

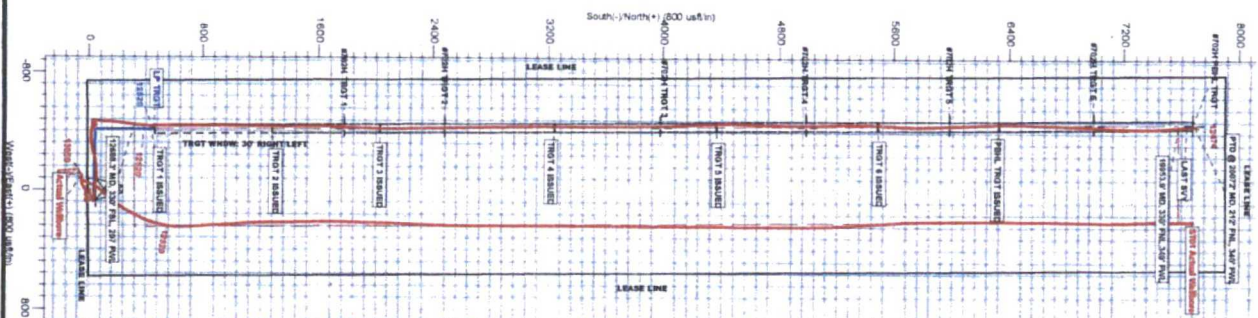
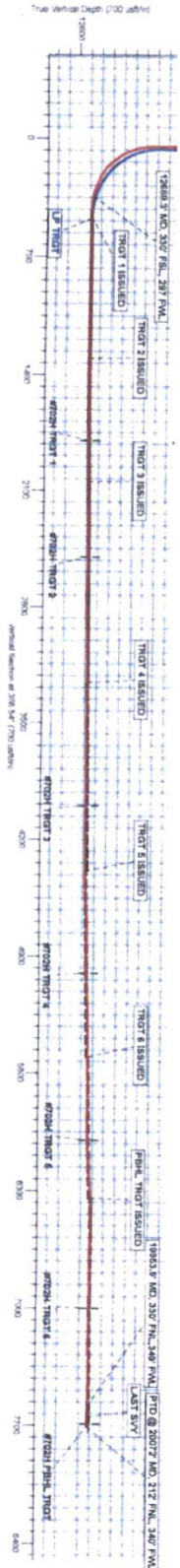
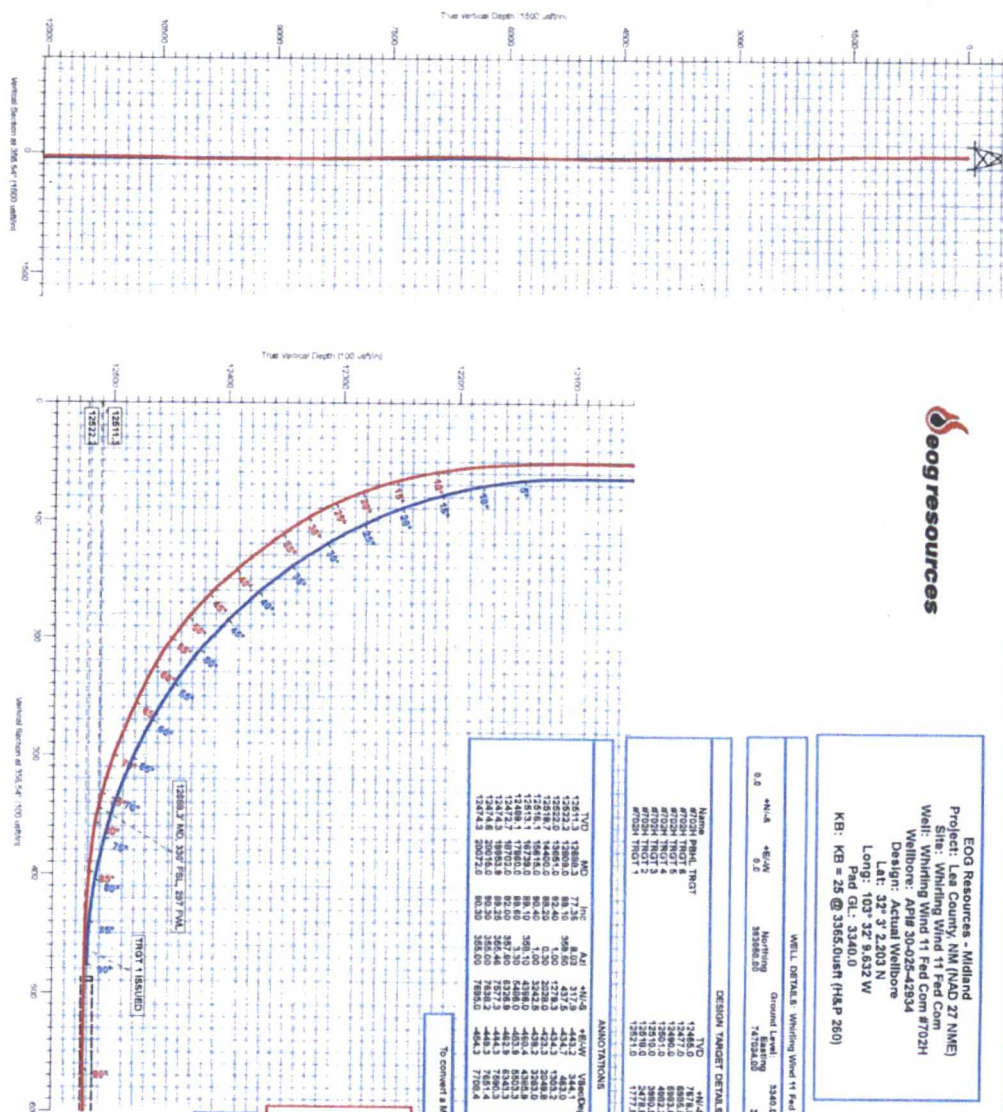


DESIGN TARGET DETAILS				
Name	TYO	AN-6	40-40	Northrop
WT200 PPHL, TROT	15468.0	7818.0	-66.0	74687.0
WT200 PPHL, TROT	15470.0	6908.0	-69.0	59028.0
WT200 TROT 6	15470.0	6908.0	-69.0	74687.0
WT200 TROT 7	15470.0	6908.0	-69.0	59028.0
WT200 TROT 4	15468.0	4802.5	-48.0	74686.0
WT200 TROT 5	15468.0	4802.5	-48.0	59027.0
WT200 TROT 2	15470.0	3909.0	-37.2	39120.0
WT200 TROT 3	15470.0	3909.0	-37.2	74686.0
WT200 TROT 1	15470.0	777.8	-42.1	74687.0
				59027.0
				74687.0
				59027.0

To convert a Magnetic Direction to a Grid Direction, Add 8.50°



7:25, November 13 2014
Thomas Janousek





EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Whirling Wind 11 Fed Com

Whirling Wind 11 Fed Com #702H

API# 30-025-42934

Design: Actual Wellbore

Standard Survey Report

13 November, 2016



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well Whirling Wind 11 Fed Com #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Whirling Wind 11 Fed Com

Site Position:		Northing:	383,050.00 usft	Latitude:	32° 3' 2.203 N
From:	Map	Easting:	747,034.00 usft	Longitude:	103° 32' 9.632 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well Whirling Wind 11 Fed Com #702H

Well Position	+N/-S	0.0 usft	Northing:	383,050.00 usft	Latitude:	32° 3' 2.203 N
	+E/-W	0.0 usft	Easting:	747,034.00 usft	Longitude:	103° 32' 9.632 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	0.0 usft	Ground Level:	3,340.0 usft

Wellbore API# 30-025-42934

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/9/2016	7.00	59.92	47,910

Design Actual Wellbore

Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	356.54

Survey Program Date 11/13/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
168.0	20,072.0	Intrepid MWD (AP# 30-025-42934)	MWD	MWD - Standard

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
168.0	0.50	26.00	168.0	0.7	0.3	0.6	0.30	0.30	0.00
384.0	0.70	49.40	384.0	2.4	1.7	2.3	0.14	0.09	10.83
565.0	1.00	62.20	565.0	3.8	4.0	3.6	0.20	0.17	7.07
749.0	0.70	42.80	748.9	5.4	6.2	5.0	0.22	-0.16	-10.54
933.0	0.40	69.40	932.9	6.4	7.5	6.0	0.21	-0.16	14.46
1,047.0	0.40	5.30	1,046.9	7.0	7.9	6.5	0.37	0.00	-56.23
1,141.0	0.10	63.70	1,140.9	7.3	8.0	6.8	0.38	-0.32	62.13
1,330.0	2.60	106.70	1,329.9	6.2	12.3	5.4	1.34	1.32	22.75
1,519.0	11.40	72.40	1,517.3	10.6	34.2	8.5	4.96	4.66	-18.15

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well Whirling Wind 11 Fed Com #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

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)
1,708.0	7.10	65.10	1,703.8	21.2	62.7	17.4	2.35	-2.28	-3.86
1,897.0	2.50	73.00	1,892.1	27.3	77.2	22.6	2.45	-2.43	4.18
2,086.0	0.70	292.80	2,081.1	29.0	80.1	24.1	1.62	-0.95	-74.18
2,180.0	2.20	275.80	2,175.0	29.4	77.8	24.6	1.64	1.60	-18.09
2,369.0	4.00	287.00	2,363.7	31.7	67.8	27.5	1.00	0.95	5.93
2,558.0	5.10	281.90	2,552.2	35.3	53.3	32.0	0.62	0.58	-2.70
2,747.0	5.80	271.70	2,740.3	37.3	35.6	35.1	0.63	0.37	-5.40
2,936.0	6.60	269.40	2,928.2	37.5	15.1	36.5	0.44	0.42	-1.22
3,125.0	5.70	268.20	3,116.1	37.1	-5.1	37.3	0.48	-0.48	-0.63
3,314.0	4.80	280.30	3,304.3	38.2	-22.3	39.5	0.75	-0.48	6.40
3,503.0	6.60	283.00	3,492.4	42.1	-40.6	44.4	0.96	0.95	1.43
3,692.0	4.90	289.40	3,680.4	47.2	-58.8	50.7	0.96	-0.90	3.39
3,881.0	4.20	271.70	3,868.8	50.1	-73.4	54.4	0.83	-0.37	-9.37
3,975.0	5.40	272.30	3,962.5	50.4	-81.2	55.2	1.28	1.28	0.64
4,164.0	5.20	268.00	4,150.7	50.4	-98.7	56.3	0.24	-0.11	-2.28
4,352.0	6.20	268.80	4,337.8	49.9	-117.3	56.9	0.53	0.53	0.43
4,541.0	5.20	266.60	4,525.8	49.2	-136.1	57.3	0.54	-0.53	-1.16
4,736.0	5.60	275.30	4,720.0	49.5	-154.4	58.8	0.47	0.21	4.46
4,925.0	5.60	255.90	4,908.1	48.2	-172.5	58.5	1.00	0.00	-10.26
5,113.0	5.90	257.90	5,095.1	43.9	-190.8	55.3	0.19	0.16	1.06
5,302.0	6.50	260.10	5,283.0	40.0	-210.9	52.7	0.34	0.32	1.16
5,491.0	7.30	257.20	5,470.7	35.5	-233.1	49.5	0.46	0.42	-1.53
5,680.0	5.90	248.50	5,658.4	29.3	-253.9	44.6	0.91	-0.74	-4.60
5,868.0	4.90	258.00	5,845.6	24.1	-270.7	40.4	0.71	-0.53	5.05
6,056.0	6.10	259.30	6,032.7	20.6	-288.4	37.9	0.64	0.64	0.69
6,244.0	6.00	263.90	6,219.7	17.7	-308.0	36.2	0.26	-0.05	2.45
6,432.0	6.70	262.70	6,406.5	15.2	-328.6	35.0	0.38	0.37	-0.64
6,620.0	5.90	268.80	6,593.4	13.6	-349.2	34.7	0.55	-0.43	3.24
6,809.0	4.90	270.90	6,781.5	13.6	-366.9	35.7	0.54	-0.53	1.11
6,997.0	6.10	278.40	6,968.7	15.1	-384.9	38.3	0.74	0.64	3.99
7,186.0	4.60	287.30	7,156.8	18.9	-402.0	43.1	0.90	-0.79	4.71
7,374.0	2.60	275.70	7,344.5	21.5	-413.5	46.4	1.13	-1.06	-6.17
7,563.0	2.50	292.50	7,533.3	23.5	-421.5	48.9	0.40	-0.05	8.89
7,751.0	2.40	308.40	7,721.1	27.5	-428.4	53.3	0.36	-0.05	8.46
7,940.0	2.40	291.30	7,909.9	31.4	-435.2	57.6	0.38	0.00	-9.05
8,128.0	2.50	281.90	8,097.8	33.7	-442.9	60.4	0.22	0.05	-5.00
8,317.0	2.10	277.20	8,286.6	35.0	-450.4	62.1	0.23	-0.21	-2.49
8,505.0	1.50	276.10	8,474.5	35.7	-456.2	63.1	0.32	-0.32	-0.59
8,693.0	1.20	22.00	8,662.5	37.8	-457.9	65.3	1.15	-0.16	56.33
8,881.0	0.60	37.80	8,850.5	40.4	-456.6	67.8	0.34	-0.32	8.40
9,069.0	1.50	59.10	9,038.4	42.4	-453.9	69.7	0.51	0.48	11.33
9,252.0	1.20	70.10	9,221.4	44.3	-450.0	71.4	0.22	-0.16	6.01
9,441.0	0.90	63.60	9,410.3	45.6	-446.8	72.5	0.17	-0.16	-3.44
9,629.0	1.20	44.60	9,598.3	47.7	-444.1	74.4	0.24	0.16	-10.11

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well Whirling Wind 11 Fed Com #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

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)
9,818.0	0.30	33.70	9,787.3	49.5	-442.5	76.1	0.48	-0.48	-5.77
10,006.0	3.30	109.40	9,975.2	48.1	-437.1	74.4	1.72	1.60	40.27
10,194.0	3.80	132.80	10,162.8	42.1	-427.4	67.8	0.81	0.27	12.45
10,382.0	3.50	145.70	10,350.5	33.1	-419.6	58.4	0.46	-0.16	6.86
10,570.0	1.70	208.30	10,538.3	25.9	-417.7	51.1	1.65	-0.96	33.30
10,758.0	1.70	255.00	10,726.2	22.7	-421.7	48.1	0.72	0.00	24.84
10,946.0	1.70	277.60	10,914.1	22.4	-427.2	48.1	0.35	0.00	12.02
11,134.0	1.50	298.80	11,102.1	23.9	-432.1	50.0	0.33	-0.11	11.28
11,322.0	2.70	265.90	11,289.9	24.8	-438.7	51.2	0.88	0.64	-17.50
11,510.0	3.10	267.20	11,477.7	24.3	-448.1	51.2	0.22	0.21	0.69
11,698.0	2.90	270.30	11,665.4	24.0	-458.0	51.6	0.14	-0.11	1.65
11,838.0	2.20	271.10	11,805.3	24.1	-464.2	52.1	0.50	-0.50	0.57
11,931.0	1.80	266.40	11,898.2	24.0	-467.5	52.2	0.46	-0.43	-5.05
12,025.0	0.30	224.80	11,992.2	23.8	-469.1	52.0	1.69	-1.60	-44.26
12,088.0	0.80	145.60	12,055.2	23.3	-469.0	51.5	1.27	0.79	-125.71
12,119.0	0.90	153.40	12,086.2	22.9	-468.7	51.1	0.49	0.32	25.16
12,213.0	4.40	355.30	12,180.1	25.8	-468.7	54.1	5.58	3.72	-168.19
12,260.0	11.20	359.90	12,226.7	32.2	-468.9	60.4	14.52	14.47	9.79
12,307.0	17.70	1.60	12,272.2	43.9	-468.7	72.1	13.86	13.83	3.62
12,354.0	26.90	2.40	12,315.6	61.7	-468.0	89.8	19.58	19.57	1.70
12,400.0	35.50	2.70	12,354.9	85.5	-467.0	113.5	18.70	18.70	0.65
12,447.0	40.00	4.30	12,392.1	114.2	-465.2	142.1	9.80	9.57	3.40
12,493.0	47.30	4.50	12,425.3	145.9	-462.7	173.5	15.87	15.87	0.43
12,540.0	57.40	3.80	12,454.0	182.9	-460.1	210.3	21.52	21.49	-1.49
12,586.0	64.40	6.80	12,476.4	222.9	-456.3	250.0	16.25	15.22	6.52
12,633.0	68.80	7.90	12,495.0	265.7	-450.8	292.4	9.60	9.36	2.34
12,679.0	75.50	8.50	12,509.1	309.0	-444.5	335.2	14.62	14.57	1.30
12,688.3	77.36	8.03	12,511.3	317.9	-443.2	344.1	20.59	19.99	-5.11
12688.3' MD, 330' FSL, 297 FWL									
12,719.0	83.50	6.50	12,516.4	348.0	-439.4	373.8	20.59	20.00	-4.97
12,809.0	89.10	359.50	12,522.2	437.5	-434.7	463.0	9.95	6.22	-7.78
TRGT 1 ISSUED									
12,903.0	89.80	359.20	12,523.1	531.5	-435.8	556.9	0.81	0.74	-0.32
12,996.0	92.20	0.20	12,521.5	624.5	-436.3	649.7	2.80	2.58	1.08
13,089.0	90.80	359.30	12,519.1	717.5	-436.7	742.5	1.79	-1.51	-0.97
13,183.0	88.80	359.70	12,519.4	811.5	-437.5	836.4	2.17	-2.13	0.43
13,277.0	88.40	359.80	12,521.7	905.4	-437.9	930.2	0.44	-0.43	0.11
13,370.0	88.60	359.80	12,524.1	998.4	-438.3	1,023.0	0.22	0.22	0.00
13,463.0	90.20	1.20	12,525.1	1,091.4	-437.5	1,115.8	2.29	1.72	1.51
13,557.0	90.60	0.80	12,524.4	1,185.4	-435.8	1,209.5	0.60	0.43	-0.43
13,651.0	92.40	1.00	12,522.0	1,279.3	-434.3	1,303.2	1.93	1.91	0.21
TRGT 2 ISSUED									
13,745.0	91.40	359.10	12,518.9	1,373.3	-434.3	1,397.0	2.28	-1.06	-2.02
13,838.0	90.30	359.40	12,517.5	1,466.3	-435.5	1,489.9	1.23	-1.18	0.32

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well Whirling Wind 11 Fed Com #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

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)
13,931.0	88.70	359.90	12,518.3	1,559.2	-436.0	1,582.7	1.80	-1.72	0.54
14,024.0	89.50	1.10	12,519.8	1,652.2	-435.2	1,675.5	1.55	0.86	1.29
14,119.0	89.80	1.70	12,520.3	1,747.2	-432.9	1,770.1	0.71	0.32	0.63
14,213.0	90.90	3.00	12,519.8	1,841.1	-429.1	1,863.6	1.81	1.17	1.38
14,306.0	90.50	1.90	12,518.6	1,934.0	-425.1	1,956.1	1.26	-0.43	-1.18
14,350.3	89.42	1.15	12,518.7	1,978.3	-423.9	2,000.3	2.98	-2.45	-1.70
WW 11 FC #702 H TRGT #1									
14,400.0	88.20	0.30	12,519.7	2,028.0	-423.3	2,049.8	2.98	-2.45	-1.70
TRGT 3 ISSUED									
14,493.0	90.50	0.90	12,520.7	2,121.0	-422.3	2,142.6	2.56	2.47	0.65
14,586.0	92.20	359.50	12,518.6	2,213.9	-422.0	2,235.4	2.37	1.83	-1.51
14,680.0	88.80	358.30	12,517.7	2,307.9	-423.8	2,329.3	3.84	-3.62	-1.28
14,774.0	89.60	358.10	12,519.0	2,401.8	-426.7	2,423.2	0.88	0.85	-0.21
14,867.0	90.80	359.50	12,518.7	2,494.8	-428.7	2,516.1	1.98	1.29	1.51
14,961.0	88.00	358.50	12,519.7	2,588.8	-430.3	2,610.0	3.16	-2.98	-1.06
15,055.0	88.00	358.10	12,523.0	2,682.7	-433.1	2,703.9	0.43	0.00	-0.43
15,148.0	92.00	358.80	12,523.0	2,775.6	-435.6	2,796.9	4.37	4.30	0.75
15,242.0	91.80	0.30	12,519.9	2,869.6	-436.4	2,890.7	1.61	-0.21	1.60
15,335.0	89.60	358.90	12,518.7	2,962.6	-437.0	2,983.5	2.80	-2.37	-1.51
15,428.0	91.80	359.00	12,517.6	3,055.5	-438.7	3,076.4	2.37	2.37	0.11
15,522.0	89.80	0.30	12,516.3	3,149.5	-439.3	3,170.3	2.54	-2.13	1.38
15,615.0	90.40	1.00	12,516.1	3,242.5	-438.2	3,263.0	0.99	0.65	0.75
TRGT 4 ISSUED									
15,708.0	88.90	359.50	12,516.7	3,335.5	-437.8	3,355.8	2.28	-1.61	-1.61
15,802.0	89.60	359.30	12,517.9	3,429.5	-438.8	3,449.7	0.77	0.74	-0.21
15,895.0	90.90	0.20	12,517.5	3,522.5	-439.2	3,542.6	1.70	1.40	0.97
15,989.0	89.80	358.80	12,516.9	3,616.5	-440.0	3,636.4	1.89	-1.17	-1.49
16,083.0	91.80	359.90	12,515.6	3,710.4	-441.1	3,730.3	2.43	2.13	1.17
16,177.0	89.10	359.20	12,514.9	3,804.4	-441.8	3,824.2	2.97	-2.87	-0.74
16,271.0	89.60	358.80	12,516.0	3,898.4	-443.5	3,918.1	0.68	0.53	-0.43
16,364.0	90.20	358.60	12,516.1	3,991.4	-445.6	4,011.0	0.68	0.65	-0.22
16,457.0	90.70	358.00	12,515.4	4,084.3	-448.3	4,104.0	0.84	0.54	-0.65
16,551.0	90.10	356.20	12,514.7	4,178.2	-453.1	4,197.9	2.02	-0.64	-1.91
16,645.0	91.40	358.40	12,513.5	4,272.1	-457.5	4,291.9	2.72	1.38	2.34
16,739.0	89.10	358.10	12,513.1	4,366.0	-460.4	4,385.9	2.47	-2.45	-0.32
TRGT 5 ISSUED									
16,832.0	89.70	0.10	12,514.1	4,459.0	-461.9	4,478.8	2.25	0.65	2.15
16,854.3	90.85	0.65	12,514.0	4,481.4	-461.7	4,501.0	5.72	5.16	2.47
WW 11 FC #702 H TRGT #2									
16,925.0	94.50	2.40	12,510.7	4,551.9	-459.8	4,571.4	5.72	5.16	2.47
17,018.0	92.40	2.00	12,505.1	4,644.7	-456.3	4,663.7	2.30	-2.26	-0.43
17,112.0	90.30	2.00	12,502.9	4,738.6	-453.0	4,757.3	2.23	-2.23	0.00
17,206.0	88.70	0.30	12,503.7	4,832.5	-451.1	4,851.0	2.48	-1.70	-1.81
17,299.0	89.70	359.30	12,505.0	4,925.5	-451.4	4,943.8	1.52	1.08	-1.08

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well Whirling Wind 11 Fed Com #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

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)
17,392.0	93.00	0.30	12,502.8	5,018.5	-451.8	5,036.6	3.71	3.55	1.08
17,485.0	93.70	358.80	12,497.3	5,111.3	-452.5	5,129.3	1.78	0.75	-1.61
17,579.0	90.60	356.60	12,493.8	5,205.2	-456.3	5,223.2	4.04	-3.30	-2.34
17,673.0	91.90	359.80	12,491.8	5,299.1	-459.2	5,317.1	3.67	1.38	3.40
17,766.0	90.90	1.70	12,489.5	5,392.0	-458.0	5,409.9	2.31	-1.08	2.04
17,860.0	89.60	3.30	12,489.1	5,486.0	-453.9	5,503.3	2.19	-1.38	1.70
TRGT 6 ISSUED									
17,953.0	90.10	2.70	12,489.3	5,578.8	-449.0	5,595.7	0.84	0.54	-0.65
18,047.0	92.50	2.40	12,487.2	5,672.7	-444.8	5,689.2	2.57	2.55	-0.32
18,140.0	87.60	359.50	12,487.1	5,765.6	-443.3	5,781.9	6.12	-5.27	-3.12
18,234.0	89.60	358.10	12,489.4	5,859.6	-445.3	5,875.8	2.60	2.13	-1.49
18,328.0	91.90	358.00	12,488.2	5,953.5	-448.5	5,969.7	2.45	2.45	-0.11
18,421.0	91.10	357.50	12,485.7	6,046.4	-452.1	6,062.7	1.01	-0.86	-0.54
18,514.0	92.80	358.20	12,482.6	6,139.3	-455.6	6,155.6	1.98	1.83	0.75
18,608.0	93.60	357.50	12,477.3	6,233.1	-459.1	6,249.4	1.13	0.85	-0.74
18,702.0	92.00	357.90	12,472.7	6,326.9	-462.9	6,343.3	1.75	-1.70	0.43
PBHL TRGT ISSUED									
18,795.0	91.60	0.90	12,469.8	6,419.8	-463.9	6,436.1	3.25	-0.43	3.23
18,889.0	89.40	1.90	12,469.0	6,513.8	-461.6	6,529.8	2.57	-2.34	1.06
18,983.0	86.60	2.30	12,472.3	6,607.7	-458.1	6,623.3	3.01	-2.98	0.43
19,076.0	91.20	1.90	12,474.1	6,700.6	-454.7	6,715.8	4.96	4.95	-0.43
19,170.0	92.00	1.70	12,471.4	6,794.5	-451.8	6,809.3	0.88	0.85	-0.21
19,264.0	90.70	2.50	12,469.2	6,888.4	-448.3	6,902.9	1.62	-1.38	0.85
19,358.0	89.10	2.40	12,469.4	6,982.3	-444.3	6,996.4	1.71	-1.70	-0.11
19,451.0	89.20	2.90	12,470.8	7,075.2	-440.0	7,088.8	0.55	0.11	0.54
19,545.0	88.70	2.90	12,472.5	7,169.0	-435.3	7,182.2	0.53	-0.53	0.00
19,639.0	91.20	1.70	12,472.6	7,263.0	-431.5	7,275.8	2.95	2.66	-1.28
19,734.0	91.70	358.60	12,470.2	7,357.9	-431.2	7,370.5	3.30	0.53	-3.26
19,828.0	87.60	356.40	12,470.7	7,451.8	-435.3	7,464.5	4.95	-4.36	-2.34
19,922.0	88.70	355.70	12,473.8	7,545.5	-441.8	7,558.4	1.39	1.17	-0.74
19,953.9	89.25	355.46	12,474.3	7,577.3	-444.3	7,590.3	1.88	1.72	-0.75
19953.9' MD, 330' FNL, 349' FWL									
20,015.0	90.30	355.00	12,474.6	7,638.2	-449.3	7,651.4	1.88	1.72	-0.75
LAST SVY									
20,055.6	90.30	355.00	12,474.4	7,678.7	-452.9	7,692.0	0.00	0.00	0.00
PBHL(WW 11 FC #702H)									
20,072.0	90.30	355.00	12,474.3	7,695.0	-454.3	7,708.4	0.00	0.00	0.00
PTD @ 20072' MD, 212' FNL, 340' FWL									

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Site:	Whirling Wind 11 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 260)
Well:	Whirling Wind 11 Fed Com #702H	North Reference:	Grid
Wellbore:	API# 30-025-42934	Survey Calculation Method:	Minimum Curvature
Design:	Actual Wellbore	Database:	EDM 5000.1 Single User Db

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
#702H PBHL TRGT - actual wellpath misses target center by 14.6usft at 20055.6usft MD (12474.4 TVD, 7678.7 N, -452.9 E) - Rectangle (sides W60.0 H1,349.1 D10.0)	0.31	179.58	12,465.0	7,678.0	-464.0	390,728.00	746,570.00	32° 4' 18.216 N	103° 32' 14.365 W
#702H TRGT 6 - actual wellpath misses target center by 16.9usft at 19360.1usft MD (12469.4 TVD, 6984.4 N, -444.2 E) - Rectangle (sides W60.0 H839.9 D10.0)	0.44	179.58	12,477.0	6,985.0	-459.3	390,035.01	746,574.71	32° 4' 11.358 N	103° 32' 14.370 W
#702H TRGT 5 - actual wellpath misses target center by 3.6usft at 18358.2usft MD (12487.2 TVD, 5983.7 N, -449.6 E) - Rectangle (sides W60.0 H1,117.4 D10.0)	0.80	179.58	12,490.0	5,983.6	-451.9	389,033.63	746,582.05	32° 4' 1.448 N	103° 32' 14.370 W
#702H TRGT 4 - actual wellpath misses target center by 7.9usft at 17355.8usft MD (12504.3 TVD, 4982.3 N, -451.8 E) - Rectangle (sides W60.0 H1,122.8 D10.0)	0.48	179.58	12,501.0	4,982.2	-444.6	388,032.25	746,589.40	32° 3' 51.538 N	103° 32' 14.370 W
#702H TRGT 3 - actual wellpath misses target center by 10.1usft at 16353.3usft MD (12516.2 TVD, 3980.7 N, -445.3 E) - Rectangle (sides W60.0 H1,213.9 D10.0)	0.27	179.58	12,510.0	3,980.9	-437.3	387,030.87	746,596.74	32° 3' 41.628 N	103° 32' 14.371 W
#702H TRGT 2 - actual wellpath misses target center by 2.4usft at 14850.9usft MD (12518.9 TVD, 2478.7 N, -428.5 E) - Rectangle (sides W60.0 H745.8 D10.0)	0.17	179.58	12,518.0	2,478.8	-426.2	385,528.79	746,607.76	32° 3' 26.763 N	103° 32' 14.372 W
#702H TRGT 1 - actual wellpath misses target center by 10.8usft at 14150.1usft MD (12520.3 TVD, 1778.3 N, -431.9 E) - Rectangle (sides W60.0 H816.2 D10.0)	-0.04	179.58	12,521.0	1,777.8	-421.1	384,827.83	746,612.90	32° 3' 19.826 N	103° 32' 14.372 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,688.3	12,511.3	317.9	-443.2	12688.3' MD, 330' FSL, 297 FWL
12,809.0	12,522.2	437.5	-434.7	TRGT 1 ISSUED
13,651.0	12,522.0	1,279.3	-434.3	TRGT 2 ISSUED
14,400.0	12,519.7	2,028.0	-423.3	TRGT 3 ISSUED
15,615.0	12,516.1	3,242.5	-438.2	TRGT 4 ISSUED
16,739.0	12,513.1	4,366.0	-460.4	TRGT 5 ISSUED
17,860.0	12,489.1	5,486.0	-453.9	TRGT 6 ISSUED
18,702.0	12,472.7	6,326.9	-462.9	PBHL TRGT ISSUED
19,953.9	12,474.3	7,577.3	-444.3	19953.9' MD, 330' FNL, 349' FWL
20,015.0	12,474.6	7,638.2	-449.3	LAST SVY
20,072.0	12,474.3	7,695.0	-454.3	PTD @ 20072' MD, 212' FNL, 340' FWL

Checked By: _____ Approved By: _____ Date: _____