

# Whiting Oil & Gas

Well Name: **Wildhorse #16-1613BH**

Surface Location: Wildhorse #16-1613H Pad Sec.16-T9N-R59W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

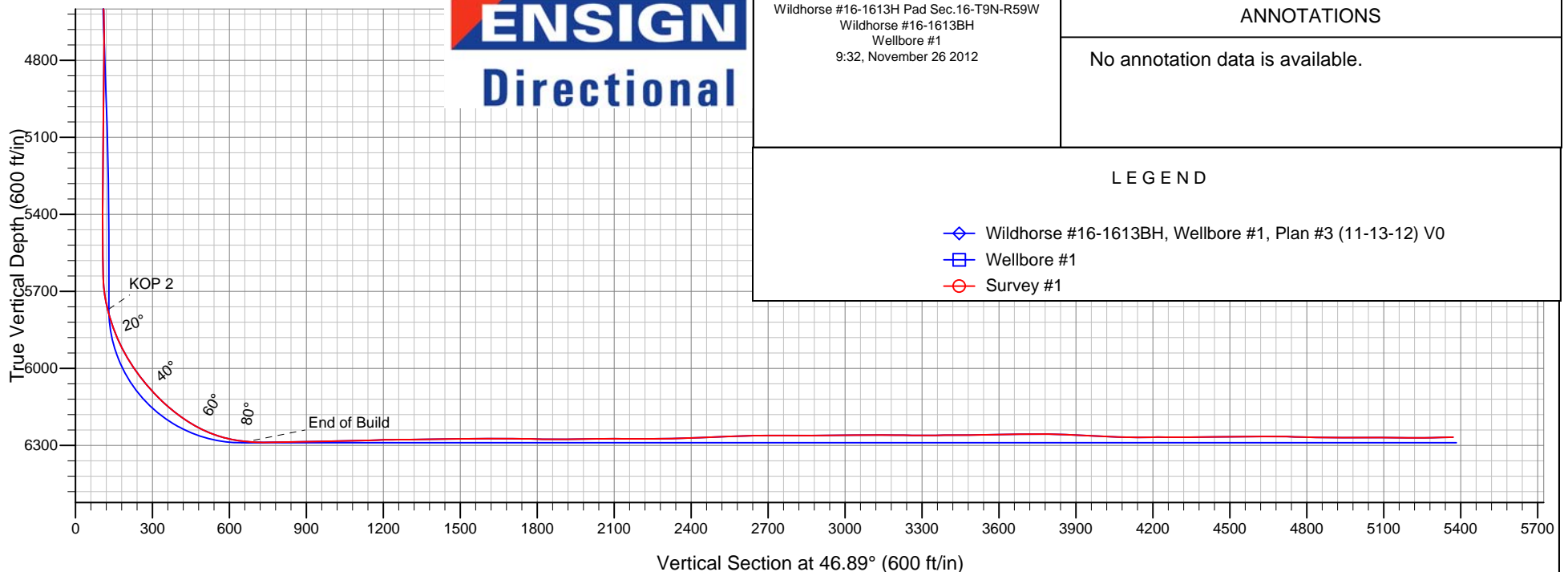
Ground Elevation: 5068.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1517491.14	3418284.73	40.744128	-103.990400	

RKB - 16.5' WELL @ 5084.5ft (RKB - 16.5')

## FINAL SURVEY

Projected Bottom Hole Location  
11352'MD 6267'TVD 3693'N & 3900'E of SHL  
91.6 degree Incl @ 53.2 degree AZM



Wildhorse #16-1613H Pad Sec.16-T9N-R59W  
Wildhorse #16-1613BH  
Wellbore #1  
9:32, November 26 2012

### ANNOTATIONS

No annotation data is available.

### LEGEND

- ◆ Wildhorse #16-1613BH, Wellbore #1, Plan #3 (11-13-12) V0
- Wellbore #1
- Survey #1



## **Whiting Oil & Gas**

**SEC.16-T9N-R59W**

**Wildhorse #16-1613H Pad Sec.16-T9N-R59W**

**Wildhorse #16-1613BH**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**26 November, 2012**



<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Wildhorse #16-1613BH
<b>Project:</b>	SEC.16-T9N-R59W	<b>TVD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Site:</b>	Wildhorse #16-1613H Pad Sec.16-T9N-R59W	<b>MD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Well:</b>	Wildhorse #16-1613BH	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,036.0	2.00	315.00	1,035.2	25.6	-29.1	-3.8	0.21	-0.21	0.73	
1,131.0	1.90	318.00	1,130.2	27.9	-31.3	-3.8	0.15	-0.11	3.16	
1,226.0	1.90	314.70	1,225.1	30.2	-33.5	-3.8	0.12	0.00	-3.47	
1,316.0	2.00	312.60	1,315.1	32.3	-35.7	-4.0	0.14	0.11	-2.33	
1,409.0	2.60	317.80	1,408.0	35.0	-38.3	-4.1	0.68	0.65	5.59	
1,502.0	2.80	334.40	1,500.9	38.6	-40.7	-3.4	0.86	0.22	17.85	
1,594.0	3.60	347.70	1,592.7	43.4	-42.3	-1.2	1.18	0.87	14.46	
1,684.0	5.00	343.10	1,682.5	49.9	-44.1	2.0	1.60	1.56	-5.11	
1,776.0	7.00	344.90	1,774.0	59.2	-46.7	6.4	2.18	2.17	1.96	
1,869.0	8.40	339.60	1,866.1	71.0	-50.5	11.6	1.69	1.51	-5.70	
1,961.0	10.60	335.80	1,956.9	85.0	-56.3	17.0	2.49	2.39	-4.13	
2,026.0	11.30	333.30	2,020.7	96.2	-61.7	20.7	1.30	1.08	-3.85	
2,076.0	11.40	330.00	2,069.7	104.8	-66.3	23.2	1.31	0.20	-6.60	
2,086.0	11.30	334.70	2,079.5	106.6	-67.2	23.7	9.30	-1.00	47.00	
2,179.0	10.00	329.40	2,170.9	121.8	-75.2	28.3	1.75	-1.40	-5.70	
2,274.0	10.10	317.30	2,264.5	135.0	-85.1	30.1	2.22	0.11	-12.74	
2,369.0	9.80	322.20	2,358.0	147.5	-95.7	30.9	0.95	-0.32	5.16	
2,464.0	9.30	329.40	2,451.7	160.5	-104.6	33.3	1.36	-0.53	7.58	
2,559.0	10.90	329.10	2,545.2	174.8	-113.1	36.9	1.69	1.68	-0.32	
2,654.0	10.30	329.10	2,638.6	189.8	-122.1	40.6	0.63	-0.63	0.00	
2,749.0	11.10	329.40	2,732.0	205.0	-131.1	44.4	0.84	0.84	0.32	
2,844.0	9.20	320.30	2,825.5	218.7	-140.6	46.8	2.61	-2.00	-9.58	
2,938.0	9.40	323.50	2,918.3	230.6	-149.9	48.1	0.59	0.21	3.40	
3,033.0	9.50	324.20	3,012.0	243.2	-159.1	50.0	0.16	0.11	0.74	
3,128.0	9.30	321.30	3,105.7	255.6	-168.5	51.6	0.54	-0.21	-3.05	
3,223.0	9.10	319.10	3,199.5	267.3	-178.2	52.5	0.43	-0.21	-2.32	
3,318.0	9.10	314.10	3,293.3	278.2	-188.6	52.4	0.83	0.00	-5.26	
3,413.0	7.00	320.80	3,387.3	287.9	-197.6	52.5	2.42	-2.21	7.05	
3,508.0	7.70	323.50	3,481.6	297.5	-205.1	53.6	0.82	0.74	2.84	
3,603.0	8.40	329.80	3,575.6	308.6	-212.3	55.9	1.18	0.74	6.63	
3,698.0	9.40	338.40	3,669.5	321.8	-218.7	60.3	1.75	1.05	9.05	
3,793.0	9.80	338.70	3,763.1	336.5	-224.5	66.1	0.42	0.42	0.32	
3,888.0	10.00	339.60	3,856.7	351.8	-230.3	72.3	0.27	0.21	0.95	
3,983.0	10.70	338.00	3,950.2	367.7	-236.5	78.7	0.80	0.74	-1.68	
4,078.0	10.60	337.20	4,043.6	384.0	-243.2	84.9	0.19	-0.11	-0.84	
4,173.0	10.00	340.30	4,137.0	399.8	-249.3	91.2	0.86	-0.63	3.26	
4,267.0	10.50	336.50	4,229.5	415.3	-255.5	97.3	0.89	0.53	-4.04	
4,362.0	8.60	331.20	4,323.2	429.5	-262.4	102.0	2.20	-2.00	-5.58	
4,457.0	8.70	326.80	4,417.1	441.7	-269.7	104.9	0.70	0.11	-4.63	
4,552.0	8.20	330.10	4,511.1	453.6	-277.0	107.7	0.73	-0.53	3.47	
4,647.0	7.50	323.80	4,605.2	464.5	-284.1	110.0	1.17	-0.74	-6.63	
4,742.0	6.90	325.40	4,699.5	474.2	-291.0	111.6	0.67	-0.63	1.68	
4,836.0	7.00	308.00	4,792.8	482.3	-298.7	111.6	2.23	0.11	-18.51	
4,932.0	7.00	313.10	4,888.1	489.9	-307.6	110.3	0.65	0.00	5.31	
5,027.0	7.30	311.20	4,982.3	497.9	-316.3	109.3	0.40	0.32	-2.00	
5,122.0	6.40	311.20	5,076.6	505.3	-324.9	108.2	0.95	-0.95	0.00	
5,217.0	4.60	313.40	5,171.2	511.4	-331.6	107.4	1.91	-1.89	2.32	
5,312.0	2.70	309.40	5,266.0	515.5	-336.1	106.9	2.02	-2.00	-4.21	
5,408.0	0.40	288.80	5,362.0	517.0	-338.2	106.4	2.43	-2.40	-21.46	
5,503.0	0.40	329.60	5,457.0	517.4	-338.7	106.3	0.29	0.00	42.95	
5,597.0	0.30	17.90	5,551.0	517.9	-338.8	106.6	0.32	-0.11	51.38	
5,661.0	1.10	45.40	5,615.0	518.5	-338.3	107.4	1.32	1.25	42.97	
5,693.0	2.20	51.20	5,646.9	519.1	-337.6	108.3	3.47	3.44	18.13	
5,724.0	4.40	48.00	5,677.9	520.3	-336.2	110.1	7.12	7.10	-10.32	

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<b>Site:</b>	Wildhorse #16-1613H Pad Sec.16-T9N-R59W	<b>MD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Well:</b>	Wildhorse #16-1613BH	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,756.0	7.70	48.40	5,709.7	522.5	-333.7	113.5	10.31	10.31	1.25
5,788.0	11.50	47.50	5,741.2	526.1	-329.7	118.8	11.88	11.88	-2.81
5,819.0	14.30	50.60	5,771.5	530.6	-324.5	125.7	9.30	9.03	10.00
5,851.0	16.90	54.90	5,802.3	535.8	-317.6	134.3	8.89	8.13	13.44
5,883.0	19.30	54.70	5,832.7	541.6	-309.5	144.1	7.50	7.50	-0.63
5,915.0	21.90	54.90	5,862.6	548.0	-300.3	155.3	8.13	8.13	0.63
5,946.0	24.40	54.50	5,891.2	555.1	-290.4	167.3	8.08	8.06	-1.29
5,978.0	26.90	52.40	5,920.0	563.3	-279.3	181.1	8.31	7.81	-6.56
6,010.0	29.60	51.70	5,948.2	572.7	-267.3	196.2	8.50	8.44	-2.19
6,041.0	32.40	51.20	5,974.8	582.6	-254.8	212.1	9.07	9.03	-1.61
6,073.0	34.50	49.40	6,001.5	593.9	-241.3	229.7	7.26	6.56	-5.63
6,104.0	36.70	49.20	6,026.7	605.7	-227.6	247.7	7.11	7.10	-0.65
6,136.0	39.20	49.10	6,051.9	618.5	-212.7	267.4	7.81	7.81	-0.31
6,168.0	41.30	50.80	6,076.3	631.8	-196.9	288.0	7.41	6.56	5.31
6,200.0	44.10	51.50	6,099.8	645.4	-180.0	309.7	8.87	8.75	2.19
6,231.0	45.60	53.30	6,121.8	658.8	-162.7	331.4	6.34	4.84	5.81
6,263.0	48.60	54.50	6,143.6	672.6	-143.7	354.7	9.77	9.38	3.75
6,294.0	51.40	54.20	6,163.5	686.4	-124.4	378.2	9.06	9.03	-0.97
6,326.0	54.40	53.80	6,182.8	701.4	-103.8	403.6	9.43	9.38	-1.25
6,358.0	55.80	53.50	6,201.1	717.0	-82.6	429.6	4.44	4.38	-0.94
6,390.0	59.00	52.90	6,218.4	733.1	-61.1	456.4	10.12	10.00	-1.88
6,421.0	62.90	51.50	6,233.4	749.7	-39.7	483.4	13.19	12.58	-4.52
6,453.0	67.40	50.60	6,246.8	768.0	-17.1	512.3	14.29	14.06	-2.81
6,485.0	70.30	50.10	6,258.4	787.0	5.9	542.1	9.18	9.06	-1.56
6,516.0	74.00	49.80	6,267.9	806.0	28.5	571.6	11.97	11.94	-0.97
6,548.0	77.60	48.40	6,275.7	826.3	51.9	602.6	12.02	11.25	-4.38
6,580.0	81.60	47.10	6,281.5	847.5	75.2	634.1	13.12	12.50	-4.06
6,595.7	83.43	46.84	6,283.6	858.1	86.6	649.6	11.78	11.67	-1.67
<b>Casing Pt 1190'FSL &amp; 700'FWL</b>									
6,598.0	83.70	46.80	6,283.8	859.7	88.3	651.9	11.78	11.67	-1.66
6,678.0	89.70	46.20	6,288.4	914.6	146.2	731.7	7.54	7.50	-0.75
6,709.0	90.20	46.20	6,288.5	936.1	168.5	762.7	1.61	1.61	0.00
6,739.0	91.50	45.80	6,288.0	956.9	190.1	792.7	4.53	4.33	-1.33
6,770.0	91.80	45.80	6,287.1	978.5	212.3	823.7	0.97	0.97	0.00
6,800.0	91.40	46.50	6,286.3	999.3	234.0	853.7	2.69	-1.33	2.33
6,830.0	90.70	49.50	6,285.7	1,019.4	256.2	883.7	10.27	-2.33	10.00
6,861.0	90.60	49.20	6,285.4	1,039.5	279.8	914.6	1.02	-0.32	-0.97
6,891.0	90.90	49.90	6,285.0	1,059.0	302.6	944.6	2.54	1.00	2.33
6,922.0	91.10	50.60	6,284.4	1,078.8	326.4	975.6	2.35	0.65	2.26
6,953.0	91.10	51.10	6,283.8	1,098.4	350.5	1,006.5	1.61	0.00	1.61
6,984.0	90.70	52.70	6,283.4	1,117.5	374.8	1,037.3	5.32	-1.29	5.16
7,015.0	91.40	53.00	6,282.8	1,136.2	399.5	1,068.2	2.46	2.26	0.97
7,061.0	91.50	53.50	6,281.6	1,163.8	436.4	1,113.9	1.11	0.22	1.09
7,092.0	91.90	53.50	6,280.7	1,182.2	461.3	1,144.7	1.29	1.29	0.00
7,122.0	92.00	54.00	6,279.7	1,199.9	485.5	1,174.4	1.70	0.33	1.67
7,153.0	91.40	54.20	6,278.8	1,218.1	510.6	1,205.2	2.04	-1.94	0.65
7,184.0	90.40	54.70	6,278.3	1,236.1	535.8	1,235.9	3.61	-3.23	1.61
7,215.0	90.60	54.90	6,278.0	1,254.0	561.1	1,266.6	0.91	0.65	0.65
7,246.0	90.70	54.70	6,277.7	1,271.8	586.5	1,297.3	0.72	0.32	-0.65
7,277.0	90.70	54.70	6,277.3	1,289.8	611.8	1,328.0	0.00	0.00	0.00
7,308.0	90.60	54.20	6,276.9	1,307.8	637.0	1,358.7	1.64	-0.32	-1.61
7,339.0	91.00	54.00	6,276.5	1,325.9	662.1	1,389.5	1.44	1.29	-0.65
7,370.0	91.30	53.60	6,275.9	1,344.3	687.1	1,420.3	1.61	0.97	-1.29
7,401.0	90.40	54.00	6,275.4	1,362.6	712.1	1,451.0	3.18	-2.90	1.29

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<b>Well:</b>	Wildhorse #16-1613BH	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,432.0	90.60	54.00	6,275.1	1,380.8	737.2	1,481.8	0.65	0.65	0.00
7,463.0	91.20	54.70	6,274.7	1,398.8	762.4	1,512.5	2.97	1.94	2.26
7,494.0	90.90	55.60	6,274.1	1,416.6	787.8	1,543.2	3.06	-0.97	2.90
7,525.0	90.80	56.30	6,273.6	1,433.9	813.5	1,573.8	2.28	-0.32	2.26
7,556.0	90.10	56.60	6,273.4	1,451.0	839.3	1,604.4	2.46	-2.26	0.97
7,586.0	89.20	57.30	6,273.6	1,467.4	864.5	1,633.9	3.80	-3.00	2.33
7,617.0	89.00	57.10	6,274.1	1,484.2	890.5	1,664.4	0.91	-0.65	-0.65
7,648.0	89.30	58.20	6,274.5	1,500.8	916.7	1,694.9	3.68	0.97	3.55
7,679.0	90.00	60.50	6,274.7	1,516.6	943.4	1,725.1	7.76	2.26	7.42
7,709.0	89.90	60.00	6,274.7	1,531.5	969.4	1,754.3	1.70	-0.33	-1.67
7,740.0	88.50	57.50	6,275.2	1,547.5	995.9	1,784.7	9.24	-4.52	-8.06
7,771.0	88.70	58.20	6,275.9	1,564.0	1,022.2	1,815.1	2.35	0.65	2.26
7,802.0	89.70	58.70	6,276.4	1,580.3	1,048.6	1,845.4	3.61	3.23	1.61
7,833.0	89.90	58.20	6,276.5	1,596.5	1,075.0	1,875.8	1.74	0.65	-1.61
7,864.0	90.30	57.00	6,276.4	1,613.1	1,101.2	1,906.3	4.08	1.29	-3.87
7,894.0	90.70	57.00	6,276.1	1,629.4	1,126.3	1,935.8	1.33	1.33	0.00
7,925.0	90.80	56.40	6,275.7	1,646.4	1,152.2	1,966.4	1.96	0.32	-1.94
7,956.0	90.70	55.90	6,275.3	1,663.7	1,178.0	1,996.9	1.64	-0.32	-1.61
7,986.0	91.20	55.90	6,274.8	1,680.5	1,202.8	2,026.6	1.67	1.67	0.00
8,017.0	90.50	55.60	6,274.4	1,698.0	1,228.4	2,057.2	2.46	-2.26	-0.97
8,048.0	89.50	55.20	6,274.4	1,715.6	1,254.0	2,087.9	3.47	-3.23	-1.29
8,079.0	89.50	55.60	6,274.6	1,733.2	1,279.5	2,118.5	1.29	0.00	1.29
8,110.0	89.90	55.60	6,274.8	1,750.7	1,305.0	2,149.2	1.29	1.29	0.00
8,140.0	89.90	55.00	6,274.9	1,767.8	1,329.7	2,178.8	2.00	0.00	-2.00
8,171.0	90.00	54.90	6,274.9	1,785.6	1,355.1	2,209.5	0.46	0.32	-0.32
8,202.0	90.60	54.20	6,274.7	1,803.6	1,380.3	2,240.2	2.97	1.94	-2.26
8,233.0	91.10	53.80	6,274.3	1,821.8	1,405.4	2,271.0	2.07	1.61	-1.29
8,264.0	91.20	53.50	6,273.6	1,840.1	1,430.4	2,301.8	1.02	0.32	-0.97
8,294.0	91.20	53.50	6,273.0	1,858.0	1,454.5	2,331.6	0.00	0.00	0.00
8,325.0	91.40	53.30	6,272.3	1,876.5	1,479.4	2,362.4	0.91	0.65	-0.65
8,356.0	91.60	53.50	6,271.5	1,894.9	1,504.3	2,393.2	0.91	0.65	0.65
8,387.0	92.10	53.10	6,270.5	1,913.5	1,529.1	2,424.0	2.07	1.61	-1.29
8,418.0	92.40	53.10	6,269.3	1,932.1	1,553.9	2,454.7	0.97	0.97	0.00
8,449.0	92.20	53.10	6,268.0	1,950.7	1,578.6	2,485.5	0.65	-0.65	0.00
8,480.0	92.30	53.50	6,266.8	1,969.2	1,603.5	2,516.3	1.33	0.32	1.29
8,511.0	92.70	53.10	6,265.5	1,987.7	1,628.3	2,547.1	1.82	1.29	-1.29
8,542.0	91.90	53.60	6,264.2	2,006.2	1,653.2	2,577.9	3.04	-2.58	1.61
8,573.0	91.90	54.00	6,263.2	2,024.5	1,678.2	2,608.6	1.29	0.00	1.29
8,604.0	91.50	54.20	6,262.3	2,042.6	1,703.3	2,639.4	1.44	-1.29	0.65
8,634.0	90.80	54.90	6,261.7	2,060.0	1,727.7	2,669.1	3.30	-2.33	2.33
8,665.0	90.00	54.90	6,261.5	2,077.9	1,753.1	2,699.8	2.58	-2.58	0.00
8,696.0	89.70	54.90	6,261.5	2,095.7	1,778.4	2,730.5	0.97	-0.97	0.00
8,726.0	89.80	54.90	6,261.7	2,112.9	1,803.0	2,760.2	0.33	0.33	0.00
8,757.0	89.90	54.30	6,261.8	2,130.9	1,828.2	2,790.9	1.96	0.32	-1.94
8,788.0	90.20	54.70	6,261.7	2,148.9	1,853.5	2,821.7	1.61	0.97	1.29
8,819.0	90.10	54.30	6,261.6	2,166.9	1,878.7	2,852.4	1.33	-0.32	-1.29
8,850.0	90.80	54.90	6,261.4	2,184.8	1,904.0	2,883.1	2.97	2.26	1.94
8,881.0	90.70	54.20	6,261.0	2,202.8	1,929.2	2,913.8	2.28	-0.32	-2.26
8,913.0	90.00	54.30	6,260.8	2,221.5	1,955.2	2,945.6	2.21	-2.19	0.31
8,945.0	90.00	54.00	6,260.8	2,240.3	1,981.1	2,977.3	0.94	0.00	-0.94
8,962.3	90.28	53.78	6,260.8	2,250.4	1,995.1	2,994.4	2.07	1.61	-1.29
<b>WP 1 a</b>									
8,976.0	90.50	53.60	6,260.7	2,258.6	2,006.1	3,008.1	2.07	1.61	-1.29
9,008.0	91.10	54.00	6,260.2	2,277.5	2,032.0	3,039.8	2.25	1.88	1.25

<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Wildhorse #16-1613BH
<b>Project:</b>	SEC.16-T9N-R59W	<b>TVD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Site:</b>	Wildhorse #16-1613H Pad Sec.16-T9N-R59W	<b>MD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Well:</b>	Wildhorse #16-1613BH	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,040.0	90.50	53.30	6,259.8	2,296.4	2,057.7	3,071.6	2.88	-1.88	-2.19	
9,071.0	89.60	53.10	6,259.7	2,315.0	2,082.6	3,102.4	2.97	-2.90	-0.65	
9,103.0	89.40	53.30	6,260.0	2,334.2	2,108.2	3,134.2	0.88	-0.63	0.63	
9,135.0	89.90	52.90	6,260.2	2,353.4	2,133.8	3,166.0	2.00	1.56	-1.25	
9,166.0	89.50	52.60	6,260.4	2,372.1	2,158.4	3,196.9	1.61	-1.29	-0.97	
9,198.0	89.50	52.00	6,260.7	2,391.7	2,183.8	3,228.7	1.87	0.00	-1.88	
9,230.0	89.60	52.20	6,260.9	2,411.4	2,209.0	3,260.6	0.70	0.31	0.63	
9,261.0	90.10	52.00	6,261.0	2,430.4	2,233.5	3,291.5	1.74	1.61	-0.65	
9,293.0	90.00	51.30	6,261.0	2,450.3	2,258.6	3,323.4	2.21	-0.31	-2.19	
9,324.0	90.40	52.20	6,260.9	2,469.5	2,282.9	3,354.2	3.18	1.29	2.90	
9,356.0	90.50	52.60	6,260.6	2,489.0	2,308.3	3,386.1	1.29	0.31	1.25	
9,388.0	90.50	52.90	6,260.3	2,508.4	2,333.7	3,417.9	0.94	0.00	0.94	
9,419.0	90.40	52.90	6,260.1	2,527.0	2,358.5	3,448.8	0.32	-0.32	0.00	
9,451.0	90.60	52.80	6,259.8	2,546.4	2,384.0	3,480.6	0.70	0.63	-0.31	
9,483.0	90.40	52.40	6,259.5	2,565.8	2,409.4	3,512.4	1.40	-0.63	-1.25	
9,514.0	90.70	52.90	6,259.2	2,584.6	2,434.0	3,543.3	1.88	0.97	1.61	
9,546.0	91.00	52.90	6,258.8	2,603.9	2,459.5	3,575.1	0.94	0.94	0.00	
9,578.0	91.20	53.80	6,258.1	2,623.0	2,485.2	3,606.9	2.88	0.63	2.81	
9,609.0	91.50	53.30	6,257.4	2,641.4	2,510.1	3,637.7	1.88	0.97	-1.61	
9,641.0	90.80	53.60	6,256.8	2,660.5	2,535.8	3,669.4	2.38	-2.19	0.94	
9,672.0	90.20	54.20	6,256.5	2,678.7	2,560.9	3,700.2	2.74	-1.94	1.94	
9,704.0	90.00	54.20	6,256.4	2,697.5	2,586.8	3,732.0	0.63	-0.63	0.00	
9,736.0	90.10	54.20	6,256.4	2,716.2	2,612.8	3,763.7	0.31	0.31	0.00	
9,751.0	90.00	54.30	6,256.4	2,724.9	2,625.0	3,778.6	0.94	-0.67	0.67	
9,783.0	88.80	55.00	6,256.7	2,743.5	2,651.1	3,810.3	4.34	-3.75	2.19	
9,815.0	88.50	55.20	6,257.5	2,761.8	2,677.3	3,841.9	1.13	-0.94	0.63	
9,846.0	87.80	55.20	6,258.5	2,779.4	2,702.8	3,872.6	2.26	-2.26	0.00	
9,878.0	86.90	55.40	6,260.0	2,797.6	2,729.0	3,904.2	2.88	-2.81	0.63	
9,910.0	86.90	54.90	6,261.7	2,815.9	2,755.3	3,935.8	1.56	0.00	-1.56	
9,941.0	87.10	54.90	6,263.3	2,833.7	2,780.6	3,966.5	0.65	0.65	0.00	
9,973.0	87.20	54.70	6,264.9	2,852.1	2,806.7	3,998.1	0.70	0.31	-0.63	
10,005.0	87.40	54.70	6,266.4	2,870.6	2,832.8	4,029.8	0.63	0.63	0.00	
10,036.0	87.90	54.20	6,267.7	2,888.6	2,858.0	4,060.5	2.28	1.61	-1.61	
10,068.0	88.80	53.50	6,268.6	2,907.5	2,883.8	4,092.3	3.56	2.81	-2.19	
10,100.0	90.50	53.50	6,268.8	2,926.5	2,909.5	4,124.1	5.31	5.31	0.00	
10,131.0	90.70	52.80	6,268.5	2,945.1	2,934.3	4,154.9	2.35	0.65	-2.26	
10,163.0	90.90	52.90	6,268.0	2,964.4	2,959.8	4,186.7	0.70	0.63	0.31	
10,195.0	89.90	52.90	6,267.8	2,983.7	2,985.4	4,218.5	3.13	-3.13	0.00	
10,226.0	89.30	52.80	6,268.0	3,002.4	3,010.1	4,249.4	1.96	-1.94	-0.32	
10,258.0	89.40	52.40	6,268.4	3,021.9	3,035.5	4,281.2	1.29	0.31	-1.25	
10,289.0	90.20	52.60	6,268.5	3,040.7	3,060.1	4,312.0	2.66	2.58	0.65	
10,321.0	90.50	52.60	6,268.3	3,060.2	3,085.5	4,343.9	0.94	0.94	0.00	
10,353.0	90.60	52.20	6,268.0	3,079.7	3,110.9	4,375.7	1.29	0.31	-1.25	
10,385.0	90.80	52.20	6,267.6	3,099.3	3,136.1	4,407.6	0.63	0.63	0.00	
10,416.0	91.10	52.80	6,267.1	3,118.2	3,160.7	4,438.4	2.16	0.97	1.94	
10,448.0	90.00	52.80	6,266.8	3,137.5	3,186.2	4,470.3	3.44	-3.44	0.00	
10,479.0	90.10	53.30	6,266.8	3,156.2	3,211.0	4,501.1	1.64	0.32	1.61	
10,511.0	90.20	52.60	6,266.7	3,175.4	3,236.5	4,532.9	2.21	0.31	-2.19	
10,543.0	90.40	52.60	6,266.5	3,194.9	3,262.0	4,564.8	0.63	0.63	0.00	
10,574.0	90.70	52.60	6,266.2	3,213.7	3,286.6	4,595.6	0.97	0.97	0.00	
10,606.0	91.10	52.20	6,265.7	3,233.2	3,311.9	4,627.4	1.77	1.25	-1.25	
10,638.0	90.50	52.60	6,265.3	3,252.8	3,337.3	4,659.3	2.25	-1.88	1.25	
10,669.0	89.70	51.50	6,265.2	3,271.8	3,361.7	4,690.2	4.39	-2.58	-3.55	
10,701.0	88.10	51.20	6,265.8	3,291.8	3,386.7	4,722.1	5.09	-5.00	-0.94	

<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Wildhorse #16-1613BH
<b>Project:</b>	SEC.16-T9N-R59W	<b>TVD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Site:</b>	Wildhorse #16-1613H Pad Sec.16-T9N-R59W	<b>MD Reference:</b>	WELL @ 5084.5ft (RKB - 16.5')
<b>Well:</b>	Wildhorse #16-1613BH	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,732.0	88.20	51.30	6,266.8	3,311.2	3,410.9	4,753.0	0.46	0.32	0.32
10,764.0	88.50	51.00	6,267.7	3,331.3	3,435.8	4,784.9	1.33	0.94	-0.94
10,796.0	88.40	50.80	6,268.6	3,351.4	3,460.6	4,816.8	0.70	-0.31	-0.63
10,828.0	88.60	50.80	6,269.4	3,371.7	3,485.4	4,848.7	0.63	0.63	0.00
10,859.0	89.60	50.10	6,269.9	3,391.4	3,509.3	4,879.6	3.94	3.23	-2.26
10,891.0	90.00	49.90	6,270.0	3,412.0	3,533.8	4,911.6	1.40	1.25	-0.63
10,923.0	90.40	50.60	6,269.9	3,432.4	3,558.4	4,943.5	2.52	1.25	2.19
10,954.0	90.10	51.90	6,269.8	3,451.8	3,582.6	4,974.4	4.30	-0.97	4.19
10,986.0	90.10	52.80	6,269.7	3,471.4	3,607.9	5,006.3	2.81	0.00	2.81
11,018.0	89.90	52.60	6,269.7	3,490.8	3,633.4	5,038.1	0.88	-0.63	-0.63
11,049.0	89.40	51.50	6,269.9	3,509.8	3,657.8	5,069.0	3.90	-1.61	-3.55
11,081.0	89.80	51.30	6,270.2	3,529.8	3,682.8	5,100.9	1.40	1.25	-0.63
11,113.0	89.50	52.40	6,270.3	3,549.6	3,708.0	5,132.8	3.56	-0.94	3.44
11,144.0	89.50	52.00	6,270.6	3,568.6	3,732.5	5,163.6	1.29	0.00	-1.29
11,176.0	89.90	52.20	6,270.8	3,588.2	3,757.7	5,195.5	1.40	1.25	0.63
11,207.0	90.10	52.90	6,270.8	3,607.1	3,782.4	5,226.3	2.35	0.65	2.26
11,239.0	90.80	54.00	6,270.5	3,626.1	3,808.1	5,258.1	4.07	2.19	3.44
11,271.0	91.10	53.50	6,270.0	3,645.0	3,833.9	5,289.9	1.82	0.94	-1.56
11,302.0	91.40	53.30	6,269.3	3,663.5	3,858.7	5,320.7	1.16	0.97	-0.65
11,352.0	91.60	53.20	6,268.0	3,693.4	3,898.8	5,370.4	0.45	0.40	-0.20
BHL 1467°FNL, 660°FEL									

Checked By: _____	Approved By: _____	Date: _____
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