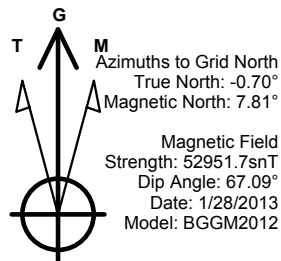


Project: Weld County, CO (NAD 83)
 Site: Sec. 14-T6N-R63W (Wells Ranch 16 South Middle PAD)
 Well: Wells Ranch State USX AA16-64-1HNL

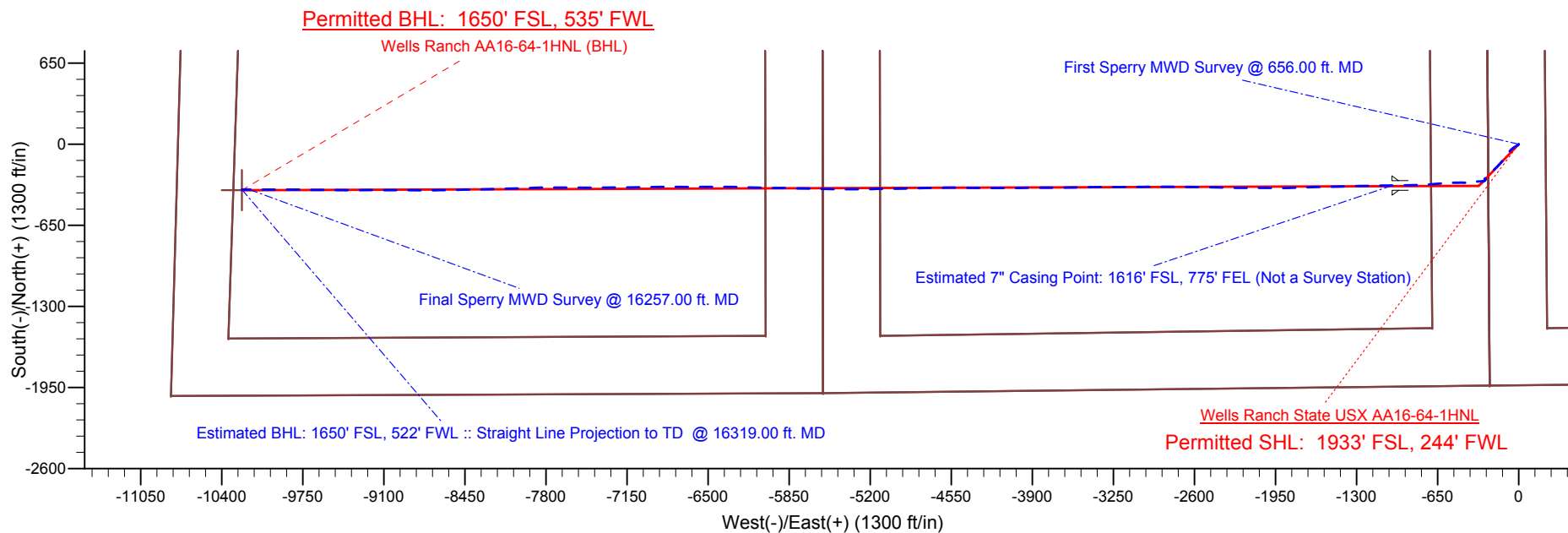
Noble Energy



LEGEND

- Wells Ranch State USX AA16-64-1HNL, Plan B Proposal
- - - Actual Field Surveys

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the "Wells Ranch State USX AA16-64-1HNL" well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.



Project: Weld County, CO (NAD 83)
Site: Sec. 14-T6N-R63W (Wells Ranch 16 South Middle PAD)
Well: Wells Ranch State USX AA16-64-1HNL

Noble Energy



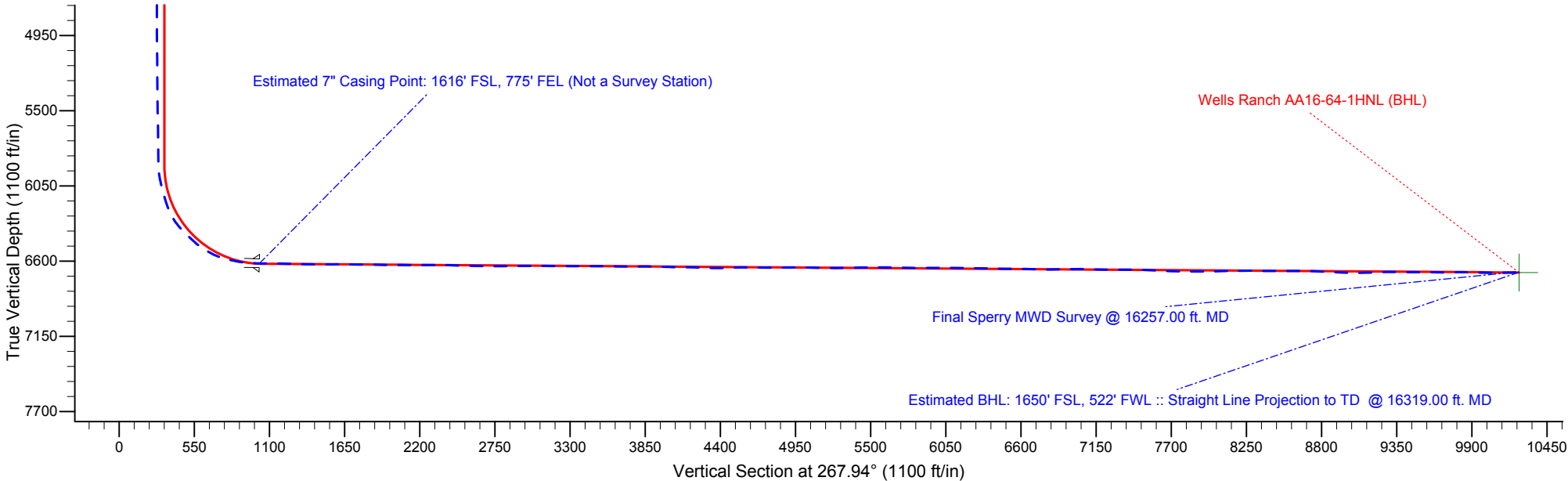
Azimuths to Grid North
True North: -0.70°
Magnetic North: 7.81°

Magnetic Field
Strength: 52951.7snT
Dip Angle: 67.09°
Date: 1/28/2013
Model: BGGM2012

LEGEND

- Wells Ranch State USX AA16-64-1HNL, Plan B Proposal
- Actual Field Surveys

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the "Wells Ranch State USX AA16-64-1HNL" well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.



Noble Energy

Weld County, CO (NAD 83)

Sec. 14-T6N-R63W (Wells Ranch 16 South Middle PAD)

Wells Ranch State USX AA16-64-1HNL

Design: Actual Field Surveys

Sperry Drilling Services

Final Survey Report

07 June, 2013

Well Coordinates: 1,421,242.12 N, 3,302,472.12 E (40° 29' 04.63" N, 104° 24' 45.29" W)

Ground Level: 4,756.00 ft

Local Coordinate Origin: Centered on Well Wells Ranch State USX AA16-64-1

Viewing Datum: KB=24' @ 4780.00ft (H&P 343)

TVDs to System: N

North Reference: Grid

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
656.00	0.00	0.00	656.00	0.00	0.00	0.00	0.00
First Sperry MWD Survey @ 656.00 ft. MD							
718.00	0.37	265.72	718.00	-0.01	-0.20	0.20	0.60
811.00	0.22	248.25	811.00	-0.10	-0.66	0.67	0.19
904.00	0.80	205.47	903.99	-0.76	-1.11	1.14	0.71
998.00	0.73	247.68	997.99	-1.58	-1.95	2.00	0.59
1,092.00	0.51	239.01	1,091.98	-2.02	-2.86	2.93	0.25
1,185.00	0.57	221.93	1,184.98	-2.58	-3.52	3.61	0.18
1,279.00	0.40	223.01	1,278.97	-3.16	-4.06	4.17	0.18
1,372.00	0.48	176.76	1,371.97	-3.79	-4.26	4.39	0.38
1,466.00	0.64	220.87	1,465.97	-4.58	-4.58	4.74	0.47
1,561.00	4.97	233.08	1,560.83	-7.45	-8.22	8.48	4.58
1,656.00	7.42	242.28	1,655.27	-12.78	-16.94	17.39	2.77
1,751.00	7.33	243.05	1,749.49	-18.38	-27.77	28.41	0.14
1,846.00	7.57	231.70	1,843.69	-25.01	-38.09	38.96	1.57
1,941.00	9.56	231.66	1,937.62	-33.78	-49.19	50.37	2.09
2,036.00	11.51	225.87	2,031.02	-45.27	-62.18	63.76	2.33
2,131.00	13.59	217.28	2,123.75	-60.76	-75.74	77.87	2.94
2,226.00	14.62	216.78	2,215.89	-79.24	-89.68	92.47	1.09
2,321.00	14.04	214.81	2,307.93	-98.31	-103.44	106.90	0.80
2,416.00	14.72	216.64	2,399.96	-117.45	-117.22	121.36	0.86
2,511.00	13.88	222.10	2,492.02	-135.59	-132.06	136.84	1.67
2,606.00	13.71	220.81	2,584.28	-152.57	-147.06	152.44	0.37
2,701.00	13.14	222.97	2,676.68	-168.99	-161.78	167.74	0.80
2,796.00	14.51	226.74	2,768.93	-185.05	-177.81	184.33	1.73
2,891.00	13.97	225.26	2,861.01	-201.28	-194.62	201.72	0.69
2,986.00	14.89	226.22	2,953.01	-217.79	-211.58	219.26	1.00
3,081.00	14.85	226.50	3,044.83	-234.62	-229.22	237.49	0.09
3,176.00	11.68	221.33	3,137.29	-250.22	-244.41	253.23	3.56
3,271.00	9.39	226.99	3,230.68	-262.73	-256.43	265.69	2.64
3,366.00	4.79	237.50	3,324.93	-270.15	-265.44	274.96	5.01
3,461.00	1.70	239.20	3,419.77	-273.01	-270.00	279.62	3.25
3,556.00	1.74	228.78	3,514.73	-274.68	-272.30	281.97	0.33
3,651.00	0.68	90.38	3,609.71	-275.63	-272.82	282.53	2.41
3,746.00	0.93	109.87	3,704.71	-275.90	-271.53	281.25	0.39
3,841.00	0.70	80.99	3,799.70	-276.07	-270.23	279.96	0.49
3,936.00	1.23	93.87	3,894.68	-276.05	-268.64	278.37	0.60
4,031.00	1.31	92.72	3,989.66	-276.17	-266.54	276.27	0.09
4,126.00	0.53	118.49	4,084.65	-276.43	-265.07	274.81	0.91
4,221.00	0.26	98.90	4,179.64	-276.67	-264.47	274.22	0.31
4,316.00	0.60	179.78	4,274.64	-277.20	-264.25	274.03	0.65
4,411.00	0.48	200.91	4,369.64	-278.07	-264.39	274.20	0.24
4,506.00	0.94	189.70	4,464.63	-279.21	-264.67	274.51	0.50
4,601.00	0.96	195.79	4,559.62	-280.75	-265.01	274.91	0.11
4,696.00	0.28	206.56	4,654.61	-281.72	-265.33	275.27	0.72
4,791.00	0.38	218.34	4,749.61	-282.17	-265.63	275.59	0.13
4,886.00	0.31	128.80	4,844.61	-282.58	-265.63	275.60	0.51
4,981.00	0.54	196.65	4,939.61	-283.17	-265.56	275.54	0.54
5,076.00	1.24	210.92	5,034.59	-284.48	-266.21	276.25	0.77

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5,171.00	1.22	212.49	5,129.57	-286.22	-267.28	277.38	0.04
5,266.00	0.84	202.04	5,224.56	-287.72	-268.09	278.24	0.44
5,361.00	0.86	203.65	5,319.55	-289.02	-268.64	278.83	0.03
5,456.00	0.86	238.35	5,414.54	-290.04	-269.53	279.76	0.54
5,551.00	1.20	235.51	5,509.52	-290.98	-270.96	281.22	0.36
5,646.00	0.96	246.94	5,604.50	-291.85	-272.51	282.80	0.34
5,741.00	0.71	234.43	5,699.49	-292.51	-273.72	284.04	0.32
5,836.00	0.88	232.35	5,794.49	-293.30	-274.78	285.12	0.18
5,928.00	1.28	249.30	5,886.47	-294.09	-276.30	286.67	0.55
5,976.00	4.61	257.83	5,934.40	-294.69	-278.68	289.08	6.98
6,023.00	9.63	263.11	5,981.02	-295.56	-284.44	294.86	10.76
6,071.00	13.42	265.36	6,028.05	-296.49	-293.98	304.43	7.95
6,118.00	14.06	266.96	6,073.70	-297.24	-305.12	315.58	1.58
6,213.00	17.10	267.09	6,165.20	-298.56	-330.59	341.09	3.20
6,308.00	26.42	261.99	6,253.34	-302.22	-365.55	376.16	10.00
6,403.00	37.62	267.44	6,333.78	-306.47	-415.62	426.34	12.16
6,451.00	44.03	270.83	6,370.08	-306.89	-446.97	457.69	14.13
6,498.00	45.70	269.38	6,403.40	-306.83	-480.12	490.82	4.17
6,546.00	46.41	268.81	6,436.71	-307.38	-514.68	525.37	1.71
6,593.00	49.61	267.11	6,468.15	-308.64	-549.58	560.30	7.32
6,641.00	55.13	265.20	6,497.44	-311.21	-587.49	598.28	11.92
6,688.00	58.94	264.97	6,523.01	-314.59	-626.77	637.65	8.12
6,736.00	63.06	264.82	6,546.28	-318.32	-668.58	679.57	8.59
6,783.00	68.51	265.72	6,565.55	-321.85	-711.28	722.37	11.73
6,831.00	74.65	268.17	6,580.71	-324.26	-756.73	767.87	13.68
6,878.00	77.61	268.58	6,591.98	-325.55	-802.34	813.50	6.35
6,926.00	79.27	268.18	6,601.60	-326.88	-849.34	860.52	3.55
6,973.00	82.43	268.18	6,609.07	-328.35	-895.71	906.92	6.72
7,048.00	87.81	269.24	6,615.45	-330.03	-970.39	981.61	7.31
7,092.00	89.03	269.63	6,616.66	-330.47	-1,014.37	1,025.58	2.92
Estimated 7" Casing Point: 1616' FSL, 775' FEL (Not a Survey Station)							
7,148.00	90.59	270.12	6,616.84	-330.59	-1,070.37	1,081.54	2.92
7,243.00	88.27	268.65	6,617.79	-331.61	-1,165.35	1,176.50	2.89
7,338.00	88.67	268.59	6,620.32	-333.90	-1,260.29	1,271.46	0.43
7,433.00	88.86	268.53	6,622.37	-336.28	-1,355.24	1,366.43	0.21
7,528.00	89.60	268.75	6,623.65	-338.54	-1,450.20	1,461.41	0.81
7,623.00	90.55	269.11	6,623.52	-340.31	-1,545.19	1,556.40	1.07
7,718.00	89.20	268.43	6,623.73	-342.35	-1,640.16	1,651.39	1.59
7,813.00	89.57	268.09	6,624.75	-345.24	-1,735.11	1,746.38	0.53
7,908.00	89.41	267.58	6,625.60	-348.82	-1,830.04	1,841.38	0.56
8,003.00	88.58	270.41	6,627.26	-350.49	-1,925.00	1,936.33	3.10
8,098.00	89.85	270.64	6,628.56	-349.62	-2,019.98	2,031.23	1.36
8,193.00	89.66	270.08	6,628.97	-349.02	-2,114.98	2,126.14	0.62
8,288.00	90.62	269.85	6,628.74	-349.08	-2,209.98	2,221.08	1.04
8,383.00	90.06	271.64	6,628.17	-347.85	-2,304.97	2,315.96	1.97
8,478.00	88.37	271.19	6,629.48	-345.50	-2,399.92	2,410.77	1.84
8,573.00	88.00	270.54	6,632.49	-344.07	-2,494.87	2,505.60	0.79
8,668.00	88.67	270.71	6,635.25	-343.03	-2,589.82	2,600.46	0.73
8,763.00	89.35	270.95	6,636.89	-341.65	-2,684.79	2,695.32	0.76
8,858.00	90.31	270.79	6,637.17	-340.21	-2,779.78	2,790.20	1.02
8,953.00	90.83	269.46	6,636.22	-340.00	-2,874.77	2,885.12	1.50

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
9,048.00	90.12	269.99	6,635.44	-340.46	-2,969.77	2,980.07	0.93
9,143.00	90.22	268.78	6,635.15	-341.48	-3,064.76	3,075.04	1.28
9,238.00	88.77	269.84	6,635.99	-342.62	-3,159.75	3,170.00	1.89
9,333.00	90.31	269.96	6,636.75	-342.79	-3,254.74	3,264.94	1.63
9,428.00	89.63	269.55	6,636.80	-343.20	-3,349.74	3,359.89	0.84
9,523.00	90.18	269.47	6,636.96	-344.01	-3,444.74	3,454.86	0.59
9,618.00	89.88	268.85	6,636.91	-345.40	-3,539.72	3,549.84	0.73
9,713.00	88.86	269.71	6,637.96	-346.60	-3,634.71	3,644.80	1.40
9,807.00	89.85	269.58	6,639.01	-347.18	-3,728.70	3,738.75	1.06
9,902.00	90.40	270.04	6,638.81	-347.49	-3,823.70	3,833.70	0.75
9,997.00	88.00	269.08	6,640.13	-348.22	-3,918.68	3,928.65	2.72
10,092.00	88.43	268.64	6,643.09	-350.11	-4,013.61	4,023.59	0.65
10,187.00	90.06	271.02	6,644.34	-350.39	-4,108.59	4,118.52	3.04
10,282.00	87.81	269.60	6,646.11	-349.88	-4,203.57	4,213.41	2.80
10,377.00	88.24	270.14	6,649.38	-350.09	-4,298.51	4,308.30	0.73
10,469.00	90.83	271.14	6,650.13	-349.07	-4,390.49	4,400.19	3.02
10,563.00	92.40	271.17	6,647.48	-347.17	-4,484.43	4,494.00	1.67
10,656.00	89.41	269.18	6,646.01	-346.89	-4,577.41	4,586.90	3.86
10,749.00	88.98	268.79	6,647.32	-348.54	-4,670.38	4,679.88	0.62
10,841.00	89.82	268.66	6,648.28	-350.58	-4,762.35	4,771.87	0.92
10,935.00	90.96	268.49	6,647.64	-352.92	-4,856.32	4,865.86	1.23
11,028.00	90.52	268.59	6,646.44	-355.29	-4,949.28	4,958.84	0.49
11,121.00	88.83	269.49	6,646.97	-356.85	-5,042.26	5,051.82	2.06
11,215.00	88.80	269.92	6,648.91	-357.33	-5,136.24	5,145.76	0.46
11,308.00	89.88	268.91	6,649.98	-358.28	-5,229.23	5,238.72	1.59
11,402.00	91.23	269.55	6,649.07	-359.54	-5,323.21	5,332.68	1.59
11,496.00	90.68	270.03	6,647.51	-359.89	-5,417.20	5,426.62	0.78
11,589.00	90.52	271.40	6,646.53	-358.73	-5,510.18	5,519.51	1.48
11,683.00	89.51	271.17	6,646.51	-356.62	-5,604.16	5,613.35	1.10
11,776.00	88.58	271.38	6,648.06	-354.55	-5,697.12	5,706.17	1.03
11,870.00	89.41	271.11	6,649.71	-352.51	-5,791.08	5,800.00	0.93
11,964.00	90.62	270.80	6,649.68	-350.94	-5,885.07	5,893.87	1.33
12,059.00	89.88	270.45	6,649.27	-349.91	-5,980.06	5,988.77	0.86
12,154.00	89.72	271.71	6,649.60	-348.12	-6,075.04	6,083.62	1.34
12,248.00	88.77	271.65	6,650.84	-345.36	-6,168.99	6,177.41	1.01
12,343.00	89.32	271.74	6,652.42	-342.55	-6,263.94	6,272.19	0.59
12,438.00	88.77	270.10	6,654.01	-341.03	-6,358.91	6,367.05	1.82
12,533.00	89.57	270.04	6,655.38	-340.91	-6,453.90	6,461.97	0.84
12,628.00	89.60	268.87	6,656.07	-341.81	-6,548.89	6,556.94	1.23
12,723.00	88.15	270.52	6,657.94	-342.32	-6,643.86	6,651.87	2.31
12,818.00	88.92	270.30	6,660.36	-341.64	-6,738.83	6,746.75	0.84
12,913.00	90.52	270.14	6,660.83	-341.27	-6,833.83	6,841.67	1.69
13,008.00	91.20	269.01	6,659.40	-341.98	-6,928.81	6,936.62	1.39
13,103.00	89.97	269.05	6,658.43	-343.59	-7,023.79	7,031.59	1.30
13,198.00	88.15	269.45	6,659.99	-344.83	-7,118.76	7,126.55	1.96
13,293.00	89.01	269.55	6,662.35	-345.66	-7,213.73	7,221.49	0.91
13,388.00	90.59	269.42	6,662.68	-346.51	-7,308.72	7,316.45	1.67
13,483.00	90.03	269.69	6,662.16	-347.25	-7,403.72	7,411.41	0.65
13,578.00	86.88	270.44	6,664.72	-347.14	-7,498.67	7,506.30	3.41
13,673.00	87.35	270.32	6,669.51	-346.51	-7,593.55	7,601.09	0.51
13,768.00	88.15	269.96	6,673.24	-346.28	-7,688.47	7,695.95	0.92

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
13,863.00	89.23	269.75	6,675.41	-346.52	-7,783.45	7,790.87	1.16
13,958.00	89.91	268.37	6,676.12	-348.08	-7,878.43	7,885.84	1.62
14,053.00	90.89	267.91	6,675.46	-351.17	-7,973.38	7,980.84	1.14
14,148.00	92.38	267.91	6,672.75	-354.63	-8,068.27	8,075.80	1.57
14,243.00	89.97	268.64	6,670.80	-357.49	-8,163.20	8,170.77	2.65
14,338.00	90.28	268.96	6,670.59	-359.48	-8,258.18	8,265.76	0.47
14,433.00	89.17	268.54	6,671.05	-361.55	-8,353.15	8,360.75	1.25
14,528.00	90.59	268.89	6,671.25	-363.68	-8,448.13	8,455.74	1.54
14,623.00	89.57	269.12	6,671.11	-365.33	-8,543.11	8,550.72	1.10
14,718.00	90.22	268.71	6,671.29	-367.13	-8,638.09	8,645.70	0.81
14,813.00	86.97	269.91	6,673.62	-368.27	-8,733.04	8,740.63	3.65
14,908.00	87.22	270.22	6,678.43	-368.16	-8,827.92	8,835.45	0.42
15,003.00	87.84	270.18	6,682.53	-367.83	-8,922.83	8,930.28	0.65
15,098.00	89.10	270.33	6,685.06	-367.41	-9,017.79	9,025.17	1.34
15,193.00	91.17	270.56	6,684.84	-366.67	-9,112.79	9,120.07	2.19
15,288.00	92.75	269.81	6,681.59	-366.37	-9,207.73	9,214.94	1.84
15,383.00	90.06	269.41	6,679.26	-367.01	-9,302.69	9,309.87	2.86
15,478.00	88.71	270.16	6,680.28	-367.37	-9,397.68	9,404.81	1.63
15,573.00	90.46	270.91	6,680.97	-366.48	-9,492.67	9,499.70	2.00
15,668.00	89.07	270.70	6,681.36	-365.15	-9,587.65	9,594.58	1.48
15,763.00	89.94	270.46	6,682.18	-364.19	-9,682.64	9,689.48	0.95
15,858.00	91.05	270.62	6,681.36	-363.29	-9,777.64	9,784.37	1.18
15,953.00	88.21	269.81	6,681.97	-362.93	-9,872.62	9,879.29	3.11
16,048.00	88.58	269.72	6,684.63	-363.32	-9,967.58	9,974.20	0.40
16,143.00	90.52	270.15	6,685.38	-363.43	-10,062.58	10,069.14	2.09
16,238.00	91.42	269.61	6,683.77	-363.63	-10,157.56	10,164.07	1.10
16,257.00	91.91	270.04	6,683.22	-363.69	-10,176.55	10,183.05	3.43
Final Sperry MWD Survey @ 16257.00 ft. MD							
16,319.00	91.91	270.04	6,681.15	-363.64	-10,238.52	10,244.97	0.00
Estimated BHL: 1650' FSL, 522' FWL :: Straight Line Projection to TD @ 16319.00 ft. MD							

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
656.00	656.00	0.00	0.00	First Sperry MWD Survey @ 656.00 ft. MD
7,092.00	6,616.66	-330.47	-1,014.37	Estimated 7" Casing Point: 1616' FSL, 775' FEL (Not a Survey Station)
16,257.00	6,683.22	-363.69	-10,176.55	Final Sperry MWD Survey @ 16257.00 ft. MD
16,319.00	6,681.15	-363.64	-10,238.52	Estimated BHL: 1650' FSL, 522' FWL :: Straight Line Projection to TD @ 16319.00 ft. MD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Wells Ranch AA16-64-1HNL_PlanB - Rev0_ BHL Tgt	267.94	Slot	0.00	0.00	0.00

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
656.00	7,092.00	Sperry MWD Field Surveys	MWD
7,092.00	16,319.00	Sperry MWD Field Surveys	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,092.00	6,616.66	7" Casing PT	7	8-3/4

Design Report for Wells Ranch State USX AA16-64-1HNL - Actual Field Surveys

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				-5,584.36	3,310.05	1,424,552.06	3,296,887.96		
Point 2				-5,578.36	-1,994.95	1,419,247.24	3,296,893.96		
Point 3				-10,806.36	-2,016.95	1,419,225.24	3,291,666.14		
Point 4				-10,660.36	3,285.05	1,424,527.06	3,291,812.13		
Point 5				-5,584.36	3,310.05	1,424,552.06	3,296,887.96		
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				-266.36	3,367.05	1,424,609.05	3,302,205.77		
Point 2				5,070.64	3,426.05	1,424,668.05	3,307,542.58		
Point 3				5,097.64	-1,878.95	1,419,363.24	3,307,569.58		
Point 4				-232.36	-1,933.95	1,419,308.24	3,302,239.77		
Point 5				-266.36	3,367.05	1,424,609.05	3,302,205.77		
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				-726.36	2,906.05	1,424,148.07	3,301,745.79		
Point 2				-692.36	-1,473.95	1,419,768.22	3,301,779.79		
Point 3				-5,118.36	-1,534.95	1,419,707.23	3,297,353.94		
Point 4				-5,124.36	2,850.05	1,424,092.07	3,297,347.94		
Point 5				-726.36	2,906.05	1,424,148.07	3,301,745.79		
Wells Ranch	0.00	0.00	6,683.56	-367.54	-10,238.67	1,420,874.59	3,292,233.80	40.483950	-104.449400
- actual wellpath misses target center by 4.59ft at 16319.00ft MD (6681.15 TVD, -363.64 N, -10238.52 E)									
- Point									
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				-6,044.36	2,850.05	1,424,092.07	3,296,427.97		
Point 2				-6,038.36	-1,534.95	1,419,707.23	3,296,433.97		
Point 3				-10,346.36	-1,556.95	1,419,685.23	3,292,126.12		
Point 4				-10,200.36	2,825.05	1,424,067.07	3,292,272.12		
Point 5				-6,044.36	2,850.05	1,424,092.07	3,296,427.97		
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				193.64	2,907.05	1,424,149.07	3,302,665.75		
Point 2				4,610.64	2,966.05	1,424,208.07	3,307,082.60		
Point 3				4,637.64	-1,418.95	1,419,823.22	3,307,109.60		
Point 4				227.64	-1,473.95	1,419,768.22	3,302,699.75		
Point 5				193.64	2,907.05	1,424,149.07	3,302,665.75		
Wells Ranch USX	0.00	0.00	-21.00	1,479.05	-15.36	1,422,721.12	3,302,456.76	40.488680	-104.412570
- actual wellpath misses target center by 1479.28ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				-266.36	3,366.05	1,424,608.05	3,302,205.77		
Point 2				-232.36	-1,933.95	1,419,308.24	3,302,239.77		
Point 3				-5,578.36	-1,994.95	1,419,247.24	3,296,893.96		
Point 4				-5,584.36	3,310.05	1,424,552.06	3,296,887.96		
Point 5				-266.36	3,366.05	1,424,608.05	3,302,205.77		

North Reference Sheet for Sec. 14-T6N-R63W (Wells Ranch 16 South Middle PAD) - Wells Ranch State USX AA16-64-1HNL

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to KB=24' @ 4780.00ft (H&P 343). Northing and Easting are relative to Wells Ranch State USX AA16-64-1HNL - Slot A2
Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980
Projection method is Lambert Conformal Conic (2 parallel)
Central Meridian is -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°
False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99996516

Grid Coordinates of Well: 1,421,242.12 ft N, 3,302,472.12 ft E
Geographical Coordinates of Well: 40° 29' 04.63" N, 104° 24' 45.29" W
Grid Convergence at Surface is: 0.70°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,319.00ft
the Bottom Hole Displacement is 10,244.97ft in the Direction of 267.97° (Grid).

Magnetic Convergence at surface is: -7.81° (28 January 2013, , BGGM2012)

