

Cathedral Energy Services
Survey Report

69-00158

Company: Chesapeake Energy Corp	Local Co-ordinate Reference: Well Larry Ball OHI 1H
Project: Ohio County, WV	TVD Reference: WELL @ 1358.0usft (Nomac 37)
Site: Larry Ball OHI Pad	MD Reference: WELL @ 1358.0usft (Nomac 37)
Well: Larry Ball OHI 1H	North Reference: Grid
Wellbore: HZ	Survey Calculation Method: Minimum Curvature
Design: HZ	Database: USA EDM 5000 Multi Users DB

Project Ohio County, WV	
Map System: US State Plane 1927 (Exact solution)	System Datum: Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)	
Map Zone: West Virginia North 4701	Using geodetic scale factor

Site Larry Ball OHI Pad		
Site Position:	Northing: 608,903.67 usft	Latitude: 40.166779
From: Lat/Long	Easting: 1,698,737.19 usft	Longitude: -80.577953
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16"	Grid Convergence: -0.69 °

Well Larry Ball OHI 1H		
Well Position +N/-S 0.0 usft	Northing: 608,903.67 usft	Latitude: 40.166779
+E/-W 0.0 usft	Easting: 1,698,737.19 usft	Longitude: -80.577953
Position Uncertainty 0.0 usft	Wellhead Elevation: usft	Ground Level: 1,340.0 usft

Wellbore HZ					
Magnetics	Model Name IGRF2010	Sample Date 3/20/2013	Declination (°) -8.77	Dip Angle (°) 67.59	Field Strength (nT) 52,862

Design HZ				
Audit Notes:				
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0		
Vertical Section:	Depth From (TVD) (usft) 0.0	+N/-S (usft) 0.0	+E/-W (usft) 0.0	Direction (°) 338.53

Survey Program	Date 4/15/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	5,335.0	Survey #3 (HZ)	Gyro	Gyro
5,361.0	15,356.0	Survey #4 (HZ)	MWD	Geolink MWD

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.01	7.49	100.0	0.0	0.0	0.0	0.01	0.01	
200.0	0.11	272.46	200.0	0.0	-0.1	0.1	0.11	0.10	
300.0	0.11	282.40	300.0	0.0	-0.3	0.1	0.02	0.00	
400.0	0.16	310.94	400.0	0.2	-0.5	0.3	0.08	0.05	
500.0	0.26	344.05	500.0	0.5	-0.7	0.7	0.15	0.10	
600.0	0.29	316.01	600.0	0.9	-0.9	1.1	0.14	0.03	
700.0	0.35	306.71	700.0	1.2	-1.3	1.6	0.08	0.06	
800.0	1.07	335.83	800.0	2.3	-1.9	2.8	0.78	0.72	
900.0	2.67	324.17	899.9	5.0	-3.7	6.0	1.64	1.60	
1,000.0	4.44	320.74	999.7	9.9	-7.5	12.0	1.78	1.77	
1,100.0	5.78	313.83	1,099.3	16.4	-13.6	20.2	1.47	1.34	

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Survey									
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1,200.0	5.82	311.39	1,198.8	23.2	-21.0	29.3	0.25	0.04	
1,300.0	5.21	315.13	1,298.4	29.8	-28.0	38.0	0.71	-0.61	
1,400.0	5.37	321.16	1,397.9	36.7	-34.2	46.6	0.58	0.16	
1,500.0	5.46	320.84	1,497.5	44.0	-40.1	55.6	0.09	0.09	
1,600.0	6.04	322.46	1,597.0	51.8	-46.3	65.2	0.60	0.58	
1,700.0	6.70	321.60	1,696.4	60.6	-53.1	75.8	0.67	0.66	
1,800.0	4.26	314.36	1,795.9	67.8	-59.4	84.8	2.53	-2.44	
1,900.0	2.42	304.31	1,895.7	71.5	-63.8	89.9	1.92	-1.84	
2,000.0	0.88	283.88	1,995.7	72.9	-66.3	92.1	1.62	-1.54	
2,100.0	0.99	285.32	2,095.7	73.3	-67.9	93.1	0.11	0.11	
2,200.0	1.09	276.45	2,195.7	73.7	-69.7	94.1	0.19	0.10	
2,300.0	0.97	278.27	2,295.6	73.9	-71.4	94.9	0.12	-0.12	
2,400.0	0.92	295.47	2,395.6	74.4	-73.0	95.9	0.29	-0.05	
2,500.0	0.99	297.01	2,495.6	75.1	-74.5	97.2	0.07	0.07	
2,600.0	1.10	294.22	2,595.6	75.9	-76.1	98.5	0.12	0.11	
2,700.0	1.00	288.38	2,695.6	76.6	-77.9	99.7	0.15	-0.10	
2,800.0	0.86	290.81	2,795.6	77.1	-79.4	100.8	0.15	-0.14	
2,900.0	0.81	298.54	2,895.6	77.7	-80.7	101.8	0.12	-0.05	
3,000.0	0.70	308.29	2,995.5	78.4	-81.8	102.9	0.17	-0.11	
3,100.0	0.76	303.16	3,095.5	79.2	-82.8	104.0	0.09	0.06	
3,200.0	0.86	291.34	3,195.5	79.8	-84.1	105.0	0.19	0.10	
3,300.0	0.72	291.63	3,295.5	80.3	-85.4	106.0	0.14	-0.14	
3,400.0	0.65	284.58	3,395.5	80.7	-86.5	106.7	0.11	-0.07	
3,500.0	0.66	283.57	3,495.5	81.0	-87.6	107.4	0.02	0.01	
3,600.0	0.68	292.48	3,595.5	81.3	-88.7	108.1	0.11	0.02	
3,700.0	0.62	300.47	3,695.5	81.8	-89.7	109.0	0.11	-0.06	
3,800.0	0.80	305.64	3,795.5	82.5	-90.8	110.0	0.19	0.18	
3,900.0	0.78	308.69	3,895.5	83.3	-91.9	111.2	0.05	-0.02	
4,000.0	0.78	302.45	3,995.5	84.1	-93.0	112.3	0.08	0.00	
4,100.0	0.78	302.24	4,095.5	84.8	-94.1	113.4	0.00	0.00	
4,200.0	0.72	298.13	4,195.5	85.5	-95.3	114.4	0.08	-0.06	
4,300.0	0.68	289.97	4,295.4	86.0	-96.4	115.3	0.11	-0.04	
4,400.0	0.63	278.88	4,395.4	86.3	-97.5	116.0	0.14	-0.05	
4,500.0	0.54	276.66	4,495.4	86.4	-98.5	116.5	0.09	-0.09	
4,600.0	0.86	288.24	4,595.4	86.7	-99.7	117.2	0.35	0.32	
4,700.0	0.85	297.55	4,695.4	87.3	-101.0	118.2	0.14	-0.01	
4,800.0	0.61	317.40	4,795.4	88.0	-102.1	119.3	0.35	-0.24	
4,900.0	0.67	307.43	4,895.4	88.8	-102.9	120.3	0.13	0.06	
5,000.0	0.86	290.30	4,995.4	89.4	-104.0	121.3	0.30	0.19	
5,100.0	0.89	283.72	5,095.4	89.8	-105.5	122.2	0.10	0.03	
5,200.0	0.91	302.01	5,195.4	90.4	-106.9	123.3	0.29	0.02	
5,300.0	0.65	303.64	5,295.4	91.2	-108.1	124.4	0.26	-0.26	
5,335.0	0.58	297.53	5,330.4	91.4	-108.4	124.7	0.27	-0.20	Last Gyro Survey @ 5,335' MD
5,361.0	0.30	288.20	5,356.3	91.5	-108.6	124.9	1.11	-1.08	
5,424.0	2.20	231.20	5,419.3	90.8	-109.7	124.6	3.26	3.02	
5,455.0	5.10	231.90	5,450.3	89.5	-111.2	124.0	9.36	9.35	
5,487.0	8.40	233.00	5,482.0	87.2	-114.2	123.0	10.32	10.31	
5,518.0	12.10	231.60	5,512.5	83.9	-118.6	121.4	11.96	11.94	
5,549.0	14.90	232.00	5,542.7	79.4	-124.3	119.4	9.04	9.03	
5,581.0	18.70	233.90	5,573.3	73.8	-131.6	116.9	12.00	11.88	
5,612.0	21.20	235.70	5,602.4	67.7	-140.3	114.4	8.30	8.06	
5,643.0	25.00	237.90	5,631.0	61.1	-150.5	111.9	12.57	12.26	
5,675.0	28.60	239.10	5,659.5	53.6	-162.8	109.4	11.38	11.25	

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Design:	HZ	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
5,706.0	32.60	239.70	5,686.2	45.5	-176.4	106.9	12.94	12.90	
5,738.0	37.10	238.50	5,712.4	36.1	-192.0	103.9	14.22	14.06	
5,770.0	41.90	239.20	5,737.1	25.6	-209.5	100.5	15.06	15.00	
5,801.0	46.50	239.50	5,759.3	14.6	-228.1	97.1	14.85	14.84	
5,833.0	51.40	240.20	5,780.4	2.5	-248.9	93.4	15.40	15.31	
5,865.0	54.60	240.20	5,799.6	-10.2	-271.1	89.7	10.00	10.00	
5,896.0	58.00	239.80	5,816.8	-23.1	-293.4	85.9	11.02	10.97	
5,928.0	61.60	239.70	5,832.9	-37.0	-317.3	81.7	11.25	11.25	
5,960.0	63.30	240.10	5,847.7	-51.3	-341.9	77.4	5.43	5.31	
5,991.0	63.60	240.40	5,861.6	-65.0	-365.9	73.4	1.30	0.97	
6,023.0	64.10	240.90	5,875.7	-79.1	-391.0	69.5	2.10	1.56	
6,055.0	65.00	240.80	5,889.4	-93.2	-416.2	65.6	2.83	2.81	
6,087.0	65.30	241.60	5,902.9	-107.2	-441.6	61.9	2.45	0.94	
6,119.0	65.80	242.00	5,916.1	-120.9	-467.3	58.5	1.93	1.56	
6,151.0	66.40	242.00	5,929.1	-134.7	-493.1	55.2	1.88	1.88	
6,182.0	67.10	242.50	5,941.3	-147.9	-518.4	52.1	2.70	2.26	
6,213.0	68.20	244.10	5,953.1	-160.8	-544.0	49.5	5.95	3.55	
6,244.0	68.50	246.40	5,964.5	-172.9	-570.1	47.8	6.96	0.97	
6,275.0	67.60	248.80	5,976.1	-183.8	-596.7	47.3	7.75	-2.90	
6,306.0	65.90	252.30	5,988.4	-193.3	-623.6	48.3	11.73	-5.48	
6,337.0	63.80	255.50	6,001.5	-201.1	-650.5	51.0	11.54	-6.77	
6,369.0	62.80	259.80	6,015.9	-207.2	-678.4	55.5	12.40	-3.13	
6,400.0	63.20	263.30	6,030.0	-211.3	-705.7	61.7	10.14	1.29	
6,431.0	63.70	266.60	6,043.9	-213.7	-733.4	69.6	9.66	1.61	
6,463.0	63.50	270.10	6,058.1	-214.5	-762.0	79.3	9.82	-0.63	
6,494.0	63.10	272.70	6,072.0	-213.8	-789.7	90.0	7.60	-1.29	
6,525.0	61.90	275.40	6,086.3	-211.9	-817.1	101.9	8.64	-3.87	
6,556.0	62.80	279.50	6,100.7	-208.3	-844.3	115.1	12.07	2.90	
6,587.0	65.20	284.00	6,114.3	-202.7	-871.6	130.4	15.17	7.74	
6,618.0	66.50	287.90	6,127.0	-194.9	-898.8	147.6	12.22	4.19	
6,649.0	67.10	290.80	6,139.2	-185.4	-925.7	166.2	8.81	1.94	
6,680.0	67.80	292.90	6,151.1	-174.8	-952.2	185.9	6.65	2.26	
6,711.0	68.80	295.80	6,162.6	-162.9	-978.5	206.5	9.27	3.23	
6,743.0	68.70	298.70	6,174.2	-149.3	-1,005.0	228.9	8.45	-0.31	
6,774.0	69.10	301.50	6,185.3	-134.8	-1,030.0	251.6	8.52	1.29	
6,805.0	70.60	303.80	6,196.0	-119.1	-1,054.5	275.2	8.48	4.84	
6,836.0	72.70	307.20	6,205.8	-102.0	-1,078.4	299.8	12.42	6.77	
6,867.0	74.50	311.00	6,214.5	-83.2	-1,101.5	325.7	13.11	5.81	
6,897.0	74.80	312.70	6,222.5	-63.9	-1,123.1	351.6	5.56	1.00	
6,928.0	76.90	316.70	6,230.1	-42.8	-1,144.4	379.1	14.23	6.77	
6,958.0	78.30	320.50	6,236.5	-20.8	-1,163.8	406.6	13.22	4.67	
6,990.0	80.20	323.30	6,242.5	3.9	-1,183.2	436.7	10.45	5.94	
7,022.0	81.20	325.30	6,247.6	29.6	-1,201.6	467.3	6.91	3.13	
7,053.0	84.00	327.50	6,251.6	55.2	-1,218.6	497.4	11.45	9.03	
7,085.0	86.00	329.10	6,254.4	82.3	-1,235.4	528.8	7.99	6.25	
7,116.0	88.20	331.50	6,256.0	109.2	-1,250.7	559.4	10.49	7.10	
7,148.0	90.60	334.50	6,256.3	137.7	-1,265.2	591.2	12.00	7.50	
7,180.0	91.20	337.60	6,255.8	166.9	-1,278.2	623.2	9.87	1.88	
7,242.0	90.80	339.70	6,254.7	224.7	-1,300.8	685.2	3.45	-0.65	
7,306.0	91.10	338.10	6,253.7	284.4	-1,323.8	749.2	2.54	0.47	
7,368.0	90.20	339.20	6,253.0	342.1	-1,346.4	811.2	2.29	-1.45	
7,494.0	92.60	340.30	6,249.9	460.3	-1,390.0	937.1	2.10	1.90	
7,621.0	92.20	341.20	6,244.6	580.1	-1,431.8	1,063.9	0.77	-0.31	

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7,748.0	92.60	341.10	6,239.3	700.1	-1,472.8	1,190.6	0.32	0.31	
7,873.0	91.70	341.30	6,234.6	818.4	-1,513.1	1,315.4	0.74	-0.72	
7,998.0	92.10	341.20	6,230.4	936.7	-1,553.2	1,440.2	0.33	0.32	
8,123.0	90.90	341.70	6,227.2	1,055.2	-1,593.0	1,565.0	1.04	-0.96	
8,249.0	90.70	339.80	6,225.4	1,174.1	-1,634.5	1,690.9	1.52	-0.16	
8,374.0	90.40	338.90	6,224.2	1,291.1	-1,678.6	1,815.9	0.76	-0.24	
8,500.0	91.40	338.50	6,222.2	1,408.4	-1,724.4	1,941.8	0.85	0.79	
8,624.0	91.30	338.20	6,219.3	1,523.7	-1,770.1	2,065.8	0.25	-0.08	
8,750.0	89.80	338.00	6,218.1	1,640.6	-1,817.1	2,191.8	1.20	-1.19	
8,876.0	89.30	337.90	6,219.1	1,757.3	-1,864.4	2,317.8	0.40	-0.40	
9,002.0	89.10	337.10	6,220.8	1,873.7	-1,912.6	2,443.7	0.65	-0.16	
9,125.0	89.60	337.30	6,222.2	1,987.1	-1,960.3	2,566.7	0.44	0.41	
9,252.0	90.40	338.10	6,222.2	2,104.6	-2,008.5	2,693.7	0.89	0.63	
9,377.0	89.70	338.30	6,222.1	2,220.7	-2,054.9	2,818.7	0.58	-0.56	
9,503.0	90.30	338.40	6,222.1	2,337.8	-2,101.4	2,944.7	0.48	0.48	
9,629.0	90.10	339.00	6,221.7	2,455.2	-2,147.1	3,070.7	0.50	-0.16	
9,755.0	90.30	338.10	6,221.2	2,572.5	-2,193.2	3,196.7	0.73	0.16	
9,881.0	91.10	338.10	6,219.7	2,689.4	-2,240.2	3,322.7	0.63	0.63	
10,008.0	91.40	337.90	6,216.9	2,807.1	-2,287.8	3,449.7	0.28	0.24	
10,133.0	91.30	337.20	6,214.0	2,922.6	-2,335.5	3,574.6	0.57	-0.08	
10,257.0	89.70	338.20	6,212.9	3,037.3	-2,382.5	3,698.6	1.52	-1.29	
10,381.0	91.80	338.30	6,211.3	3,152.4	-2,428.5	3,822.6	1.70	1.69	
10,507.0	89.90	339.20	6,209.4	3,269.9	-2,474.1	3,948.5	1.67	-1.51	
10,631.0	90.50	339.40	6,209.0	3,385.9	-2,518.0	4,072.5	0.51	0.48	
10,757.0	90.40	339.80	6,208.0	3,504.0	-2,561.9	4,198.5	0.33	-0.08	
10,884.0	89.00	338.20	6,208.7	3,622.5	-2,607.4	4,325.5	1.67	-1.10	
11,009.0	88.90	338.90	6,210.9	3,738.8	-2,653.1	4,450.4	0.57	-0.08	
11,136.0	89.70	339.10	6,212.5	3,857.4	-2,698.6	4,577.4	0.65	0.63	
11,259.0	89.80	339.30	6,213.0	3,972.3	-2,742.3	4,700.4	0.18	0.08	
11,386.0	90.20	338.40	6,213.0	4,090.8	-2,788.1	4,827.4	0.78	0.31	
11,512.0	90.70	338.20	6,212.0	4,207.9	-2,834.7	4,953.4	0.43	0.40	
11,639.0	91.10	338.00	6,210.1	4,325.7	-2,882.0	5,080.4	0.35	0.31	
11,766.0	89.50	338.60	6,209.4	4,443.7	-2,929.0	5,207.4	1.35	-1.26	
11,892.0	88.90	338.10	6,211.1	4,560.8	-2,975.5	5,333.4	0.62	-0.48	
12,018.0	89.00	338.00	6,213.5	4,677.6	-3,022.6	5,459.3	0.11	0.08	
12,050.0	89.40	337.80	6,213.9	4,707.3	-3,034.6	5,491.3	1.40	1.25	
12,082.0	88.50	337.30	6,214.5	4,736.8	-3,046.8	5,523.3	3.22	-2.81	
12,114.0	89.10	337.40	6,215.2	4,766.4	-3,059.1	5,555.3	1.90	1.88	
12,145.0	89.70	337.40	6,215.5	4,795.0	-3,071.1	5,586.3	1.94	1.94	
12,272.0	88.90	338.10	6,217.0	4,912.5	-3,119.1	5,713.3	0.84	-0.63	
12,397.0	89.70	338.10	6,218.6	5,028.5	-3,165.8	5,838.3	0.64	0.64	
12,523.0	90.80	339.00	6,218.0	5,145.7	-3,211.8	5,964.3	1.13	0.87	
12,648.0	90.40	339.40	6,216.7	5,262.6	-3,256.2	6,089.3	0.45	-0.32	
12,775.0	91.00	339.20	6,215.1	5,381.4	-3,301.1	6,216.2	0.50	0.47	
12,901.0	90.80	340.00	6,213.2	5,499.5	-3,345.0	6,342.2	0.65	-0.16	
13,027.0	89.10	338.50	6,213.3	5,617.3	-3,389.7	6,468.2	1.80	-1.35	
13,152.0	90.00	337.90	6,214.3	5,733.4	-3,436.1	6,593.2	0.87	0.72	
13,277.0	90.50	340.00	6,213.7	5,850.0	-3,481.0	6,718.1	1.73	0.40	
13,402.0	89.10	338.10	6,214.2	5,966.7	-3,525.7	6,843.1	1.89	-1.12	
13,528.0	89.30	338.10	6,215.9	6,083.6	-3,572.7	6,969.1	0.16	0.16	
13,653.0	90.40	338.50	6,216.2	6,199.7	-3,618.9	7,094.1	0.94	0.88	
13,779.0	91.70	336.70	6,213.9	6,316.2	-3,666.9	7,220.1	1.76	1.03	
13,904.0	90.90	338.00	6,211.1	6,431.5	-3,715.0	7,345.0	1.22	-0.64	

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Cathedral Energy Services
Survey Report

69-00158

Company:	Chesapeake Energy Corp	Local Co-ordinate Reference:	Well Larry Ball OHI 1H
Project:	Ohio County, WV	TVD Reference:	WELL @ 1358.0usft (Nomac 37)
Site:	Larry Ball OHI Pad	MD Reference:	WELL @ 1358.0usft (Nomac 37)
Well:	Larry Ball OHI 1H	North Reference:	Grid
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	HZ	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
14,029.0	91.10	336.60	6,208.9	6,546.8	-3,763.2	7,469.9	1.13	0.16	
14,155.0	91.40	337.70	6,206.2	6,662.9	-3,812.2	7,595.9	0.90	0.24	
14,281.0	91.00	336.50	6,203.5	6,779.0	-3,861.2	7,721.8	1.00	-0.32	
14,408.0	90.70	337.90	6,201.6	6,896.0	-3,910.4	7,848.8	1.13	-0.24	
14,500.0	91.20	339.40	6,200.1	6,981.7	-3,943.9	7,940.7	1.72	0.54	
14,562.0	90.30	338.50	6,199.3	7,039.5	-3,966.1	8,002.7	2.05	-1.45	
14,688.0	91.40	337.80	6,197.4	7,156.5	-4,013.0	8,128.7	1.03	0.87	
14,814.0	92.40	337.50	6,193.3	7,273.0	-4,060.9	8,254.6	0.83	0.79	
14,940.0	90.90	339.30	6,189.6	7,390.0	-4,107.3	8,380.6	1.86	-1.19	
15,064.0	90.10	340.50	6,188.5	7,506.5	-4,149.9	8,504.5	1.16	-0.65	
15,191.0	92.90	340.70	6,185.2	7,626.2	-4,192.0	8,631.4	2.21	2.20	
15,302.0	94.90	341.20	6,177.7	7,730.9	-4,228.2	8,742.0	1.86	1.80	Last Cathedral Survey @ 15302' MD
15,356.0	94.90	341.20	6,173.1	7,781.8	-4,245.5	8,795.8	0.00	0.00	Projection to Bit @ 15356' MD

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Cathedral Energy Services
Survey Report

Company: Chesapeake Energy Corp	Local Co-ordinate Reference: Well Larry Ball OHI 1H
Project: Ohio County, WV	TVD Reference: WELL @ 1358.0usft (Nomac 37)
Site: Larry Ball OHI Pad	MD Reference: WELL @ 1358.0usft (Nomac 37)
Well: Larry Ball OHI 1H	North Reference: Grid
Wellbore: HZ	Survey Calculation Method: Minimum Curvature
Design: HZ	Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 20.3usft at 15355.9usft MD (6173.1 TVD, 7781.7 N, -4245.5 E) - Point	0.00	360.00	6,193.1	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 20.8usft at 15356.0usft MD (6173.1 TVD, 7781.8 N, -4245.5 E) - Point	0.00	360.00	6,152.5	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 18.5usft at 15356.0usft MD (6173.1 TVD, 7781.8 N, -4245.5 E) - Point	0.00	360.00	6,191.2	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 5.7usft at 15356.0usft MD (6173.1 TVD, 7781.8 N, -4245.5 E) - Point	0.00	360.00	6,177.6	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 31.1usft at 15356.0usft MD (6173.1 TVD, 7781.8 N, -4245.5 E) - Point	0.00	360.00	6,142.2	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 35.4usft at 15354.6usft MD (6173.2 TVD, 7780.5 N, -4245.1 E) - Point	0.00	360.00	6,208.3	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473
Larry Ball OHI 1H PBHL - actual wellpath misses target center by 41.0usft at 15356.0usft MD (6173.1 TVD, 7781.8 N, -4245.5 E) - Point	0.00	360.00	6,132.2	7,784.3	-4,243.2	616,687.86	1,694,494.04	40.188005	-80.593473

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
5,335.0	5,330.4	91.4	-108.4	Last Gyro Survey @ 5,335' MD
15,302.0	6,177.7	7,730.9	-4,228.2	Last Cathedral Survey @ 15302' MD
15,356.0	6,173.1	7,781.8	-4,245.5	Projection to Bit @ 15356' MD

Checked By: _____ Approved By: _____ Date: _____

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