



Cathedral Energy Services

Survey Report

Company:	Chesapeake Energy Corp	Local Co-ordinate Reference:	Well Chad Glauser OHI 3H
Project:	Ohio County, WV	TVD Reference:	WELL @ 1258.0usft (Original Well Elev)
Site:	Chad Glauser OHI Pad	MD Reference:	WELL @ 1258.0usft (Original Well Elev)
Well:	Chad Glauser OHI 3H	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	Chad Glauser OHI Pad				
Site Position:		Northing:	559,068.36 usft	Latitude:	40° 1' 47.21 N
From:	Lat/Long	Easting:	1,692,664.31 usft	Longitude:	80° 35' 51.01 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	-0.70 °

Well	Chad Glauser OHI 3H					
Well Position	+N/-S	0.0 usft	Northing:	559,068.34 usft	Latitude:	40° 1' 47.21 N
	+E/-W	0.0 usft	Easting:	1,692,664.31 usft	Longitude:	80° 35' 51.01 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,240.0 usft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/31/2013	-8.73	67.46	52,773

Design	HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	322.90

Survey Program	Date	7/1/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	700.0	Gyro (HZ)	Gyro	Gyro	
836.0	15,111.0	Survey #2 (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	0.26	144.95	100.0	-0.2	0.1	-0.2	0.26	0.26	
200.0	0.16	70.28	200.0	-0.3	0.4	-0.5	0.27	-0.10	
300.0	0.23	132.52	300.0	-0.4	0.7	-0.7	0.21	0.07	
400.0	0.09	351.81	400.0	-0.5	0.8	-0.9	0.31	-0.14	
500.0	0.04	243.92	500.0	-0.4	0.8	-0.8	0.11	-0.05	
600.0	0.14	270.80	600.0	-0.4	0.6	-0.7	0.11	0.10	
700.0	0.21	47.23	700.0	-0.3	0.6	-0.6	0.33	0.07	
836.0	0.30	232.30	836.0	-0.3	0.5	-0.6	0.37	0.07	
899.0	1.10	240.30	899.0	-0.7	-0.1	-0.5	1.28	1.27	
962.0	2.00	239.90	962.0	-1.6	-1.6	-0.3	1.43	1.43	
1,025.0	3.20	239.90	1,024.9	-3.0	-4.1	0.0	1.90	1.90	

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1,088.0	4.00	240.50	1,087.8	-5.0	-7.5	0.5	1.27	1.27	
1,149.0	5.00	238.90	1,148.6	-7.4	-11.6	1.1	1.65	1.64	
1,211.0	6.20	238.30	1,210.3	-10.6	-16.8	1.7	1.94	1.94	
1,274.0	7.20	238.00	1,272.9	-14.4	-23.0	2.4	1.59	1.59	
1,336.0	7.80	233.60	1,334.3	-19.0	-29.7	2.8	1.34	0.97	
1,399.0	8.50	231.40	1,396.7	-24.4	-36.8	2.7	1.22	1.11	
1,463.0	8.20	231.70	1,460.0	-30.2	-44.1	2.5	0.47	-0.47	
1,526.0	8.20	226.80	1,522.4	-36.1	-50.9	1.9	1.11	0.00	
1,587.0	9.00	227.80	1,582.7	-42.3	-57.6	1.0	1.33	1.31	
1,649.0	9.50	223.60	1,643.9	-49.2	-64.7	-0.2	1.35	0.81	
1,712.0	9.60	225.80	1,706.0	-56.7	-72.1	-1.7	0.60	0.16	
1,775.0	8.40	224.10	1,768.2	-63.6	-79.0	-3.1	1.95	-1.90	
1,838.0	6.60	225.10	1,830.7	-69.5	-84.8	-4.3	2.86	-2.86	
1,900.0	5.10	222.40	1,892.4	-74.0	-89.2	-5.3	2.46	-2.42	
1,961.0	3.70	220.40	1,953.2	-77.5	-92.3	-6.2	2.31	-2.30	
2,025.0	2.50	217.10	2,017.1	-80.2	-94.5	-7.0	1.89	-1.88	
2,089.0	2.80	211.00	2,081.0	-82.7	-96.1	-8.0	0.64	0.47	
2,212.0	1.90	213.60	2,203.9	-87.0	-98.8	-9.8	0.74	-0.73	
2,339.0	1.30	228.40	2,330.9	-89.7	-101.0	-10.6	0.57	-0.47	
2,465.0	0.70	261.70	2,456.8	-90.7	-102.9	-10.3	0.64	-0.48	
2,592.0	0.70	269.50	2,583.8	-90.8	-104.4	-9.5	0.07	0.00	
2,715.0	0.70	277.90	2,706.8	-90.7	-105.9	-8.5	0.08	0.00	
2,838.0	0.70	267.10	2,829.8	-90.7	-107.4	-7.5	0.11	0.00	
2,963.0	0.60	270.50	2,954.8	-90.7	-108.8	-6.7	0.09	-0.08	
3,088.0	0.80	273.70	3,079.8	-90.6	-110.3	-5.7	0.16	0.16	
3,335.0	0.60	282.20	3,326.8	-90.3	-113.3	-3.6	0.09	-0.08	
3,465.0	0.80	275.70	3,456.8	-90.0	-114.9	-2.5	0.17	0.15	
3,590.0	0.70	281.60	3,581.8	-89.8	-116.5	-1.3	0.10	-0.08	
3,713.0	0.80	270.40	3,704.7	-89.6	-118.1	-0.2	0.14	0.08	
3,839.0	0.70	249.50	3,830.7	-89.9	-119.7	0.5	0.23	-0.08	
3,965.0	0.70	220.20	3,956.7	-90.8	-120.9	0.6	0.28	0.00	
4,091.0	0.60	229.20	4,082.7	-91.8	-121.9	0.3	0.11	-0.08	
4,216.0	0.80	232.40	4,207.7	-92.7	-123.1	0.3	0.16	0.16	
4,342.0	0.90	211.10	4,333.7	-94.1	-124.3	-0.1	0.26	0.08	
4,468.0	0.80	213.70	4,459.7	-95.7	-125.3	-0.7	0.09	-0.08	
4,594.0	1.00	193.10	4,585.7	-97.5	-126.0	-1.7	0.30	0.16	
4,719.0	0.80	207.60	4,710.6	-99.3	-126.7	-2.8	0.24	-0.16	
4,845.0	0.70	197.70	4,836.6	-100.8	-127.3	-3.6	0.13	-0.08	
4,970.0	0.70	192.40	4,961.6	-102.3	-127.7	-4.6	0.05	0.00	
5,097.0	0.50	204.70	5,088.6	-103.6	-128.1	-5.3	0.19	-0.16	
5,222.0	0.70	231.10	5,213.6	-104.6	-129.0	-5.6	0.27	0.16	
5,347.0	0.50	215.90	5,338.6	-105.5	-129.9	-5.8	0.20	-0.16	
5,473.0	0.80	212.80	5,464.6	-106.7	-130.7	-6.3	0.24	0.24	
5,598.0	0.80	189.50	5,589.6	-108.3	-131.3	-7.2	0.26	0.00	
5,724.0	0.80	220.60	5,715.6	-109.8	-132.0	-7.9	0.34	0.00	
5,830.0	0.80	252.70	5,821.6	-110.6	-133.2	-7.8	0.42	0.00	
5,893.0	3.30	302.90	5,884.5	-109.7	-135.1	-6.0	4.53	3.97	
5,924.0	6.30	313.50	5,915.4	-108.1	-137.1	-3.5	10.05	9.68	
5,955.0	9.40	318.60	5,946.1	-105.0	-140.0	0.7	10.24	10.00	
5,986.0	13.10	318.40	5,976.5	-100.5	-144.0	6.8	11.94	11.94	
6,018.0	15.70	321.80	6,007.5	-94.4	-149.1	14.7	8.54	8.13	
6,050.0	19.50	322.20	6,038.0	-86.7	-155.1	24.4	11.88	11.88	
6,081.0	22.40	321.80	6,067.0	-78.0	-161.9	35.5	9.37	9.35	

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6,113.0	26.20	319.90	6,096.1	-67.8	-170.2	48.6	12.12	11.88	
6,144.0	29.50	319.90	6,123.5	-56.7	-179.6	63.1	10.65	10.65	
6,175.0	32.60	322.50	6,150.1	-44.3	-189.6	79.0	10.89	10.00	
6,206.0	32.50	325.70	6,176.2	-30.7	-199.3	95.7	5.56	-0.32	
6,237.0	35.50	328.40	6,201.9	-16.2	-208.7	113.0	10.83	9.68	
6,269.0	39.30	330.40	6,227.3	0.5	-218.6	132.3	12.47	11.88	
6,301.0	43.20	333.10	6,251.4	19.1	-228.6	153.1	13.39	12.19	
6,332.0	46.60	334.70	6,273.3	38.8	-238.2	174.6	11.56	10.97	
6,364.0	51.20	334.10	6,294.4	60.5	-248.6	198.2	14.44	14.38	
6,395.0	54.90	332.10	6,313.0	82.6	-259.8	222.6	13.00	11.94	
6,426.0	59.20	330.80	6,329.9	105.4	-272.3	248.3	14.31	13.87	
6,458.0	62.10	329.20	6,345.5	129.6	-286.2	276.0	10.06	9.06	
6,489.0	65.10	328.30	6,359.3	153.3	-300.6	303.6	10.02	9.68	
6,520.0	67.60	327.20	6,371.8	177.3	-315.8	331.9	8.69	8.06	
6,551.0	70.90	326.60	6,382.7	201.6	-331.6	360.8	10.80	10.65	
6,583.0	73.40	326.30	6,392.5	227.0	-348.4	391.2	7.86	7.81	
6,614.0	75.60	326.70	6,400.8	251.9	-364.9	421.0	7.20	7.10	
6,645.0	76.60	326.40	6,408.3	277.0	-381.5	451.1	3.36	3.23	
6,676.0	77.00	325.70	6,415.4	302.0	-398.4	481.2	2.55	1.29	
6,707.0	79.20	326.30	6,421.7	327.2	-415.3	511.5	7.35	7.10	
6,739.0	83.00	326.50	6,426.7	353.5	-432.8	543.0	11.89	11.88	
6,771.0	85.90	324.00	6,429.8	379.7	-451.0	574.9	11.94	9.06	
6,802.0	88.70	323.90	6,431.3	404.7	-469.2	605.8	9.04	9.03	
6,834.0	91.00	322.20	6,431.3	430.3	-488.4	637.8	8.94	7.19	
6,897.0	93.40	322.00	6,428.9	480.0	-527.1	700.8	3.82	3.81	
6,959.0	93.50	323.50	6,425.2	529.2	-564.6	762.6	2.42	0.16	
7,020.0	92.20	323.70	6,422.2	578.3	-600.7	823.6	2.16	-2.13	
7,084.0	90.70	325.60	6,420.5	630.4	-637.7	887.5	3.78	-2.34	
7,146.0	91.40	324.30	6,419.4	681.2	-673.3	949.5	2.38	1.13	
7,209.0	90.10	323.80	6,418.6	732.2	-710.3	1,012.4	2.21	-2.06	
7,272.0	90.80	323.20	6,418.1	782.8	-747.8	1,075.4	1.46	1.11	
7,334.0	91.70	322.50	6,416.7	832.2	-785.2	1,137.4	1.84	1.45	
7,398.0	90.80	323.10	6,415.3	883.2	-823.9	1,201.4	1.69	-1.41	
7,459.0	91.00	322.70	6,414.4	931.8	-860.7	1,262.4	0.73	0.33	
7,522.0	90.10	324.70	6,413.8	982.6	-898.0	1,325.4	3.48	-1.43	
7,585.0	90.10	324.50	6,413.7	1,034.0	-934.5	1,388.4	0.32	0.00	
7,648.0	91.50	324.20	6,412.8	1,085.1	-971.2	1,451.3	2.27	2.22	
7,711.0	88.70	323.70	6,412.7	1,136.1	-1,008.3	1,514.3	4.51	-4.44	
7,773.0	88.60	323.20	6,414.1	1,185.9	-1,045.2	1,576.3	0.82	-0.16	
7,836.0	89.30	323.70	6,415.3	1,236.5	-1,082.7	1,639.3	1.37	1.11	
7,899.0	90.20	323.90	6,415.6	1,287.3	-1,119.9	1,702.3	1.46	1.43	
7,963.0	91.20	324.70	6,414.8	1,339.3	-1,157.2	1,766.2	2.00	1.56	
8,026.0	90.20	321.50	6,414.0	1,389.6	-1,195.1	1,829.2	5.32	-1.59	
8,089.0	91.00	320.10	6,413.3	1,438.5	-1,234.9	1,892.2	2.56	1.27	
8,152.0	91.90	320.00	6,411.8	1,486.7	-1,275.3	1,955.1	1.44	1.43	
8,215.0	91.20	321.60	6,410.0	1,535.5	-1,315.1	2,018.0	2.77	-1.11	
8,278.0	90.20	322.80	6,409.3	1,585.3	-1,353.7	2,081.0	2.48	-1.59	
8,342.0	90.70	322.50	6,408.8	1,636.2	-1,392.5	2,145.0	0.91	0.78	
8,405.0	91.80	321.40	6,407.4	1,685.8	-1,431.4	2,208.0	2.47	1.75	
8,468.0	90.40	322.80	6,406.2	1,735.5	-1,470.1	2,270.9	3.14	-2.22	
8,532.0	88.60	322.70	6,406.7	1,786.4	-1,508.8	2,334.9	2.82	-2.81	
8,594.0	89.00	322.60	6,408.0	1,835.7	-1,546.4	2,396.9	0.67	0.65	
8,657.0	90.00	322.80	6,408.6	1,885.8	-1,584.6	2,459.9	1.62	1.59	

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8,719.0	90.60	323.30	6,408.3	1,935.4	-1,621.8	2,521.9	1.26	0.97	
8,783.0	91.80	323.00	6,406.9	1,986.6	-1,660.2	2,585.9	1.93	1.88	
8,845.0	90.40	324.20	6,405.7	2,036.5	-1,697.0	2,647.9	2.97	-2.26	
8,906.0	88.70	324.20	6,406.2	2,085.9	-1,732.7	2,708.9	2.79	-2.79	
8,969.0	89.10	324.00	6,407.4	2,137.0	-1,769.6	2,771.8	0.71	0.63	
9,032.0	90.30	324.30	6,407.8	2,188.0	-1,806.5	2,834.8	1.96	1.90	
9,096.0	91.60	324.40	6,406.7	2,240.0	-1,843.8	2,898.8	2.04	2.03	
9,159.0	90.60	324.20	6,405.5	2,291.2	-1,880.6	2,961.8	1.62	-1.59	
9,224.0	89.10	322.30	6,405.7	2,343.2	-1,919.4	3,026.8	3.72	-2.31	
9,285.0	90.20	323.20	6,406.0	2,391.8	-1,956.4	3,087.8	2.33	1.80	
9,346.0	91.50	324.70	6,405.1	2,441.1	-1,992.3	3,148.7	3.25	2.13	
9,408.0	90.20	322.90	6,404.2	2,491.1	-2,028.9	3,210.7	3.58	-2.10	
9,470.0	90.70	322.60	6,403.7	2,540.5	-2,066.4	3,272.7	0.94	0.81	
9,533.0	89.60	320.90	6,403.6	2,590.0	-2,105.4	3,335.7	3.21	-1.75	
9,594.0	90.90	321.50	6,403.3	2,637.5	-2,143.6	3,396.7	2.35	2.13	
9,657.0	91.80	321.70	6,401.8	2,686.8	-2,182.7	3,459.6	1.46	1.43	
9,719.0	92.60	322.10	6,399.4	2,735.6	-2,221.0	3,521.6	1.44	1.29	
9,848.0	89.60	322.80	6,396.9	2,837.8	-2,299.6	3,650.5	2.39	-2.33	
9,911.0	90.20	322.40	6,397.1	2,887.9	-2,337.8	3,713.5	1.14	0.95	
9,974.0	91.10	321.80	6,396.3	2,937.6	-2,376.5	3,776.5	1.72	1.43	
10,036.0	89.90	322.50	6,395.8	2,986.6	-2,414.6	3,838.5	2.24	-1.94	
10,102.0	89.90	322.20	6,395.9	3,038.8	-2,454.9	3,904.5	0.45	0.00	
10,165.0	90.80	322.50	6,395.5	3,088.7	-2,493.4	3,967.5	1.51	1.43	
10,228.0	89.80	322.70	6,395.2	3,138.7	-2,531.6	4,030.5	1.62	-1.59	
10,291.0	90.40	322.70	6,395.1	3,188.8	-2,569.8	4,093.5	0.95	0.95	
10,354.0	91.70	323.60	6,393.9	3,239.3	-2,607.6	4,156.5	2.51	2.06	
10,417.0	91.10	324.50	6,392.4	3,290.2	-2,644.5	4,219.5	1.72	-0.95	
10,481.0	89.30	324.40	6,392.2	3,342.3	-2,681.8	4,283.4	2.82	-2.81	
10,542.0	90.20	324.50	6,392.4	3,391.9	-2,717.2	4,344.4	1.48	1.48	
10,604.0	91.00	324.20	6,391.8	3,442.3	-2,753.4	4,406.4	1.38	1.29	
10,667.0	92.40	324.50	6,389.9	3,493.5	-2,790.1	4,469.3	2.27	2.22	
10,730.0	90.70	323.90	6,388.2	3,544.6	-2,826.9	4,532.3	2.86	-2.70	
10,794.0	89.10	321.90	6,388.3	3,595.6	-2,865.5	4,596.3	4.00	-2.50	
10,856.0	89.80	321.70	6,388.9	3,644.3	-2,903.8	4,658.3	1.17	1.13	
10,920.0	91.20	323.00	6,388.4	3,695.0	-2,942.9	4,722.3	2.99	2.19	
10,983.0	90.00	323.00	6,387.7	3,745.3	-2,980.8	4,785.3	1.90	-1.90	
11,045.0	91.40	323.00	6,387.0	3,794.8	-3,018.1	4,847.2	2.26	2.26	
11,109.0	91.20	323.10	6,385.5	3,845.9	-3,056.6	4,911.2	0.35	-0.31	
11,172.0	89.10	322.70	6,385.3	3,896.2	-3,094.6	4,974.2	3.39	-3.33	
11,235.0	89.30	321.40	6,386.2	3,945.9	-3,133.3	5,037.2	2.09	0.32	
11,299.0	90.40	322.30	6,386.4	3,996.2	-3,172.9	5,101.2	2.22	1.72	
11,362.0	91.50	323.40	6,385.3	4,046.4	-3,210.9	5,164.2	2.47	1.75	
11,425.0	89.90	322.20	6,384.6	4,096.6	-3,249.0	5,227.2	3.17	-2.54	
11,486.0	90.30	322.30	6,384.5	4,144.8	-3,286.3	5,288.2	0.68	0.66	
11,549.0	91.60	322.40	6,383.4	4,194.7	-3,324.8	5,351.2	2.07	2.06	
11,613.0	90.40	322.40	6,382.3	4,245.4	-3,363.9	5,415.1	1.88	-1.88	
11,676.0	90.80	321.80	6,381.6	4,295.1	-3,402.6	5,478.1	1.14	0.63	
11,739.0	91.20	321.60	6,380.5	4,344.5	-3,441.6	5,541.1	0.71	0.63	
11,801.0	89.50	321.60	6,380.2	4,393.1	-3,480.1	5,603.1	2.74	-2.74	
11,863.0	87.80	321.60	6,381.6	4,441.7	-3,518.6	5,665.1	2.74	-2.74	
11,926.0	88.70	321.60	6,383.5	4,491.0	-3,557.7	5,728.0	1.43	1.43	
11,988.0	89.20	321.40	6,384.7	4,539.5	-3,596.3	5,790.0	0.87	0.81	
12,052.0	89.80	321.00	6,385.2	4,589.4	-3,636.4	5,854.0	1.13	0.94	



Cathedral Energy Services

Survey Report

Company:	Chesapeake Energy Corp	Local Co-ordinate Reference:	Well Chad Glauser OHI 3H
Project:	Ohio County, WV	TVD Reference:	WELL @ 1258.0usft (Original Well Elev)
Site:	Chad Glauser OHI Pad	MD Reference:	WELL @ 1258.0usft (Original Well Elev)
Well:	Chad Glauser OHI 3H	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
12,114.0	89.70	320.40	6,385.5	4,637.4	-3,675.7	5,915.9	0.98	-0.16	
12,176.0	89.40	319.70	6,386.0	4,684.9	-3,715.5	5,977.8	1.23	-0.48	
12,239.0	90.00	321.50	6,386.3	4,733.6	-3,755.5	6,040.8	3.01	0.95	
12,303.0	90.80	321.90	6,385.9	4,783.8	-3,795.1	6,104.8	1.40	1.25	
12,365.0	92.00	322.50	6,384.4	4,832.8	-3,833.1	6,166.7	2.16	1.94	
12,428.0	91.30	322.30	6,382.6	4,882.7	-3,871.6	6,229.7	1.16	-1.11	
12,492.0	90.90	321.90	6,381.3	4,933.2	-3,910.9	6,293.7	0.88	-0.63	
12,554.0	90.50	320.60	6,380.6	4,981.5	-3,949.7	6,355.7	2.19	-0.65	
12,616.0	89.90	322.90	6,380.4	5,030.2	-3,988.0	6,417.6	3.83	-0.97	
12,679.0	91.50	323.70	6,379.6	5,080.7	-4,025.7	6,480.6	2.84	2.54	
12,742.0	92.10	323.40	6,377.6	5,131.4	-4,063.1	6,543.6	1.06	0.95	
12,803.0	92.90	323.20	6,374.9	5,180.2	-4,099.5	6,604.5	1.35	1.31	
12,866.0	92.60	325.70	6,371.9	5,231.4	-4,136.1	6,667.4	3.99	-0.48	
12,929.0	90.90	325.00	6,370.0	5,283.2	-4,171.9	6,730.3	2.92	-2.70	
12,992.0	91.40	324.60	6,368.7	5,334.7	-4,208.2	6,793.3	1.02	0.79	
13,054.0	90.40	324.10	6,367.8	5,385.1	-4,244.3	6,855.3	1.80	-1.61	
13,117.0	90.50	324.00	6,367.3	5,436.1	-4,281.3	6,918.2	0.22	0.16	
13,180.0	90.90	324.10	6,366.5	5,487.1	-4,318.3	6,981.2	0.65	0.63	
13,243.0	91.80	324.00	6,365.0	5,538.0	-4,355.3	7,044.2	1.44	1.43	
13,306.0	91.50	323.00	6,363.2	5,588.7	-4,392.7	7,107.2	1.66	-0.48	
13,369.0	91.10	323.50	6,361.8	5,639.1	-4,430.4	7,170.2	1.02	-0.63	
13,495.0	91.20	323.30	6,359.2	5,740.3	-4,505.5	7,296.1	0.18	0.08	
13,559.0	90.60	323.00	6,358.2	5,791.5	-4,543.9	7,360.1	1.05	-0.94	
13,620.0	90.10	321.70	6,357.9	5,839.8	-4,581.2	7,421.1	2.28	-0.82	
13,682.0	90.50	322.00	6,357.5	5,888.5	-4,619.5	7,483.1	0.81	0.65	
13,746.0	91.40	322.50	6,356.5	5,939.1	-4,658.7	7,547.1	1.61	1.41	
13,809.0	91.80	322.20	6,354.7	5,989.0	-4,697.1	7,610.1	0.79	0.63	
13,872.0	90.10	320.10	6,353.7	6,038.0	-4,736.6	7,673.0	4.29	-2.70	
13,935.0	89.10	321.00	6,354.1	6,086.7	-4,776.7	7,736.0	2.14	-1.59	
13,997.0	91.10	322.30	6,354.0	6,135.3	-4,815.1	7,797.9	3.85	3.23	
14,059.0	90.70	322.30	6,353.0	6,184.3	-4,853.0	7,859.9	0.65	-0.65	
14,121.0	91.50	321.60	6,351.8	6,233.2	-4,891.2	7,921.9	1.71	1.29	
14,184.0	91.00	322.30	6,350.5	6,282.8	-4,930.1	7,984.9	1.37	-0.79	
14,247.0	90.90	321.90	6,349.4	6,332.5	-4,968.8	8,047.9	0.65	-0.16	
14,309.0	91.40	322.10	6,348.2	6,381.3	-5,006.9	8,109.9	0.87	0.81	
14,371.0	92.30	321.60	6,346.2	6,430.1	-5,045.2	8,171.8	1.66	1.45	
14,435.0	92.80	321.90	6,343.3	6,480.3	-5,084.8	8,235.7	0.91	0.78	
14,498.0	91.60	322.10	6,340.9	6,529.9	-5,123.6	8,298.7	1.93	-1.90	
14,560.0	90.40	322.70	6,339.8	6,579.0	-5,161.4	8,360.7	2.16	-1.94	
14,623.0	89.70	322.20	6,339.8	6,628.9	-5,199.8	8,423.7	1.37	-1.11	
14,686.0	91.10	322.60	6,339.3	6,678.8	-5,238.2	8,486.7	2.31	2.22	
14,750.0	91.50	321.60	6,337.9	6,729.3	-5,277.5	8,550.6	1.68	0.62	
14,813.0	91.70	320.70	6,336.1	6,778.4	-5,317.0	8,613.6	1.46	0.32	
14,876.0	92.40	320.40	6,333.9	6,827.0	-5,357.0	8,676.5	1.21	1.11	
14,939.0	93.10	319.40	6,330.8	6,875.1	-5,397.6	8,739.3	1.94	1.11	
15,002.0	94.00	319.40	6,326.9	6,922.9	-5,438.5	8,802.1	1.43	1.43	
15,065.0	94.70	318.90	6,322.2	6,970.4	-5,479.6	8,864.8	1.36	1.11	
15,111.0	95.21	318.53	6,318.2	7,004.8	-5,509.8	8,910.5	1.37	1.11	

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Last Cathedral Survey @ 15,065' MD
Projection to Bit @ 15,111' MD



Cathedral Energy Services

Survey Report

Company:	Chesapeake Energy Corp	Local Co-ordinate Reference:	Well Chad Glauser OHI 3H
Project:	Ohio County, WV	TVD Reference:	WELL @ 1258.0usft (Original Well Elev)
Site:	Chad Glauser OHI Pad	MD Reference:	WELL @ 1258.0usft (Original Well Elev)
Well:	Chad Glauser OHI 3H	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 (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Chad Glauser 3H PBHL	0.00	0.00	6,343.2	7,029.2	-5,480.1	566,097.28	1,687,184.42	40° 2' 56.00 N	80° 37' 2.57 W
- actual wellpath misses target center by 45.7usft at 15107.5usft MD (6318.5 TVD, 7002.2 N, -5507.5 E)									
- Point									
Chad Glauser 3H PBHL	0.00	0.00	6,352.2	7,029.2	-5,480.1	566,097.28	1,687,184.42	40° 2' 56.00 N	80° 37' 2.57 W
- actual wellpath misses target center by 51.1usft at 15106.8usft MD (6318.6 TVD, 7001.7 N, -5507.0 E)									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
700.0	700.0	-0.3	0.6	Last Gyro Survey @ 700' MD	
15,065.0	6,322.2	6,970.4	-5,479.6	Last Cathedral Survey @ 15,065' MD	
15,111.0	6,318.2	7,004.8	-5,509.8	Projection to Bit @ 15,111' MD	

Checked By: _____ Approved By: _____ Date: _____