

Chesapeake Energy

EOW Survey Report

Well Name: Alice Edge OHI

Well Number: 301H

Date: 12/02/14

Prepared by Troy Lewis



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WV Department of
Environmental Protection



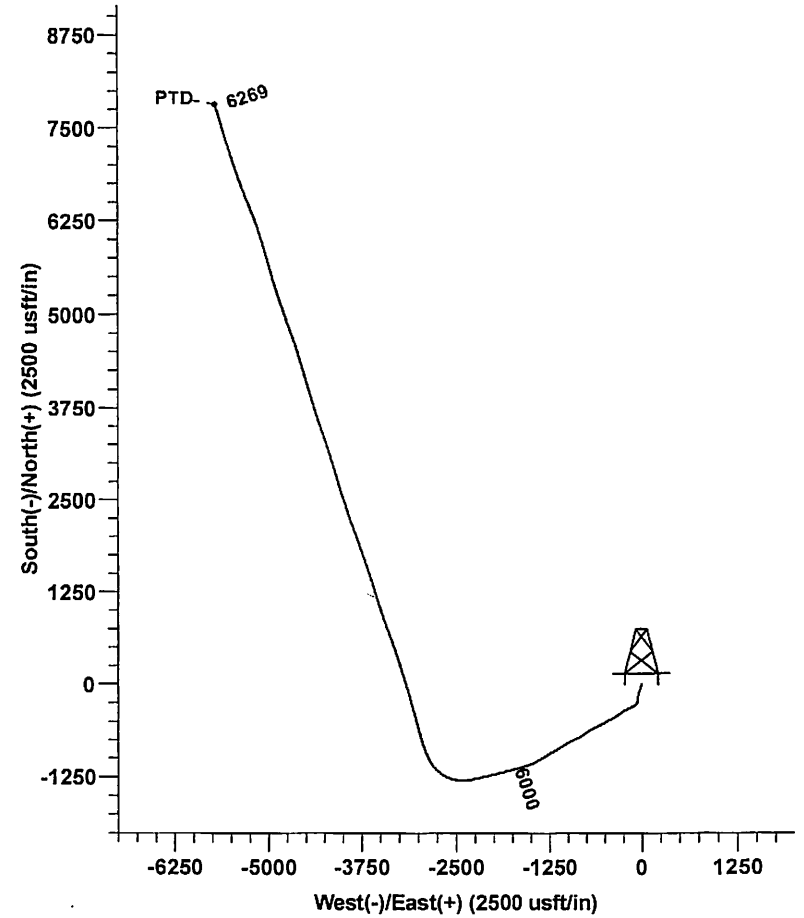
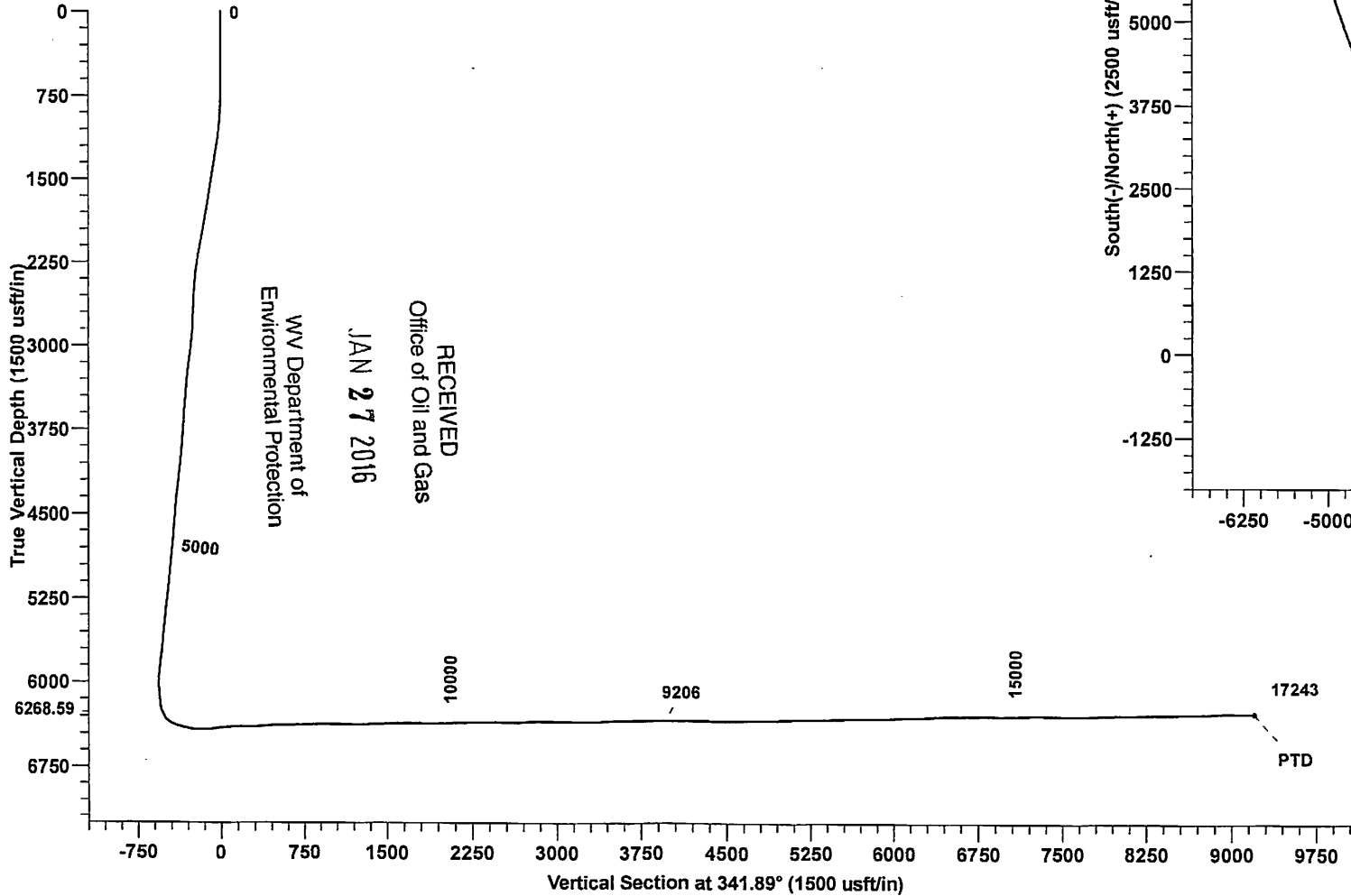
Chesapeake

Project: Ohio Co, WV
 Site: Alice Edge OHI
 Well: 301H
 Wellbore: OH
 Plan: OH



WELL DETAILS: 301H						
Ground Level: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	584420.00	1703310.63	40° 5' 59.000 N	80° 33' 38.002 W	

Target Line = 6396' TVD @ 90.8 Inc. @ 341.89 Azm.



Azimuths to Grid North
 True North: 0.68°
 Magnetic North: -8.10°

Magnetic Field
 Strength: 52574.2snT
 Dip Angle: 67.42°
 Date: 12/01/2014
 Model: BGGM2014



SDI
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Local Co-ordinate Reference: Well 301H
 TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
 MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM LEWIS

Project	Ohio Co, 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		

Site Alice Edge OHI

Site Position: Northing: 584,442.30 usft Latitude: 40° 5' 59.221 N
 From: Map Easting: 1,703,320.70 usft Longitude: 80° 33' 37.876 W
 Position Uncertainty: 0.00 usft Slot Radius: 0 " Grid Convergence: -0.68 °

Well 301H
 Well Position +N/-S 0.00 usft Northing: 584,420.00 usft Latitude: 40° 5' 59.000 N
 +E/-W 0.00 usft Easting: 1,703,310.63 usft Longitude: 80° 33' 38.002 W
 Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 1,198.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	12/01/14	-8.78	67.42	52,574

Design OH

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	341.89

Survey Program Date 12/01/14

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	593.00	Survey #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m
667.00	17,243.00	Survey #2 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.09	61.57	100.00	0.04	0.07	0.01	0.09	0.09	0.00
200.00	0.26	44.92	200.00	0.24	0.30	0.13	0.18	0.17	-16.65
300.00	0.23	53.79	300.00	0.51	0.62	0.30	0.05	-0.03	8.87
400.00	0.21	82.47	400.00	0.66	0.96	0.33	0.11	-0.02	28.68
500.00	0.27	67.13	500.00	0.77	1.36	0.31	0.09	0.06	-15.34
593.00	0.28	69.62	593.00	0.94	1.78	0.34	0.02	0.01	2.68
667.00	0.48	55.50	666.99	1.18	2.20	0.43	0.30	0.27	-19.08
720.00	0.35	92.70	719.99	1.29	2.55	0.44	0.55	-0.25	70.19
815.00	1.30	170.60	814.98	0.22	3.01	-0.73	1.34	1.00	82.00



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 Survey Calculation Method: Minimum Curvature
 Database: EDM LEWIS

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)
910.00	3.70	186.80	909.89	-3.89	2.83	-4.58	2.61	2.53	17.05
1,004.00	6.20	194.50	1,003.53	-11.82	1.20	-11.60	2.75	2.66	8.19
1,099.00	8.80	199.40	1,097.71	-23.64	-2.50	-21.69	2.82	2.74	5.16
1,194.00	11.40	202.10	1,191.23	-39.20	-8.45	-34.63	2.78	2.74	2.84
1,289.00	12.30	201.00	1,284.21	-57.34	-15.61	-49.65	0.98	0.95	-1.16
1,383.00	10.60	196.70	1,376.33	-74.97	-21.68	-64.52	2.02	-1.81	-4.57
1,478.00	10.50	201.00	1,469.73	-91.42	-27.29	-78.41	0.84	-0.11	4.53
1,573.00	11.50	200.60	1,562.98	-108.37	-33.73	-92.52	1.06	1.05	-0.42
1,667.00	12.00	196.60	1,655.01	-126.51	-39.82	-107.86	1.02	0.53	-4.26
1,767.00	12.00	191.20	1,752.83	-146.67	-44.81	-125.47	1.12	0.00	-5.40
1,862.00	10.60	190.00	1,845.99	-164.96	-48.24	-141.79	1.49	-1.47	-1.26
1,956.00	11.00	184.60	1,938.32	-182.41	-50.46	-157.69	1.16	0.43	-5.74
2,051.00	11.10	179.30	2,031.57	-200.59	-51.08	-174.78	1.07	0.11	-5.58
2,061.00	11.10	178.80	2,041.38	-202.52	-51.05	-176.62	0.96	0.00	-5.00
2,146.00	11.30	181.50	2,124.76	-219.02	-51.09	-192.29	0.66	0.24	3.18
2,240.00	11.90	196.70	2,216.86	-237.52	-54.12	-208.93	3.30	0.64	16.17
2,335.00	10.80	213.00	2,310.03	-254.37	-61.78	-222.56	3.56	-1.16	17.16
2,430.00	12.20	226.90	2,403.14	-268.69	-73.96	-232.39	3.26	1.47	14.63
2,524.00	13.40	234.90	2,494.80	-281.75	-90.13	-239.77	2.27	1.28	8.51
2,619.00	15.30	240.80	2,586.84	-294.19	-110.08	-245.40	2.52	2.00	6.21
2,714.00	18.40	244.90	2,677.76	-306.67	-134.61	-249.64	3.49	3.26	4.32
2,808.00	20.80	245.90	2,766.30	-319.78	-163.28	-253.19	2.58	2.55	1.06
2,903.00	23.70	245.50	2,854.22	-334.59	-196.06	-257.07	3.06	3.05	-0.42
2,997.00	25.90	242.60	2,939.55	-351.87	-231.48	-262.49	2.67	2.34	-3.09
3,094.00	25.10	234.10	3,027.13	-373.69	-266.97	-272.20	3.86	-0.82	-8.76
3,189.00	24.90	234.00	3,113.23	-397.27	-299.47	-284.50	0.22	-0.21	-0.11
3,283.00	25.30	236.50	3,198.35	-419.98	-332.23	-295.91	1.21	0.43	2.66
3,378.00	25.30	240.50	3,284.25	-441.19	-366.83	-305.30	1.80	0.00	4.21
3,473.00	26.60	242.90	3,369.67	-460.87	-403.43	-312.64	1.76	1.37	2.53
3,567.00	26.00	242.60	3,453.94	-479.94	-440.46	-319.25	0.65	-0.64	-0.32
3,662.00	24.70	240.50	3,539.79	-499.30	-476.22	-326.53	1.66	-1.37	-2.21
3,756.00	26.20	244.40	3,624.67	-517.94	-512.03	-333.12	2.39	1.60	4.15
3,851.00	25.20	243.50	3,710.27	-536.02	-549.05	-338.80	1.13	-1.05	-0.95
3,946.00	25.80	244.50	3,796.02	-553.95	-585.81	-344.41	0.78	0.63	1.05
4,041.00	26.70	241.90	3,881.23	-572.90	-623.29	-350.77	1.54	0.95	-2.74
4,141.00	24.60	239.30	3,971.37	-594.11	-661.01	-359.21	2.38	-2.10	-2.60
4,235.00	25.50	240.00	4,056.53	-614.22	-695.36	-367.64	1.01	0.96	0.74
4,330.00	26.40	237.80	4,141.95	-635.70	-730.94	-377.00	1.39	0.95	-2.32
4,425.00	24.70	234.30	4,227.66	-658.54	-764.94	-388.14	2.39	-1.79	-3.68
4,519.00	24.40	237.30	4,313.17	-680.49	-797.23	-398.97	1.36	-0.32	3.19
4,614.00	25.40	241.50	4,399.34	-700.81	-831.65	-407.59	2.14	1.05	4.42
4,709.00	26.60	244.40	4,484.73	-719.73	-868.74	-414.03	1.26	1.26	3.05
4,803.00	24.90	242.40	4,569.39	-737.99	-905.26	-420.03	-1.81	-1.81	-2.13



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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)
4,898.00	25.70	245.30	4,655.28	-755.87	-941.70	-425.70	1.55	0.84	3.05
4,992.00	26.60	239.60	4,739.67	-775.03	-978.37	-432.52	2.84	0.96	-6.06
5,087.00	24.70	236.60	4,825.31	-796.73	-1,013.29	-442.28	2.42	-2.00	-3.16
5,186.00	25.50	240.00	4,914.97	-818.77	-1,049.02	-452.13	1.67	0.81	3.43
5,280.00	27.90	241.40	4,998.94	-839.42	-1,085.86	-460.30	2.64	2.55	1.49
5,375.00	26.90	239.70	5,083.28	-860.90	-1,123.93	-468.89	1.34	-1.05	-1.79
5,470.00	25.90	237.90	5,168.37	-882.77	-1,160.06	-478.44	1.35	-1.05	-1.89
5,564.00	24.60	240.30	5,253.39	-903.37	-1,194.45	-487.34	1.76	-1.38	2.55
5,659.00	25.20	237.50	5,339.57	-924.04	-1,228.68	-496.34	1.39	0.63	-2.95
5,754.00	23.70	238.30	5,426.04	-944.94	-1,261.99	-505.85	1.62	-1.58	0.84
5,848.00	24.30	236.00	5,511.92	-965.68	-1,294.10	-515.58	1.18	0.64	-2.45
5,943.00	25.00	241.30	5,598.27	-986.26	-1,327.91	-524.63	2.44	0.74	5.58
6,038.00	26.10	240.50	5,683.98	-1,006.19	-1,363.71	-532.44	1.21	1.16	-0.84
6,132.00	27.20	240.40	5,767.99	-1,026.98	-1,400.39	-540.81	1.17	1.17	-0.11
6,147.00	27.20	238.00	5,781.34	-1,030.49	-1,406.28	-542.31	7.31	0.00	-16.00
6,242.00	30.40	240.50	5,864.58	-1,053.84	-1,445.62	-552.27	3.60	3.37	2.63
6,274.00	33.20	242.80	5,891.77	-1,061.83	-1,460.46	-555.26	9.53	8.75	7.19
6,305.00	36.40	245.30	5,917.23	-1,069.56	-1,476.37	-557.66	11.30	10.32	8.06
6,337.00	39.10	248.40	5,942.53	-1,077.24	-1,494.39	-559.36	10.31	8.44	9.69
6,368.00	41.60	250.30	5,966.15	-1,084.31	-1,513.17	-560.24	8.99	8.06	6.13
6,400.00	43.70	251.80	5,989.69	-1,091.35	-1,533.67	-560.55	7.29	6.56	4.69
6,431.00	45.00	252.80	6,011.85	-1,097.93	-1,554.32	-560.40	4.76	4.19	3.23
6,463.00	46.60	253.60	6,034.16	-1,104.56	-1,576.28	-559.87	5.31	5.00	2.50
6,494.00	48.20	254.20	6,055.15	-1,110.89	-1,598.20	-559.07	5.35	5.16	1.94
6,526.00	49.70	254.20	6,076.16	-1,117.46	-1,621.42	-558.09	4.69	4.69	0.00
6,557.00	51.40	255.10	6,095.86	-1,123.79	-1,644.51	-556.94	5.92	5.48	2.90
6,589.00	53.20	255.10	6,115.42	-1,130.30	-1,668.97	-555.52	5.63	5.63	0.00
6,620.00	54.70	255.10	6,133.67	-1,136.75	-1,693.19	-554.12	4.84	4.84	0.00
6,652.00	55.80	255.10	6,151.91	-1,143.51	-1,718.60	-552.65	3.44	3.44	0.00
6,683.00	60.00	255.00	6,168.38	-1,150.28	-1,743.97	-551.20	13.55	13.55	-0.32
6,715.00	63.10	254.70	6,183.62	-1,157.63	-1,771.12	-549.75	9.72	9.69	-0.94
6,746.00	65.70	254.90	6,197.01	-1,164.96	-1,798.10	-548.33	8.41	8.39	0.65
6,778.00	67.00	254.50	6,209.85	-1,172.70	-1,826.37	-546.89	4.22	4.06	-1.25
6,810.00	69.80	255.10	6,221.63	-1,180.50	-1,855.08	-545.38	8.92	8.75	1.88
6,841.00	74.00	255.70	6,231.26	-1,187.92	-1,883.59	-543.57	13.67	13.55	1.94
6,873.00	77.50	256.50	6,239.13	-1,195.37	-1,913.69	-541.30	11.20	10.94	2.50
6,904.00	77.70	256.50	6,245.79	-1,202.44	-1,943.13	-538.86	0.65	0.65	0.00
6,936.00	77.20	255.60	6,252.74	-1,209.97	-1,973.44	-536.60	3.16	-1.56	-2.81
6,967.00	78.00	256.30	6,259.40	-1,217.32	-2,002.82	-534.45	3.39	2.58	2.26
6,999.00	78.80	256.90	6,265.83	-1,224.58	-2,033.31	-531.88	3.10	2.50	1.88
7,031.00	78.90	257.50	6,272.02	-1,231.54	-2,063.92	-528.97	1.87	0.31	1.88
7,062.00	79.10	257.60	6,277.94	-1,238.10	-2,093.64	-525.97	0.72	0.65	0.32
7,093.00	79.10	257.70	6,283.80	-1,244.61	-2,123.38	-522.92	0.32	0.00	0.32

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7,125.00	79.10	257.00	6,289.85	-1,251.49	-2,154.03	-519.93	2.15	0.00	-2.19
7,157.00	79.20	257.60	6,295.87	-1,258.40	-2,184.69	-516.96	1.87	0.31	1.88
7,188.00	79.40	256.70	6,301.63	-1,265.17	-2,214.39	-514.17	2.92	0.65	-2.90
7,220.00	79.50	256.80	6,307.49	-1,272.38	-2,245.01	-511.51	0.44	0.31	0.31
7,252.00	79.70	257.30	6,313.27	-1,279.44	-2,275.69	-508.68	1.66	0.63	1.56
7,283.00	79.20	258.60	6,318.94	-1,285.80	-2,305.49	-505.46	4.43	-1.61	4.19
7,315.00	78.10	261.50	6,325.24	-1,291.22	-2,336.39	-501.01	9.53	-3.44	9.06
7,346.00	77.20	265.20	6,331.87	-1,294.73	-2,366.46	-494.99	12.02	-2.90	11.94
7,378.00	76.80	268.80	6,339.07	-1,296.36	-2,397.59	-486.87	11.03	-1.25	11.25
7,410.00	76.90	272.30	6,346.36	-1,296.06	-2,428.75	-476.90	10.66	0.31	10.94
7,441.00	77.20	275.80	6,353.31	-1,293.93	-2,458.88	-465.51	11.05	0.97	11.29
7,472.00	77.80	279.60	6,360.02	-1,289.87	-2,488.86	-452.33	12.12	1.94	12.26
7,504.00	78.10	283.30	6,366.70	-1,283.66	-2,519.53	-436.89	11.35	0.94	11.56
7,535.00	78.50	286.90	6,372.99	-1,275.75	-2,548.83	-420.27	11.44	1.29	11.61
7,567.00	78.90	290.60	6,379.26	-1,265.67	-2,578.54	-401.45	11.41	1.25	11.56
7,598.00	78.90	294.20	6,385.23	-1,254.08	-2,606.66	-381.69	11.40	0.00	11.61
7,630.00	79.50	297.80	6,391.23	-1,240.30	-2,634.91	-359.82	11.21	1.88	11.25
7,661.00	80.20	301.50	6,396.69	-1,225.21	-2,661.42	-337.23	11.96	2.26	11.94
7,693.00	80.80	304.80	6,401.98	-1,207.95	-2,687.84	-312.61	10.34	1.88	10.31
7,724.00	81.90	307.30	6,406.64	-1,189.91	-2,712.62	-287.77	8.73	3.55	8.06
7,756.00	84.11	311.70	6,410.54	-1,169.72	-2,737.11	-260.96	15.29	6.91	13.75
7,787.00	86.50	314.80	6,413.08	-1,148.55	-2,759.61	-233.85	12.60	7.71	10.00
7,819.00	87.80	319.30	6,414.67	-1,125.16	-2,781.38	-204.85	14.62	4.06	14.06
7,851.00	88.70	321.60	6,415.65	-1,100.50	-2,801.75	-175.08	7.71	2.81	7.19
7,883.00	91.10	326.10	6,415.70	-1,074.67	-2,820.62	-144.67	15.94	7.50	14.06
7,914.00	93.00	330.20	6,414.59	-1,048.36	-2,836.96	-114.58	14.57	6.13	13.23
7,946.00	94.40	335.60	6,412.53	-1,019.95	-2,851.50	-83.05	17.40	4.38	16.88
7,977.00	95.00	336.90	6,409.99	-991.67	-2,863.95	-52.31	4.61	1.94	4.19
8,009.00	96.20	338.50	6,406.86	-962.20	-2,876.03	-20.55	6.23	3.75	5.00
8,041.00	96.70	339.50	6,403.27	-932.52	-2,887.43	11.21	3.48	1.56	3.13
8,072.00	94.80	341.80	6,400.16	-903.42	-2,897.64	42.04	9.59	-6.13	7.42
8,135.00	92.80	339.90	6,395.99	-844.04	-2,918.27	104.89	4.37	-3.17	-3.02
8,230.00	91.30	342.10	6,392.59	-754.28	-2,949.17	199.81	2.80	-1.58	2.32
8,325.00	92.10	345.20	6,389.77	-663.18	-2,975.90	294.71	3.37	0.84	3.26
8,419.00	91.60	345.70	6,386.73	-572.24	-2,999.50	388.48	0.75	-0.53	0.53
8,514.00	94.00	346.30	6,382.09	-480.18	-3,022.46	483.11	2.60	2.53	0.63
8,609.00	91.70	344.60	6,377.37	-388.35	-3,046.29	577.80	3.01	-2.42	-1.79
8,703.00	90.90	344.50	6,375.24	-297.77	-3,071.33	671.68	0.86	-0.85	-0.11
8,798.00	91.00	344.30	6,373.66	-206.28	-3,096.87	766.57	0.24	0.11	-0.21
8,893.00	90.60	344.40	6,372.34	-114.82	-3,122.49	861.48	0.43	-0.42	0.11
8,987.00	90.60	344.50	6,371.35	-24.26	-3,147.69	955.38	0.11	0.00	0.11
9,082.00	89.80	343.10	6,371.02	66.96	-3,174.20	1,050.32	1.70	-0.84	-1.47
9,176.00	90.50	342.20	6,370.77	156.68	-3,202.23	1,144.31	0.74	0.74	-0.96
9,271.00	90.30	343.70	6,370.11	247.50	-3,230.08	1,239.29	0.21	-0.21	1.58

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Survey Report

Company: Chesapeake
Project: Ohio Co, WV
Site: Alice Edge OHI
Well: 301H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 301H
TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

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)
9,366.00	90.10	344.30	6,369.78	338.82	-3,256.26	1,334.22	0.67	-0.21	0.63
9,461.00	92.00	341.10	6,368.04	429.49	-3,284.51	1,429.18	3.92	2.00	-3.37
9,555.00	92.00	341.20	6,364.76	518.40	-3,314.86	1,523.12	0.11	0.00	0.11
9,649.00	91.10	340.50	6,362.21	607.16	-3,345.68	1,617.06	1.21	-0.96	-0.74
9,744.00	90.20	340.00	6,361.14	696.57	-3,377.78	1,712.02	1.08	-0.95	-0.53
9,838.00	89.50	339.20	6,361.38	784.67	-3,410.55	1,805.94	1.13	-0.74	-0.85
9,933.00	90.20	341.50	6,361.63	874.13	-3,442.49	1,900.90	2.53	0.74	2.42
10,028.00	89.70	342.00	6,361.71	964.35	-3,472.24	1,995.90	0.74	-0.53	0.53
10,123.00	90.20	342.00	6,361.80	1,054.70	-3,501.60	2,090.90	0.53	0.53	0.00
10,218.00	92.00	343.70	6,359.97	1,145.45	-3,529.60	2,185.86	2.61	1.89	1.79
10,312.00	91.80	343.60	6,356.86	1,235.60	-3,556.05	2,279.76	0.24	-0.21	-0.11
10,407.00	91.00	343.20	6,354.54	1,326.62	-3,583.18	2,374.70	0.94	-0.84	-0.42
10,502.00	90.30	342.10	6,353.46	1,417.29	-3,611.51	2,469.69	1.37	-0.74	-1.16
10,597.00	89.60	341.20	6,353.54	1,507.45	-3,641.42	2,564.68	1.20	-0.74	-0.95
10,691.00	91.90	342.50	6,352.31	1,596.76	-3,670.69	2,658.67	2.81	2.45	1.38
10,786.00	91.50	342.80	6,349.49	1,687.40	-3,699.01	2,753.62	0.53	-0.42	0.32
10,881.00	90.60	341.80	6,347.75	1,777.88	-3,727.89	2,848.60	1.42	-0.95	-1.05
10,976.00	90.00	339.10	6,347.25	1,867.40	-3,759.67	2,943.56	2.91	-0.63	-2.84
11,070.00	90.30	339.80	6,347.01	1,955.41	-3,792.67	3,037.47	0.81	0.32	0.74
11,165.00	90.50	340.40	6,346.35	2,044.74	-3,825.01	3,132.42	0.67	0.21	0.63
11,259.00	90.30	340.40	6,345.69	2,133.29	-3,856.54	3,226.39	0.21	-0.21	0.00
11,352.00	90.30	340.70	6,345.20	2,220.98	-3,887.50	3,319.36	0.32	0.00	0.32
11,445.00	91.80	343.10	6,343.50	2,309.36	-3,916.39	3,412.33	3.04	1.61	2.58
11,539.00	92.00	342.70	6,340.38	2,399.15	-3,944.01	3,506.27	0.48	0.21	-0.43
11,632.00	91.40	341.40	6,337.62	2,487.58	-3,972.66	3,599.22	1.54	-0.65	-1.40
11,726.00	90.90	341.50	6,335.74	2,576.68	-4,002.56	3,693.20	0.54	-0.53	0.11
11,821.00	90.40	342.30	6,334.66	2,666.97	-4,032.07	3,788.19	0.99	-0.53	0.84
11,915.00	90.20	343.40	6,334.17	2,756.79	-4,059.79	3,882.18	1.19	-0.21	1.17
12,010.00	90.00	343.80	6,334.00	2,847.93	-4,086.61	3,977.14	0.47	-0.21	0.42
12,104.00	89.50	343.60	6,334.41	2,938.15	-4,112.99	4,071.09	0.57	-0.53	-0.21
12,199.00	89.00	344.20	6,335.65	3,029.41	-4,139.34	4,166.02	0.82	-0.53	0.63
12,293.00	90.80	341.40	6,335.82	3,119.20	-4,167.13	4,260.00	3.54	1.91	-2.98
12,388.00	89.60	340.30	6,335.49	3,208.93	-4,198.29	4,354.98	1.71	-1.26	-1.16
12,483.00	89.50	341.00	6,336.23	3,298.56	-4,229.77	4,449.95	0.74	-0.11	0.74
12,551.00	89.30	341.20	6,336.94	3,362.90	-4,251.79	4,517.94	0.42	-0.29	0.29
12,645.00	90.10	342.00	6,337.44	3,452.09	-4,281.46	4,611.94	1.20	0.85	0.85
12,740.00	89.30	340.60	6,337.93	3,542.07	-4,311.92	4,706.93	1.70	-0.84	-1.47
12,834.00	90.80	342.30	6,337.85	3,631.18	-4,341.82	4,800.92	2.41	1.60	1.81
12,929.00	92.40	344.00	6,335.20	3,722.06	-4,369.35	4,895.85	2.46	1.68	1.79
13,024.00	91.80	343.60	6,331.72	3,813.22	-4,395.83	4,990.73	0.76	-0.63	-0.42
13,119.00	91.20	343.50	6,329.23	3,904.30	-4,422.73	5,085.66	0.64	-0.63	-0.11
13,214.00	90.90	343.90	6,327.49	3,995.47	-4,449.39	5,180.60	0.55	0.32	0.42
13,308.00	90.80	343.20	6,326.10	4,085.61	-4,476.00	5,274.55	0.75	-0.11	-0.74

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 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 301H
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM LEWIS

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)
13,403.00	90.20	342.70	6,325.27	4,176.43	-4,503.86	5,369.53	0.82	-0.63	-0.53
13,497.00	92.30	343.50	6,323.22	4,266.34	-4,531.17	5,463.48	2.39	2.23	0.85
13,592.00	92.00	343.30	6,319.65	4,357.32	-4,558.29	5,558.38	0.38	-0.32	-0.21
13,687.00	90.80	342.80	6,317.33	4,448.17	-4,585.98	5,653.33	1.37	-1.26	-0.53
13,782.00	89.80	342.30	6,316.83	4,538.79	-4,614.47	5,748.32	1.18	-1.05	-0.53
13,876.00	90.60	341.40	6,316.51	4,628.11	-4,643.75	5,842.32	1.28	0.85	-0.96
13,971.00	90.90	339.70	6,315.26	4,717.68	-4,675.38	5,937.28	1.82	0.32	-1.79
14,066.00	92.10	339.80	6,312.77	4,806.77	-4,708.25	6,032.18	1.27	1.26	0.11
14,161.00	92.00	340.10	6,309.38	4,895.96	-4,740.80	6,127.06	0.33	-0.11	0.32
14,255.00	91.40	340.10	6,306.59	4,984.31	-4,772.78	6,220.97	0.64	-0.64	0.00
14,350.00	92.20	340.60	6,303.60	5,073.73	-4,804.71	6,315.89	0.99	0.84	0.53
14,445.00	92.00	341.10	6,300.12	5,163.41	-4,835.85	6,410.81	0.57	-0.21	0.53
14,540.00	91.80	340.60	6,296.97	5,253.11	-4,867.00	6,505.74	0.57	-0.21	-0.53
14,634.00	92.30	340.90	6,293.61	5,341.79	-4,897.97	6,599.66	0.62	0.53	0.32
14,729.00	90.10	343.80	6,291.62	5,432.29	-4,926.76	6,694.62	3.83	-2.32	3.05
14,823.00	89.80	344.60	6,291.70	5,522.73	-4,952.36	6,788.55	0.91	-0.32	0.85
14,918.00	89.10	345.00	6,292.61	5,614.41	-4,977.26	6,883.42	0.85	-0.74	0.42
15,012.00	89.20	344.90	6,294.01	5,705.17	-5,001.67	6,977.28	0.15	0.11	-0.11
15,107.00	90.80	343.90	6,294.01	5,796.67	-5,027.21	7,072.18	1.99	1.68	-1.05
15,203.00	91.50	343.90	6,292.08	5,888.88	-5,053.83	7,168.10	0.73	0.73	0.00
15,297.00	90.90	344.50	6,290.11	5,979.31	-5,079.42	7,262.00	0.90	-0.64	0.64
15,392.00	88.00	341.80	6,291.03	6,070.21	-5,106.95	7,356.96	4.17	-3.05	-2.84
15,487.00	89.40	339.50	6,293.18	6,159.81	-5,138.42	7,451.90	2.83	1.47	-2.42
15,581.00	89.20	338.70	6,294.33	6,247.62	-5,171.95	7,545.78	0.88	-0.21	-0.85
15,676.00	91.90	338.90	6,293.42	6,336.18	-5,206.30	7,640.63	2.85	2.84	0.21
15,771.00	91.30	338.10	6,290.77	6,424.53	-5,241.10	7,735.43	1.05	-0.63	-0.84
15,866.00	90.20	337.80	6,289.52	6,512.58	-5,276.76	7,830.19	1.20	-1.16	-0.32
15,961.00	92.00	340.00	6,287.70	6,601.18	-5,310.95	7,925.04	2.99	1.89	2.32
16,056.00	91.70	340.10	6,284.63	6,690.43	-5,343.35	8,019.94	0.33	-0.32	0.11
16,150.00	91.30	339.70	6,282.17	6,778.68	-5,375.64	8,113.85	0.60	-0.43	-0.43
16,245.00	91.00	340.40	6,280.26	6,867.96	-5,408.05	8,208.78	0.80	-0.32	0.74
16,340.00	90.40	341.60	6,279.10	6,957.77	-5,438.97	8,303.76	1.41	-0.63	1.26
16,435.00	90.10	342.10	6,278.69	7,048.04	-5,468.57	8,398.76	0.61	-0.32	0.53
16,529.00	90.20	342.40	6,278.44	7,137.57	-5,497.22	8,492.75	0.34	0.11	0.32
16,623.00	90.30	342.00	6,278.03	7,227.07	-5,525.96	8,586.75	0.44	0.11	-0.43
16,718.00	92.40	343.40	6,275.79	7,317.74	-5,554.20	8,681.71	2.66	2.21	1.47
16,813.00	92.00	343.70	6,272.15	7,408.78	-5,581.08	8,776.60	0.53	-0.42	0.32
16,907.00	91.20	343.70	6,269.52	7,498.97	-5,607.45	8,870.51	0.85	-0.85	0.00
17,002.00	90.30	343.50	6,268.28	7,590.09	-5,634.27	8,965.46	0.97	-0.95	-0.21
17,096.00	90.20	342.80	6,267.87	7,680.06	-5,661.52	9,059.44	0.75	-0.11	-0.74
17,188.00	89.50	342.60	6,268.11	7,767.89	-5,688.88	9,151.43	0.79	-0.76	-0.22
17,243.00	89.50	342.60	6,268.59	7,820.38	-5,705.33	9,206.42	0.00	0.00	0.00

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Survey Report

Company: Chesapeake
Project: Ohio Co, WV
Site: Alice Edge OHI
Well: 301H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 301H
TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,243.00	6,268.59	7,820.38	-5,705.33	PTD

Checked By: _____ Approved By: _____ Date: _____

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03/04/2016



SDI

Survey Report - Geographic

Company: Chesapeake	Local Co-ordinate Reference: Well 301H	Well 301H
Project: Ohio Co, WV	TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)	
Site: Alice Edge OHI	MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)	
Well: 301H	North Reference: Grid	
Wellbore: OH	Survey Calculation Method: Minimum Curvature	
Design: OH	Database: EDM LEWIS	

Project	Ohio Co, 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		

Site Alice Edge OHI

Site Position:	Northing:	584,442.30 usft	Latitude:	40° 5' 59.221 N
From: Map	Easting:	1,703,320.70 usft	Longitude:	80° 33' 37.876 W
Position Uncertainty:	Slot Radius:	0 "	Grid Convergence:	-0.68 °

Well 301H

Well Position	+N-S	0.00 usft	Northing:	584,420.00 usft
	+E-W	0.00 usft	Easting:	1,703,310.63 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	1,198.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	12/01/14	-8.78	67.42	52,574

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	341.89

Survey Program		Date		
From (usft)	To (usft)	12/01/14	Survey (Wellbore)	
100.00	593.00		Survey #1 (OH)	Tool Name: NS-GYRO-MS
667.00	17,243.00		Survey #2 (OH)	Description: North sensing gyrocompassing m SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	584,420.00	1,703,310.63	40° 5' 59.000 N	80° 33' 38.002 W
100.00	0.09	61.57	100.00	0.04	0.07	584,420.04	1,703,310.70	40° 5' 59.000 N	80° 33' 38.001 W
200.00	0.26	44.92	200.00	0.24	0.30	584,420.24	1,703,310.93	40° 5' 59.002 N	80° 33' 37.998 W
300.00	0.23	53.79	300.00	0.51	0.62	584,420.52	1,703,311.25	40° 5' 59.005 N	80° 33' 37.994 W
400.00	0.21	82.47	400.00	0.66	0.96	584,420.66	1,703,311.59	40° 5' 59.006 N	80° 33' 37.990 W
500.00	0.27	67.13	500.00	0.77	1.36	584,420.78	1,703,311.99	40° 5' 59.008 N	80° 33' 37.984 W
593.00	0.28	69.62	593.00	0.94	1.78	584,420.94	1,703,312.41	40° 5' 59.009 N	80° 33' 37.979 W
667.00	0.48	55.50	666.99	1.18	2.20	584,421.18	1,703,312.83	40° 5' 59.012 N	80° 33' 37.974 W
720.00	0.35	92.70	719.99	1.29	2.55	584,421.30	1,703,313.18	40° 5' 59.013 N	80° 33' 37.969 W
815.00	1.30	170.60	814.98	0.22	3.01	584,420.22	1,703,313.64	40° 5' 59.002 N	80° 33' 37.963 W
910.00	3.70	186.80	909.89	-3.89	2.83	584,416.11	1,703,313.46	40° 5' 58.962 N	80° 33' 37.965 W



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,004.00	6.20	194.50	1,003.53	-11.82	1.20	584,408.19	1,703,311.82	40° 5' 58.883 N	80° 33' 37.985 W
1,099.00	8.80	199.40	1,097.71	-23.64	-2.50	584,396.36	1,703,308.13	40° 5' 58.766 N	80° 33' 38.030 W
1,194.00	11.40	202.10	1,191.23	-39.20	-8.45	584,380.81	1,703,302.18	40° 5' 58.612 N	80° 33' 38.105 W
1,289.00	12.30	201.00	1,284.21	-57.34	-15.61	584,362.66	1,703,295.02	40° 5' 58.431 N	80° 33' 38.194 W
1,383.00	10.60	196.70	1,376.33	-74.97	-21.68	584,345.03	1,703,288.95	40° 5' 58.256 N	80° 33' 38.269 W
1,478.00	10.50	201.00	1,469.73	-91.42	-27.29	584,328.58	1,703,283.33	40° 5' 58.093 N	80° 33' 38.339 W
1,573.00	11.50	200.60	1,562.98	-108.37	-33.73	584,311.63	1,703,276.90	40° 5' 57.925 N	80° 33' 38.419 W
1,667.00	12.00	196.60	1,655.01	-126.51	-39.82	584,293.50	1,703,270.81	40° 5' 57.745 N	80° 33' 38.495 W
1,767.00	12.00	191.20	1,752.83	-146.67	-44.81	584,273.34	1,703,265.82	40° 5' 57.545 N	80° 33' 38.556 W
1,862.00	10.60	190.00	1,845.99	-164.96	-48.24	584,255.04	1,703,262.39	40° 5' 57.364 N	80° 33' 38.598 W
1,956.00	11.00	184.60	1,938.32	-182.41	-50.46	584,237.59	1,703,260.16	40° 5' 57.191 N	80° 33' 38.623 W
2,051.00	11.10	179.30	2,031.57	-200.59	-51.08	584,219.41	1,703,259.55	40° 5' 57.012 N	80° 33' 38.629 W
2,061.00	11.10	178.80	2,041.38	-202.52	-51.05	584,217.49	1,703,259.58	40° 5' 56.993 N	80° 33' 38.628 W
2,146.00	11.30	181.50	2,124.76	-219.02	-51.09	584,200.98	1,703,259.53	40° 5' 56.830 N	80° 33' 38.626 W
2,240.00	11.90	196.70	2,216.86	-237.52	-54.12	584,182.49	1,703,256.51	40° 5' 56.646 N	80° 33' 38.662 W
2,335.00	10.80	213.00	2,310.03	-254.37	-61.78	584,165.63	1,703,248.84	40° 5' 56.479 N	80° 33' 38.758 W
2,430.00	12.20	226.90	2,403.14	-268.69	-73.96	584,151.31	1,703,236.66	40° 5' 56.336 N	80° 33' 38.913 W
2,524.00	13.40	234.90	2,494.80	-281.75	-90.13	584,138.26	1,703,220.50	40° 5' 56.205 N	80° 33' 39.119 W
2,619.00	15.30	240.80	2,586.84	-294.19	-110.08	584,125.81	1,703,200.55	40° 5' 56.080 N	80° 33' 39.374 W
2,714.00	18.40	244.90	2,677.76	-306.67	-134.61	584,113.33	1,703,176.02	40° 5' 55.954 N	80° 33' 39.687 W
2,808.00	20.80	245.90	2,766.30	-319.78	-163.28	584,100.22	1,703,147.35	40° 5' 55.821 N	80° 33' 40.054 W
2,903.00	23.70	245.50	2,854.22	-334.59	-196.06	584,085.41	1,703,114.57	40° 5' 55.671 N	80° 33' 40.474 W
2,997.00	25.90	242.60	2,939.55	-351.87	-231.48	584,068.13	1,703,079.15	40° 5' 55.496 N	80° 33' 40.927 W
3,094.00	25.10	234.10	3,027.13	-373.69	-266.97	584,046.31	1,703,043.66	40° 5' 55.276 N	80° 33' 41.380 W
3,189.00	24.90	234.00	3,113.23	-397.27	-299.47	584,022.74	1,703,011.16	40° 5' 55.039 N	80° 33' 41.795 W
3,283.00	25.30	236.50	3,198.35	-419.98	-332.23	584,000.02	1,702,978.40	40° 5' 54.811 N	80° 33' 42.213 W
3,378.00	25.30	240.50	3,284.25	-441.19	-366.83	583,978.82	1,702,943.80	40° 5' 54.597 N	80° 33' 42.655 W
3,473.00	26.60	242.90	3,369.67	-460.87	-403.43	583,959.13	1,702,907.20	40° 5' 54.398 N	80° 33' 43.123 W
3,567.00	26.00	242.60	3,453.94	-479.94	-440.46	583,940.06	1,702,870.17	40° 5' 54.206 N	80° 33' 43.596 W
3,662.00	24.70	240.50	3,539.79	-499.30	-476.22	583,920.71	1,702,834.41	40° 5' 54.010 N	80° 33' 44.054 W
3,756.00	26.20	244.40	3,624.67	-517.94	-512.03	583,902.07	1,702,798.60	40° 5' 53.822 N	80° 33' 44.512 W
3,851.00	25.20	243.50	3,710.27	-536.02	-549.05	583,883.98	1,702,761.58	40° 5' 53.639 N	80° 33' 44.985 W
3,946.00	25.80	244.50	3,796.02	-553.95	-585.81	583,866.06	1,702,724.82	40° 5' 53.457 N	80° 33' 45.455 W
4,041.00	26.70	241.90	3,881.23	-572.90	-623.29	583,847.10	1,702,687.33	40° 5' 53.266 N	80° 33' 45.935 W
4,141.00	24.60	239.30	3,971.37	-594.11	-661.01	583,825.89	1,702,649.61	40° 5' 53.052 N	80° 33' 46.417 W
4,235.00	25.50	240.00	4,056.53	-614.22	-695.36	583,805.78	1,702,615.27	40° 5' 52.849 N	80° 33' 46.856 W
4,330.00	26.40	237.80	4,141.95	-635.70	-730.94	583,784.30	1,702,579.68	40° 5' 52.633 N	80° 33' 47.310 W
4,425.00	24.70	234.30	4,227.66	-658.54	-764.94	583,761.46	1,702,545.69	40° 5' 52.403 N	80° 33' 47.744 W
4,519.00	24.40	237.30	4,313.17	-680.49	-797.23	583,739.51	1,702,513.40	40° 5' 52.182 N	80° 33' 48.157 W
4,614.00	25.40	241.50	4,399.34	-700.81	-831.65	583,719.19	1,702,478.98	40° 5' 51.977 N	80° 33' 48.596 W
4,709.00	26.60	244.40	4,484.73	-719.73	-868.74	583,700.27	1,702,441.89	40° 5' 51.786 N	80° 33' 49.071 W
4,803.00	24.90	242.40	4,569.39	-737.99	-905.26	583,682.01	1,702,405.37	40° 5' 51.601 N	80° 33' 49.538 W
4,898.00	25.70	245.30	4,655.28	-755.87	-941.70	583,664.14	1,702,368.93	40° 5' 51.420 N	80° 33' 50.004 W
4,992.00	26.60	239.60	4,739.67	-775.03	-978.37	583,644.97	1,702,332.26	40° 5' 51.227 N	80° 33' 50.473 W
5,087.00	24.70	236.60	4,825.31	-796.73	-1,013.29	583,623.28	1,702,297.34	40° 5' 51.008 N	80° 33' 50.919 W
5,186.00	25.50	240.00	4,914.97	-818.77	-1,049.02	583,601.23	1,702,261.61	40° 5' 50.786 N	80° 33' 51.375 W
5,280.00	27.90	241.40	4,998.94	-839.42	-1,085.86	583,580.59	1,702,224.77	40° 5' 50.578 N	80° 33' 51.846 W
5,375.00	26.90	239.70	5,083.28	-860.90	-1,123.93	583,559.10	1,702,186.70	40° 5' 50.361 N	80° 33' 52.333 W
5,470.00	25.90	237.90	5,168.37	-882.77	-1,160.06	583,537.23	1,702,150.57	40° 5' 50.141 N	80° 33' 52.794 W
5,564.00	24.60	240.30	5,253.39	-903.37	-1,194.45	583,516.63	1,702,116.18	40° 5' 49.933 N	80° 33' 53.234 W
5,659.00	25.20	237.50	5,339.57	-924.04	-1,228.68	583,495.96	1,702,081.94	40° 5' 49.725 N	80° 33' 53.671 W
5,754.00	23.70	238.30	5,426.04	-944.94	-1,261.99	583,475.06	1,702,048.64	40° 5' 49.515 N	80° 33' 54.096 W
5,848.00	24.30	236.00	5,511.92	-965.68	-1,294.10	583,454.32	1,702,016.53	40° 5' 49.306 N	80° 33' 54.506 W
5,943.00	25.00	241.30	5,598.27	-986.26	-1,327.91	583,433.75	1,701,983.71	40° 5' 49.099 N	80° 33' 54.938 W
6,038.00	26.10	240.50	5,683.98	-1,006.19	-1,363.71	583,413.82	1,701,946.92	40° 5' 48.897 N	80° 33' 55.396 W



SDI
Survey Report - Geographic

Company: Chesapeake
Project: Ohio Co, WV
Site: Alice Edge OHI
Well: 301H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 301H
TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,132.00	27.20	240.40	5,767.99	-1,026.98	-1,400.39	583,393.02	1,701,910.24	40° 5' 48.688 N	80° 33' 55.865 W
6,147.00	27.20	238.00	5,781.34	-1,030.49	-1,406.28	583,389.51	1,701,904.35	40° 5' 48.652 N	80° 33' 55.940 W
6,242.00	30.40	240.50	5,864.58	-1,053.84	-1,445.62	583,366.16	1,701,865.01	40° 5' 48.417 N	80° 33' 56.443 W
6,274.00	33.20	242.80	5,891.77	-1,061.83	-1,460.46	583,358.17	1,701,850.16	40° 5' 48.336 N	80° 33' 56.632 W
6,305.00	36.40	245.30	5,917.23	-1,069.56	-1,476.37	583,350.44	1,701,834.25	40° 5' 48.258 N	80° 33' 56.836 W
6,337.00	39.10	248.40	5,942.53	-1,077.24	-1,494.39	583,342.76	1,701,816.24	40° 5' 48.180 N	80° 33' 57.066 W
6,368.00	41.60	250.30	5,966.15	-1,084.31	-1,513.17	583,335.69	1,701,797.46	40° 5' 48.108 N	80° 33' 57.307 W
6,400.00	43.70	251.80	5,989.69	-1,091.35	-1,533.67	583,328.66	1,701,776.95	40° 5' 48.036 N	80° 33' 57.570 W
6,431.00	45.00	252.80	6,011.85	-1,097.93	-1,554.32	583,322.07	1,701,756.31	40° 5' 47.968 N	80° 33' 57.834 W
6,463.00	46.60	253.60	6,034.16	-1,104.56	-1,576.28	583,315.44	1,701,734.35	40° 5' 47.900 N	80° 33' 58.116 W
6,494.00	48.20	254.20	6,055.15	-1,110.89	-1,598.20	583,309.12	1,701,712.43	40° 5' 47.835 N	80° 33' 58.397 W
6,526.00	49.70	254.20	6,076.16	-1,117.46	-1,621.42	583,302.54	1,701,689.21	40° 5' 47.768 N	80° 33' 58.695 W
6,557.00	51.40	255.10	6,095.86	-1,123.79	-1,644.51	583,296.21	1,701,666.12	40° 5' 47.702 N	80° 33' 58.991 W
6,589.00	53.20	255.10	6,115.42	-1,130.30	-1,668.97	583,289.70	1,701,641.66	40° 5' 47.635 N	80° 33' 59.305 W
6,620.00	54.70	255.10	6,133.67	-1,136.75	-1,693.19	583,283.26	1,701,617.44	40° 5' 47.569 N	80° 33' 59.615 W
6,652.00	55.80	255.10	6,151.91	-1,143.51	-1,718.60	583,276.50	1,701,592.03	40° 5' 47.499 N	80° 33' 59.941 W
6,683.00	60.00	255.00	6,168.38	-1,150.28	-1,743.97	583,269.72	1,701,566.66	40° 5' 47.429 N	80° 34' 0.267 W
6,715.00	63.10	254.70	6,183.62	-1,157.63	-1,771.12	583,262.37	1,701,539.51	40° 5' 47.353 N	80° 34' 0.615 W
6,746.00	65.70	254.90	6,197.01	-1,164.96	-1,798.10	583,255.04	1,701,512.53	40° 5' 47.277 N	80° 34' 0.961 W
6,778.00	67.00	254.50	6,209.85	-1,172.70	-1,826.37	583,247.30	1,701,484.26	40° 5' 47.198 N	80° 34' 1.323 W
6,810.00	69.80	255.10	6,221.63	-1,180.50	-1,855.08	583,239.51	1,701,455.55	40° 5' 47.117 N	80° 34' 1.692 W
6,841.00	74.00	255.70	6,231.26	-1,187.92	-1,883.59	583,232.08	1,701,427.04	40° 5' 47.041 N	80° 34' 2.057 W
6,873.00	77.50	256.50	6,239.13	-1,195.37	-1,913.69	583,224.63	1,701,396.94	40° 5' 46.963 N	80° 34' 2.443 W
6,904.00	77.70	256.50	6,245.79	-1,202.44	-1,943.13	583,217.57	1,701,367.50	40° 5' 46.890 N	80° 34' 2.821 W
6,936.00	77.20	255.60	6,252.74	-1,209.97	-1,973.44	583,210.04	1,701,337.18	40° 5' 46.812 N	80° 34' 3.210 W
6,967.00	78.00	256.30	6,259.40	-1,217.32	-2,002.82	583,202.69	1,701,307.81	40° 5' 46.736 N	80° 34' 3.587 W
6,999.00	78.80	256.90	6,265.83	-1,224.58	-2,033.31	583,195.42	1,701,277.32	40° 5' 46.661 N	80° 34' 3.978 W
7,031.00	78.90	257.50	6,272.02	-1,231.54	-2,063.92	583,188.47	1,701,246.70	40° 5' 46.588 N	80° 34' 4.371 W
7,062.00	79.10	257.60	6,277.94	-1,238.10	-2,093.64	583,181.91	1,701,216.99	40° 5' 46.520 N	80° 34' 4.752 W
7,093.00	79.10	257.70	6,283.80	-1,244.61	-2,123.38	583,175.40	1,701,187.25	40° 5' 46.452 N	80° 34' 5.134 W
7,125.00	79.10	257.00	6,289.85	-1,251.49	-2,154.03	583,168.51	1,701,156.59	40° 5' 46.381 N	80° 34' 5.527 W
7,157.00	79.20	257.60	6,295.87	-1,258.40	-2,184.69	583,161.61	1,701,125.93	40° 5' 46.309 N	80° 34' 5.921 W
7,188.00	79.40	256.70	6,301.63	-1,265.17	-2,214.39	583,154.83	1,701,096.24	40° 5' 46.238 N	80° 34' 6.302 W
7,220.00	79.50	256.80	6,307.49	-1,272.38	-2,245.01	583,147.62	1,701,065.62	40° 5' 46.163 N	80° 34' 6.695 W
7,252.00	79.70	257.30	6,313.27	-1,279.44	-2,275.69	583,140.57	1,701,034.94	40° 5' 46.090 N	80° 34' 7.088 W
7,283.00	79.20	258.60	6,318.94	-1,285.80	-2,305.49	583,134.20	1,701,005.14	40° 5' 46.024 N	80° 34' 7.471 W
7,315.00	78.10	261.50	6,325.24	-1,291.22	-2,336.39	583,128.78	1,700,974.24	40° 5' 45.967 N	80° 34' 7.868 W
7,346.00	77.20	265.20	6,331.87	-1,294.73	-2,366.46	583,125.27	1,700,944.17	40° 5' 45.928 N	80° 34' 8.254 W
7,378.00	76.80	268.80	6,339.07	-1,296.36	-2,397.59	583,123.64	1,700,913.04	40° 5' 45.909 N	80° 34' 8.654 W
7,410.00	76.90	272.30	6,346.36	-1,296.06	-2,428.75	583,123.94	1,700,881.88	40° 5' 45.908 N	80° 34' 9.055 W
7,441.00	77.20	275.80	6,353.31	-1,293.93	-2,458.88	583,126.08	1,700,851.75	40° 5' 45.925 N	80° 34' 9.443 W
7,472.00	77.80	279.60	6,360.02	-1,289.87	-2,488.86	583,130.13	1,700,821.76	40° 5' 45.962 N	80° 34' 9.830 W
7,504.00	78.10	283.30	6,366.70	-1,283.66	-2,519.53	583,136.34	1,700,791.10	40° 5' 46.020 N	80° 34' 10.225 W
7,535.00	78.50	286.90	6,372.99	-1,275.75	-2,548.83	583,144.25	1,700,761.80	40° 5' 46.094 N	80° 34' 10.603 W
7,567.00	78.90	290.60	6,379.26	-1,265.67	-2,578.54	583,154.34	1,700,732.09	40° 5' 46.191 N	80° 34' 10.987 W
7,598.00	78.90	294.20	6,385.23	-1,254.08	-2,606.66	583,165.93	1,700,703.97	40° 5' 46.302 N	80° 34' 11.351 W
7,630.00	79.50	297.80	6,391.23	-1,240.30	-2,634.91	583,179.70	1,700,675.72	40° 5' 46.435 N	80° 34' 11.716 W
7,661.00	80.20	301.50	6,396.69	-1,225.21	-2,661.42	583,194.80	1,700,649.21	40° 5' 46.581 N	80° 34' 12.060 W
7,693.00	80.80	304.80	6,401.98	-1,207.95	-2,687.84	583,212.05	1,700,622.79	40° 5' 46.748 N	80° 34' 12.402 W
7,724.00	81.90	307.30	6,406.64	-1,189.91	-2,712.62	583,230.09	1,700,598.01	40° 5' 46.923 N	80° 34' 12.724 W
7,756.00	84.11	311.70	6,410.54	-1,169.72	-2,737.11	583,250.29	1,700,573.51	40° 5' 47.120 N	80° 34' 13.042 W
7,787.00	86.50	314.80	6,413.08	-1,148.55	-2,759.61	583,271.45	1,700,551.02	40° 5' 47.327 N	80° 34' 13.335 W
7,819.00	87.80	319.30	6,414.67	-1,125.16	-2,781.38	583,294.84	1,700,529.25	40° 5' 47.555 N	80° 34' 13.619 W
7,851.00	88.70	321.60	6,415.65	-1,100.50	-2,801.75	583,319.50	1,700,508.88	40° 5' 47.796 N	80° 34' 13.885 W
7,883.00	91.10	326.10	6,415.70	-1,074.67	-2,820.62	583,345.33	1,700,489.01	40° 5' 48.049 N	80° 34' 14.131 W



SDI
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MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,914.00	93.00	330.20	6,414.59	-1,048.36	-2,836.96	583,371.64	1,700,473.67	40° 5' 48.308 N	80° 34' 14.346 W
7,946.00	94.40	335.60	6,412.53	-1,019.95	-2,851.50	583,400.06	1,700,459.12	40° 5' 48.587 N	80° 34' 14.537 W
7,977.00	95.00	336.90	6,409.99	-991.67	-2,863.95	583,428.34	1,700,446.68	40° 5' 48.865 N	80° 34' 14.702 W
8,009.00	96.20	338.50	6,406.86	-962.20	-2,876.03	583,457.80	1,700,434.60	40° 5' 49.154 N	80° 34' 14.862 W
8,041.00	96.70	339.50	6,403.27	-932.52	-2,887.43	583,487.48	1,700,423.20	40° 5' 49.446 N	80° 34' 15.013 W
8,072.00	94.80	341.80	6,400.16	-903.42	-2,897.64	583,516.58	1,700,412.98	40° 5' 49.733 N	80° 34' 15.149 W
8,135.00	92.80	339.90	6,395.99	-844.04	-2,918.27	583,575.96	1,700,392.36	40° 5' 50.317 N	80° 34' 15.423 W
8,230.00	91.30	342.10	6,392.59	-754.28	-2,949.17	583,665.72	1,700,361.46	40° 5' 51.200 N	80° 34' 15.835 W
8,325.00	92.10	345.20	6,389.77	-663.18	-2,975.90	583,756.82	1,700,334.73	40° 5' 52.097 N	80° 34' 16.192 W
8,419.00	91.60	345.70	6,386.73	-572.24	-2,999.50	583,847.76	1,700,311.13	40° 5' 52.993 N	80° 34' 16.510 W
8,514.00	94.00	346.30	6,382.09	-480.18	-3,022.46	583,939.82	1,700,288.17	40° 5' 53.900 N	80° 34' 16.820 W
8,609.00	91.70	344.60	6,377.37	-388.35	-3,046.29	584,031.65	1,700,264.34	40° 5' 54.805 N	80° 34' 17.140 W
8,703.00	90.90	344.50	6,375.24	-297.77	-3,071.33	584,122.23	1,700,239.30	40° 5' 55.697 N	80° 34' 17.476 W
8,798.00	91.00	344.30	6,373.66	-206.28	-3,096.87	584,213.72	1,700,213.76	40° 5' 56.598 N	80° 34' 17.819 W
8,893.00	90.60	344.40	6,372.34	-114.82	-3,122.49	584,305.19	1,700,188.13	40° 5' 57.499 N	80° 34' 18.163 W
8,987.00	90.60	344.50	6,371.35	-24.26	-3,147.69	584,395.74	1,700,162.94	40° 5' 58.391 N	80° 34' 18.501 W
9,082.00	89.80	343.10	6,371.02	66.96	-3,174.20	584,486.97	1,700,136.43	40° 5' 59.289 N	80° 34' 18.856 W
9,176.00	90.50	342.20	6,370.77	156.68	-3,202.23	584,576.69	1,700,108.40	40° 6' 0.173 N	80° 34' 19.230 W
9,271.00	90.30	343.70	6,370.11	247.50	-3,230.08	584,667.51	1,700,080.55	40° 6' 1.067 N	80° 34' 19.603 W
9,366.00	90.10	344.30	6,369.78	338.82	-3,256.26	584,758.83	1,700,054.36	40° 6' 1.966 N	80° 34' 19.954 W
9,461.00	92.00	341.10	6,368.04	429.49	-3,284.51	584,849.50	1,700,026.12	40° 6' 2.859 N	80° 34' 20.331 W
9,555.00	92.00	341.20	6,364.76	518.40	-3,314.86	584,938.40	1,699,995.77	40° 6' 3.734 N	80° 34' 20.735 W
9,649.00	91.10	340.50	6,362.21	607.16	-3,345.68	585,027.17	1,699,964.95	40° 6' 4.607 N	80° 34' 21.146 W
9,744.00	90.20	340.00	6,361.14	696.57	-3,377.78	585,116.57	1,699,932.85	40° 6' 5.487 N	80° 34' 21.572 W
9,838.00	89.50	339.20	6,361.38	784.67	-3,410.55	585,204.67	1,699,900.08	40° 6' 6.354 N	80° 34' 22.008 W
9,933.00	90.20	341.50	6,361.63	874.13	-3,442.49	585,294.13	1,699,868.14	40° 6' 7.234 N	80° 34' 22.432 W
10,028.00	89.70	342.00	6,361.71	964.35	-3,472.24	585,384.36	1,699,838.39	40° 6' 8.122 N	80° 34' 22.829 W
10,123.00	90.20	342.00	6,361.80	1,054.70	-3,501.60	585,474.71	1,699,809.03	40° 6' 9.011 N	80° 34' 23.221 W
10,218.00	92.00	343.70	6,359.97	1,145.45	-3,529.60	585,565.46	1,699,781.03	40° 6' 9.905 N	80° 34' 23.595 W
10,312.00	91.80	343.60	6,356.86	1,235.60	-3,556.05	585,655.61	1,699,754.58	40° 6' 10.793 N	80° 34' 23.949 W
10,407.00	91.00	343.20	6,354.54	1,326.62	-3,583.18	585,746.62	1,699,727.45	40° 6' 11.689 N	80° 34' 24.312 W
10,502.00	90.30	342.10	6,353.46	1,417.29	-3,611.51	585,837.29	1,699,699.12	40° 6' 12.581 N	80° 34' 24.691 W
10,597.00	89.60	341.20	6,353.54	1,507.45	-3,641.42	585,927.46	1,699,669.21	40° 6' 13.469 N	80° 34' 25.089 W
10,691.00	91.90	342.50	6,352.31	1,596.76	-3,670.69	586,016.76	1,699,639.93	40° 6' 14.348 N	80° 34' 25.480 W
10,786.00	91.50	342.80	6,349.49	1,687.40	-3,699.01	586,107.40	1,699,611.62	40° 6' 15.240 N	80° 34' 25.858 W
10,881.00	90.60	341.80	6,347.75	1,777.88	-3,727.89	586,197.89	1,699,582.74	40° 6' 16.131 N	80° 34' 26.244 W
10,976.00	90.00	339.10	6,347.25	1,867.40	-3,759.67	586,287.40	1,699,550.95	40° 6' 17.012 N	80° 34' 26.667 W
11,070.00	90.30	339.80	6,347.01	1,955.41	-3,792.67	586,375.42	1,699,517.96	40° 6' 17.878 N	80° 34' 27.105 W
11,165.00	90.50	340.40	6,346.35	2,044.74	-3,825.01	586,464.74	1,699,485.62	40° 6' 18.757 N	80° 34' 27.535 W
11,259.00	90.30	340.40	6,345.69	2,133.29	-3,856.54	586,553.29	1,699,454.09	40° 6' 19.628 N	80° 34' 27.954 W
11,352.00	90.30	340.70	6,345.20	2,220.98	-3,887.50	586,640.99	1,699,423.12	40° 6' 20.491 N	80° 34' 28.366 W
11,445.00	91.80	343.10	6,343.50	2,309.36	-3,916.39	586,729.36	1,699,394.24	40° 6' 21.361 N	80° 34' 28.751 W
11,539.00	92.00	342.70	6,340.38	2,399.15	-3,944.01	586,819.15	1,699,366.61	40° 6' 22.245 N	80° 34' 29.121 W
11,632.00	91.40	341.40	6,337.62	2,487.58	-3,972.66	586,907.59	1,699,337.97	40° 6' 23.115 N	80° 34' 29.503 W
11,726.00	90.90	341.50	6,335.74	2,576.68	-4,002.56	586,996.68	1,699,308.07	40° 6' 23.992 N	80° 34' 29.901 W
11,821.00	90.40	342.30	6,334.66	2,666.97	-4,032.07	587,086.98	1,699,278.56	40° 6' 24.881 N	80° 34' 30.295 W
11,915.00	90.20	343.40	6,334.17	2,756.79	-4,059.79	587,176.79	1,699,250.84	40° 6' 25.765 N	80° 34' 30.666 W
12,010.00	90.00	343.80	6,334.00	2,847.93	-4,086.61	587,267.93	1,699,224.02	40° 6' 26.663 N	80° 34' 31.025 W
12,104.00	89.50	343.60	6,334.41	2,938.15	-4,112.99	587,358.15	1,699,197.63	40° 6' 27.551 N	80° 34' 31.378 W
12,199.00	89.00	344.20	6,335.65	3,029.41	-4,139.34	587,449.41	1,699,171.29	40° 6' 28.450 N	80° 34' 31.731 W
12,293.00	90.80	341.40	6,335.82	3,119.20	-4,167.13	587,539.20	1,699,143.50	40° 6' 29.334 N	80° 34' 32.103 W
12,388.00	89.60	340.30	6,335.49	3,208.93	-4,198.29	587,628.94	1,699,112.34	40° 6' 30.217 N	80° 34' 32.518 W
12,483.00	89.50	341.00	6,336.23	3,298.56	-4,229.77	587,718.57	1,699,080.86	40° 6' 31.099 N	80° 34' 32.937 W
12,551.00	89.30	341.20	6,336.94	3,362.90	-4,251.79	587,782.90	1,699,058.83	40° 6' 31.972 N	80° 34' 33.230 W
12,645.00	90.10	342.00	6,337.44	3,452.09	-4,281.46	587,872.09	1,699,029.16	40° 6' 32.810 N	80° 34' 33.625 W



SDI
Survey Report - Geographic

Company: Chesapeake
Project: Ohio Co, WV
Site: Alice Edge OHI
Well: 301H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 301H
TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,740.00	89.30	340.60	6,337.93	3,542.07	-4,311.92	587,962.07	1,698,998.71	40° 6' 33.495 N	80° 34' 34.031 W
12,834.00	90.80	342.30	6,337.85	3,631.18	-4,341.82	588,051.18	1,698,968.80	40° 6' 34.372 N	80° 34' 34.430 W
12,929.00	92.40	344.00	6,335.20	3,722.06	-4,369.35	588,142.06	1,698,941.28	40° 6' 35.267 N	80° 34' 34.798 W
13,024.00	91.80	343.60	6,331.72	3,813.22	-4,395.83	588,233.23	1,698,914.79	40° 6' 36.165 N	80° 34' 35.153 W
13,119.00	91.20	343.50	6,329.23	3,904.30	-4,422.73	588,324.31	1,698,887.90	40° 6' 37.062 N	80° 34' 35.513 W
13,214.00	90.90	343.90	6,327.49	3,995.47	-4,449.39	588,415.47	1,698,861.24	40° 6' 37.960 N	80° 34' 35.870 W
13,308.00	90.80	343.20	6,326.10	4,085.61	-4,476.00	588,505.61	1,698,834.63	40° 6' 38.847 N	80° 34' 36.227 W
13,403.00	90.20	342.70	6,325.27	4,176.43	-4,503.86	588,596.43	1,698,806.77	40° 6' 39.741 N	80° 34' 36.599 W
13,497.00	92.30	343.50	6,323.22	4,266.34	-4,531.17	588,686.35	1,698,779.45	40° 6' 40.627 N	80° 34' 36.965 W
13,592.00	92.00	343.30	6,319.65	4,357.32	-4,558.29	588,777.32	1,698,752.33	40° 6' 41.522 N	80° 34' 37.328 W
13,687.00	90.80	342.80	6,317.33	4,448.17	-4,585.98	588,868.17	1,698,724.65	40° 6' 42.417 N	80° 34' 37.698 W
13,782.00	89.80	342.30	6,316.83	4,538.79	-4,614.47	588,958.79	1,698,696.16	40° 6' 43.309 N	80° 34' 38.079 W
13,876.00	90.60	341.40	6,316.51	4,628.11	-4,643.75	589,048.11	1,698,666.88	40° 6' 44.188 N	80° 34' 38.469 W
13,971.00	90.90	339.70	6,315.26	4,717.68	-4,675.38	589,137.68	1,698,635.25	40° 6' 45.070 N	80° 34' 38.890 W
14,066.00	92.10	339.80	6,312.77	4,806.77	-4,708.25	589,226.78	1,698,602.38	40° 6' 45.946 N	80° 34' 39.327 W
14,161.00	92.00	340.10	6,309.38	4,895.96	-4,740.80	589,315.96	1,698,569.83	40° 6' 46.824 N	80° 34' 39.760 W
14,255.00	91.40	340.10	6,306.59	4,984.31	-4,772.78	589,404.31	1,698,537.85	40° 6' 47.693 N	80° 34' 40.185 W
14,350.00	92.20	340.60	6,303.60	5,073.73	-4,804.71	589,493.73	1,698,505.92	40° 6' 48.573 N	80° 34' 40.610 W
14,445.00	92.00	341.10	6,300.12	5,163.41	-4,835.85	589,583.42	1,698,474.78	40° 6' 49.455 N	80° 34' 41.024 W
14,540.00	91.80	340.60	6,296.97	5,253.11	-4,867.00	589,673.11	1,698,443.63	40° 6' 50.338 N	80° 34' 41.439 W
14,634.00	92.30	340.90	6,293.61	5,341.79	-4,897.97	589,761.80	1,698,412.66	40° 6' 51.211 N	80° 34' 41.851 W
14,729.00	90.10	343.80	6,291.62	5,432.29	-4,926.76	589,852.29	1,698,383.87	40° 6' 52.101 N	80° 34' 42.236 W
14,823.00	89.80	344.60	6,291.70	5,522.73	-4,952.36	589,942.74	1,698,358.27	40° 6' 52.992 N	80° 34' 42.579 W
14,918.00	89.10	345.00	6,292.61	5,614.41	-4,977.26	590,034.41	1,698,333.37	40° 6' 53.895 N	80° 34' 42.914 W
15,012.00	89.20	344.90	6,294.01	5,705.17	-5,001.67	590,125.17	1,698,308.96	40° 6' 54.789 N	80° 34' 43.242 W
15,107.00	90.80	343.90	6,294.01	5,796.67	-5,027.21	590,216.67	1,698,283.41	40° 6' 55.690 N	80° 34' 43.585 W
15,203.00	91.50	343.90	6,292.08	5,888.88	-5,053.83	590,308.89	1,698,256.80	40° 6' 56.598 N	80° 34' 43.942 W
15,297.00	90.90	344.50	6,290.11	5,979.31	-5,079.42	590,399.31	1,698,231.21	40° 6' 57.489 N	80° 34' 44.285 W
15,392.00	88.00	341.80	6,291.03	6,070.21	-5,106.95	590,490.21	1,698,203.68	40° 6' 58.384 N	80° 34' 44.654 W
15,487.00	89.40	339.50	6,293.18	6,159.81	-5,138.42	590,579.82	1,698,172.21	40° 6' 59.266 N	80° 34' 45.072 W
15,581.00	89.20	338.70	6,294.33	6,247.62	-5,171.95	590,667.62	1,698,138.68	40° 7' 0.129 N	80° 34' 45.518 W
15,676.00	91.90	338.90	6,293.42	6,336.18	-5,206.30	590,756.18	1,698,104.33	40° 7' 1.000 N	80° 34' 45.973 W
15,771.00	91.30	338.10	6,290.77	6,424.53	-5,241.10	590,844.54	1,698,069.53	40° 7' 1.869 N	80° 34' 46.435 W
15,866.00	90.20	337.80	6,289.52	6,512.58	-5,276.76	590,932.58	1,698,033.87	40° 7' 2.735 N	80° 34' 46.908 W
15,961.00	92.00	340.00	6,287.70	6,601.18	-5,310.95	591,021.18	1,697,999.68	40° 7' 3.607 N	80° 34' 47.361 W
16,056.00	91.70	340.10	6,284.63	6,690.43	-5,343.35	591,110.44	1,697,967.28	40° 7' 4.485 N	80° 34' 47.792 W
16,150.00	91.30	339.70	6,282.17	6,778.68	-5,375.64	591,198.68	1,697,934.99	40° 7' 5.353 N	80° 34' 48.221 W
16,245.00	91.00	340.40	6,280.26	6,867.96	-5,408.05	591,287.96	1,697,902.58	40° 7' 6.231 N	80° 34' 48.652 W
16,340.00	90.40	341.60	6,279.10	6,957.77	-5,438.97	591,377.78	1,697,871.65	40° 7' 7.115 N	80° 34' 49.064 W
16,435.00	90.10	342.10	6,278.69	7,048.04	-5,468.57	591,468.05	1,697,842.06	40° 7' 8.004 N	80° 34' 49.459 W
16,529.00	90.20	342.40	6,278.44	7,137.57	-5,497.22	591,557.57	1,697,813.40	40° 7' 8.885 N	80° 34' 49.842 W
16,623.00	90.30	342.00	6,278.03	7,227.07	-5,525.96	591,647.07	1,697,784.67	40° 7' 9.766 N	80° 34' 50.226 W
16,718.00	92.40	343.40	6,275.79	7,317.74	-5,554.20	591,737.74	1,697,756.43	40° 7' 10.659 N	80° 34' 50.603 W
16,813.00	92.00	343.70	6,272.15	7,408.78	-5,581.08	591,828.79	1,697,729.55	40° 7' 11.555 N	80° 34' 50.963 W
16,907.00	91.20	343.70	6,269.52	7,498.97	-5,607.45	591,918.97	1,697,703.17	40° 7' 12.443 N	80° 34' 51.317 W
17,002.00	90.30	343.50	6,268.28	7,590.09	-5,634.27	592,010.10	1,697,676.35	40° 7' 13.340 N	80° 34' 51.676 W
17,096.00	90.20	342.80	6,267.87	7,680.06	-5,661.52	592,100.06	1,697,649.11	40° 7' 14.226 N	80° 34' 52.041 W
17,188.00	89.50	342.60	6,268.11	7,767.89	-5,688.88	592,187.90	1,697,621.75	40° 7' 15.091 N	80° 34' 52.406 W
17,243.00	89.50	342.60	6,268.59	7,820.38	-5,705.33	592,240.38	1,697,605.30	40° 7' 15.608 N	80° 34' 52.626 W

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SDI
Survey Report - Geographic

Company: Chesapeake
Project: Ohio Co, WV
Site: Alice Edge OHI
Well: 301H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 301H
TVD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
MD Reference: GL 1198+RKB 20 @ 1218.00usft (Nomac 74)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM LEWIS

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,243.00	6,268.59	7,820.38	-5,705.33	PTD

Checked By: _____	Approved By: _____	Date: _____
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JAN 27 2016

WV Department of
Environmental Protection