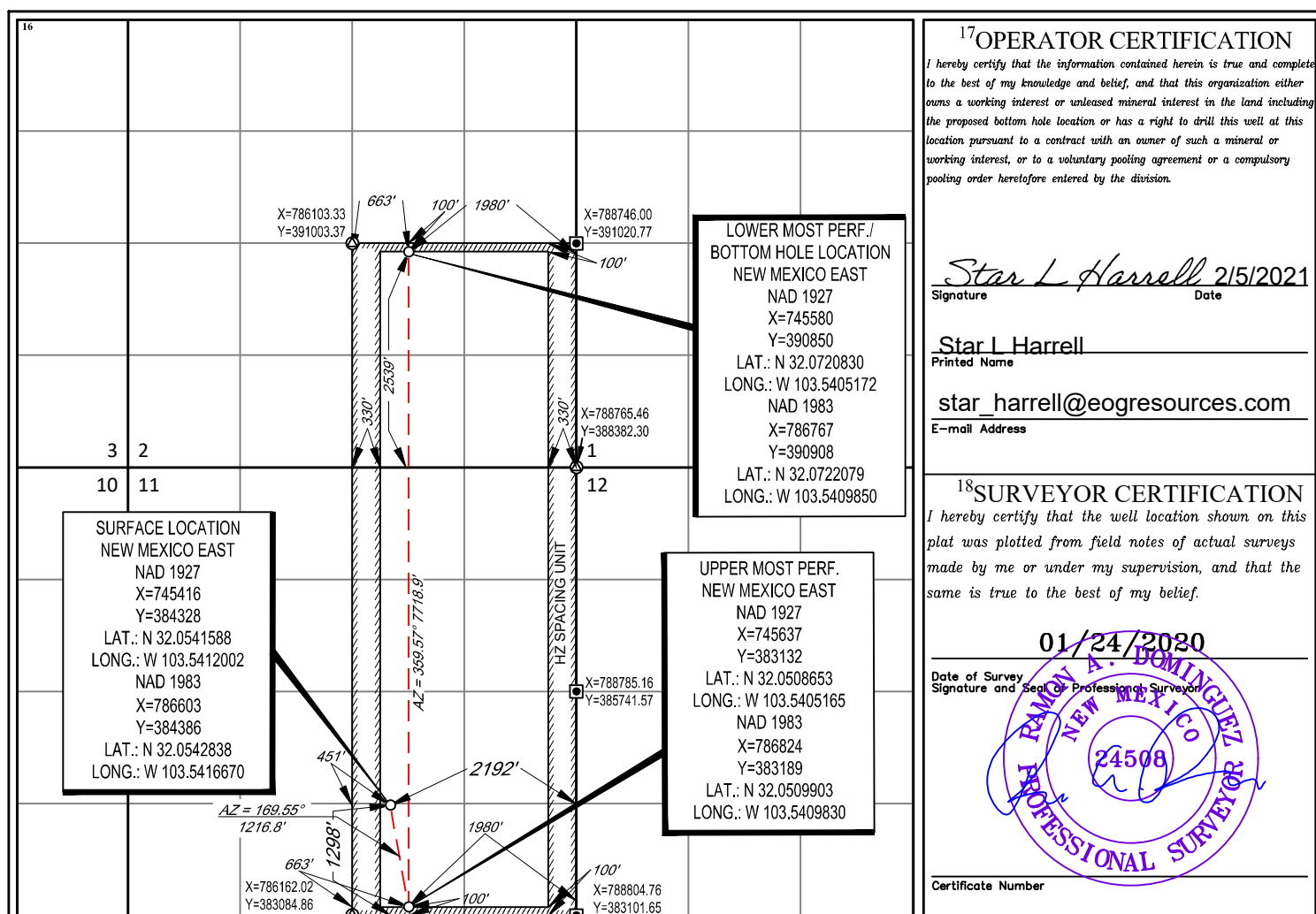
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	11	26-S	33-E	-	1298'	SOUTH	2192'	EAST	LEA

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	2	26-S	33-E	-	2539'	SOUTH	1980'	EAST	LEA

¹² Dedicated Acres = 480.44 480	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



Revised Permit Information 2/4/2021:

Well Name: Whirling Wind 11 Fed Com #743H

Location:

SHL: 1298' FSL & 2192' FEL, Section 11, T-26-S, R-33-E, Lea Co., N.M.

BHL: 2539' FNL & 1980' FEL, Section 2, 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' – 1,240'	10.75"	40.5#	J-55	STC	1.125	1.25	1.60
9.875"	0' – 11,420'	8.75"	37.5#	P10-110	Wedge 441	1.125	1.25	1.60
7.875"	0' – 20,783'	6"	24#	P-110	HTQ	1.125	1.25	1.60

Variance is requested to wave the centralizer requirements for the 8-3/4" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to wave any centralizer requirements for the 6" casing in the 7-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 7-7/8" hole interval to maximize cement bond and zonal isolation.

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /sk	Slurry Description
1,240' 10-3/4"	490	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	120	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1,040')
11,420' 8-3/4"	560	14.2	1.11	1 st Stage (Tail): Class C + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 7,640')
	1,610	14.8	1.5	2 nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface)
20,783' 6"	1,420	14.2	1.31	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,920')

Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Pre-Mag-M	Expansive agent
Sodium Chloride	Accelerator
FL-62	Fluid loss control
Halad-344	Fluid loss control
Halad-9	Fluid loss control
HR-601	Retarder
Microbond	Expansive Agent

EOG requests variance from minimum standards to pump a two stage cement job on the 8-3/4" intermediate casing string with the first stage being pumped conventionally with the calculated TOC at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary a top out consisting of 1,000 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. Top of cement will be verified by Echo-meter.

EOG will include the final fluid top verified by Echo-meter and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,240'	Fresh - Gel	8.6-8.8	28-34	N/c
1,240' – 11,420'	Brine	10.0-10.2	28-34	N/c
11,420' – 12,741'	Oil Base	8.7-9.4	58-68	N/c - 6
12,741' – 20,783' Lateral	Oil Base	10.0-14.0	58-68	3 - 6

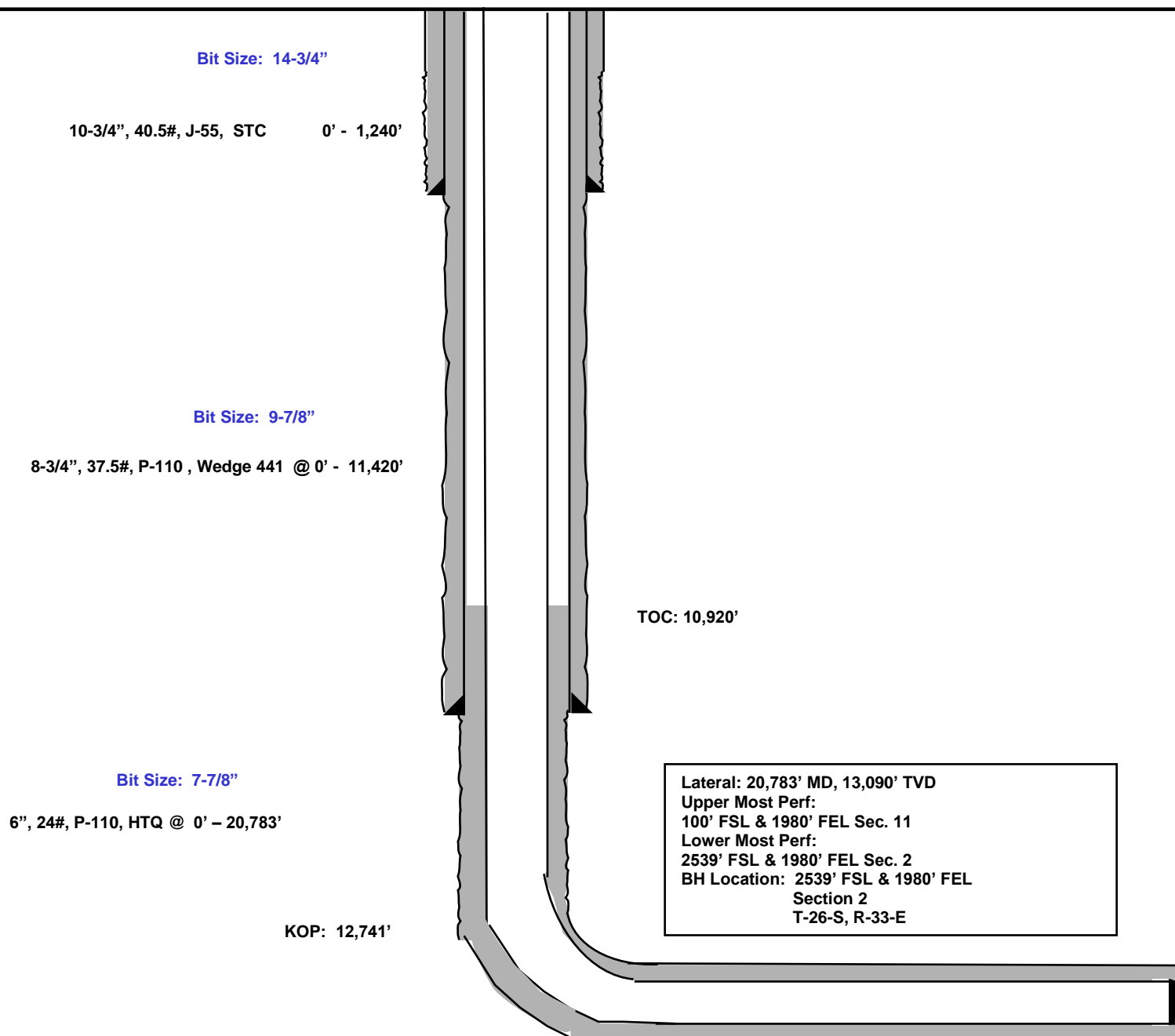
Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

1298' FSL
2192' FEL
Section 11
T-26-S, R-33-E

Revised Wellbore

KB: 3,376'
GL: 3,351'

API: 30-025-44516





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Whirling Wind 11 Fed Com

#743H

OH

Plan: Plan #0.1

Standard Planning Report

26 February, 2020



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well #743H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3376.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3376.0usft
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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	Whirling Wind 11 Fed Com					
Site Position:		Northing:	384,386.00 usft	Latitude:	32° 3' 15.425 N	
From:	Map	Easting:	786,603.00 usft	Longitude:	103° 32' 30.005 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42

Well	#743H					
Well Position	+N/-S	0.0 usft	Northing:	384,386.00 usft	Latitude:	32° 3' 15.425 N
	+E/-W	0.0 usft	Easting:	786,603.00 usft	Longitude:	103° 32' 30.005 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,351.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/26/2020	6.63	59.88	47,564.36808892

Design	Plan #0.1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	1.44

Plan Survey Tool Program	Date	2/26/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	20,782.9 Plan #0.1 (OH)	EOG MWD+IFR1	
			MWD + IFR1	

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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	12.00	169.95	1,795.7	-61.6	10.9	2.00	2.00	0.00	169.95	
7,288.7	12.00	169.95	7,164.3	-1,185.4	210.1	0.00	0.00	0.00	0.00	
7,888.7	0.00	0.00	7,760.0	-1,247.0	221.0	2.00	-2.00	0.00	180.00	
12,741.2	0.00	0.00	12,612.5	-1,247.0	221.0	0.00	0.00	0.00	0.00	KOP(WW 11 FC #743
12,961.7	26.46	0.00	12,825.2	-1,197.0	221.0	12.00	12.00	0.00	0.00	FTP(WW 11 FC #743
13,491.2	90.00	359.57	13,089.9	-769.5	218.8	12.00	12.00	-0.08	-0.48	
20,782.9	90.00	359.57	13,090.0	6,522.0	164.0	0.00	0.00	0.00	0.00	PBHL(WW 11 FC #74



Planning Report

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Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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)
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	2.00	169.95	1,300.0	-1.7	0.3	-1.7	2.00	2.00	0.00
1,400.0	4.00	169.95	1,399.8	-6.9	1.2	-6.8	2.00	2.00	0.00
1,500.0	6.00	169.95	1,499.5	-15.5	2.7	-15.4	2.00	2.00	0.00
1,600.0	8.00	169.95	1,598.7	-27.5	4.9	-27.3	2.00	2.00	0.00
1,700.0	10.00	169.95	1,697.5	-42.9	7.6	-42.7	2.00	2.00	0.00
1,800.0	12.00	169.95	1,795.7	-61.6	10.9	-61.4	2.00	2.00	0.00
1,900.0	12.00	169.95	1,893.4	-82.1	14.6	-81.7	0.00	0.00	0.00
2,000.0	12.00	169.95	1,991.3	-102.6	18.2	-102.1	0.00	0.00	0.00
2,100.0	12.00	169.95	2,089.1	-123.1	21.8	-122.5	0.00	0.00	0.00
2,200.0	12.00	169.95	2,186.9	-143.5	25.4	-142.9	0.00	0.00	0.00
2,300.0	12.00	169.95	2,284.7	-164.0	29.1	-163.2	0.00	0.00	0.00
2,400.0	12.00	169.95	2,382.5	-184.5	32.7	-183.6	0.00	0.00	0.00
2,500.0	12.00	169.95	2,480.3	-205.0	36.3	-204.0	0.00	0.00	0.00
2,600.0	12.00	169.95	2,578.1	-225.4	40.0	-224.4	0.00	0.00	0.00
2,700.0	12.00	169.95	2,676.0	-245.9	43.6	-244.7	0.00	0.00	0.00
2,800.0	12.00	169.95	2,773.8	-266.4	47.2	-265.1	0.00	0.00	0.00
2,900.0	12.00	169.95	2,871.6	-286.8	50.8	-285.5	0.00	0.00	0.00
3,000.0	12.00	169.95	2,969.4	-307.3	54.5	-305.9	0.00	0.00	0.00
3,100.0	12.00	169.95	3,067.2	-327.8	58.1	-326.2	0.00	0.00	0.00
3,200.0	12.00	169.95	3,165.0	-348.3	61.7	-346.6	0.00	0.00	0.00
3,300.0	12.00	169.95	3,262.8	-368.7	65.4	-367.0	0.00	0.00	0.00
3,400.0	12.00	169.95	3,360.7	-389.2	69.0	-387.4	0.00	0.00	0.00
3,500.0	12.00	169.95	3,458.5	-409.7	72.6	-407.7	0.00	0.00	0.00
3,600.0	12.00	169.95	3,556.3	-430.2	76.2	-428.1	0.00	0.00	0.00
3,700.0	12.00	169.95	3,654.1	-450.6	79.9	-448.5	0.00	0.00	0.00
3,800.0	12.00	169.95	3,751.9	-471.1	83.5	-468.9	0.00	0.00	0.00
3,900.0	12.00	169.95	3,849.7	-491.6	87.1	-489.2	0.00	0.00	0.00
4,000.0	12.00	169.95	3,947.5	-512.1	90.7	-509.6	0.00	0.00	0.00
4,100.0	12.00	169.95	4,045.4	-532.5	94.4	-530.0	0.00	0.00	0.00
4,200.0	12.00	169.95	4,143.2	-553.0	98.0	-550.4	0.00	0.00	0.00
4,300.0	12.00	169.95	4,241.0	-573.5	101.6	-570.7	0.00	0.00	0.00
4,400.0	12.00	169.95	4,338.8	-593.9	105.3	-591.1	0.00	0.00	0.00
4,500.0	12.00	169.95	4,436.6	-614.4	108.9	-611.5	0.00	0.00	0.00
4,600.0	12.00	169.95	4,534.4	-634.9	112.5	-631.9	0.00	0.00	0.00
4,700.0	12.00	169.95	4,632.2	-655.4	116.1	-652.2	0.00	0.00	0.00
4,800.0	12.00	169.95	4,730.1	-675.8	119.8	-672.6	0.00	0.00	0.00
4,900.0	12.00	169.95	4,827.9	-696.3	123.4	-693.0	0.00	0.00	0.00
5,000.0	12.00	169.95	4,925.7	-716.8	127.0	-713.4	0.00	0.00	0.00
5,100.0	12.00	169.95	5,023.5	-737.3	130.7	-733.7	0.00	0.00	0.00
5,200.0	12.00	169.95	5,121.3	-757.7	134.3	-754.1	0.00	0.00	0.00
5,300.0	12.00	169.95	5,219.1	-778.2	137.9	-774.5	0.00	0.00	0.00



Planning Report

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Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3376.0usft
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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	12.00	169.95	5,316.9	-798.7	141.5	-794.9	0.00	0.00	0.00
5,500.0	12.00	169.95	5,414.8	-819.2	145.2	-815.2	0.00	0.00	0.00
5,600.0	12.00	169.95	5,512.6	-839.6	148.8	-835.6	0.00	0.00	0.00
5,700.0	12.00	169.95	5,610.4	-860.1	152.4	-856.0	0.00	0.00	0.00
5,800.0	12.00	169.95	5,708.2	-880.6	156.1	-876.4	0.00	0.00	0.00
5,900.0	12.00	169.95	5,806.0	-901.0	159.7	-896.7	0.00	0.00	0.00
6,000.0	12.00	169.95	5,903.8	-921.5	163.3	-917.1	0.00	0.00	0.00
6,100.0	12.00	169.95	6,001.6	-942.0	166.9	-937.5	0.00	0.00	0.00
6,200.0	12.00	169.95	6,099.5	-962.5	170.6	-957.9	0.00	0.00	0.00
6,300.0	12.00	169.95	6,197.3	-982.9	174.2	-978.2	0.00	0.00	0.00
6,400.0	12.00	169.95	6,295.1	-1,003.4	177.8	-998.6	0.00	0.00	0.00
6,500.0	12.00	169.95	6,392.9	-1,023.9	181.5	-1,019.0	0.00	0.00	0.00
6,600.0	12.00	169.95	6,490.7	-1,044.4	185.1	-1,039.4	0.00	0.00	0.00
6,700.0	12.00	169.95	6,588.5	-1,064.8	188.7	-1,059.8	0.00	0.00	0.00
6,800.0	12.00	169.95	6,686.3	-1,085.3	192.3	-1,080.1	0.00	0.00	0.00
6,900.0	12.00	169.95	6,784.2	-1,105.8	196.0	-1,100.5	0.00	0.00	0.00
7,000.0	12.00	169.95	6,882.0	-1,126.3	199.6	-1,120.9	0.00	0.00	0.00
7,100.0	12.00	169.95	6,979.8	-1,146.7	203.2	-1,141.3	0.00	0.00	0.00
7,200.0	12.00	169.95	7,077.6	-1,167.2	206.9	-1,161.6	0.00	0.00	0.00
7,288.7	12.00	169.95	7,164.3	-1,185.4	210.1	-1,179.7	0.00	0.00	0.00
7,300.0	11.77	169.95	7,175.4	-1,187.6	210.5	-1,182.0	2.00	-2.00	0.00
7,400.0	9.77	169.95	7,273.7	-1,206.1	213.7	-1,200.3	2.00	-2.00	0.00
7,500.0	7.77	169.95	7,372.5	-1,221.1	216.4	-1,215.2	2.00	-2.00	0.00
7,600.0	5.77	169.95	7,471.8	-1,232.7	218.5	-1,226.8	2.00	-2.00	0.00
7,700.0	3.77	169.95	7,571.4	-1,240.9	219.9	-1,235.0	2.00	-2.00	0.00
7,800.0	1.77	169.95	7,671.3	-1,245.6	220.8	-1,239.7	2.00	-2.00	0.00
7,888.7	0.00	0.00	7,760.0	-1,247.0	221.0	-1,241.1	2.00	-2.00	0.00
7,900.0	0.00	0.00	7,771.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,871.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,100.0	0.00	0.00	7,971.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,071.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,300.0	0.00	0.00	8,171.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,400.0	0.00	0.00	8,271.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,500.0	0.00	0.00	8,371.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,600.0	0.00	0.00	8,471.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,700.0	0.00	0.00	8,571.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,800.0	0.00	0.00	8,671.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
8,900.0	0.00	0.00	8,771.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,000.0	0.00	0.00	8,871.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,100.0	0.00	0.00	8,971.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,200.0	0.00	0.00	9,071.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,300.0	0.00	0.00	9,171.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,400.0	0.00	0.00	9,271.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,371.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,600.0	0.00	0.00	9,471.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,700.0	0.00	0.00	9,571.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,800.0	0.00	0.00	9,671.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
9,900.0	0.00	0.00	9,771.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,000.0	0.00	0.00	9,871.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,100.0	0.00	0.00	9,971.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,200.0	0.00	0.00	10,071.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,300.0	0.00	0.00	10,171.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,400.0	0.00	0.00	10,271.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00
10,500.0	0.00	0.00	10,371.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well #743H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3376.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3376.0usft
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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)	
10,600.0	0.00	0.00	10,471.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,571.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,671.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,771.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,000.0	0.00	0.00	10,871.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,100.0	0.00	0.00	10,971.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,071.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,171.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,271.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,500.0	0.00	0.00	11,371.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,600.0	0.00	0.00	11,471.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,700.0	0.00	0.00	11,571.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,800.0	0.00	0.00	11,671.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
11,900.0	0.00	0.00	11,771.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,000.0	0.00	0.00	11,871.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,100.0	0.00	0.00	11,971.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,200.0	0.00	0.00	12,071.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,300.0	0.00	0.00	12,171.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,400.0	0.00	0.00	12,271.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,500.0	0.00	0.00	12,371.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,600.0	0.00	0.00	12,471.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,700.0	0.00	0.00	12,571.3	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,741.2	0.00	0.00	12,612.5	-1,247.0	221.0	-1,241.1	0.00	0.00	0.00	
12,750.0	1.06	0.00	12,621.3	-1,246.9	221.0	-1,241.0	12.00	12.00	0.00	
12,775.0	4.06	0.00	12,646.3	-1,245.8	221.0	-1,239.9	12.00	12.00	0.00	
12,800.0	7.06	0.00	12,671.1	-1,243.4	221.0	-1,237.4	12.00	12.00	0.00	
12,825.0	10.06	0.00	12,695.9	-1,239.7	221.0	-1,233.7	12.00	12.00	0.00	
12,850.0	13.06	0.00	12,720.4	-1,234.7	221.0	-1,228.7	12.00	12.00	0.00	
12,875.0	16.06	0.00	12,744.5	-1,228.4	221.0	-1,222.4	12.00	12.00	0.00	
12,900.0	19.06	0.00	12,768.4	-1,220.8	221.0	-1,214.9	12.00	12.00	0.00	
12,925.0	22.06	0.00	12,791.8	-1,212.1	221.0	-1,206.1	12.00	12.00	0.00	
12,950.0	25.06	0.00	12,814.7	-1,202.1	221.0	-1,196.1	12.00	12.00	0.00	
12,961.7	26.46	0.00	12,825.2	-1,197.0	221.0	-1,191.1	12.00	12.00	0.00	
12,975.0	28.06	359.97	12,837.1	-1,190.9	221.0	-1,185.0	12.00	12.00	-0.21	
13,000.0	31.06	359.93	12,858.8	-1,178.6	221.0	-1,172.6	12.00	12.00	-0.18	
13,025.0	34.06	359.89	12,879.9	-1,165.1	221.0	-1,159.2	12.00	12.00	-0.16	
13,050.0	37.06	359.85	12,900.2	-1,150.6	220.9	-1,144.7	12.00	12.00	-0.13	
13,075.0	40.06	359.82	12,919.8	-1,135.0	220.9	-1,129.1	12.00	12.00	-0.12	
13,100.0	43.06	359.80	12,938.5	-1,118.4	220.8	-1,112.5	12.00	12.00	-0.10	
13,125.0	46.06	359.78	12,956.3	-1,100.9	220.8	-1,095.0	12.00	12.00	-0.09	
13,150.0	49.06	359.76	12,973.1	-1,082.4	220.7	-1,076.5	12.00	12.00	-0.08	
13,175.0	52.06	359.74	12,989.0	-1,063.1	220.6	-1,057.2	12.00	12.00	-0.08	
13,200.0	55.06	359.72	13,003.9	-1,043.0	220.5	-1,037.1	12.00	12.00	-0.07	
13,225.0	58.06	359.70	13,017.6	-1,022.2	220.4	-1,016.3	12.00	12.00	-0.06	
13,250.0	61.06	359.69	13,030.3	-1,000.6	220.3	-994.7	12.00	12.00	-0.06	
13,275.0	64.06	359.67	13,041.8	-978.4	220.2	-972.6	12.00	12.00	-0.06	
13,300.0	67.06	359.66	13,052.2	-955.7	220.0	-949.8	12.00	12.00	-0.05	
13,325.0	70.06	359.65	13,061.3	-932.4	219.9	-926.6	12.00	12.00	-0.05	
13,350.0	73.06	359.63	13,069.2	-908.7	219.7	-902.9	12.00	12.00	-0.05	
13,375.0	76.06	359.62	13,075.9	-884.6	219.6	-878.8	12.00	12.00	-0.05	
13,400.0	79.06	359.61	13,081.3	-860.2	219.4	-854.4	12.00	12.00	-0.05	
13,425.0	82.06	359.60	13,085.4	-835.5	219.3	-829.7	12.00	12.00	-0.05	
13,450.0	85.06	359.59	13,088.2	-810.7	219.1	-804.9	12.00	12.00	-0.05	
13,475.0	88.06	359.58	13,089.7	-785.7	218.9	-780.0	12.00	12.00	-0.05	



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well #743H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3376.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3376.0usft
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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)	
13,491.2	90.00	359.57	13,089.9	-769.5	218.8	-763.8	12.00	12.00	-0.04	
13,500.0	90.00	359.57	13,089.9	-760.7	218.7	-755.0	0.00	0.00	0.00	
13,600.0	90.00	359.57	13,089.9	-660.7	218.0	-655.0	0.00	0.00	0.00	
13,700.0	90.00	359.57	13,089.9	-560.7	217.2	-555.1	0.00	0.00	0.00	
13,800.0	90.00	359.57	13,089.9	-460.7	216.5	-455.2	0.00	0.00	0.00	
13,900.0	90.00	359.57	13,089.9	-360.7	215.7	-355.2	0.00	0.00	0.00	
14,000.0	90.00	359.57	13,089.9	-260.7	215.0	-255.3	0.00	0.00	0.00	
14,100.0	90.00	359.57	13,090.0	-160.8	214.2	-155.3	0.00	0.00	0.00	
14,200.0	90.00	359.57	13,090.0	-60.8	213.5	-55.4	0.00	0.00	0.00	
14,300.0	90.00	359.57	13,090.0	39.2	212.7	44.6	0.00	0.00	0.00	
14,400.0	90.00	359.57	13,090.0	139.2	212.0	144.5	0.00	0.00	0.00	
14,500.0	90.00	359.57	13,090.0	239.2	211.2	244.5	0.00	0.00	0.00	
14,600.0	90.00	359.57	13,090.0	339.2	210.4	344.4	0.00	0.00	0.00	
14,700.0	90.00	359.57	13,090.0	439.2	209.7	444.4	0.00	0.00	0.00	
14,800.0	90.00	359.57	13,090.0	539.2	208.9	544.3	0.00	0.00	0.00	
14,900.0	90.00	359.57	13,090.0	639.2	208.2	644.3	0.00	0.00	0.00	
15,000.0	90.00	359.57	13,090.0	739.2	207.4	744.2	0.00	0.00	0.00	
15,100.0	90.00	359.57	13,090.0	839.2	206.7	844.2	0.00	0.00	0.00	
15,200.0	90.00	359.57	13,090.0	939.2	205.9	944.1	0.00	0.00	0.00	
15,300.0	90.00	359.57	13,090.0	1,039.2	205.2	1,044.0	0.00	0.00	0.00	
15,400.0	90.00	359.57	13,090.0	1,139.2	204.4	1,144.0	0.00	0.00	0.00	
15,500.0	90.00	359.57	13,090.0	1,239.2	203.7	1,243.9	0.00	0.00	0.00	
15,600.0	90.00	359.57	13,090.0	1,339.2	202.9	1,343.9	0.00	0.00	0.00	
15,700.0	90.00	359.57	13,090.0	1,439.2	202.2	1,443.8	0.00	0.00	0.00	
15,800.0	90.00	359.57	13,090.0	1,539.2	201.4	1,543.8	0.00	0.00	0.00	
15,900.0	90.00	359.57	13,090.0	1,639.2	200.7	1,643.7	0.00	0.00	0.00	
16,000.0	90.00	359.57	13,090.0	1,739.2	199.9	1,743.7	0.00	0.00	0.00	
16,100.0	90.00	359.57	13,090.0	1,839.2	199.2	1,843.6	0.00	0.00	0.00	
16,200.0	90.00	359.57	13,090.0	1,939.2	198.4	1,943.6	0.00	0.00	0.00	
16,300.0	90.00	359.57	13,090.0	2,039.2	197.7	2,043.5	0.00	0.00	0.00	
16,400.0	90.00	359.57	13,090.0	2,139.2	196.9	2,143.5	0.00	0.00	0.00	
16,500.0	90.00	359.57	13,090.0	2,239.2	196.2	2,243.4	0.00	0.00	0.00	
16,600.0	90.00	359.57	13,090.0	2,339.2	195.4	2,343.4	0.00	0.00	0.00	
16,700.0	90.00	359.57	13,090.0	2,439.2	194.7	2,443.3	0.00	0.00	0.00	
16,800.0	90.00	359.57	13,090.0	2,539.2	193.9	2,543.2	0.00	0.00	0.00	
16,900.0	90.00	359.57	13,090.0	2,639.2	193.2	2,643.2	0.00	0.00	0.00	
17,000.0	90.00	359.57	13,090.0	2,739.2	192.4	2,743.1	0.00	0.00	0.00	
17,100.0	90.00	359.57	13,090.0	2,839.2	191.7	2,843.1	0.00	0.00	0.00	
17,200.0	90.00	359.57	13,090.0	2,939.2	190.9	2,943.0	0.00	0.00	0.00	
17,300.0	90.00	359.57	13,090.0	3,039.2	190.2	3,043.0	0.00	0.00	0.00	
17,400.0	90.00	359.57	13,090.0	3,139.2	189.4	3,142.9	0.00	0.00	0.00	
17,500.0	90.00	359.57	13,090.0	3,239.2	188.7	3,242.9	0.00	0.00	0.00	
17,600.0	90.00	359.57	13,090.0	3,339.2	187.9	3,342.8	0.00	0.00	0.00	
17,700.0	90.00	359.57	13,090.0	3,439.1	187.2	3,442.8	0.00	0.00	0.00	
17,800.0	90.00	359.57	13,090.0	3,539.1	186.4	3,542.7	0.00	0.00	0.00	
17,900.0	90.00	359.57	13,090.0	3,639.1	185.7	3,642.7	0.00	0.00	0.00	
18,000.0	90.00	359.57	13,090.0	3,739.1	184.9	3,742.6	0.00	0.00	0.00	
18,100.0	90.00	359.57	13,090.0	3,839.1	184.2	3,842.6	0.00	0.00	0.00	
18,200.0	90.00	359.57	13,090.0	3,939.1	183.4	3,942.5	0.00	0.00	0.00	
18,300.0	90.00	359.57	13,090.0	4,039.1	182.7	4,042.4	0.00	0.00	0.00	
18,400.0	90.00	359.57	13,090.0	4,139.1	181.9	4,142.4	0.00	0.00	0.00	
18,500.0	90.00	359.57	13,090.0	4,239.1	181.2	4,242.3	0.00	0.00	0.00	
18,600.0	90.00	359.57	13,090.0	4,339.1	180.4	4,342.3	0.00	0.00	0.00	
18,700.0	90.00	359.57	13,090.0	4,439.1	179.6	4,442.2	0.00	0.00	0.00	



Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well #743H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3376.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3376.0usft
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#743H	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)	
18,800.0	90.00	359.57	13,090.0	4,539.1	178.9	4,542.2	0.00	0.00	0.00	
18,900.0	90.00	359.57	13,090.0	4,639.1	178.1	4,642.1	0.00	0.00	0.00	
19,000.0	90.00	359.57	13,090.0	4,739.1	177.4	4,742.1	0.00	0.00	0.00	
19,100.0	90.00	359.57	13,090.0	4,839.1	176.6	4,842.0	0.00	0.00	0.00	
19,200.0	90.00	359.57	13,090.0	4,939.1	175.9	4,942.0	0.00	0.00	0.00	
19,300.0	90.00	359.57	13,090.0	5,039.1	175.1	5,041.9	0.00	0.00	0.00	
19,400.0	90.00	359.57	13,090.0	5,139.1	174.4	5,141.9	0.00	0.00	0.00	
19,500.0	90.00	359.57	13,090.0	5,239.1	173.6	5,241.8	0.00	0.00	0.00	
19,600.0	90.00	359.57	13,090.0	5,339.1	172.9	5,341.8	0.00	0.00	0.00	
19,700.0	90.00	359.57	13,090.0	5,439.1	172.1	5,441.7	0.00	0.00	0.00	
19,800.0	90.00	359.57	13,090.0	5,539.1	171.4	5,541.6	0.00	0.00	0.00	
19,900.0	90.00	359.57	13,090.0	5,639.1	170.6	5,641.6	0.00	0.00	0.00	
20,000.0	90.00	359.57	13,090.0	5,739.1	169.9	5,741.5	0.00	0.00	0.00	
20,100.0	90.00	359.57	13,090.0	5,839.1	169.1	5,841.5	0.00	0.00	0.00	
20,200.0	90.00	359.57	13,090.0	5,939.1	168.4	5,941.4	0.00	0.00	0.00	
20,300.0	90.00	359.57	13,090.0	6,039.1	167.6	6,041.4	0.00	0.00	0.00	
20,400.0	90.00	359.57	13,090.0	6,139.1	166.9	6,141.3	0.00	0.00	0.00	
20,500.0	90.00	359.57	13,090.0	6,239.1	166.1	6,241.3	0.00	0.00	0.00	
20,600.0	90.00	359.57	13,090.0	6,339.1	165.4	6,341.2	0.00	0.00	0.00	
20,700.0	90.00	359.57	13,090.0	6,439.1	164.6	6,441.2	0.00	0.00	0.00	
20,782.9	90.00	359.57	13,090.0	6,522.0	164.0	6,524.1	0.00	0.00	0.00	

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(WW 11 FC #743H) - plan hits target center - Point	0.00	0.00	12,612.5	-1,247.0	221.0	383,139.00	786,824.00	32° 3' 3.070 N	103° 32' 27.544 W	
FTP(WW 11 FC #743H) - plan hits target center - Point	0.00	0.00	12,825.2	-1,197.0	221.0	383,189.00	786,824.00	32° 3' 3.564 N	103° 32' 27.540 W	
PBHL(WW 11 FC #743H) - plan hits target center - Point	0.00	0.00	13,090.0	6,522.0	164.0	390,908.00	786,767.00	32° 4' 19.951 N	103° 32' 27.543 W	



Lea County, NM (NAD 83 NME)

Whirling Wind 11 Fed Com #743H

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: #743H

KB = 25 @ 3376.0usft 3351.0
Northing 384386.00 Easting 786603.00 Latitude 32° 3' 15.425 N Longitude 103° 32' 30.005 W

SECTION DETAILS

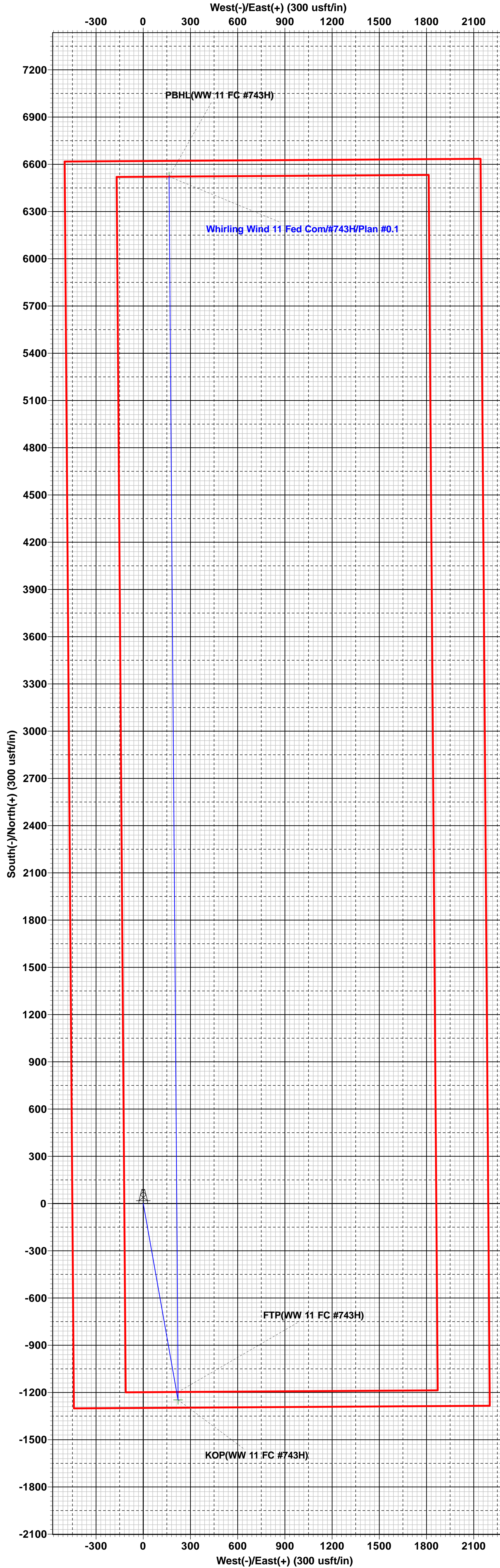
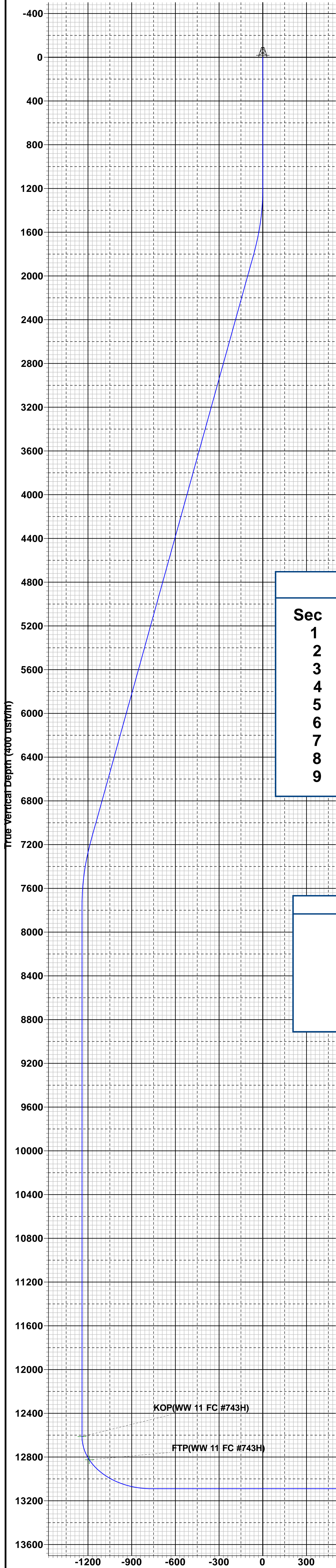
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	7800.7	12.00	169.95	7195.7	-61.6	10.9	2.00	169.95	-61.4	
4	7288.7	12.00	169.95	7164.3	-1185.4	210.1	0.00	0.00	-1179.7	
5	7888.7	0.00	0.00	7760.0	-1247.0	221.0	2.00	180.00	-1241.1	
6	12741.2	0.00	0.00	12612.5	-1247.0	221.0	0.00	0.00	-1241.1	KOP(WW 11 FC #743H)
7	12961.7	26.46	0.00	12825.2	-1197.0	221.0	12.00	0.00	-1191.1	FTP(WW 11 FC #743H)
8	13491.2	90.00	359.57	13089.9	-769.5	218.8	12.00	-0.48	-763.8	
9	20782.9	90.00	359.57	13090.0	6522.0	164.0	0.00	0.00	6524.1	PBHL(WW 11 FC #743H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP(WW 11 FC #743H)	12612.5	-1247.0	221.0	383139.00	786824.00
FTP(WW 11 FC #743H)	12825.2	-1197.0	221.0	383189.00	786824.00
PBHL(WW 11 FC #743H)	13090.0	6522.0	164.0	390908.00	786767.00





8.750" 35.70 lb/ft P110-ICY TenarisHydril Wedge 441™

Confidential



Preliminary Special Data Sheet

TH DS-20.0504

30 October 2020

Rev 00

Nominal OD	8.750 in.	Wall Thickness	0.400 in.	Grade	P110-ICY
Min Wall Thickness	87.5%	Type	CASING	Connection OD Option	REGULAR

Pipe Body Data

Geometry		Performance	
Nominal OD	8.750 in.	Nominal ID	7.950 in.
Nominal Weight	35.70 lbs/ft	Wall Thickness	0.400 in.
Standard Drift Diameter	7.794 in.	Plain End Weight	35.70 lbs/ft
Special Drift Diameter	7.875 in.	OD Tolerance	API
		Body Yield Strength	1312 x 1000 lbs
		Internal Yield	10000 psi
		SMYS	125000 psi
		Collapse Pressure	5400 psi

Connection Data

Geometry		Performance		Make-up Torques	
Connection OD	9.030 in.	Tension Efficiency	75%	Minimum	23000 ft-lbs
Connection ID	7.950 in.	Joint Yield Strength	984 x 1000 lbs	Optimum	24000 ft-lbs
Make-up Loss	3.750 in.	Internal Yield	10000 psi	Maximum	27000 ft-lbs
Threads per in.	3.40	Compression Efficiency	75%	Operational Limit Torques	
Connection OD Option	REGULAR	Compression Strength	984 x 1000 lbs	Operating Torque	70000 ft-lbs
Coupling Length	8.666 in.	Bending	49 °/100 ft	Yield Torque	82000 ft-lbs
		Collapse	5400 psi	Buck-On Torques	
				Minimum	27000 ft-lbs
				Maximum	29000 ft-lbs

Notes

*If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative

- Important Note: In October 2019, TenarisHydril Wedge XP® 2.0 SL™ was renamed TenarisHydril Wedge 441™. Product dimensions and properties remain identical and both connections are fully interchangeable.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG RESOURCES, INC.
LEASE NO.:	NMNM122621
LOCATION:	Section 11, T.26 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	WHIRLING WIND 11 FED COM 743H
SURFACE HOLE FOOTAGE:	1298'/S & 2192'/E
BOTTOM HOLE FOOTAGE:	2539'/N & 1980'/E

COA

Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

All previous COAs still apply, except for the following:

1. The **10-3/4** inch surface casing shall be set at approximately **1,240** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **8 3/4** inch intermediate casing is:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage.

First Stage

- Operator will cement to reach the top of Brushy Canyon.

Second Stage

- Operator will perform bradenhead squeeze. Cement to surface. If cement does not circulate see B.1.a, c-d above.

Operator has proposed to pump down 10-3/4" X 8 3/4" annulus. Operator must run Echo-meter to verify fluid top and the volume of displacement fluid above the cement slurry in the annulus.

- ❖ In **Medium/High Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **6** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

A. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

B. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

JJP03032021

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure

- rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
- b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall

have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 20816

CONDITIONS OF APPROVAL

Operator:	EOG RESOURCES INC	P.O. Box 2267	Midland, TX79702	OGRID:	7377	Action Number:	20816	Action Type:	C-103A
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OCD Reviewer	Condition
pkautz	None