

Legacy Reserves

Lea County, NM

Lea Unit

#59H

OH

Plan: Plan #1

Standard Planning Report

02 September, 2015



JAN 27 2016

Database: EDM 5000.1 Single User Db
Company: Legacy Reserves
Project: Lea County, NM
Site: Lea Unit
Well: #59H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #59H
TVD Reference: KB @ 3694.0usft (McVay 4)
MD Reference: KB @ 3694.0usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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	Lea Unit		
Site Position:		Northing:	567,504.40 usft
From:	Map	Easting:	753,784.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 33' 26.922 N
		Longitude:	103° 30' 34.732 W
		Grid Convergence:	0.44 °

Well	#59H		
Well Position	+N/-S	19.2 usft	Northing:
	+E/-W	2,189.8 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,663.0 usft
		Latitude:	32° 33' 26.944 N
		Longitude:	103° 30' 9.147 W
		Ground Level:	3,676.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	9/2/2015	7.14
			Dip Angle
			60.40
			Field Strength
			48,327

Design	Plan #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
			359.57

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	
10,327.0	0.00	0.00	10,327.0	0.0	0.0	0.00	0.00	0.00	0.00	
11,227.0	90.00	359.57	10,900.0	572.9	-4.3	10.00	10.00	-0.05	359.57	
18,607.7	90.00	359.57	10,900.0	7,953.4	-59.9	0.00	0.00	0.00	0.00	BHL (LU #59H/OH)



TDS
Planning Report



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MD Reference:
North Reference:
Survey Calculation Method:

Well #59H
KB @ 3694.0usft (McVay 4)
KB @ 3694.0usft (McVay 4)
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)
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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Planned Survey

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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
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,327.0	0.00	0.00	10,327.0	0.0	0.0	0.0	0.00	0.00	0.00

KOP - Start DLS 10.00 TFO 359.57

10,350.0	2.30	359.57	10,350.0	0.5	0.0	0.5	10.00	10.00	0.00
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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)
10,400.0	7.30	359.57	10,399.8	4.6	0.0	4.6	10.00	10.00	0.00
10,450.0	12.30	359.57	10,449.1	13.2	-0.1	13.2	10.00	10.00	0.00
10,500.0	17.30	359.57	10,497.4	25.9	-0.2	25.9	10.00	10.00	0.00
10,550.0	22.30	359.57	10,544.4	42.9	-0.3	42.9	10.00	10.00	0.00
10,600.0	27.30	359.57	10,589.8	63.8	-0.5	63.8	10.00	10.00	0.00
10,650.0	32.30	359.57	10,633.2	88.7	-0.7	88.7	10.00	10.00	0.00
10,700.0	37.30	359.57	10,674.2	117.2	-0.9	117.2	10.00	10.00	0.00
10,750.0	42.30	359.57	10,712.6	149.2	-1.1	149.2	10.00	10.00	0.00
10,800.0	47.30	359.57	10,748.1	184.4	-1.4	184.4	10.00	10.00	0.00
10,850.0	52.30	359.57	10,780.3	222.6	-1.7	222.6	10.00	10.00	0.00
10,900.0	57.30	359.57	10,809.2	263.4	-2.0	263.4	10.00	10.00	0.00
10,950.0	62.30	359.57	10,834.3	306.6	-2.3	306.6	10.00	10.00	0.00
11,000.0	67.30	359.57	10,855.6	351.8	-2.6	351.8	10.00	10.00	0.00
11,050.0	72.30	359.57	10,872.8	398.7	-3.0	398.8	10.00	10.00	0.00
11,100.0	77.30	359.57	10,885.9	447.0	-3.4	447.0	10.00	10.00	0.00
11,150.0	82.30	359.57	10,894.8	496.2	-3.7	496.2	10.00	10.00	0.00
11,200.0	87.30	359.57	10,899.3	546.0	-4.1	546.0	10.00	10.00	0.00
11,227.0	90.00	359.57	10,900.0	572.9	-4.3	573.0	10.00	10.00	0.00
EOC - Start 7380.7 hold at 11227.0 MD									
11,300.0	90.00	359.57	10,900.0	645.9	-4.9	646.0	0.00	0.00	0.00
11,400.0	90.00	359.57	10,900.0	745.9	-5.6	746.0	0.00	0.00	0.00
11,500.0	90.00	359.57	10,900.0	845.9	-6.4	846.0	0.00	0.00	0.00
11,600.0	90.00	359.57	10,900.0	945.9	-7.1	946.0	0.00	0.00	0.00
11,700.0	90.00	359.57	10,900.0	1,045.9	-7.9	1,046.0	0.00	0.00	0.00
11,800.0	90.00	359.57	10,900.0	1,145.9	-8.6	1,146.0	0.00	0.00	0.00
11,900.0	90.00	359.57	10,900.0	1,245.9	-9.4	1,246.0	0.00	0.00	0.00
12,000.0	90.00	359.57	10,900.0	1,345.9	-10.1	1,346.0	0.00	0.00	0.00
12,100.0	90.00	359.57	10,900.0	1,445.9	-10.9	1,446.0	0.00	0.00	0.00
12,200.0	90.00	359.57	10,900.0	1,545.9	-11.6	1,546.0	0.00	0.00	0.00
12,300.0	90.00	359.57	10,900.0	1,645.9	-12.4	1,646.0	0.00	0.00	0.00
12,400.0	90.00	359.57	10,900.0	1,745.9	-13.1	1,746.0	0.00	0.00	0.00
12,500.0	90.00	359.57	10,900.0	1,845.9	-13.9	1,846.0	0.00	0.00	0.00
12,600.0	90.00	359.57	10,900.0	1,945.9	-14.7	1,946.0	0.00	0.00	0.00
12,700.0	90.00	359.57	10,900.0	2,045.9	-15.4	2,046.0	0.00	0.00	0.00
12,800.0	90.00	359.57	10,900.0	2,145.9	-16.2	2,146.0	0.00	0.00	0.00
12,900.0	90.00	359.57	10,900.0	2,245.9	-16.9	2,246.0	0.00	0.00	0.00
13,000.0	90.00	359.57	10,900.0	2,345.9	-17.7	2,346.0	0.00	0.00	0.00
13,100.0	90.00	359.57	10,900.0	2,445.9	-18.4	2,446.0	0.00	0.00	0.00
13,200.0	90.00	359.57	10,900.0	2,545.9	-19.2	2,546.0	0.00	0.00	0.00
13,300.0	90.00	359.57	10,900.0	2,645.9	-19.9	2,646.0	0.00	0.00	0.00
13,400.0	90.00	359.57	10,900.0	2,745.9	-20.7	2,746.0	0.00	0.00	0.00
13,500.0	90.00	359.57	10,900.0	2,845.9	-21.4	2,846.0	0.00	0.00	0.00
13,600.0	90.00	359.57	10,900.0	2,945.9	-22.2	2,946.0	0.00	0.00	0.00
13,700.0	90.00	359.57	10,900.0	3,045.9	-22.9	3,046.0	0.00	0.00	0.00
13,800.0	90.00	359.57	10,900.0	3,145.9	-23.7	3,146.0	0.00	0.00	0.00
13,900.0	90.00	359.57	10,900.0	3,245.9	-24.4	3,246.0	0.00	0.00	0.00
14,000.0	90.00	359.57	10,900.0	3,345.9	-25.2	3,346.0	0.00	0.00	0.00
14,100.0	90.00	359.57	10,900.0	3,445.9	-26.0	3,446.0	0.00	0.00	0.00
14,200.0	90.00	359.57	10,900.0	3,545.9	-26.7	3,546.0	0.00	0.00	0.00
14,300.0	90.00	359.57	10,900.0	3,645.9	-27.5	3,646.0	0.00	0.00	0.00
14,400.0	90.00	359.57	10,900.0	3,745.9	-28.2	3,746.0	0.00	0.00	0.00
14,500.0	90.00	359.57	10,900.0	3,845.8	-29.0	3,846.0	0.00	0.00	0.00
14,600.0	90.00	359.57	10,900.0	3,945.8	-29.7	3,946.0	0.00	0.00	0.00
14,700.0	90.00	359.57	10,900.0	4,045.8	-30.5	4,046.0	0.00	0.00	0.00



TDS Planning Report



Database: EDM 5000.1 Single User Db
Company: Legacy Reserves
Project: Lea County, NM
Site: Lea Unit
Well: #59H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well #59H
KB @ 3694.0usft (McVay 4)
KB @ 3694.0usft (McVay 4)
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)
14,800.0	90.00	359.57	10,900.0	4,145.8	-31.2	4,146.0	0.00	0.00	0.00
14,900.0	90.00	359.57	10,900.0	4,245.8	-32.0	4,246.0	0.00	0.00	0.00
15,000.0	90.00	359.57	10,900.0	4,345.8	-32.7	4,346.0	0.00	0.00	0.00
15,100.0	90.00	359.57	10,900.0	4,445.8	-33.5	4,446.0	0.00	0.00	0.00
15,200.0	90.00	359.57	10,900.0	4,545.8	-34.2	4,546.0	0.00	0.00	0.00
15,300.0	90.00	359.57	10,900.0	4,645.8	-35.0	4,646.0	0.00	0.00	0.00
15,400.0	90.00	359.57	10,900.0	4,745.8	-35.7	4,746.0	0.00	0.00	0.00
15,500.0	90.00	359.57	10,900.0	4,845.8	-36.5	4,846.0	0.00	0.00	0.00
15,600.0	90.00	359.57	10,900.0	4,945.8	-37.2	4,946.0	0.00	0.00	0.00
15,700.0	90.00	359.57	10,900.0	5,045.8	-38.0	5,046.0	0.00	0.00	0.00
15,800.0	90.00	359.57	10,900.0	5,145.8	-38.8	5,146.0	0.00	0.00	0.00
15,900.0	90.00	359.57	10,900.0	5,245.8	-39.5	5,246.0	0.00	0.00	0.00
16,000.0	90.00	359.57	10,900.0	5,345.8	-40.3	5,346.0	0.00	0.00	0.00
16,100.0	90.00	359.57	10,900.0	5,445.8	-41.0	5,446.0	0.00	0.00	0.00
16,200.0	90.00	359.57	10,900.0	5,545.8	-41.8	5,546.0	0.00	0.00	0.00
16,300.0	90.00	359.57	10,900.0	5,645.8	-42.5	5,646.0	0.00	0.00	0.00
16,400.0	90.00	359.57	10,900.0	5,745.8	-43.3	5,746.0	0.00	0.00	0.00
16,500.0	90.00	359.57	10,900.0	5,845.8	-44.0	5,846.0	0.00	0.00	0.00
16,600.0	90.00	359.57	10,900.0	5,945.8	-44.8	5,946.0	0.00	0.00	0.00
16,700.0	90.00	359.57	10,900.0	6,045.8	-45.5	6,046.0	0.00	0.00	0.00
16,800.0	90.00	359.57	10,900.0	6,145.8	-46.3	6,146.0	0.00	0.00	0.00
16,900.0	90.00	359.57	10,900.0	6,245.8	-47.0	6,246.0	0.00	0.00	0.00
17,000.0	90.00	359.57	10,900.0	6,345.8	-47.8	6,346.0	0.00	0.00	0.00
17,100.0	90.00	359.57	10,900.0	6,445.8	-48.5	6,446.0	0.00	0.00	0.00
17,200.0	90.00	359.57	10,900.0	6,545.8	-49.3	6,546.0	0.00	0.00	0.00
17,300.0	90.00	359.57	10,900.0	6,645.8	-50.1	6,646.0	0.00	0.00	0.00
17,400.0	90.00	359.57	10,900.0	6,745.8	-50.8	6,746.0	0.00	0.00	0.00
17,500.0	90.00	359.57	10,900.0	6,845.8	-51.6	6,846.0	0.00	0.00	0.00
17,600.0	90.00	359.57	10,900.0	6,945.8	-52.3	6,946.0	0.00	0.00	0.00
17,700.0	90.00	359.57	10,900.0	7,045.8	-53.1	7,046.0	0.00	0.00	0.00
17,800.0	90.00	359.57	10,900.0	7,145.8	-53.8	7,146.0	0.00	0.00	0.00
17,900.0	90.00	359.57	10,900.0	7,245.8	-54.6	7,246.0	0.00	0.00	0.00
18,000.0	90.00	359.57	10,900.0	7,345.7	-55.3	7,346.0	0.00	0.00	0.00
18,100.0	90.00	359.57	10,900.0	7,445.7	-56.1	7,446.0	0.00	0.00	0.00
18,200.0	90.00	359.57	10,900.0	7,545.7	-56.8	7,546.0	0.00	0.00	0.00
18,300.0	90.00	359.57	10,900.0	7,645.7	-57.6	7,646.0	0.00	0.00	0.00
18,400.0	90.00	359.57	10,900.0	7,745.7	-58.3	7,746.0	0.00	0.00	0.00
18,500.0	90.00	359.57	10,900.0	7,845.7	-59.1	7,846.0	0.00	0.00	0.00
18,607.7	90.00	359.57	10,900.0	7,953.4	-59.9	7,953.6	0.00	0.00	0.00

TD at 18607.7

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Well: #59H
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Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
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Survey Calculation Method:

Well #59H
KB @ 3694.0usft (McVay 4)
KB @ 3694.0usft (McVay 4)
Grid
Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
EOC (LU #59H/OH Plan - plan hits target center - Point	0.00	0.00	10,900.0	572.9	-4.3	568,096.54	755,970.38	32° 33' 32.613 N	103° 30' 9.145 W
BHL (LU #59H/OH) - plan hits target center - Point	0.00	0.00	10,900.0	7,953.4	-59.9	575,477.00	755,914.80	32° 34' 45.646 N	103° 30' 9.121 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,327.0	10,327.0	0.0	0.0	KOP - Start DLS 10.00 TFO 359.57
11,227.0	10,900.0	572.9	-4.3	EOC - Start 7380.7 hold at 11227.0 MD
18,607.7	10,900.0	7,953.4	-59.9	TD at 18607.7

Legacy Reserves
#59H - Plan #1

Lea County, NM
Lea Unit
Your Ref:

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0		0	0	0	0	0	0
100		0	0	100	0	0	0
200		0	0	200	0	0	0
300		0	0	300	0	0	0
400		0	0	400	0	0	0
500		0	0	500	0	0	0
600		0	0	600	0	0	0
700		0	0	700	0	0	0
800		0	0	800	0	0	0
900		0	0	900	0	0	0
1000		0	0	1000	0	0	0
1100		0	0	1100	0	0	0
1200		0	0	1200	0	0	0
1300		0	0	1300	0	0	0
1400		0	0	1400	0	0	0
1500		0	0	1500	0	0	0
1600		0	0	1600	0	0	0
1700		0	0	1700	0	0	0
1800		0	0	1800	0	0	0
1900		0	0	1900	0	0	0
2000		0	0	2000	0	0	0
2100		0	0	2100	0	0	0
2200		0	0	2200	0	0	0
2300		0	0	2300	0	0	0
2400		0	0	2400	0	0	0
2500		0	0	2500	0	0	0
2600		0	0	2600	0	0	0
2700		0	0	2700	0	0	0
2800		0	0	2800	0	0	0
2900		0	0	2900	0	0	0
3000		0	0	3000	0	0	0
3100		0	0	3100	0	0	0

3200	0	0	3200	0	0	0	0
3300	0	0	3300	0	0	0	0
3400	0	0	3400	0	0	0	0
3500	0	0	3500	0	0	0	0
3600	0	0	3600	0	0	0	0
3700	0	0	3700	0	0	0	0
3800	0	0	3800	0	0	0	0
3900	0	0	3900	0	0	0	0
4000	0	0	4000	0	0	0	0
4100	0	0	4100	0	0	0	0
4200	0	0	4200	0	0	0	0
4300	0	0	4300	0	0	0	0
4400	0	0	4400	0	0	0	0
4500	0	0	4500	0	0	0	0
4600	0	0	4600	0	0	0	0
4700	0	0	4700	0	0	0	0
4800	0	0	4800	0	0	0	0
4900	0	0	4900	0	0	0	0
5000	0	0	5000	0	0	0	0
5100	0	0	5100	0	0	0	0
5200	0	0	5200	0	0	0	0
5300	0	0	5300	0	0	0	0
5400	0	0	5400	0	0	0	0
5500	0	0	5500	0	0	0	0
5600	0	0	5600	0	0	0	0
5700	0	0	5700	0	0	0	0
5800	0	0	5800	0	0	0	0
5900	0	0	5900	0	0	0	0
6000	0	0	6000	0	0	0	0
6100	0	0	6100	0	0	0	0
6200	0	0	6200	0	0	0	0
6300	0	0	6300	0	0	0	0
6400	0	0	6400	0	0	0	0
6500	0	0	6500	0	0	0	0
6600	0	0	6600	0	0	0	0
6700	0	0	6700	0	0	0	0
6800	0	0	6800	0	0	0	0
6900	0	0	6900	0	0	0	0
7000	0	0	7000	0	0	0	0
7100	0	0	7100	0	0	0	0
7200	0	0	7200	0	0	0	0
7300	0	0	7300	0	0	0	0
7400	0	0	7400	0	0	0	0
7500	0	0	7500	0	0	0	0
7600	0	0	7600	0	0	0	0
7700	0	0	7700	0	0	0	0
7800	0	0	7800	0	0	0	0

7900	0	0	7900	0	0	0	0
8000	0	0	8000	0	0	0	0
8100	0	0	8100	0	0	0	0
8200	0	0	8200	0	0	0	0
8300	0	0	8300	0	0	0	0
8400	0	0	8400	0	0	0	0
8500	0	0	8500	0	0	0	0
8600	0	0	8600	0	0	0	0
8700	0	0	8700	0	0	0	0
8800	0	0	8800	0	0	0	0
8900	0	0	8900	0	0	0	0
9000	0	0	9000	0	0	0	0
9100	0	0	9100	0	0	0	0
9200	0	0	9200	0	0	0	0
9300	0	0	9300	0	0	0	0
9400	0	0	9400	0	0	0	0
9500	0	0	9500	0	0	0	0
9600	0	0	9600	0	0	0	0
9700	0	0	9700	0	0	0	0
9800	0	0	9800	0	0	0	0
9900	0	0	9900	0	0	0	0
10000	0	0	10000	0	0	0	0
10100	0	0	10100	0	0	0	0
10200	0	0	10200	0	0	0	0
10300	0	0	10300	0	0	0	0
10327	0	0	10327	0	0	0	0
10350	2.3	359.568	10349.99	0.46	0	0.46	10
10400	7.3	359.568	10399.8	4.64	-0.03	4.64	10
10450	12.3	359.568	10449.06	13.15	-0.1	13.15	10
10500	17.3	359.568	10497.38	25.92	-0.2	25.92	10
10550	22.3	359.568	10544.41	42.85	-0.32	42.85	10
10600	27.3	359.568	10589.79	63.82	-0.48	63.82	10
10650	32.3	359.568	10633.16	88.66	-0.67	88.66	10
10700	37.3	359.568	10674.21	117.18	-0.88	117.19	10
10750	42.3	359.568	10712.61	149.18	-1.12	149.18	10
10800	47.3	359.568	10748.08	184.4	-1.39	184.4	10
10850	52.3	359.568	10780.34	222.57	-1.68	222.58	10
10900	57.3	359.568	10809.15	263.42	-1.98	263.42	10
10950	62.3	359.568	10834.29	306.61	-2.31	306.62	10
11000	67.3	359.568	10855.58	351.84	-2.65	351.85	10
11050	72.3	359.568	10872.83	398.75	-3	398.76	10
11100	77.3	359.568	10885.94	446.98	-3.37	447	10
11150	82.3	359.568	10894.79	496.18	-3.74	496.19	10
11200	87.3	359.568	10899.32	545.95	-4.11	545.97	10
11227	90	359.568	10899.96	572.94	-4.32	572.95	10
11300	90	359.568	10899.96	645.94	-4.86	645.96	0
11400	90	359.568	10899.96	745.94	-5.62	745.96	0

11500	90	359.568	10899.96	845.93	-6.37	845.96	0
11600	90	359.568	10899.96	945.93	-7.12	945.96	0
11700	90	359.568	10899.96	1045.93	-7.88	1045.96	0
11800	90	359.568	10899.96	1145.93	-8.63	1145.96	0
11900	90	359.568	10899.96	1245.92	-9.38	1245.96	0
12000	90	359.568	10899.96	1345.92	-10.14	1345.96	0
12100	90	359.568	10899.96	1445.92	-10.89	1445.96	0
12200	90	359.568	10899.96	1545.91	-11.64	1545.96	0
12300	90	359.568	10899.96	1645.91	-12.4	1645.96	0
12400	90	359.568	10899.96	1745.91	-13.15	1745.96	0
12500	90	359.568	10899.97	1845.91	-13.9	1845.96	0
12600	90	359.568	10899.97	1945.9	-14.66	1945.96	0
12700	90	359.568	10899.97	2045.9	-15.41	2045.96	0
12800	90	359.568	10899.97	2145.9	-16.16	2145.96	0
12900	90	359.568	10899.97	2245.89	-16.91	2245.96	0
13000	90	359.568	10899.97	2345.89	-17.67	2345.96	0
13100	90	359.568	10899.97	2445.89	-18.42	2445.96	0
13200	90	359.568	10899.97	2545.89	-19.17	2545.96	0
13300	90	359.568	10899.97	2645.88	-19.93	2645.96	0
13400	90	359.568	10899.97	2745.88	-20.68	2745.96	0
13500	90	359.568	10899.97	2845.88	-21.43	2845.96	0
13600	90	359.568	10899.97	2945.87	-22.19	2945.96	0
13700	90	359.568	10899.97	3045.87	-22.94	3045.96	0
13800	90	359.568	10899.97	3145.87	-23.69	3145.96	0
13900	90	359.568	10899.97	3245.87	-24.45	3245.96	0
14000	90	359.568	10899.97	3345.86	-25.2	3345.96	0
14100	90	359.568	10899.97	3445.86	-25.95	3445.96	0
14200	90	359.568	10899.97	3545.86	-26.71	3545.96	0
14300	90	359.568	10899.98	3645.85	-27.46	3645.96	0
14400	90	359.568	10899.98	3745.85	-28.21	3745.96	0
14500	90	359.568	10899.98	3845.85	-28.96	3845.96	0
14600	90	359.568	10899.98	3945.85	-29.72	3945.96	0
14700	90	359.568	10899.98	4045.84	-30.47	4045.96	0
14800	90	359.568	10899.98	4145.84	-31.22	4145.96	0
14900	90	359.568	10899.98	4245.84	-31.98	4245.96	0
15000	90	359.568	10899.98	4345.83	-32.73	4345.96	0
15100	90	359.568	10899.98	4445.83	-33.48	4445.96	0
15200	90	359.568	10899.98	4545.83	-34.24	4545.96	0
15300	90	359.568	10899.98	4645.83	-34.99	4645.96	0
15400	90	359.568	10899.98	4745.82	-35.74	4745.96	0
15500	90	359.568	10899.98	4845.82	-36.5	4845.96	0
15600	90	359.568	10899.98	4945.82	-37.25	4945.96	0
15700	90	359.568	10899.98	5045.81	-38	5045.96	0
15800	90	359.568	10899.98	5145.81	-38.76	5145.96	0
15900	90	359.568	10899.98	5245.81	-39.51	5245.96	0
16000	90	359.568	10899.99	5345.81	-40.26	5345.96	0
16100	90	359.568	10899.99	5445.8	-41.01	5445.96	0

16200	90	359.568	10899.99	5545.8	-41.77	5545.96	0
16300	90	359.568	10899.99	5645.8	-42.52	5645.96	0
16400	90	359.568	10899.99	5745.79	-43.27	5745.96	0
16500	90	359.568	10899.99	5845.79	-44.03	5845.96	0
16600	90	359.568	10899.99	5945.79	-44.78	5945.96	0
16700	90	359.568	10899.99	6045.79	-45.53	6045.96	0
16800	90	359.568	10899.99	6145.78	-46.29	6145.96	0
16900	90	359.568	10899.99	6245.78	-47.04	6245.96	0
17000	90	359.568	10899.99	6345.78	-47.79	6345.96	0
17100	90	359.568	10899.99	6445.77	-48.55	6445.96	0
17200	90	359.568	10899.99	6545.77	-49.3	6545.96	0
17300	90	359.568	10899.99	6645.77	-50.05	6645.96	0
17400	90	359.568	10899.99	6745.77	-50.8	6745.96	0
17500	90	359.568	10899.99	6845.76	-51.56	6845.96	0
17600	90	359.568	10899.99	6945.76	-52.31	6945.96	0
17700	90	359.568	10899.99	7045.76	-53.06	7045.96	0
17800	90	359.568	10900	7145.76	-53.82	7145.96	0
17900	90	359.568	10900	7245.75	-54.57	7245.96	0
18000	90	359.568	10900	7345.75	-55.32	7345.96	0
18100	90	359.568	10900	7445.75	-56.08	7445.96	0
18200	90	359.568	10900	7545.74	-56.83	7545.96	0
18300	90	359.568	10900	7645.74	-57.58	7645.96	0
18400	90	359.568	10900	7745.74	-58.34	7745.96	0
18500	90	359.568	10900	7845.74	-59.09	7845.96	0
18607.67	90	359.568	10900	7953.4	-59.9	7953.63	0

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to KB. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Slot and calculated along an Azimuth of 359.568° (Grid).

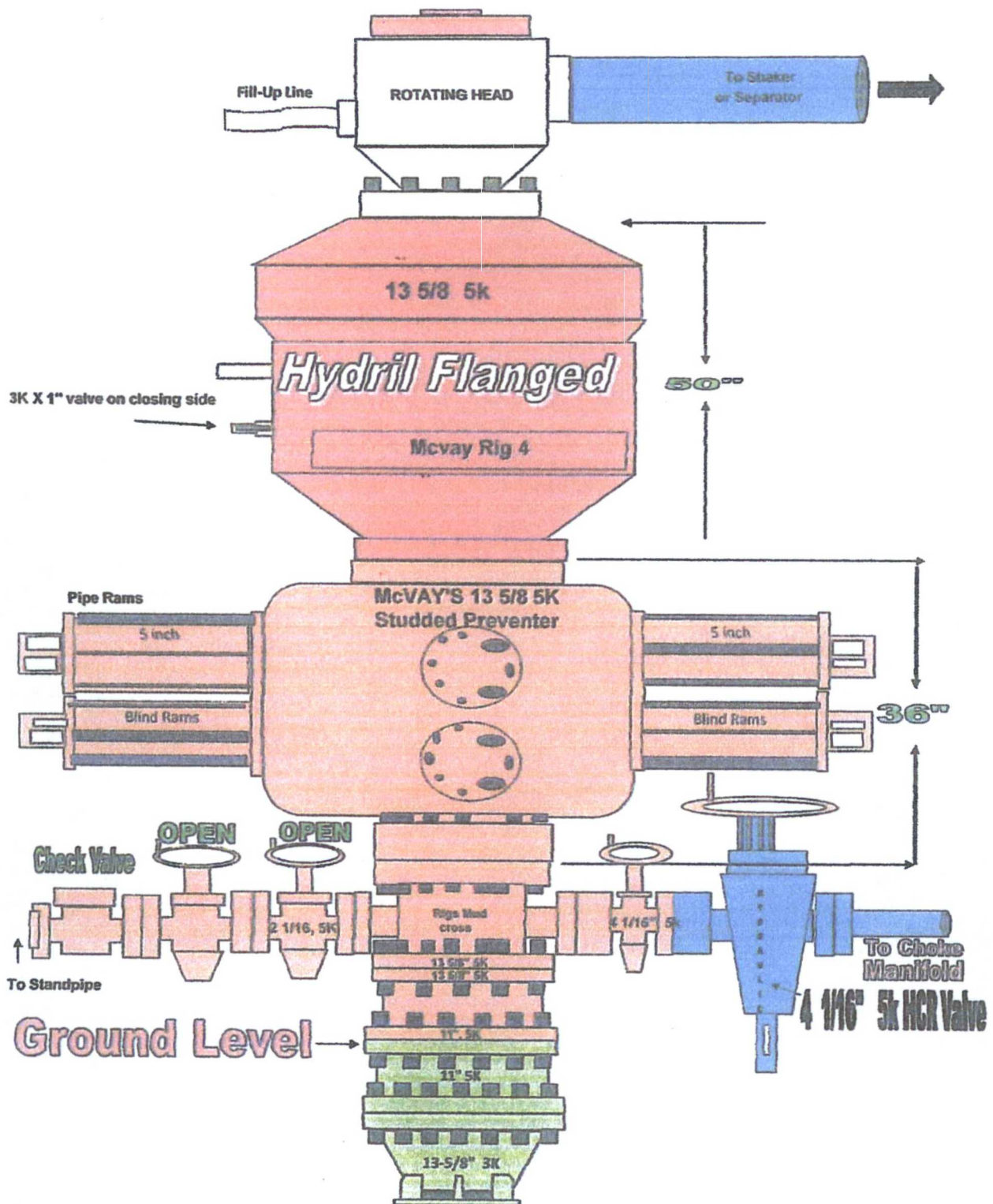
Coordinate System is NAD 1927 (NADCON CONUS) US State Plane 1927 (Exact solution), New Mexico East 3001.

Central meridian is -104.333°.

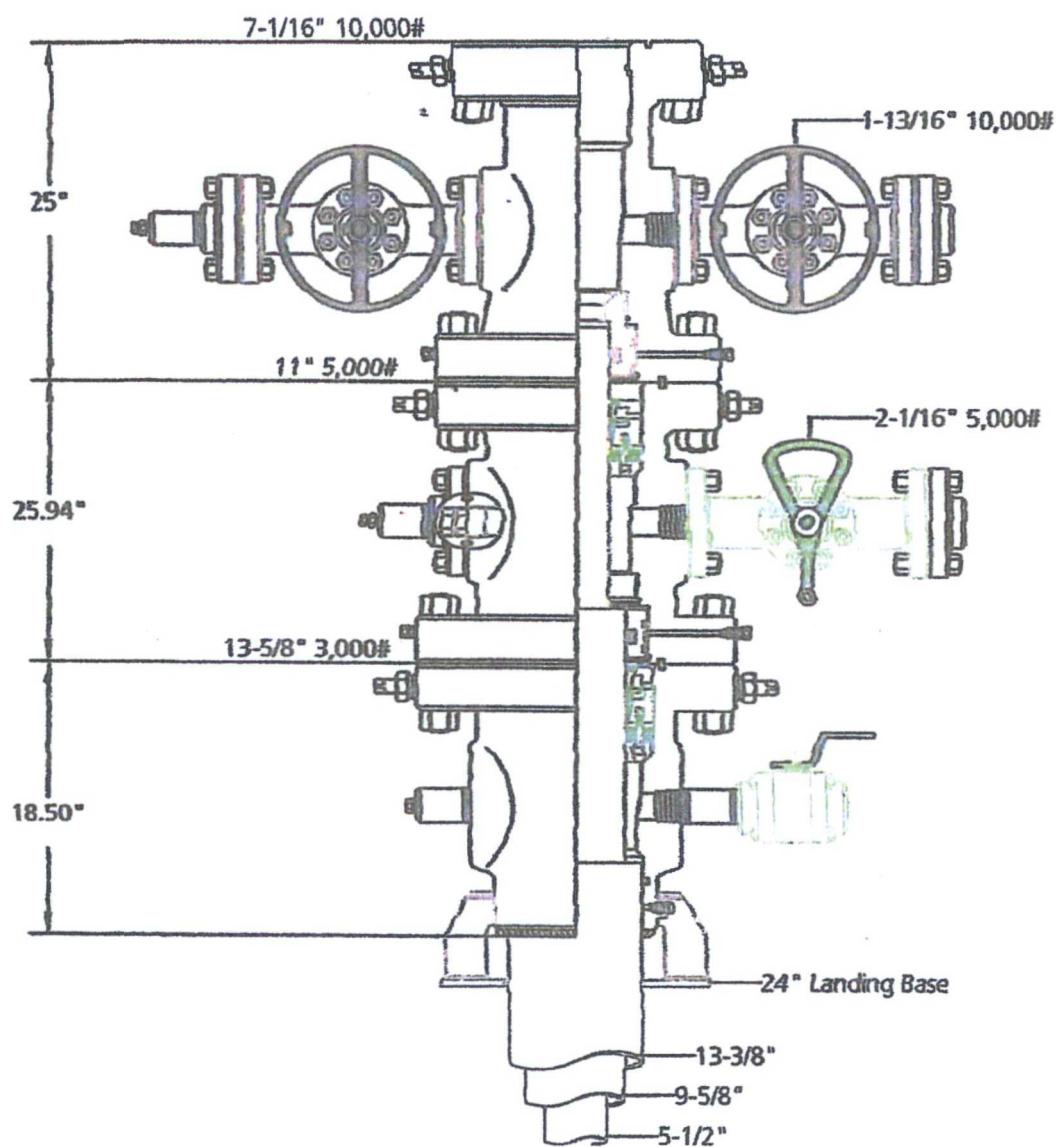
Grid Convergence at Surface is 0.447°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 18607.67ft.,
the Bottom Hole Displacement is 7953.63ft., in the Direction of 359.568° (Grid).

McVay Rig 4



Note: Dimensional information reflected on this drawing are estimated measurements only.

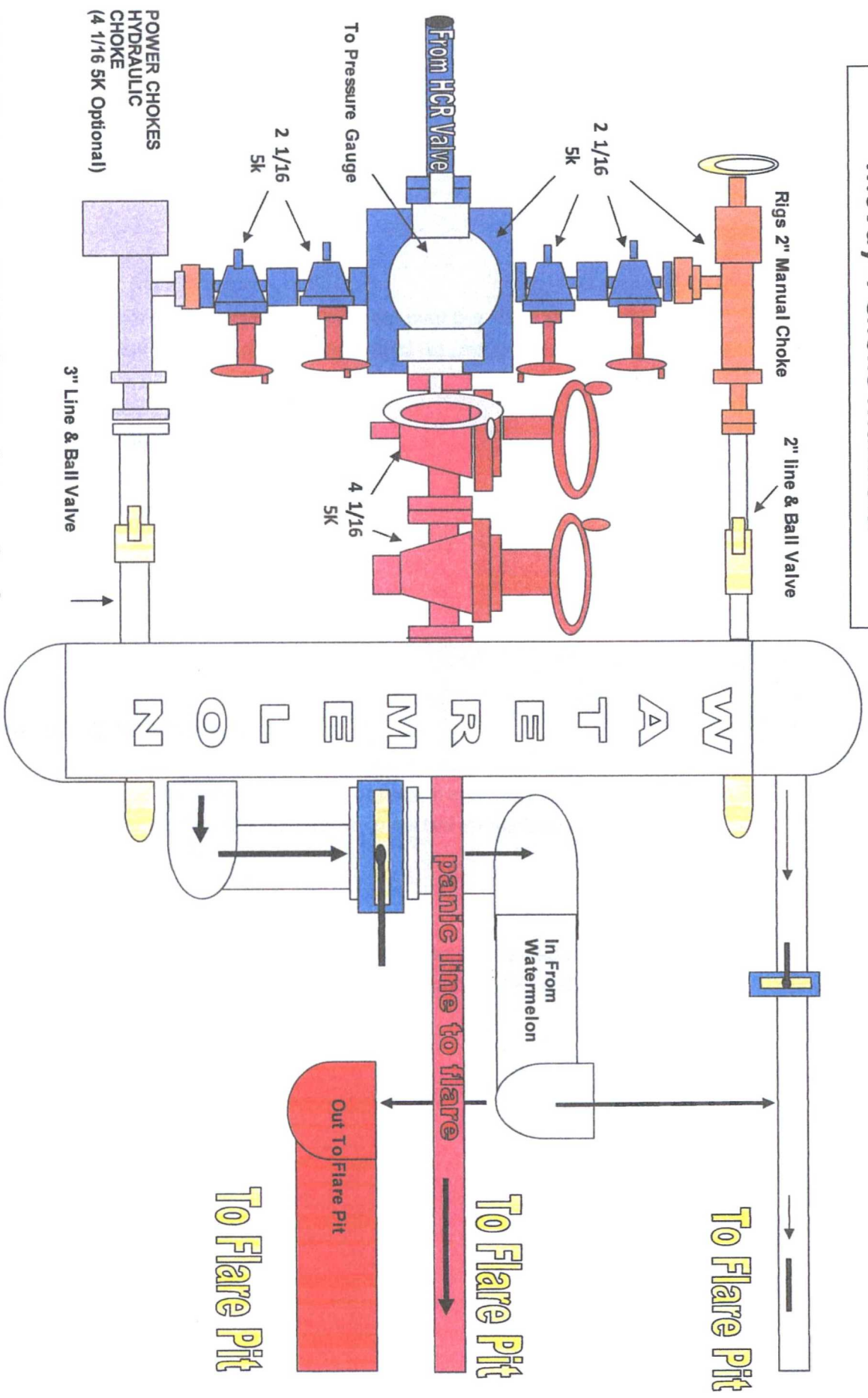


Legacy Reserves
Conventional 3-String

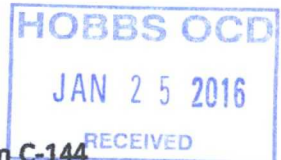
 CAMERON

NAME	JEANETTE	DATE	7-15-15	WORKING DRAWING	#	1274616
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McVay 4 Choke Manifold



*We use the same choke manifolds for all aspects of our operations & all are rated to 10K;
 * All connections downstream from BOP thru chokes Are Flanged, All connections downstream from chokes are Flanged .



Design Plan, Operating & Maintenance Plan & Closure Plan for the OCD Form C-144

DESIGN PLAN:

Fluid & cuttings coming from drilling operations will pass over the Shale Shaker with the cuttings going to the CRI haul off bin and the cleaned fluid returning to the working steel pits.

Equipment includes:

- 2-500 bbl steel tanks (fresh water for drilling)
- 2-700 bbl steel working pits (1400 bbls total)
- 2-20 cu yards steel haul off bins
- 2-pumps (CE FB1300)
- 2-shale shakers
- 1-mud cleaner (if needed)
- 1-centrifuge (if needed)

OPERATING AND MAINTENANCE PLAN:

Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

CLOSURE PLAN:

All haul bins containing cuttings will be removed from location and hauled to Controlled Recovery, Inc. (NM-01-0006) disposal site located near mile marker 66 on Highway 62/180.

Blain K. Lewis

Senior Operations Engineer

Plat for Closed Loop System

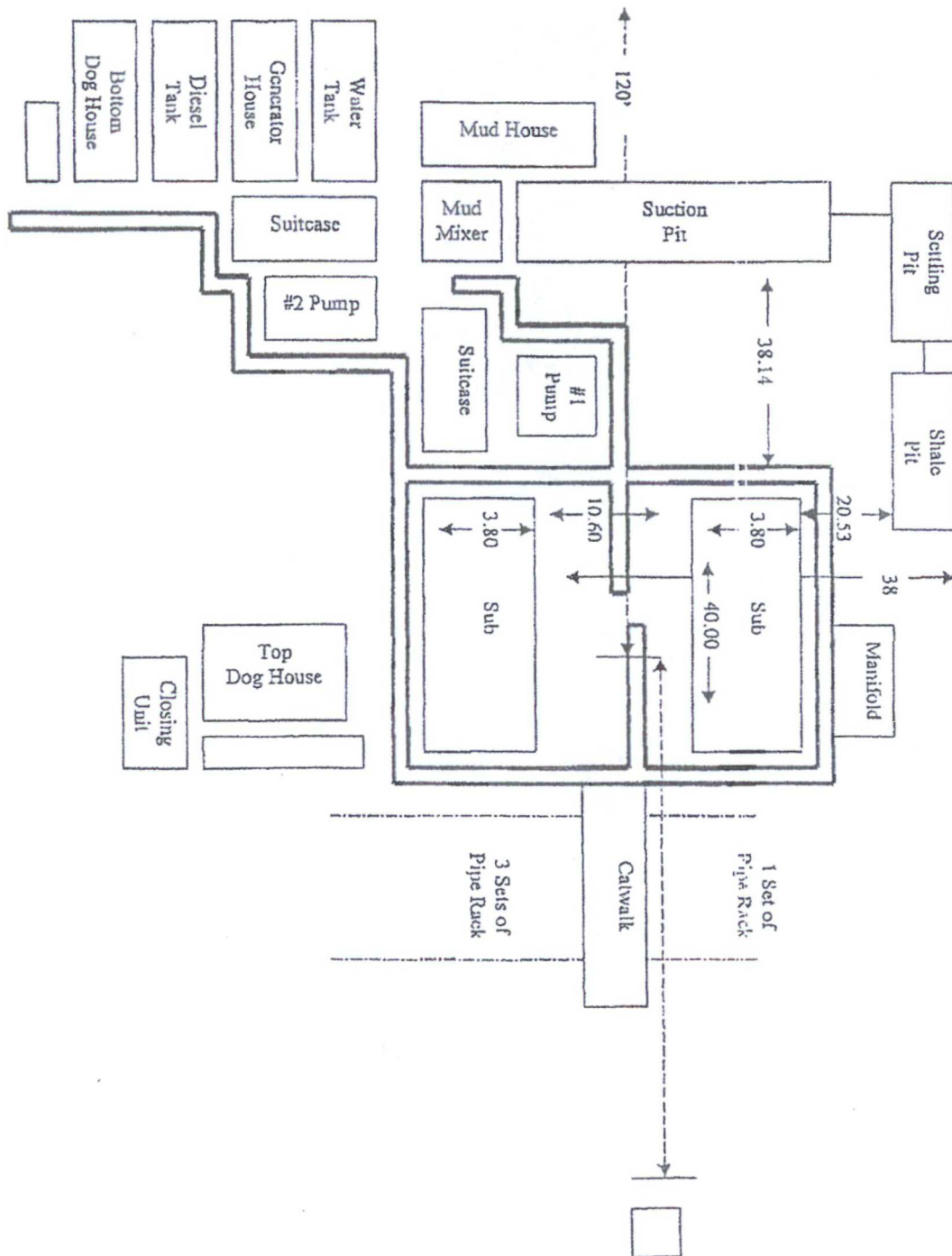


EXHIBIT D

Rig Plat Only
LEA UNIT 59H
V-DOOR EAST

