

COG Operating LLC

Lea County, NM

Airbonita 12 Federal

#11H

OH

Plan: Plan #1

Standard Planning Report

08 March, 2015



JAN 27 2016



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #11H
Company:	COG Operating LLC	TVD Reference:	KB @ 3689.0usft
Project:	Lea County, NM	MD Reference:	KB @ 3689.0usft
Site:	Airbonita 12 Federal	North Reference:	Grid
Well:	#11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project		Lea County, NM	
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:		Airbonita 12 Federal			
Site Position:		Northing:	509,618.50 usft	Latitude:	32° 23' 56.826 N
From:	Map	Easting:	715,682.90 usft	Longitude:	103° 38' 4.321 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37

Well	#11H					
Well Position	+N-S	144.7 usft	Northing:	509,763.20 usft	Latitude:	32° 23' 58.167 N
	+E-W	1,389.0 usft	Easting:	717,071.90 usft	Longitude:	103° 37' 48.110 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,657.9 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/7/2015	7.17	60.25	48,341

Design		Plan #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	0.0 359.58

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	
9,408.5	0.00	0.00	9,408.5	0.0	0.0	0.00	0.00	0.00	0.00	
10,160.6	90.25	359.58	9,886.0	479.6	-3.5	12.00	12.00	-0.06	359.58	
14,436.5	90.25	359.58	9,867.0	4,755.3	-34.8	0.00	0.00	0.00	0.00	PBHL (A12F #11H/OH)



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Well:	#11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00



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Wellbore:	OH		
Design:	Plan #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	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,408.5	0.00	0.00	9,408.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start DLS 12.00 TFO 359.58									
9,425.0	1.98	359.58	9,425.0	0.3	0.0	0.3	12.00	12.00	0.00
9,450.0	4.98	359.58	9,449.9	1.8	0.0	1.8	12.00	12.00	0.00
9,475.0	7.98	359.58	9,474.8	4.6	0.0	4.6	12.00	12.00	0.00
9,500.0	10.98	359.58	9,499.4	8.7	-0.1	8.7	12.00	12.00	0.00
9,525.0	13.98	359.58	9,523.8	14.1	-0.1	14.1	12.00	12.00	0.00
9,550.0	16.98	359.58	9,547.9	20.8	-0.2	20.8	12.00	12.00	0.00
9,575.0	19.98	359.58	9,571.6	28.7	-0.2	28.7	12.00	12.00	0.00
9,600.0	22.98	359.58	9,594.9	37.9	-0.3	37.9	12.00	12.00	0.00
9,625.0	25.98	359.58	9,617.7	48.2	-0.4	48.2	12.00	12.00	0.00
9,650.0	28.98	359.58	9,639.8	59.8	-0.4	59.8	12.00	12.00	0.00
9,675.0	31.98	359.58	9,661.4	72.5	-0.5	72.5	12.00	12.00	0.00



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Site:	Airbonita 12 Federal	North Reference:	Grid
Well:	#11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
9,700.0	34.98	359.58	9,682.2	86.3	-0.6	86.3	12.00	12.00	0.00
9,725.0	37.98	359.58	9,702.3	101.1	-0.7	101.1	12.00	12.00	0.00
9,750.0	40.98	359.58	9,721.6	117.0	-0.9	117.0	12.00	12.00	0.00
9,775.0	43.98	359.58	9,740.1	133.9	-1.0	133.9	12.00	12.00	0.00
9,800.0	46.98	359.58	9,757.6	151.7	-1.1	151.7	12.00	12.00	0.00
9,825.0	49.98	359.58	9,774.2	170.4	-1.2	170.4	12.00	12.00	0.00
9,850.0	52.98	359.58	9,789.7	190.0	-1.4	190.0	12.00	12.00	0.00
9,875.0	55.98	359.58	9,804.2	210.3	-1.5	210.3	12.00	12.00	0.00
9,900.0	58.98	359.58	9,817.7	231.4	-1.7	231.4	12.00	12.00	0.00
9,925.0	61.98	359.58	9,830.0	253.2	-1.9	253.2	12.00	12.00	0.00
9,950.0	64.98	359.58	9,841.2	275.5	-2.0	275.5	12.00	12.00	0.00
9,975.0	67.98	359.58	9,851.1	298.4	-2.2	298.4	12.00	12.00	0.00
10,000.0	70.98	359.58	9,859.9	321.9	-2.4	321.9	12.00	12.00	0.00
10,025.0	73.98	359.58	9,867.4	345.7	-2.5	345.7	12.00	12.00	0.00
10,050.0	76.98	359.58	9,873.7	369.9	-2.7	369.9	12.00	12.00	0.00
10,075.0	79.98	359.58	9,878.7	394.4	-2.9	394.4	12.00	12.00	0.00
10,100.0	82.98	359.58	9,882.4	419.1	-3.1	419.1	12.00	12.00	0.00
10,125.0	85.98	359.58	9,884.8	444.0	-3.2	444.0	12.00	12.00	0.00
10,150.0	88.98	359.58	9,885.9	469.0	-3.4	469.0	12.00	12.00	0.00
10,160.6	90.25	359.58	9,886.0	479.6	-3.5	479.6	12.00	12.00	0.00
EOC - Start 4275.9 hold at 10160.6 MD									
10,200.0	90.25	359.58	9,885.8	519.0	-3.8	519.0	0.00	0.00	0.00
10,300.0	90.25	359.58	9,885.3	618.9	-4.5	619.0	0.00	0.00	0.00
10,400.0	90.25	359.58	9,884.9	718.9	-5.3	719.0	0.00	0.00	0.00
10,500.0	90.25	359.58	9,884.5	818.9	-6.0	819.0	0.00	0.00	0.00
10,600.0	90.25	359.58	9,884.0	918.9	-6.7	919.0	0.00	0.00	0.00
10,700.0	90.25	359.58	9,883.6	1,018.9	-7.5	1,019.0	0.00	0.00	0.00
10,800.0	90.25	359.58	9,883.1	1,118.9	-8.2	1,119.0	0.00	0.00	0.00
10,900.0	90.25	359.58	9,882.7	1,218.9	-8.9	1,219.0	0.00	0.00	0.00
11,000.0	90.25	359.58	9,882.2	1,318.9	-9.7	1,319.0	0.00	0.00	0.00
11,100.0	90.25	359.58	9,881.8	1,418.9	-10.4	1,419.0	0.00	0.00	0.00
11,200.0	90.25	359.58	9,881.4	1,518.9	-11.1	1,519.0	0.00	0.00	0.00
11,300.0	90.25	359.58	9,880.9	1,618.9	-11.8	1,619.0	0.00	0.00	0.00
11,400.0	90.25	359.58	9,880.5	1,718.9	-12.6	1,719.0	0.00	0.00	0.00
11,500.0	90.25	359.58	9,880.0	1,818.9	-13.3	1,819.0	0.00	0.00	0.00
11,600.0	90.25	359.58	9,879.6	1,918.9	-14.0	1,919.0	0.00	0.00	0.00
11,700.0	90.25	359.58	9,879.1	2,018.9	-14.8	2,018.9	0.00	0.00	0.00
11,800.0	90.25	359.58	9,878.7	2,118.9	-15.5	2,118.9	0.00	0.00	0.00
11,900.0	90.25	359.58	9,878.2	2,218.9	-16.2	2,218.9	0.00	0.00	0.00
12,000.0	90.25	359.58	9,877.8	2,318.9	-17.0	2,318.9	0.00	0.00	0.00
12,100.0	90.25	359.58	9,877.4	2,418.9	-17.7	2,418.9	0.00	0.00	0.00
12,200.0	90.25	359.58	9,876.9	2,518.9	-18.4	2,518.9	0.00	0.00	0.00
12,300.0	90.25	359.58	9,876.5	2,618.9	-19.2	2,618.9	0.00	0.00	0.00
12,400.0	90.25	359.58	9,876.0	2,718.9	-19.9	2,718.9	0.00	0.00	0.00
12,500.0	90.25	359.58	9,875.6	2,818.9	-20.6	2,818.9	0.00	0.00	0.00
12,600.0	90.25	359.58	9,875.1	2,918.9	-21.4	2,918.9	0.00	0.00	0.00
12,700.0	90.25	359.58	9,874.7	3,018.9	-22.1	3,018.9	0.00	0.00	0.00
12,800.0	90.25	359.58	9,874.3	3,118.9	-22.8	3,118.9	0.00	0.00	0.00
12,900.0	90.25	359.58	9,873.8	3,218.9	-23.6	3,218.9	0.00	0.00	0.00
13,000.0	90.25	359.58	9,873.4	3,318.8	-24.3	3,318.9	0.00	0.00	0.00
13,100.0	90.25	359.58	9,872.9	3,418.8	-25.0	3,418.9	0.00	0.00	0.00
13,200.0	90.25	359.58	9,872.5	3,518.8	-25.8	3,518.9	0.00	0.00	0.00
13,300.0	90.25	359.58	9,872.0	3,618.8	-26.5	3,618.9	0.00	0.00	0.00
13,400.0	90.25	359.58	9,871.6	3,718.8	-27.2	3,718.9	0.00	0.00	0.00



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #11H
Company:	COG Operating LLC	TVD Reference:	KB @ 3689.0usft
Project:	Lea County, NM	MD Reference:	KB @ 3689.0usft
Site:	Airbonita 12 Federal	North Reference:	Grid
Well:	#11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
13,500.0	90.25	359.58	9,871.2	3,818.8	-27.9	3,818.9	0.00	0.00	0.00
13,600.0	90.25	359.58	9,870.7	3,918.8	-28.7	3,918.9	0.00	0.00	0.00
13,700.0	90.25	359.58	9,870.3	4,018.8	-29.4	4,018.9	0.00	0.00	0.00
13,800.0	90.25	359.58	9,869.8	4,118.8	-30.1	4,118.9	0.00	0.00	0.00
13,900.0	90.25	359.58	9,869.4	4,218.8	-30.9	4,218.9	0.00	0.00	0.00
14,000.0	90.25	359.58	9,868.9	4,318.8	-31.6	4,318.9	0.00	0.00	0.00
14,100.0	90.25	359.58	9,868.5	4,418.8	-32.3	4,418.9	0.00	0.00	0.00
14,200.0	90.25	359.58	9,868.0	4,518.8	-33.1	4,518.9	0.00	0.00	0.00
14,300.0	90.25	359.58	9,867.6	4,618.8	-33.8	4,618.9	0.00	0.00	0.00
14,400.0	90.25	359.58	9,867.2	4,718.8	-34.5	4,718.9	0.00	0.00	0.00
14,436.5	90.25	359.58	9,867.0	4,755.3	-34.8	4,755.4	0.00	0.00	0.00
TD at 14436.5									

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									
PBHL (A12F #11H/OH)	0.00	0.00	9,867.0	4,755.3	-34.8	514,518.50	717,037.10	32° 24' 45.225 N	103° 37' 48.151 W
- plan hits target center									
- Point									
EOC (A12F #11H/OH PI	0.00	0.00	9,886.0	479.6	-3.5	510,242.75	717,068.39	32° 24' 2.913 N	103° 37' 48.114 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,408.5	9,408.5	0.0	0.0	KOP - Start DLS 12.00 TFO 359.58
10,160.6	9,886.0	479.6	-3.5	EOC - Start 4275.9 hold at 10160.6 MD
14,436.5	9,867.0	4,755.3	-34.8	TD at 14436.5



COG Operating LLC
Project: Lea County, NM
Site: Airbonita 12 Federal
Well: #11H
Wellbore: OH
Plan: Plan #1 (#11H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	9408.5	0.00	0.00	9408.5	0.0	0.0	0.00	0.00	0.0	
3	10160.6	90.25	359.58	9886.0	479.6	-3.5	12.00	359.58	479.6	PBHL (A12F #11H/OH)
4	14436.5	90.25	359.58	9867.0	4755.3	-34.8	0.00	0.00	4755.4	PBHL (A12F #11H/OH)

WELL DETAILS: #11H

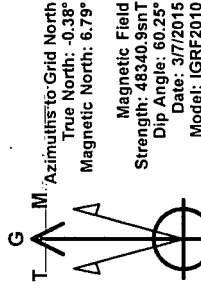
Ground Elevation: 3857.9
RKB Elevation: KB @ 3689.0usft
Rig Name:

Northings
509763.20

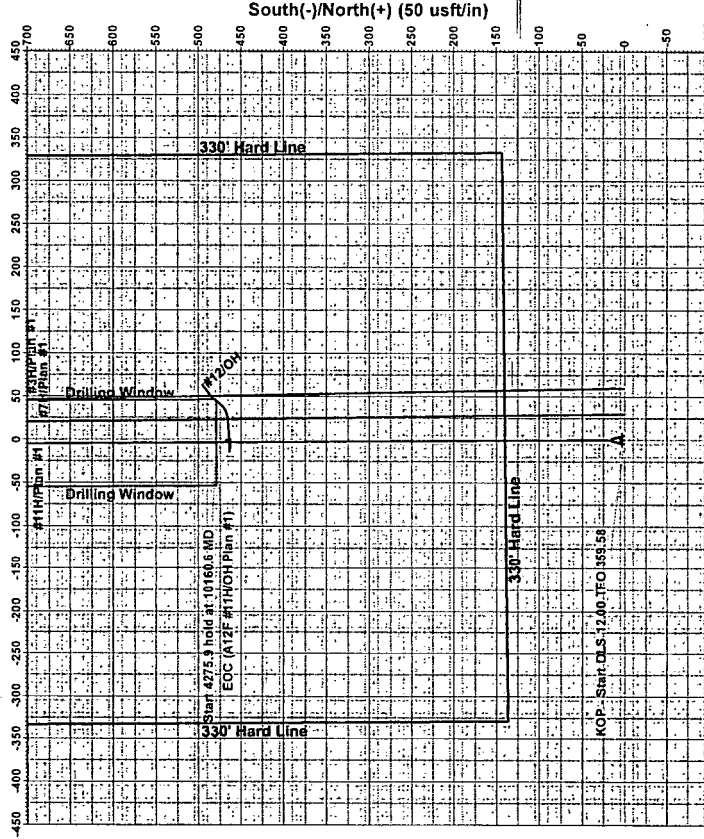
Easting
717071.90

Latitude
32° 23' 58.167 N

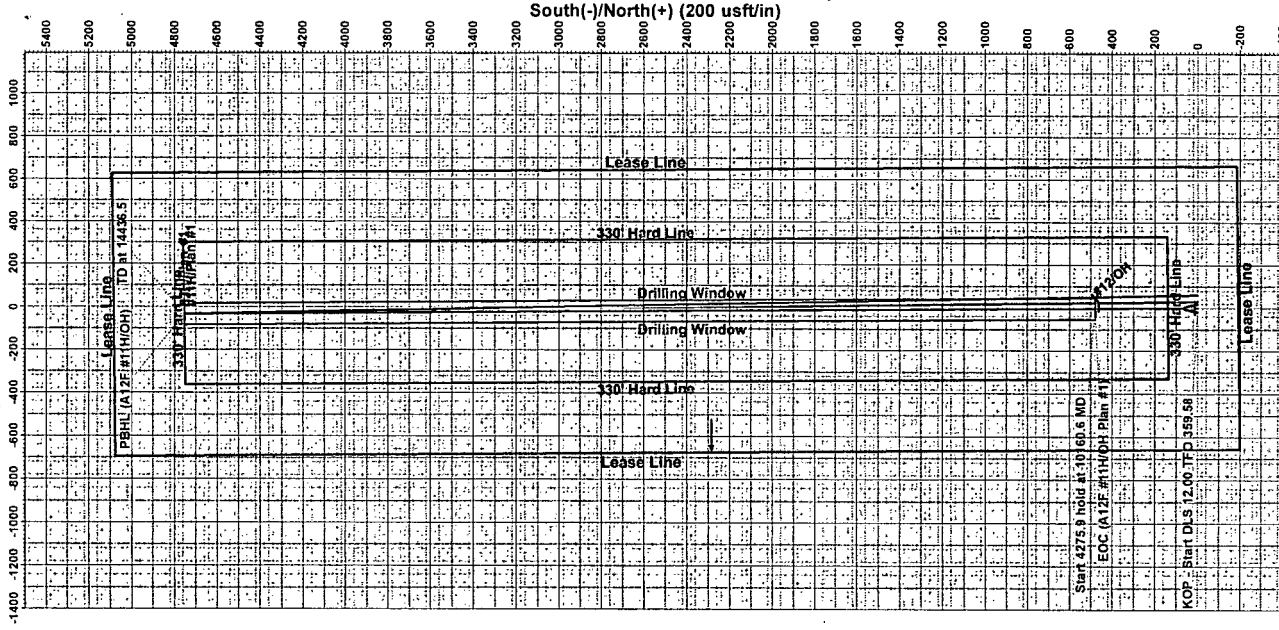
Longitude
103° 37' 48.110 W



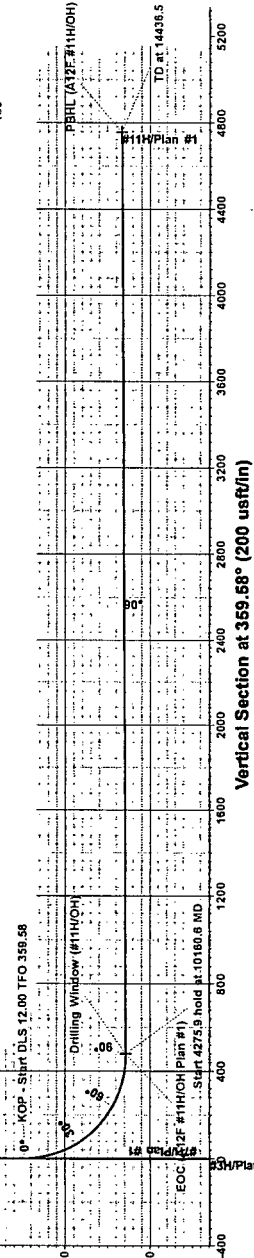
West(-)/East(+) (50 usft/in)



West(-)/East(+) (200 usft/in)



True Vertical Depth (200 usft/in)



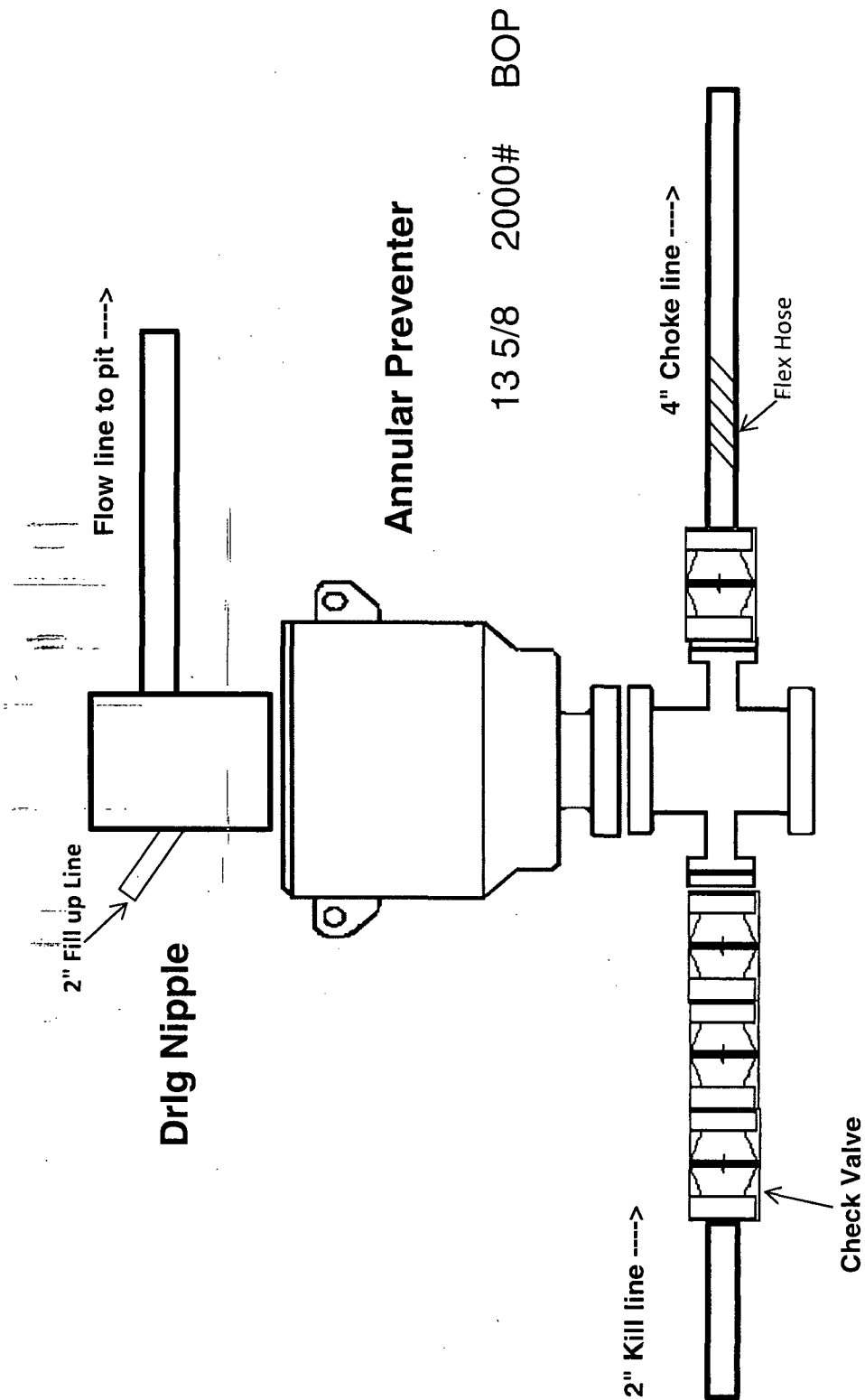
Vertical Section at 359.58° (200 usft/in)



Terra Directional Services LLC
322 Spring Hill Drive, Suite A300, Spring, TX 77386
Phone: 432-425-7532

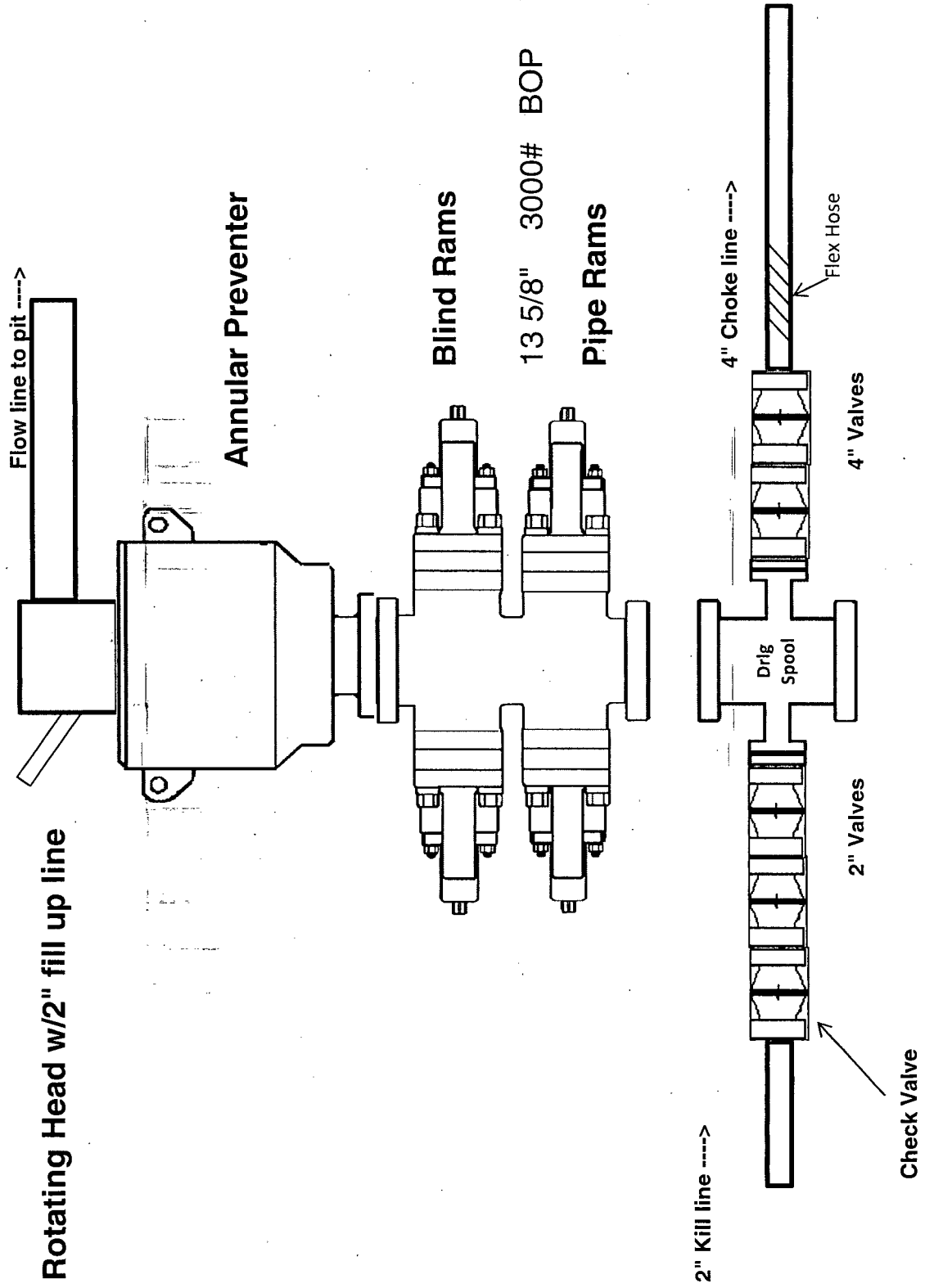
PROJECT DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

2,000 psi BOP Schematic

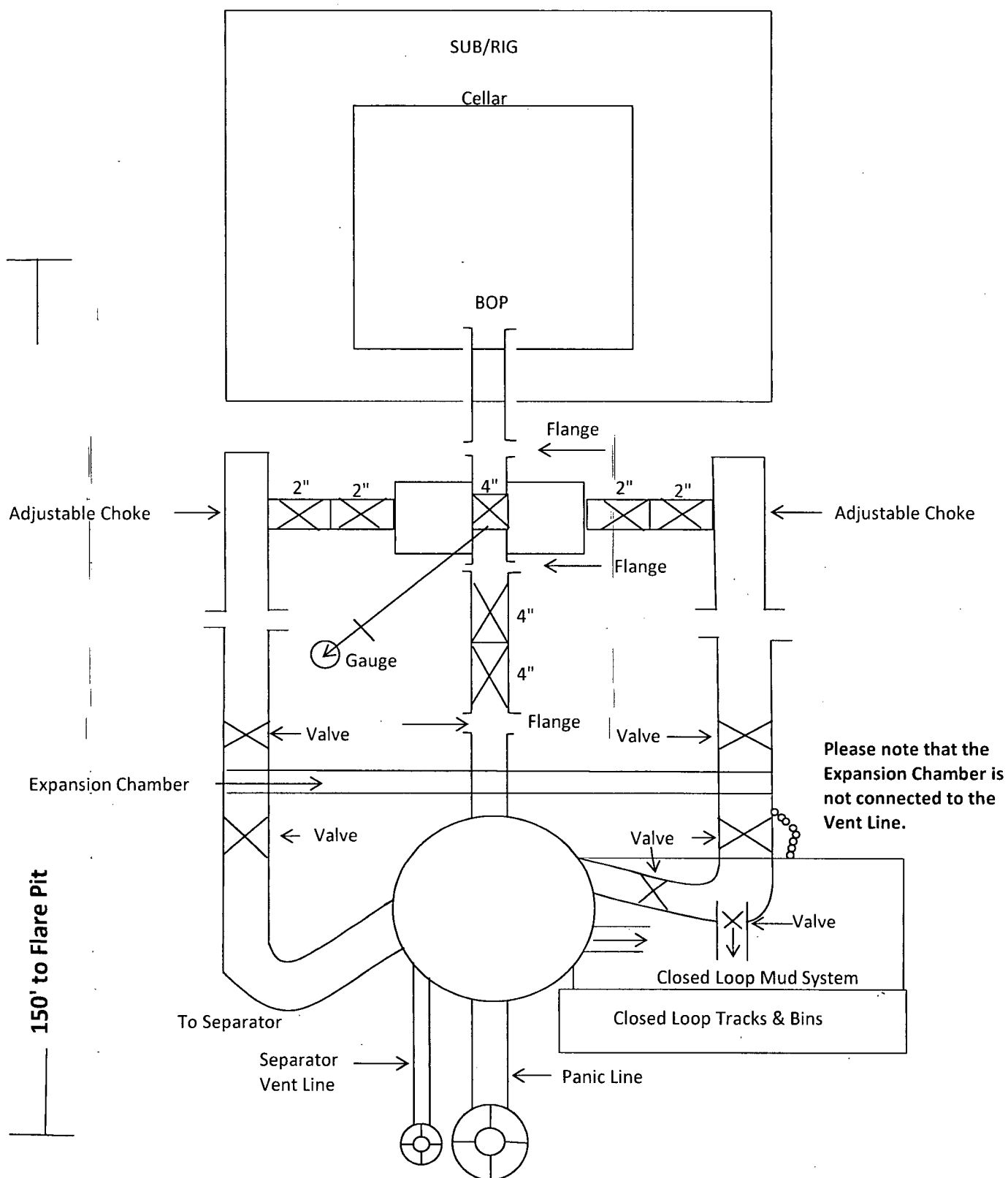


OCD
JAN 25 2016
RECEIVED

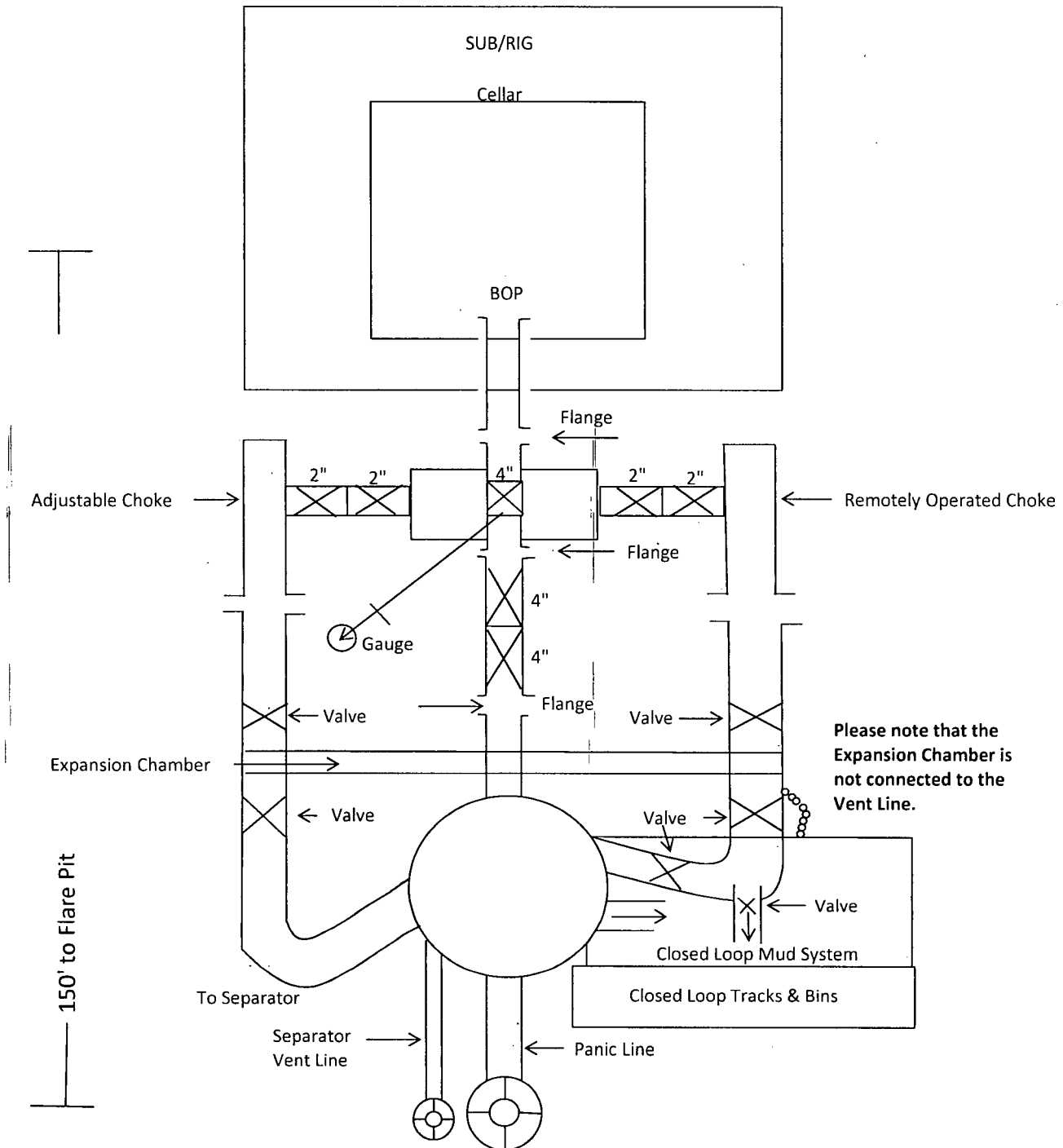
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



COG Operating LLC

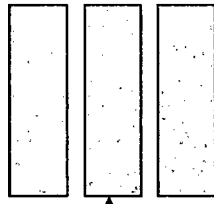
Rig Plat & Closed Loop Equipment Diagram

Well pad will be 400' X 340'
with cellar in center of pad

Flare Lines will be from both Choke
Manifold & Separator to edge of
location.

NORTH

170'



Centrifuge or Solids Sep.

Transfer Pump

Drig Separator

Shakers

Steel pits

Flow line

Mud Pumps

Choke Manifold

170'

230'



Cellar

Pipe Racks

170'

Trailer

Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

☐ Location Entry Condition Sign

Well pad will be 400' X 340' with cellar in center of pad

COG Operating LLC

H₂S Equipment Schematic

Terrain: Shinnery sand hills.

170' Flare pit

Fluid Storage Tanks

Roll Off Cutting Containers on Tracks

Centrifuge or Solids Sep.

Transfer Pump

Buried Flare Line

Steel pits

Shaker Pit

Drig Separator

170'

Windstock on 20' pole

Mud Pumps

H₂S Sensors 1- on rig floor 1- under substructure

Water Tanks

Windstock on 20' pole

H₂S Monitoring Panel

5 Escape Packs

Pipe Racks

Cat Walk

Rig Floor

Top Doghouse

230'

☐ Briefing Area w/SCBA

N

170'

Prevailing Wind Direction in SENM

Company Representative's Trailer

☐ Primary Briefing Area w/SCBA

Secondary egress.

TechnipTECHNIP Umbilicals Inc.
COFLEXIP® Products Division**CERTIFICATE OF CONFORMITY****SUPPLIER**COFLEXIP® Products Division
16661 Jacintoport Blvd.
Houston, Texas 77015

CUSTOMER	OFS CANADA INC
CUSTOMER PROJECT	OFS GLOBAL RIG 772 PROJECT 59
CONTRACT NUMBER	OFS-012060-1
COFLEXIP REFERENCE NUMBER	K12386
COFLEXIP LINE DESCRIPTION	3" x 30' 10K CHOKE/KILL LINE
COFLEXIP LINE SERIAL NUMBER	K12386-202
WORKING / TEST PRESSURE (PSI)	10000 / 15000
COFLEXIP ID (inches)/PART NUMBER	3 / 076 60414 13 13
COFLEXIP STRUCTURE NUMBER	076 60414
END FITTING REFERENCE NUMBER	EM 076 65000 13 / EM 076 65000 13
END FITTING DESCRIPTION	4 1/16" 10K FLG BX 155 INC. 625 RG / 4 1/16" 10K FLG BX 155 INC. 625 RG

IRC REFERENCE**SAFE WORKING LOADS****NOMINAL DAMAGING PULL (STRAIGHT LINE)****MINIMUM BENDING RADIUS****MAXIMUM DESIGN TEMPERATURE**

-4 Deg. F To 212 Deg. F/B

We certify that the supply detailed above was manufactured and inspected in accordance with the technical specifications specified within the contract referenced above and any specifications checked below. This document serves as a Declaration and Confirmation from the Manufacturer, TECHNIP Umbilicals Inc., Houston, Texas, that asbestos materials are not utilized in any part(s) or sub-part(s) or component(s) during the assembly process of any of our Coflexip® flexible pipes.

Licence Number 16C-0001

(If Required)

TECHNIP QUALITY CONTROL

Name/ Date/ Stamp



Technip

TECHNIP Umbilicals Inc.
COFLEXIP® Products Division

Quality Control Department

Control Report Dated 4/28/2015

COFLEXIP FLEXIBLE PIPE TEST CERTIFICATE

Customer OFS CANADA INC Job Number K12387
Address Line Serial Number K12387-202
Part Number 076 60414 13 13

Application 3" x 30' 10K CHOKE/KILL LINE

COFLEXIP certifies that the results of the test and controls performed on the above mentioned flexible pipe is as follows:

Internal Diameter	3	inches
Length	30.83	feet
Working Pressure	10000	psi
Test Pressure	15000	psi
As per attached recorder chart	24	hours
Test Duration		

[Signature]
Technip
CO INC. QUALITY CONTROL

THIRD PARTY INSPECTION FIRM OR CUSTOMER REPRESENTATIVE

DOAC 1124 Rev 2 18 Sept 09

Date Printed: 4/28/2015 1:49:43 PM

Test Configuration 12 Zone

Production Information Input

Customer ID
OFS CANADA INC.
Line S/N
KJ2386-202@KJ2387-202
Technician
ROY

QC Information Input

QC Insp
PAT
Witness?
Yes
Special Instructions
Third Party
BV
Test Procedure
SIC 01.60

Station Information

Pressure Transducer S/N
1211571
Stable Press
16500
Calib. Due
9/9/2015 8:29:12 AM
Temperature S/N
T13A
Test Press
15000
Pressure Range
0 - 30000

Station 04

Calibration

Raw Maximum
0.304000
Raw Minimum
0.020000
Eng Minimum
0.000000
Eng Maximum
30000.000000

XY Graph

