



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Whirling Wind 11 Fed Com

#704H

OH

Plan: Plan #0.1

HOBBS OCD
MAY 09 2016
RECEIVED

Standard Planning Report

29 February, 2016

MAY 12 2016



EOG Resources, Inc.

Planning Report

HOBBS OCD
MAY 09 2016
RECEIVED

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #704H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Project:	Lea County, NM (NAD 27 NME)	MD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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

Well	#704H		
Well Position	+N/-S	835.0 usft	Northing:
	+E/-W	-1,845.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 3' 10.600 N
		Longitude:	103° 32' 30.997 W
		Ground Level:	3,344.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	8/19/2016	7.02
			Dip Angle
			59.92
			Field Strength
			47,925

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
			(°)
			0.52

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	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,150.1	6.50	172.21	5,148.7	-36.5	5.0	1.00	1.00	0.00	172.21	
12,009.5	6.50	172.21	11,964.0	-806.0	110.3	0.00	0.00	0.00	0.00	
12,813.2	90.00	359.58	12,495.0	-331.5	114.6	12.00	10.39	-21.48	-172.58	
19,979.9	90.00	359.58	12,495.0	6,835.0	62.0	0.00	0.00	0.00	0.00	PBHL(WW 11 FC #70



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Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#704H	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	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	1.00	172.21	4,600.0	-0.9	0.1	-0.9	1.00	1.00	0.00
4,700.0	2.00	172.21	4,700.0	-3.5	0.5	-3.5	1.00	1.00	0.00
4,800.0	3.00	172.21	4,799.9	-7.8	1.1	-7.8	1.00	1.00	0.00
4,900.0	4.00	172.21	4,899.7	-13.8	1.9	-13.8	1.00	1.00	0.00
5,000.0	5.00	172.21	4,999.4	-21.6	3.0	-21.6	1.00	1.00	0.00
5,100.0	6.00	172.21	5,098.9	-31.1	4.3	-31.1	1.00	1.00	0.00
5,150.1	6.50	172.21	5,148.7	-36.5	5.0	-36.5	1.00	1.00	0.00
5,200.0	6.50	172.21	5,198.3	-42.1	5.8	-42.0	0.00	0.00	0.00



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Wellbore: OH
Design: Plan #0.1

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MD Reference:
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Survey Calculation Method:

Well #704H
KB = 25 @ 3369.0usft (H&P 415)
KB = 25 @ 3369.0usft (H&P 415)
Grid
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	6.50	172.21	5,297.6	-53.3	7.3	-53.2	0.00	0.00	0.00
5,400.0	6.50	172.21	5,397.0	-64.5	8.8	-64.5	0.00	0.00	0.00
5,500.0	6.50	172.21	5,496.4	-75.8	10.4	-75.7	0.00	0.00	0.00
5,600.0	6.50	172.21	5,595.7	-87.0	11.9	-86.9	0.00	0.00	0.00
5,700.0	6.50	172.21	5,695.1	-98.2	13.4	-98.1	0.00	0.00	0.00
5,800.0	6.50	172.21	5,794.4	-109.4	15.0	-109.3	0.00	0.00	0.00
5,900.0	6.50	172.21	5,893.8	-120.6	16.5	-120.5	0.00	0.00	0.00
6,000.0	6.50	172.21	5,993.1	-131.8	18.0	-131.7	0.00	0.00	0.00
6,100.0	6.50	172.21	6,092.5	-143.1	19.6	-142.9	0.00	0.00	0.00
6,200.0	6.50	172.21	6,191.9	-154.3	21.1	-154.1	0.00	0.00	0.00
6,300.0	6.50	172.21	6,291.2	-165.5	22.6	-165.3	0.00	0.00	0.00
6,400.0	6.50	172.21	6,390.6	-176.7	24.2	-176.5	0.00	0.00	0.00
6,500.0	6.50	172.21	6,489.9	-187.9	25.7	-187.7	0.00	0.00	0.00
6,600.0	6.50	172.21	6,589.3	-199.2	27.3	-198.9	0.00	0.00	0.00
6,700.0	6.50	172.21	6,688.6	-210.4	28.8	-210.1	0.00	0.00	0.00
6,800.0	6.50	172.21	6,788.0	-221.6	30.3	-221.3	0.00	0.00	0.00
6,900.0	6.50	172.21	6,887.4	-232.8	31.9	-232.5	0.00	0.00	0.00
7,000.0	6.50	172.21	6,986.7	-244.0	33.4	-243.7	0.00	0.00	0.00
7,100.0	6.50	172.21	7,086.1	-255.2	34.9	-254.9	0.00	0.00	0.00
7,200.0	6.50	172.21	7,185.4	-266.5	36.5	-266.1	0.00	0.00	0.00
7,300.0	6.50	172.21	7,284.8	-277.7	38.0	-277.3	0.00	0.00	0.00
7,400.0	6.50	172.21	7,384.1	-288.9	39.5	-288.5	0.00	0.00	0.00
7,500.0	6.50	172.21	7,483.5	-300.1	41.1	-299.7	0.00	0.00	0.00
7,600.0	6.50	172.21	7,582.9	-311.3	42.6	-310.9	0.00	0.00	0.00
7,700.0	6.50	172.21	7,682.2	-322.6	44.1	-322.1	0.00	0.00	0.00
7,800.0	6.50	172.21	7,781.6	-333.8	45.7	-333.3	0.00	0.00	0.00
7,900.0	6.50	172.21	7,880.9	-345.0	47.2	-344.5	0.00	0.00	0.00
8,000.0	6.50	172.21	7,980.3	-356.2	48.7	-355.8	0.00	0.00	0.00
8,100.0	6.50	172.21	8,079.6	-367.4	50.3	-367.0	0.00	0.00	0.00
8,200.0	6.50	172.21	8,179.0	-378.6	51.8	-378.2	0.00	0.00	0.00
8,300.0	6.50	172.21	8,278.3	-389.9	53.4	-389.4	0.00	0.00	0.00
8,400.0	6.50	172.21	8,377.7	-401.1	54.9	-400.6	0.00	0.00	0.00
8,500.0	6.50	172.21	8,477.1	-412.3	56.4	-411.8	0.00	0.00	0.00
8,600.0	6.50	172.21	8,576.4	-423.5	58.0	-423.0	0.00	0.00	0.00
8,700.0	6.50	172.21	8,675.8	-434.7	59.5	-434.2	0.00	0.00	0.00
8,800.0	6.50	172.21	8,775.1	-446.0	61.0	-445.4	0.00	0.00	0.00
8,900.0	6.50	172.21	8,874.5	-457.2	62.6	-456.6	0.00	0.00	0.00
9,000.0	6.50	172.21	8,973.8	-468.4	64.1	-467.8	0.00	0.00	0.00
9,100.0	6.50	172.21	9,073.2	-479.6	65.6	-479.0	0.00	0.00	0.00
9,200.0	6.50	172.21	9,172.6	-490.8	67.2	-490.2	0.00	0.00	0.00
9,300.0	6.50	172.21	9,271.9	-502.0	68.7	-501.4	0.00	0.00	0.00
9,400.0	6.50	172.21	9,371.3	-513.3	70.2	-512.6	0.00	0.00	0.00
9,500.0	6.50	172.21	9,470.6	-524.5	71.8	-523.8	0.00	0.00	0.00
9,600.0	6.50	172.21	9,570.0	-535.7	73.3	-535.0	0.00	0.00	0.00
9,700.0	6.50	172.21	9,669.3	-546.9	74.8	-546.2	0.00	0.00	0.00
9,800.0	6.50	172.21	9,768.7	-558.1	76.4	-557.4	0.00	0.00	0.00
9,900.0	6.50	172.21	9,868.1	-569.4	77.9	-568.6	0.00	0.00	0.00
10,000.0	6.50	172.21	9,967.4	-580.6	79.4	-579.8	0.00	0.00	0.00
10,100.0	6.50	172.21	10,066.8	-591.8	81.0	-591.0	0.00	0.00	0.00
10,200.0	6.50	172.21	10,166.1	-603.0	82.5	-602.2	0.00	0.00	0.00
10,300.0	6.50	172.21	10,265.5	-614.2	84.1	-613.4	0.00	0.00	0.00
10,400.0	6.50	172.21	10,364.8	-625.4	85.6	-624.6	0.00	0.00	0.00
10,500.0	6.50	172.21	10,464.2	-636.7	87.1	-635.8	0.00	0.00	0.00
10,600.0	6.50	172.21	10,563.6	-647.9	88.7	-647.0	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)
10,700.0	6.50	172.21	10,662.9	-659.1	90.2	-658.3	0.00	0.00	0.00
10,800.0	6.50	172.21	10,762.3	-670.3	91.7	-669.5	0.00	0.00	0.00
10,900.0	6.50	172.21	10,861.6	-681.5	93.3	-680.7	0.00	0.00	0.00
11,000.0	6.50	172.21	10,961.0	-692.8	94.8	-691.9	0.00	0.00	0.00
11,100.0	6.50	172.21	11,060.3	-704.0	96.3	-703.1	0.00	0.00	0.00
11,200.0	6.50	172.21	11,159.7	-715.2	97.9	-714.3	0.00	0.00	0.00
11,300.0	6.50	172.21	11,259.1	-726.4	99.4	-725.5	0.00	0.00	0.00
11,400.0	6.50	172.21	11,358.4	-737.6	100.9	-736.7	0.00	0.00	0.00
11,500.0	6.50	172.21	11,457.8	-748.8	102.5	-747.9	0.00	0.00	0.00
11,600.0	6.50	172.21	11,557.1	-760.1	104.0	-759.1	0.00	0.00	0.00
11,700.0	6.50	172.21	11,656.5	-771.3	105.5	-770.3	0.00	0.00	0.00
11,800.0	6.50	172.21	11,755.8	-782.5	107.1	-781.5	0.00	0.00	0.00
11,900.0	6.50	172.21	11,855.2	-793.7	108.6	-792.7	0.00	0.00	0.00
12,009.5	6.50	172.21	11,964.0	-806.0	110.3	-805.0	0.00	0.00	0.00
12,025.0	4.66	169.25	11,979.4	-807.5	110.5	-806.5	12.00	-11.86	-19.07
12,050.0	1.79	151.73	12,004.4	-808.8	110.9	-807.8	12.00	-11.47	-70.06
12,075.0	1.64	30.21	12,029.4	-808.9	111.3	-807.8	12.00	-0.60	-486.11
12,100.0	4.49	10.30	12,054.3	-807.6	111.6	-806.5	12.00	11.40	-79.61
12,125.0	7.46	5.99	12,079.2	-805.0	112.0	-804.0	12.00	11.87	-17.25
12,150.0	10.45	4.13	12,103.9	-801.1	112.3	-800.1	12.00	11.95	-7.45
12,175.0	13.44	3.09	12,128.3	-796.0	112.6	-794.9	12.00	11.97	-4.16
12,200.0	16.44	2.42	12,152.5	-789.5	112.9	-788.5	12.00	11.98	-2.67
12,225.0	19.43	1.96	12,176.3	-781.8	113.2	-780.8	12.00	11.99	-1.86
12,250.0	22.43	1.61	12,199.6	-772.9	113.5	-771.9	12.00	11.99	-1.38
12,275.0	25.43	1.34	12,222.5	-762.8	113.8	-761.7	12.00	11.99	-1.07
12,300.0	28.43	1.13	12,244.8	-751.5	114.0	-750.4	12.00	11.99	-0.86
12,325.0	31.42	0.95	12,266.4	-739.0	114.2	-737.9	12.00	11.99	-0.71
12,350.0	34.42	0.80	12,287.4	-725.4	114.4	-724.3	12.00	12.00	-0.59
12,375.0	37.42	0.67	12,307.7	-710.7	114.6	-709.7	12.00	12.00	-0.51
12,400.0	40.42	0.56	12,327.1	-695.0	114.8	-694.0	12.00	12.00	-0.45
12,425.0	43.42	0.46	12,345.7	-678.3	114.9	-677.3	12.00	12.00	-0.39
12,450.0	46.42	0.38	12,363.4	-660.7	115.1	-659.6	12.00	12.00	-0.35
12,475.0	49.42	0.30	12,380.2	-642.1	115.2	-641.1	12.00	12.00	-0.32
12,500.0	52.42	0.22	12,395.9	-622.7	115.3	-621.7	12.00	12.00	-0.29
12,525.0	55.42	0.16	12,410.6	-602.5	115.3	-601.5	12.00	12.00	-0.27
12,550.0	58.42	0.09	12,424.3	-581.6	115.4	-580.5	12.00	12.00	-0.25
12,575.0	61.42	0.04	12,436.8	-560.0	115.4	-558.9	12.00	12.00	-0.23
12,600.0	64.42	359.98	12,448.2	-537.7	115.4	-536.6	12.00	12.00	-0.22
12,625.0	67.42	359.93	12,458.4	-514.9	115.4	-513.8	12.00	12.00	-0.21
12,628.7	67.86	359.92	12,459.8	-511.4	115.4	-510.4	12.00	12.00	-0.21
FTP(WW 11 FC #704H)									
12,650.0	70.42	359.88	12,467.4	-491.6	115.4	-490.5	12.00	12.00	-0.20
12,675.0	73.42	359.83	12,475.1	-467.8	115.3	-466.7	12.00	12.00	-0.19
12,700.0	76.42	359.78	12,481.6	-443.7	115.2	-442.6	12.00	12.00	-0.19
12,725.0	79.42	359.74	12,486.9	-419.2	115.1	-418.2	12.00	12.00	-0.18
12,750.0	82.42	359.69	12,490.8	-394.5	115.0	-393.5	12.00	12.00	-0.18
12,775.0	85.42	359.65	12,493.5	-369.7	114.8	-368.6	12.00	12.00	-0.18
12,800.0	88.41	359.60	12,494.8	-344.7	114.7	-343.7	12.00	12.00	-0.18
12,813.2	90.00	359.58	12,495.0	-331.5	114.6	-330.5	12.00	12.00	-0.18
12,900.0	90.00	359.58	12,495.0	-244.7	113.9	-243.7	0.00	0.00	0.00
13,000.0	90.00	359.58	12,495.0	-144.7	113.2	-143.7	0.00	0.00	0.00
13,100.0	90.00	359.58	12,495.0	-44.7	112.5	-43.7	0.00	0.00	0.00
13,200.0	90.00	359.58	12,495.0	55.3	111.7	56.3	0.00	0.00	0.00



EOG Resources, Inc.

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #704H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Project:	Lea County, NM (NAD 27 NME)	MD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#704H	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	359.58	12,495.0	155.3	111.0	156.3	0.00	0.00	0.00	
13,400.0	90.00	359.58	12,495.0	255.3	110.3	256.3	0.00	0.00	0.00	
13,500.0	90.00	359.58	12,495.0	355.3	109.5	356.2	0.00	0.00	0.00	
13,600.0	90.00	359.58	12,495.0	455.3	108.8	456.2	0.00	0.00	0.00	
13,700.0	90.00	359.58	12,495.0	555.3	108.1	556.2	0.00	0.00	0.00	
13,800.0	90.00	359.58	12,495.0	655.3	107.3	656.2	0.00	0.00	0.00	
13,900.0	90.00	359.58	12,495.0	755.3	106.6	756.2	0.00	0.00	0.00	
14,000.0	90.00	359.58	12,495.0	855.3	105.9	856.2	0.00	0.00	0.00	
14,100.0	90.00	359.58	12,495.0	955.2	105.1	956.2	0.00	0.00	0.00	
14,200.0	90.00	359.58	12,495.0	1,055.2	104.4	1,056.1	0.00	0.00	0.00	
14,300.0	90.00	359.58	12,495.0	1,155.2	103.7	1,156.1	0.00	0.00	0.00	
14,400.0	90.00	359.58	12,495.0	1,255.2	102.9	1,256.1	0.00	0.00	0.00	
14,500.0	90.00	359.58	12,495.0	1,355.2	102.2	1,356.1	0.00	0.00	0.00	
14,600.0	90.00	359.58	12,495.0	1,455.2	101.5	1,456.1	0.00	0.00	0.00	
14,700.0	90.00	359.58	12,495.0	1,555.2	100.7	1,556.1	0.00	0.00	0.00	
14,800.0	90.00	359.58	12,495.0	1,655.2	100.0	1,656.1	0.00	0.00	0.00	
14,900.0	90.00	359.58	12,495.0	1,755.2	99.3	1,756.1	0.00	0.00	0.00	
15,000.0	90.00	359.58	12,495.0	1,855.2	98.5	1,856.0	0.00	0.00	0.00	
15,100.0	90.00	359.58	12,495.0	1,955.2	97.8	1,956.0	0.00	0.00	0.00	
15,200.0	90.00	359.58	12,495.0	2,055.2	97.1	2,056.0	0.00	0.00	0.00	
15,300.0	90.00	359.58	12,495.0	2,155.2	96.3	2,156.0	0.00	0.00	0.00	
15,400.0	90.00	359.58	12,495.0	2,255.2	95.6	2,256.0	0.00	0.00	0.00	
15,500.0	90.00	359.58	12,495.0	2,355.2	94.9	2,356.0	0.00	0.00	0.00	
15,600.0	90.00	359.58	12,495.0	2,455.2	94.1	2,456.0	0.00	0.00	0.00	
15,700.0	90.00	359.58	12,495.0	2,555.2	93.4	2,555.9	0.00	0.00	0.00	
15,800.0	90.00	359.58	12,495.0	2,655.2	92.7	2,655.9	0.00	0.00	0.00	
15,900.0	90.00	359.58	12,495.0	2,755.2	91.9	2,755.9	0.00	0.00	0.00	
16,000.0	90.00	359.58	12,495.0	2,855.2	91.2	2,855.9	0.00	0.00	0.00	
16,100.0	90.00	359.58	12,495.0	2,955.2	90.5	2,955.9	0.00	0.00	0.00	
16,200.0	90.00	359.58	12,495.0	3,055.2	89.7	3,055.9	0.00	0.00	0.00	
16,300.0	90.00	359.58	12,495.0	3,155.2	89.0	3,155.9	0.00	0.00	0.00	
16,400.0	90.00	359.58	12,495.0	3,255.2	88.3	3,255.9	0.00	0.00	0.00	
16,500.0	90.00	359.58	12,495.0	3,355.2	87.5	3,355.8	0.00	0.00	0.00	
16,600.0	90.00	359.58	12,495.0	3,455.2	86.8	3,455.8	0.00	0.00	0.00	
16,700.0	90.00	359.58	12,495.0	3,555.2	86.1	3,555.8	0.00	0.00	0.00	
16,800.0	90.00	359.58	12,495.0	3,655.2	85.3	3,655.8	0.00	0.00	0.00	
16,900.0	90.00	359.58	12,495.0	3,755.2	84.6	3,755.8	0.00	0.00	0.00	
17,000.0	90.00	359.58	12,495.0	3,855.2	83.9	3,855.8	0.00	0.00	0.00	
17,100.0	90.00	359.58	12,495.0	3,955.2	83.1	3,955.8	0.00	0.00	0.00	
17,200.0	90.00	359.58	12,495.0	4,055.2	82.4	4,055.7	0.00	0.00	0.00	
17,300.0	90.00	359.58	12,495.0	4,155.2	81.7	4,155.7	0.00	0.00	0.00	
17,400.0	90.00	359.58	12,495.0	4,255.2	80.9	4,255.7	0.00	0.00	0.00	
17,500.0	90.00	359.58	12,495.0	4,355.2	80.2	4,355.7	0.00	0.00	0.00	
17,600.0	90.00	359.58	12,495.0	4,455.2	79.5	4,455.7	0.00	0.00	0.00	
17,700.0	90.00	359.58	12,495.0	4,555.2	78.7	4,555.7	0.00	0.00	0.00	
17,800.0	90.00	359.58	12,495.0	4,655.1	78.0	4,655.7	0.00	0.00	0.00	
17,900.0	90.00	359.58	12,495.0	4,755.1	77.3	4,755.7	0.00	0.00	0.00	
18,000.0	90.00	359.58	12,495.0	4,855.1	76.5	4,855.6	0.00	0.00	0.00	
18,100.0	90.00	359.58	12,495.0	4,955.1	75.8	4,955.6	0.00	0.00	0.00	
18,200.0	90.00	359.58	12,495.0	5,055.1	75.1	5,055.6	0.00	0.00	0.00	
18,300.0	90.00	359.58	12,495.0	5,155.1	74.3	5,155.6	0.00	0.00	0.00	
18,400.0	90.00	359.58	12,495.0	5,255.1	73.6	5,255.6	0.00	0.00	0.00	
18,500.0	90.00	359.58	12,495.0	5,355.1	72.9	5,355.6	0.00	0.00	0.00	
18,600.0	90.00	359.58	12,495.0	5,455.1	72.1	5,455.6	0.00	0.00	0.00	



EOG Resources, Inc.

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #704H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Project:	Lea County, NM (NAD 27 NME)	MD Reference:	KB = 25 @ 3369.0usft (H&P 415)
Site:	Whirling Wind 11 Fed Com	North Reference:	Grid
Well:	#704H	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)	
18,700.0	90.00	359.58	12,495.0	5,555.1	71.4	5,555.5	0.00	0.00	0.00	
18,800.0	90.00	359.58	12,495.0	5,655.1	70.7	5,655.5	0.00	0.00	0.00	
18,900.0	90.00	359.58	12,495.0	5,755.1	69.9	5,755.5	0.00	0.00	0.00	
19,000.0	90.00	359.58	12,495.0	5,855.1	69.2	5,855.5	0.00	0.00	0.00	
19,100.0	90.00	359.58	12,495.0	5,955.1	68.5	5,955.5	0.00	0.00	0.00	
19,200.0	90.00	359.58	12,495.0	6,055.1	67.7	6,055.5	0.00	0.00	0.00	
19,300.0	90.00	359.58	12,495.0	6,155.1	67.0	6,155.5	0.00	0.00	0.00	
19,400.0	90.00	359.58	12,495.0	6,255.1	66.3	6,255.4	0.00	0.00	0.00	
19,500.0	90.00	359.58	12,495.0	6,355.1	65.5	6,355.4	0.00	0.00	0.00	
19,600.0	90.00	359.58	12,495.0	6,455.1	64.8	6,455.4	0.00	0.00	0.00	
19,700.0	90.00	359.58	12,495.0	6,555.1	64.1	6,555.4	0.00	0.00	0.00	
19,800.0	90.00	359.58	12,495.0	6,655.1	63.3	6,655.4	0.00	0.00	0.00	
19,900.0	90.00	359.58	12,495.0	6,755.1	62.6	6,755.4	0.00	0.00	0.00	
19,979.9	90.00	359.58	12,495.0	6,835.0	62.0	6,835.3	0.00	0.00	0.00	
PBHL(WW 11 FC #704H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
FTP(WW 11 FC #704H)	0.00	0.00	12,495.0	-525.0	116.0	383,360.00	745,305.00	32° 3' 5.396 N	103° 32' 29.694 W	
- plan misses target center by 37.7usft at 12628.7usft MD (12459.8 TVD, -511.4 N, 115.4 E)										
- Point										
PBHL(WW 11 FC #704H)	0.00	0.00	12,495.0	6,835.0	62.0	390,720.00	745,251.00	32° 4' 18.232 N	103° 32' 29.694 W	
- plan hits target center										
- Point										

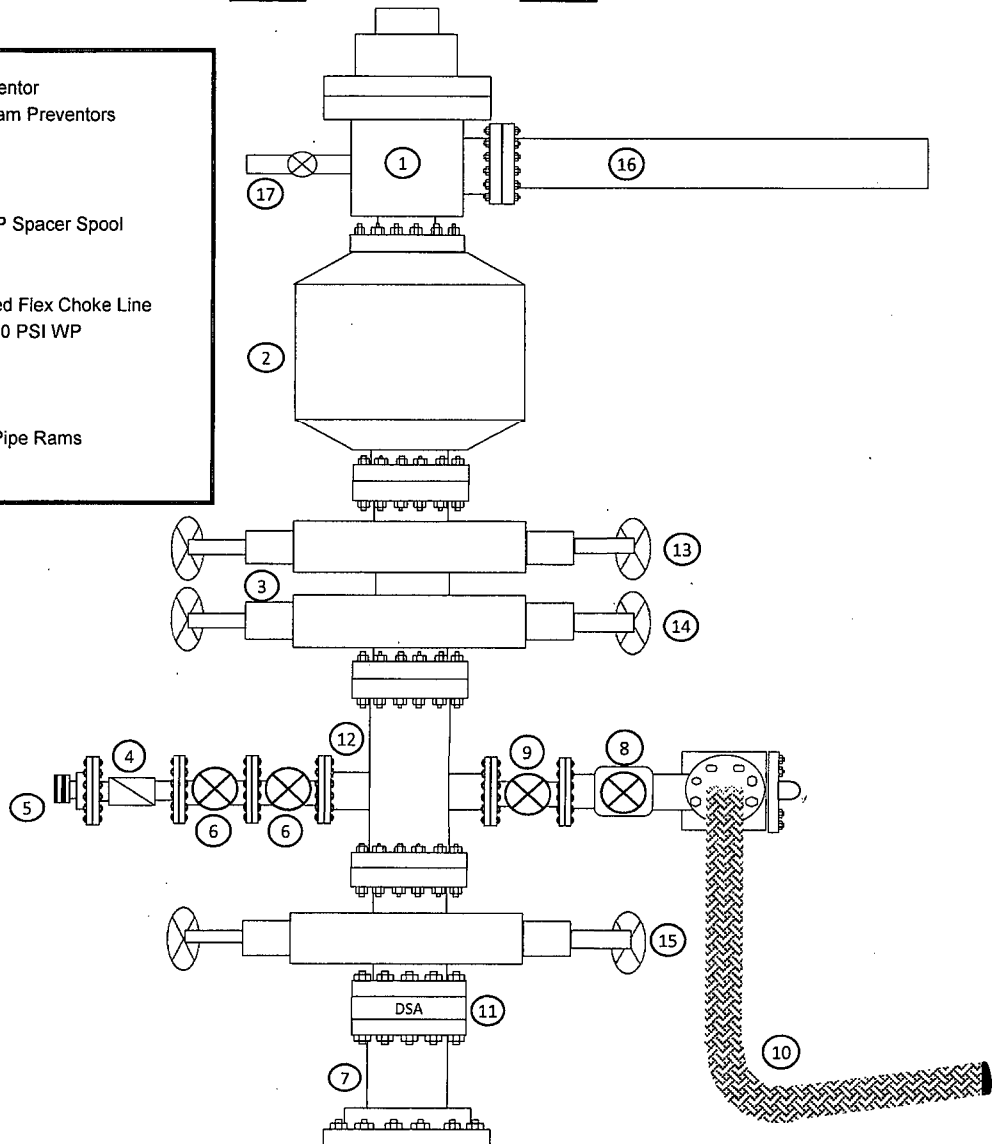
Exhibit 1

EOG Resources

10M BOPE

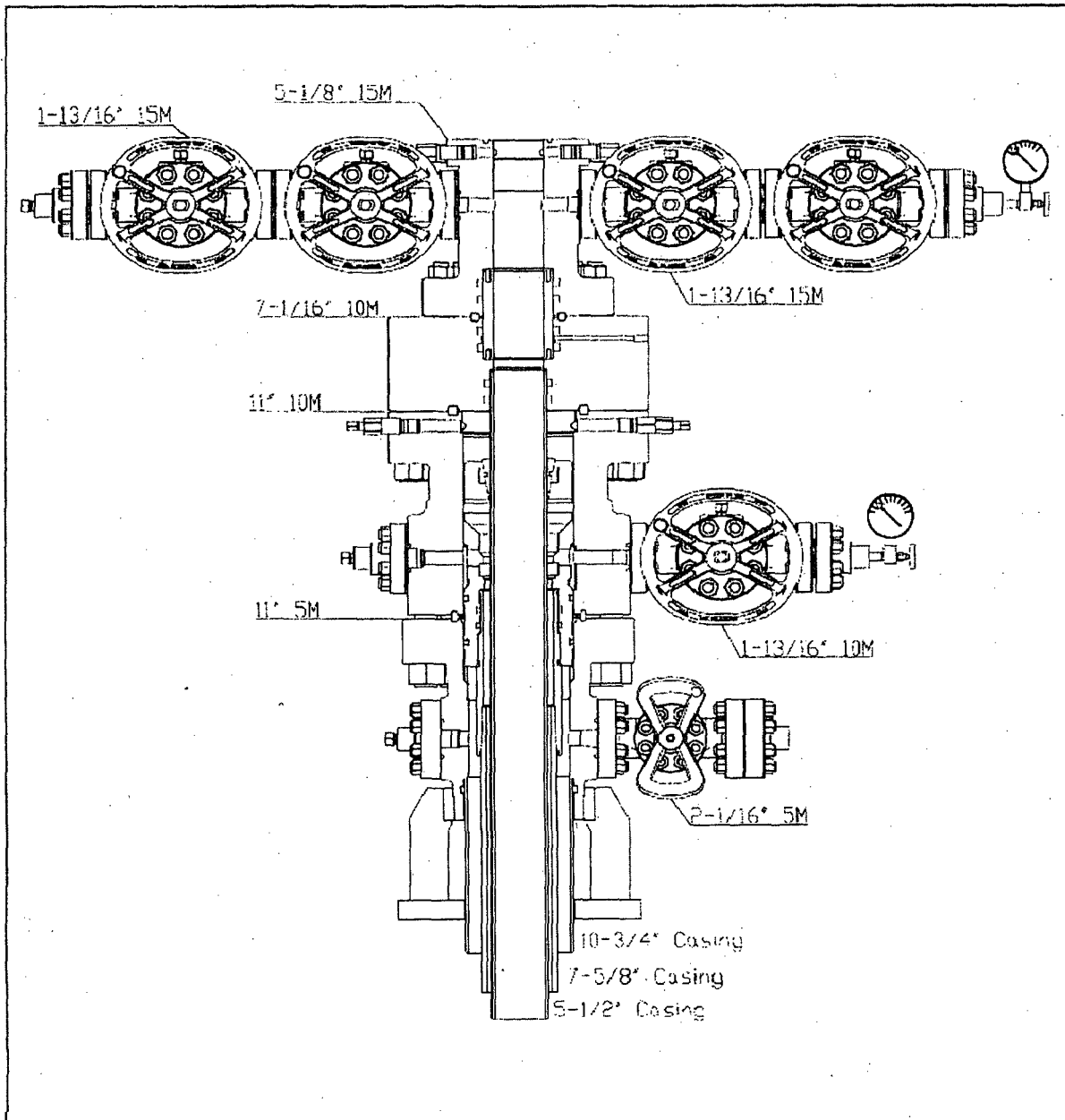
Rig Floor

1. 13 5/8" Rotating Head
2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line



Per Regulation
A 5M System

~~Addition~~
Extra Copy



EDG RESOURCES
10-3/4" X 7-5/8" X 5-1/2"
FBD-100 WELLHEAD SYSTEM
QUOTE # - 86366

DWN	RAY	7/9/15
CHK		
APP		
	BY	DATE

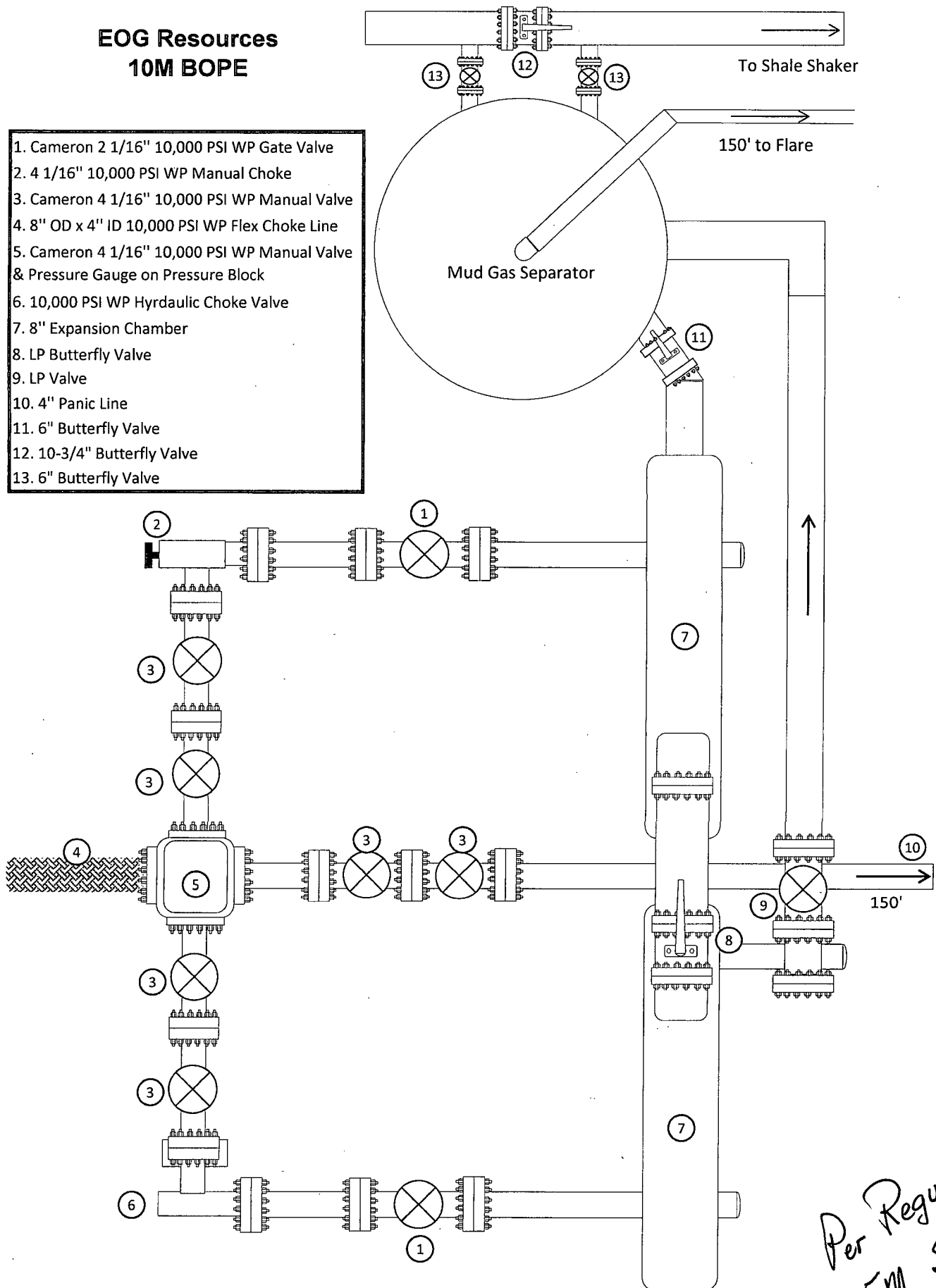


DRAWING NO
WH-15315

Exhibit 1a

EOG Resources 10M BOPE

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hyrdraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



*Per Regulation
5M System*

EXTRA COPY

HOME CONNECTIONS MARKETING MEDIA R&D CENTER FIELD SERVICES LICENSEES CONTACT US

PREMIUM CONNECTIONS PERFORMANCE DATA

Size

NomWt

Grade

TMK UP ULTRA™ SFII

5.500in

23.0lbs/ft

P-110 HC

Technical Data Sheet

Tubular Parameters

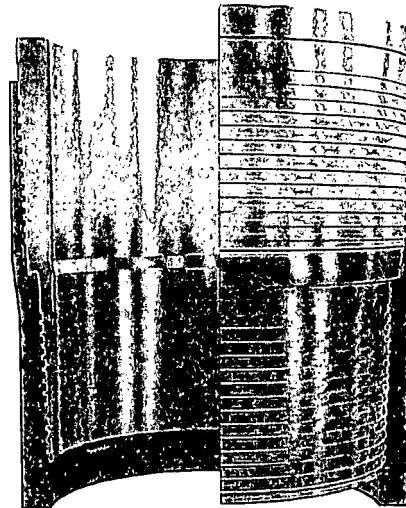
Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	23.0	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110 HC		Yield Load	729,000	lbs
PE Weight	22.54	lbs/ft	Tensile Load	828,000	lbs
Wall Thickness	0.415	in	Min. Internal Yield Pressure	14,500	psi
Nominal ID	4.670	in	Collapse Pressure	15,110	psi
Drift Diameter	4.545	in			
Nom. Pipe Body Area	6.630	in²			

Connection Parameters

Connection OD	5.726	in
Connection ID	4.626	in
Make - Up Loss	5.653	in
Critical Section Area	5.817	in²
Efficiency - Tension	85%	%
Efficiency - Compression	73%	%
Yield Load In Tension	621,000	lbs
Min. Internal Yield Pressure	14,500	psi
Collapse Pressure	15,110	psi
Uniaxial Bending	78	°/ 100 ft

Make-Up Torques

Min. Make-Up Torque	15,500	ft-lbs
Optimum Make-Up Torque	16,300	ft-lbs
Max. Make-Up Torque	18,700	ft-lbs
Yield Torque	24,800	ft-lbs



Printed on : November-24-2015

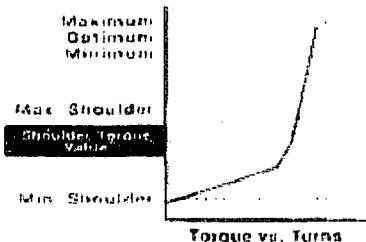
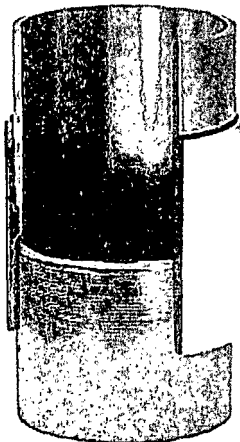
NOTE:

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Jun. 23, 2015

SIZE: 5 000 in (127 mm)
 WEIGHT: 23.20 lbm (34.53 kgm)
 GRADE: P110
 COUP: Standard
 EF: APinned (EF#10)



JFE has performed and continues to perform connection and qualification testing according to the most rigorous industry and customer standards. Performance ratings are unbiased ratings based on specified pipe minimum performance properties. Please contact the JFE-TC office for the latest information.

MATERIAL	Imperial	Metric
Min Yield Strength	110,000 psi	759 MPa
Max Yield Strength	140,000 psi	965 MPa
Min Tensile Strength	125,000 psi	862 MPa

COUPLING	Imperial	Metric
Coupling OD	5.750 in	146.05 mm
Coupling ID	4.143 in	105.23 mm
Tensile Efficiency	100%	100%
Coupling Length	10.389 in	263.97 mm
Make-up Loss Length	4.63 in	117.60 mm
Bearing Face Load	443kip	1,971kN

PIPE	Imperial	Metric
Pipe Body Wall	0.478 in	12.14 mm
Pipe ID	4.044 in	102.72 mm
Drift Diameter	3.610 in	90.54 mm
Pipe Cross Section	6.701 in ²	4,381 mm ²
Collapse Pressure	10,020 psi	131.14 MPa
Internal Yield Pressure	16,400 psi	120.66 MPa
Pipe Body Yield Strength	747 kip	3,323 kN

CONNECTION PERFORMANCE	Imperial	Metric
Collapse Pressure	10,020 psi	131.14 MPa
Internal Yield Pressure	16,400 psi	120.66 MPa
Joint Strength	747 kip	3,323 kN
Joint Tensile Efficiency	100%	100%
Compression Rating	508 kip	2,250 kN

FIELD MAKE-UP TORQUE	Imperial	Metric
Min Torque	13,500 ft-lb	20,000 Nm
Opt Torque	15,000 ft-lb	22,322 Nm
Max Torque	16,500 ft-lb	24,555 Nm

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manufacturer: No

M I D W E S T
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT			
Customer: CACTUS		P.O. Number: RIG #123 Asset # M10761	
HOSE SPECIFICATIONS			
Type: CHOKER LINE		Length: 35'	
I.D. 4" INCHES		O.D. 8" INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE PSI	
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY	
PROCEDURE			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
TIME HELD AT TEST PRESSURE 1 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
COMMENTS: SN#90087 M10761 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 6/6/2011	Tested By: BOBBY FINK		Approved: MENDI JACKSON



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: CACTUS

SALES ORDER# 90067

Hose Specifications

Hose Type
C & K

Length
35'

I.D.
4"

O.D.
8"

Type of Fitting
4 1/16 10K

Die Size
6.62"

Coupling Method
Swage

Final O.D.
6.68"

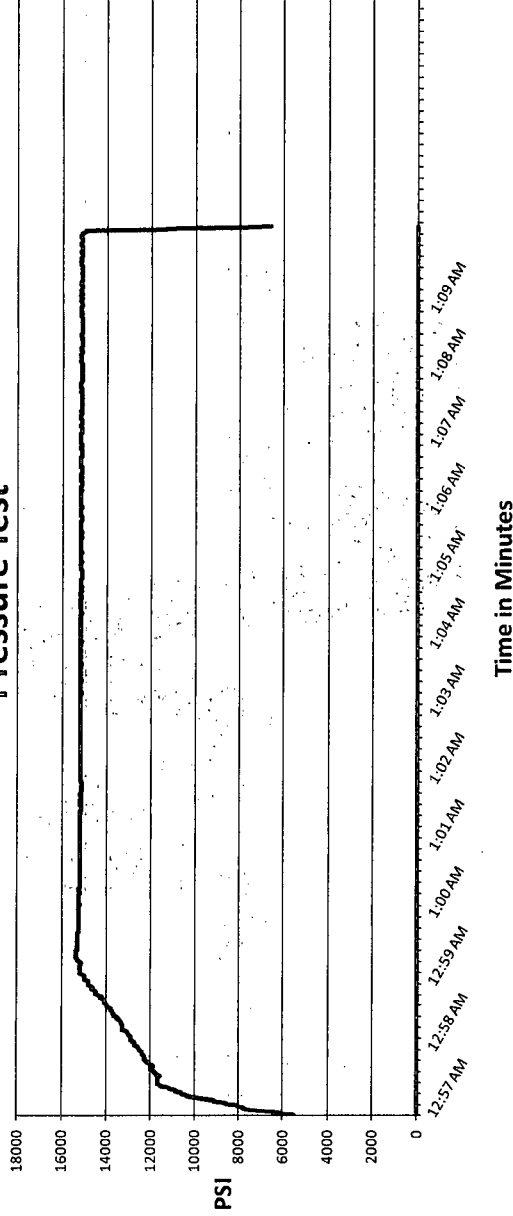
Working Pressure
10000 PSI

Burst Pressure
Standard Safety Multiplier Applies

Hose Serial #

Hose Assembly Serial #
90067

Pressure Test



Test Pressure
15000 PSI

Time Held at Test Pressure
11 1/4 Minutes

Actual Burst Pressure

Peak Pressure
15439 PSI

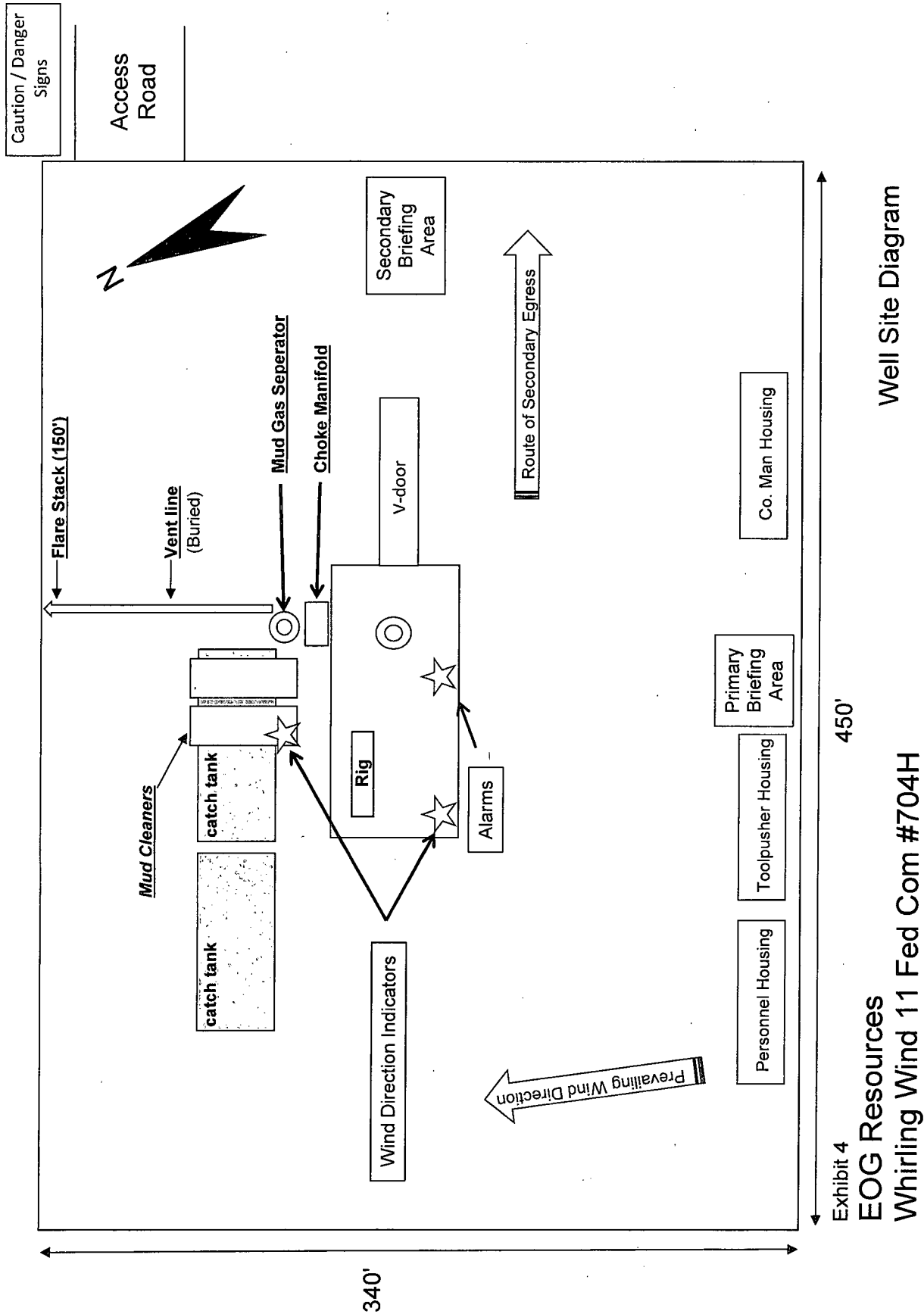
Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Approved By: Mendi Jackson

Bobby Fink

Mendi Jackson



Caution / Danger
Signs

Access
Road

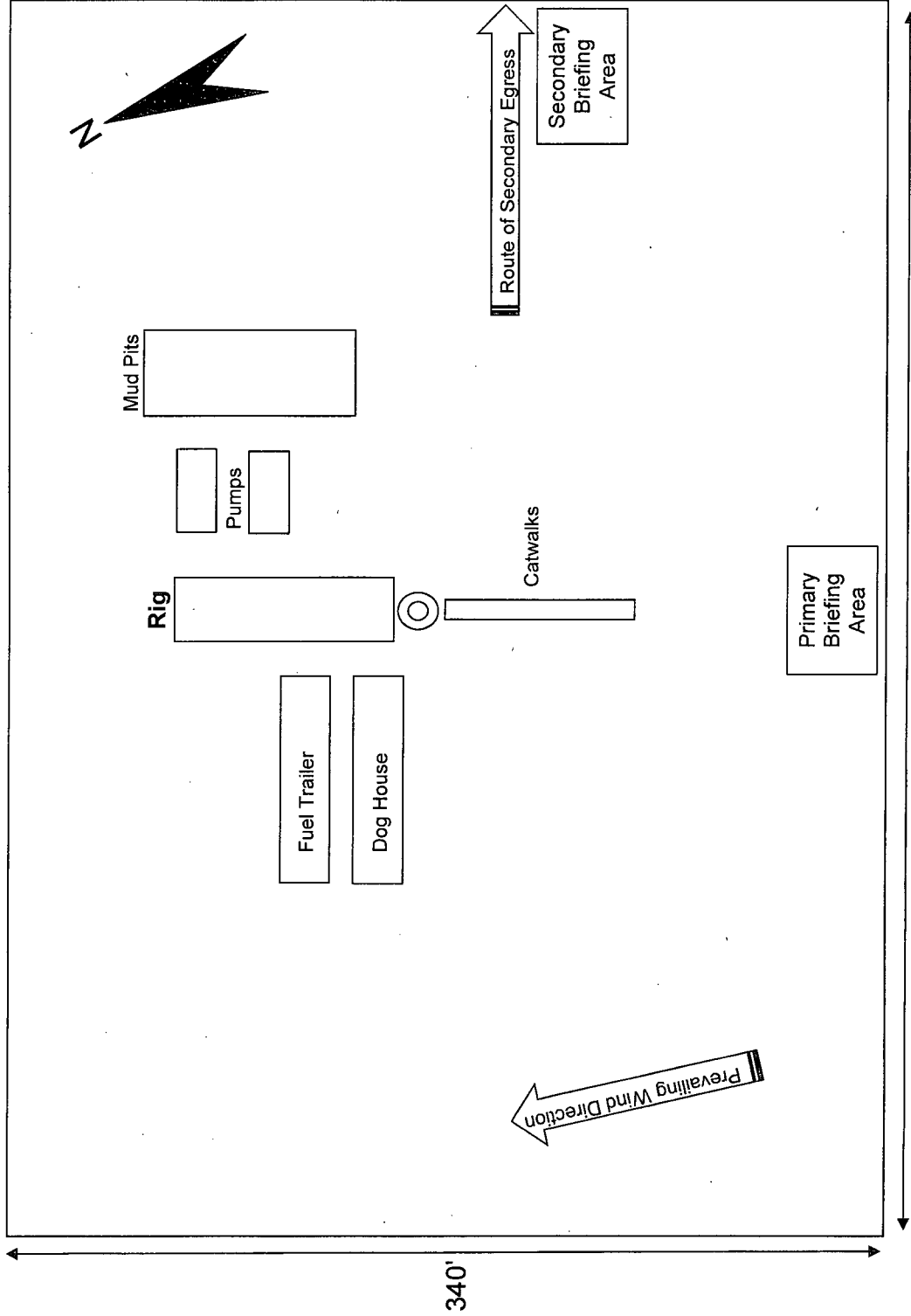


Exhibit 4 (A) Option

450'

EOG Resources

Whirling Wind 11 Fed Com #704H

Well Site Diagram