

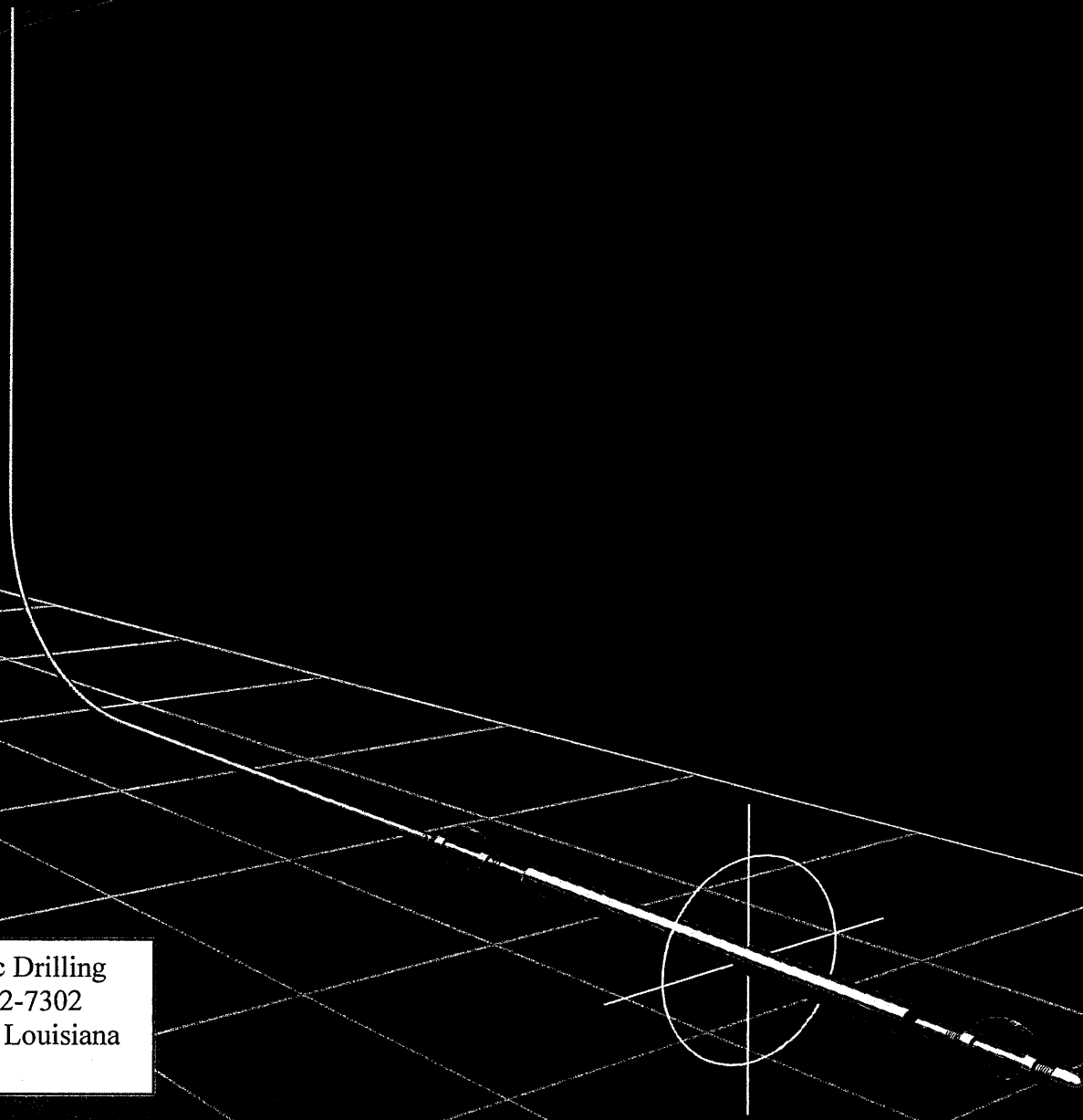
SCIENTIFIC DRILLING

End of Well Report for

Chesapeake Operating, Inc.

Tall Trees 6H (831667)

Upshur, WV



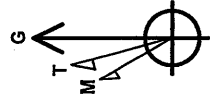
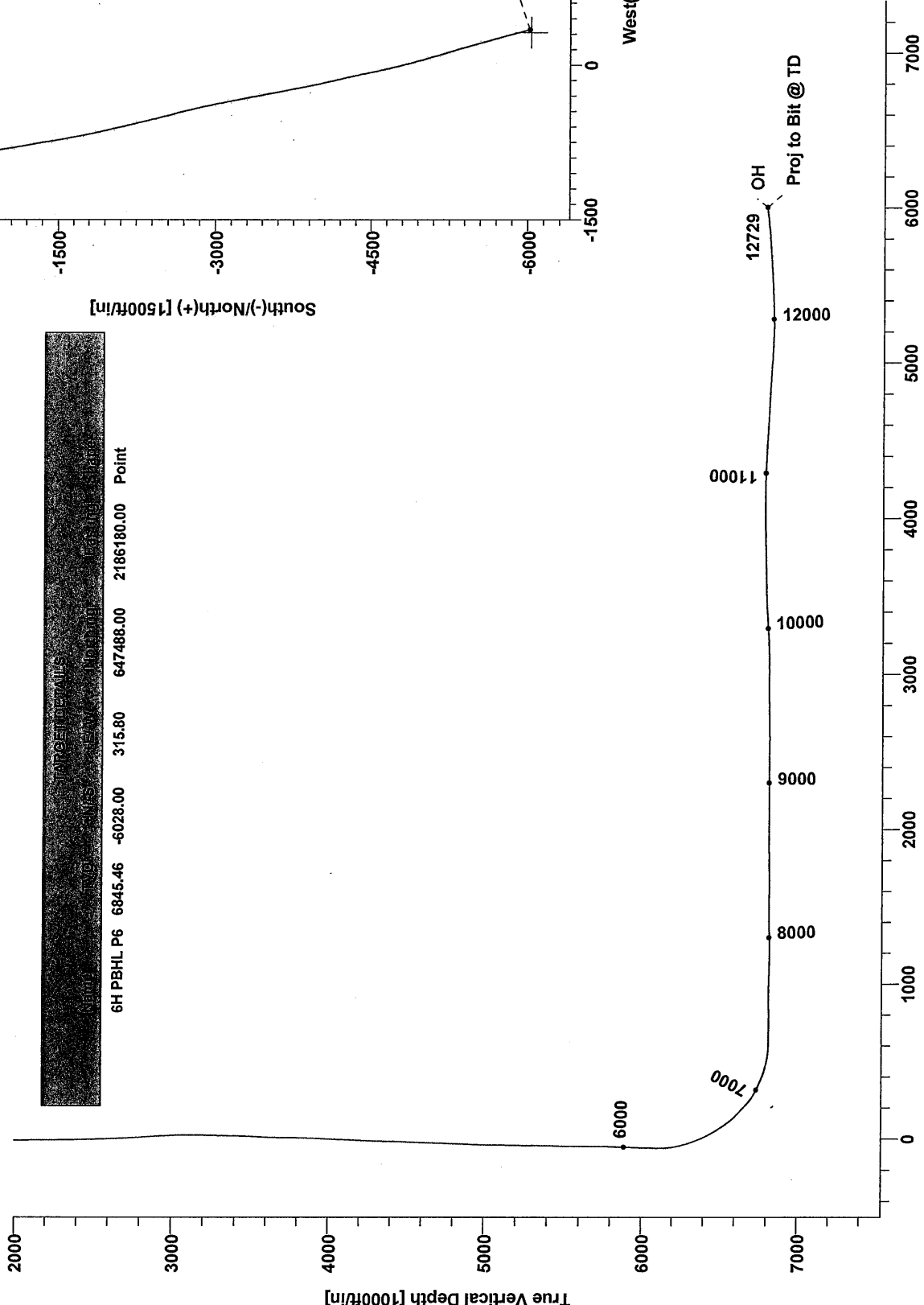
Scientific Drilling
337-232-7302
Lafayette, Louisiana



Scientific Drilling
Directional Drilling Operations

RECORDED
2012
MORCANTOWNS, WV

Field: Upshur, WV
Site: Tall Trees
Well: 6H
Wellpath: OH



Azimuths to Grid North
True North: -0.40°
Magnetic North: -8.91°
Magnetic Field
Strength: 52457nT
Dip Angle: 66.73°
Date: 09/14/2010
Model: IGRF2010

Plot Date: 9/24/2010
By: Troy Lewis
Scientific Drilling, Inc.

SDI Survey Report

APR 3 2012

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 15:36:05	Page: 1
Field: Upshur, WV	Co-ordinate(NE) Reference: Well: 6H, Grid North		
Site: Tall Trees	Vertical (TVD) Reference: SITE 1679.0		
Well: 6H	Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Upshur, WV	
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Southern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Tall Trees	
Site Position:	Northing: 653502.70 ft
From: Map	Latitude: 38 47 34.283 N
Position Uncertainty: 0.00 ft	Longitude: 80 20 52.460 W
Ground Level: 1664.00 ft	North Reference: Grid
	Grid Convergence: 0.40 deg

Well: 6H	Slot Name:
Well Position:	Latitude: 38 47 34.415 N
+N/-S 13.30 ft	Northing: 653516.00 ft
+E/-W -4.50 ft	Easting: 2185864.20 ft
Position Uncertainty: 0.00 ft	Longitude: 80 20 52.516 W

Wellpath: OH	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 09/14/2010	Above System Datum: Mean Sea Level
Field Strength: 52457 nT	Declination: -8.51 deg
Vertical Section:	Mag Dip Angle: 66.73 deg
Depth From (TVD)	Direction
ft	deg
0.00	0.00
0.00	0.00
0.00	172.00

Survey Program for Definitive Wellpath				
Date: 09/20/2010	Validated: No	Version: 6		
Actual From	To	Survey	Toolcode	Tool Name
ft	ft			
0.00	2152.00	Survey #1 (0.00-2152.00)	VES GYRO	Rate Gyro
2152.00	12728.00	Survey #2 (2152.00-12728.00)	SDI MWD	SDI MWD - Standard ver 1.0.1

MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.18	262.57	100.00	-0.02	-0.16	0.00	0.18	0.18	0.00	VES GYRO
200.00	0.19	353.59	200.00	0.12	-0.33	-0.17	0.26	0.01	91.02	VES GYRO
300.00	0.07	277.37	300.00	0.30	-0.41	-0.35	0.19	-0.12	-76.22	VES GYRO
400.00	0.40	337.95	400.00	0.63	-0.60	-0.71	0.37	0.33	60.58	VES GYRO
500.00	0.24	22.35	500.00	1.15	-0.65	-1.22	0.28	-0.16	44.40	VES GYRO
600.00	0.21	11.12	600.00	1.52	-0.54	-1.58	0.05	-0.03	-11.23	VES GYRO
700.00	0.25	353.08	700.00	1.92	-0.53	-1.97	0.08	0.04	-18.04	VES GYRO
800.00	0.37	6.12	799.99	2.45	-0.52	-2.50	0.14	0.12	13.04	VES GYRO
900.00	0.29	19.90	899.99	3.01	-0.40	-3.04	0.11	-0.08	13.78	VES GYRO
1000.00	0.33	38.47	999.99	3.48	-0.13	-3.46	0.11	0.04	18.57	VES GYRO
1100.00	0.61	34.07	1099.99	4.14	0.34	-4.05	0.28	0.28	-4.40	VES GYRO
1200.00	0.65	46.31	1199.98	4.97	1.05	-4.78	0.14	0.04	12.24	VES GYRO
1300.00	0.61	50.71	1299.98	5.70	1.87	-5.39	0.06	-0.04	4.40	VES GYRO
1400.00	0.53	31.69	1399.97	6.43	2.53	-6.02	0.20	-0.08	-19.02	VES GYRO
1500.00	0.42	86.36	1499.97	6.85	3.14	-6.35	0.45	-0.11	54.67	VES GYRO
1600.00	0.69	72.69	1599.96	7.05	4.08	-6.42	0.30	0.27	-13.67	VES GYRO
1700.00	0.73	58.32	1699.96	7.57	5.20	-6.77	0.18	0.04	-14.37	VES GYRO
1800.00	0.83	93.75	1799.95	7.85	6.46	-6.88	0.48	0.10	35.43	VES GYRO
1900.00	0.75	110.15	1899.94	7.58	7.80	-6.42	0.24	-0.08	16.40	VES GYRO
2000.00	0.84	119.57	1999.93	6.99	9.05	-5.67	0.16	0.09	9.42	VES GYRO
2100.00	0.72	127.67	2099.92	6.25	10.18	-4.77	0.16	-0.12	8.10	VES GYRO

SDI Survey Report

RECEIVED

APR 8 2012

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 16:56:05	Page: 2
Field: Upshur, WV	Co-ordinate(NE) Reference: Well: 6M Grid North	Geological Survey: 100001, WV	
Site: Tall Trees	Vertical (TVD) Reference: SITE 1679.0		
Well: 6H	Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2152.00	0.68	134.53	2151.91	5.83	10.66	-4.29	0.18	-0.08	13.19	VES GYRO
2241.00	0.55	111.38	2240.91	5.31	11.44	-3.66	0.31	-0.15	-26.01	SDI MWD
2304.00	1.28	220.64	2303.90	4.66	11.26	-3.05	2.46	1.16	173.43	SDI MWD
2367.00	3.01	243.60	2366.86	3.39	9.32	-2.06	3.01	2.75	36.44	SDI MWD
2430.00	4.77	245.80	2429.71	1.58	5.45	-0.81	2.80	2.79	3.49	SDI MWD
2493.00	6.45	249.24	2492.41	-0.74	-0.25	0.70	2.72	2.67	5.46	SDI MWD
2556.00	7.42	247.11	2554.95	-3.58	-7.31	2.53	1.59	1.54	-3.38	SDI MWD
2619.00	8.53	246.20	2617.34	-7.05	-15.33	4.85	1.77	1.76	-1.44	SDI MWD
2682.00	9.16	245.48	2679.59	-11.02	-24.17	7.55	1.02	1.00	-1.14	SDI MWD
2745.00	9.37	241.04	2741.76	-15.58	-33.22	10.81	1.18	0.33	-7.05	SDI MWD
2808.00	9.53	240.61	2803.91	-20.62	-42.25	14.54	0.28	0.25	-0.68	SDI MWD
2871.00	9.98	241.84	2866.00	-25.76	-51.60	18.33	0.79	0.71	1.95	SDI MWD
2934.00	11.32	246.82	2927.91	-30.77	-62.10	21.83	2.58	2.13	7.90	SDI MWD
2997.00	12.28	248.76	2989.58	-35.63	-74.03	24.98	1.65	1.52	3.08	SDI MWD
3061.00	12.64	255.29	3052.08	-39.87	-87.15	27.36	2.27	0.56	10.20	SDI MWD
3124.00	12.81	261.98	3113.53	-42.60	-100.73	28.17	2.35	0.27	10.62	SDI MWD
3187.00	13.19	266.92	3174.92	-43.96	-114.83	27.55	1.86	0.60	7.84	SDI MWD
3250.00	13.99	267.00	3236.16	-44.74	-129.61	26.27	1.27	1.27	0.13	SDI MWD
3311.00	14.71	267.78	3295.25	-45.43	-144.71	24.85	1.22	1.18	1.28	SDI MWD
3374.00	14.05	266.65	3356.28	-46.19	-160.34	23.42	1.14	-1.05	-1.79	SDI MWD
3437.00	13.91	267.07	3417.41	-47.02	-175.53	22.13	0.27	-0.22	0.67	SDI MWD
3500.00	14.81	271.28	3478.44	-47.23	-191.15	20.17	2.19	1.43	6.68	SDI MWD
3563.00	15.04	272.72	3539.32	-46.66	-207.36	17.35	0.69	0.37	2.29	SDI MWD
3625.00	14.37	273.15	3599.29	-45.86	-223.08	14.36	1.09	-1.08	0.69	SDI MWD
3687.00	13.62	268.78	3659.45	-45.59	-238.06	12.01	2.09	-1.21	-7.05	SDI MWD
3750.00	13.26	265.00	3720.73	-46.38	-252.67	10.76	1.51	-0.57	-6.00	SDI MWD
3813.00	13.87	263.43	3781.97	-47.87	-267.37	10.19	1.13	0.97	-2.49	SDI MWD
3876.00	14.81	268.35	3843.01	-48.97	-282.93	9.11	2.44	1.49	7.81	SDI MWD
3939.00	15.79	269.35	3903.77	-49.30	-299.54	7.13	1.61	1.56	1.59	SDI MWD
4001.00	15.97	271.05	3963.41	-49.23	-316.51	4.71	0.80	0.29	2.74	SDI MWD
4064.00	16.23	271.66	4023.94	-48.82	-333.97	1.87	0.49	0.41	0.97	SDI MWD
4128.00	15.83	270.44	4085.45	-48.49	-351.64	-0.92	0.82	-0.62	-1.91	SDI MWD
4190.00	16.67	269.24	4144.97	-48.55	-368.99	-3.28	1.46	1.35	-1.94	SDI MWD
4253.00	16.25	272.16	4205.39	-48.34	-386.83	-5.97	1.47	-0.67	4.63	SDI MWD
4314.00	15.50	271.67	4264.06	-47.78	-403.51	-8.85	1.25	-1.23	-0.80	SDI MWD
4377.00	14.64	267.93	4324.90	-47.82	-419.88	-11.08	2.06	-1.37	-5.94	SDI MWD
4440.00	15.09	265.47	4385.79	-48.75	-436.01	-12.40	1.23	0.71	-3.90	SDI MWD
4503.00	15.54	268.64	4446.55	-49.60	-452.63	-13.87	1.51	0.71	5.03	SDI MWD
4563.00	16.33	271.01	4504.25	-49.64	-469.10	-16.12	1.71	1.32	3.95	SDI MWD
4626.00	16.64	271.15	4564.66	-49.31	-486.97	-18.95	0.50	0.49	0.22	SDI MWD
4688.00	16.44	269.18	4624.09	-49.25	-504.62	-21.45	0.96	-0.32	-3.18	SDI MWD
4750.00	16.35	266.33	4683.57	-49.94	-522.10	-23.21	1.31	-0.15	-4.60	SDI MWD
4814.00	16.67	267.68	4744.93	-50.89	-540.26	-24.80	0.78	0.50	2.11	SDI MWD
4876.00	16.60	269.90	4804.34	-51.26	-558.00	-26.90	1.03	-0.11	3.58	SDI MWD
4936.00	16.50	270.17	4861.85	-51.25	-575.09	-29.28	0.21	-0.17	0.45	SDI MWD
4999.00	15.57	269.99	4922.40	-51.23	-592.50	-31.73	1.48	-1.48	-0.29	SDI MWD
5062.00	14.19	268.93	4983.29	-51.37	-608.67	-33.84	2.23	-2.19	-1.68	SDI MWD
5125.00	14.09	267.74	5044.38	-51.82	-624.05	-35.54	0.49	-0.16	-1.89	SDI MWD
5188.00	13.54	263.12	5105.56	-53.00	-639.04	-36.45	1.96	-0.87	-7.33	SDI MWD
5251.00	13.73	264.20	5166.78	-54.64	-653.80	-36.88	0.50	0.30	1.71	SDI MWD
5315.00	14.85	265.61	5228.80	-56.04	-669.53	-37.69	1.83	1.75	2.20	SDI MWD
5377.00	14.91	263.09	5288.72	-57.61	-685.37	-38.34	1.05	0.10	-4.06	SDI MWD
5440.00	15.16	265.05	5349.57	-59.29	-701.63	-38.93	0.90	0.40	3.11	SDI MWD

SDI Survey Report

APR 8 2012

WV GEOLOGICAL SURVEY

MORGANTOWN, WV

Company: CHESAPEAKE OPERATING, INC.
Field: Upshur, WV
Site: Tall Trees
Well: 6H
Wellpath: OH

Date: 09/22/2010 Time: 15:36:05 Page: 3
Co-ordinate(NE) Reference: Well: 6H, Grid North
Vertical (TVD) Reference: SITE 1679.0
Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5503.00	15.12	269.99	5410.38	-60.00	-718.05	-40.51	2.05	-0.06	7.84	SDI MWD
5566.00	14.65	266.99	5471.27	-60.42	-734.22	-42.35	1.43	-0.75	-4.76	SDI MWD
5629.00	14.68	264.65	5532.22	-61.59	-750.13	-43.41	0.94	0.05	-3.71	SDI MWD
5692.00	14.38	264.44	5593.20	-63.09	-765.86	-44.11	0.48	-0.48	-0.33	SDI MWD
5755.00	14.71	265.41	5654.18	-64.49	-781.62	-44.92	0.65	0.52	1.54	SDI MWD
5816.00	15.64	263.24	5713.06	-66.08	-797.51	-45.56	1.79	1.52	-3.56	SDI MWD
5880.00	16.27	265.40	5774.59	-67.81	-815.01	-46.28	1.35	0.98	3.37	SDI MWD
5943.00	15.76	269.77	5835.15	-68.55	-832.36	-47.96	2.08	-0.81	6.94	SDI MWD
6006.00	16.32	269.04	5895.70	-68.73	-849.77	-50.20	0.94	0.89	-1.16	SDI MWD
6069.00	16.77	266.23	5956.09	-69.48	-867.69	-51.95	1.46	0.71	-4.46	SDI MWD
6132.00	16.87	266.71	6016.39	-70.60	-885.89	-53.38	0.27	0.16	0.76	SDI MWD
6185.00	15.96	269.47	6067.23	-71.11	-900.85	-54.95	2.26	-1.72	5.21	SDI MWD
6266.00	14.33	257.60	6145.44	-73.37	-921.78	-55.63	4.31	-2.01	-14.65	SDI MWD
6297.00	13.57	239.05	6175.54	-76.06	-928.65	-53.92	14.57	-2.45	-59.84	SDI MWD
6327.00	14.55	222.99	6204.65	-80.63	-934.24	-50.17	13.36	3.27	-53.53	SDI MWD
6359.00	16.06	213.23	6235.52	-87.28	-939.41	-44.31	9.32	4.72	-30.50	SDI MWD
6391.00	17.88	204.48	6266.13	-95.45	-943.87	-36.84	9.79	5.69	-27.34	SDI MWD
6422.00	19.28	199.04	6295.51	-104.62	-947.51	-28.27	7.18	4.52	-17.55	SDI MWD
6454.00	20.69	195.57	6325.59	-115.06	-950.75	-18.38	5.76	4.41	-10.84	SDI MWD
6485.00	22.27	191.10	6354.44	-126.10	-953.36	-7.81	7.34	5.10	-14.42	SDI MWD
6516.00	24.07	187.58	6382.94	-138.13	-955.32	3.84	7.32	5.81	-11.35	SDI MWD
6548.00	26.49	183.38	6411.87	-151.73	-956.60	17.12	9.41	7.56	-13.12	SDI MWD
6579.00	28.56	180.55	6439.36	-166.04	-957.08	31.23	7.90	6.68	-9.13	SDI MWD
6610.00	30.66	178.04	6466.31	-181.36	-956.88	46.42	7.87	6.77	-8.10	SDI MWD
6642.00	32.10	175.81	6493.63	-197.99	-955.98	63.02	5.78	4.50	-6.97	SDI MWD
6673.00	33.58	174.01	6519.68	-214.73	-954.49	79.81	5.72	4.77	-5.81	SDI MWD
6704.00	36.00	172.87	6545.14	-232.30	-952.46	97.49	8.08	7.81	-3.68	SDI MWD
6736.00	39.36	171.89	6570.46	-251.69	-949.86	117.04	10.67	10.50	-3.06	SDI MWD
6766.00	42.19	171.84	6593.17	-271.08	-947.09	136.63	9.43	9.43	-0.17	SDI MWD
6798.00	44.75	171.08	6616.40	-292.85	-943.82	158.64	8.17	8.00	-2.37	SDI MWD
6829.00	46.70	170.23	6638.04	-314.75	-940.21	180.83	6.59	6.29	-2.74	SDI MWD
6861.00	48.86	170.49	6659.54	-338.11	-936.24	204.52	6.78	6.75	0.81	SDI MWD
6892.00	51.02	169.05	6679.49	-361.46	-932.02	228.23	7.82	6.97	-4.65	SDI MWD
6923.00	53.80	171.05	6698.40	-385.65	-927.79	252.77	10.32	8.97	6.45	SDI MWD
6955.00	57.39	171.36	6716.48	-411.74	-923.75	279.17	11.25	11.22	0.97	SDI MWD
6987.00	61.14	171.08	6732.83	-438.91	-919.55	306.66	11.74	11.72	-0.87	SDI MWD
7018.00	64.35	171.04	6747.02	-466.13	-915.27	334.22	10.36	10.35	-0.13	SDI MWD
7049.00	66.62	170.26	6759.88	-493.96	-910.69	362.41	7.67	7.32	-2.52	SDI MWD
7081.00	69.02	169.87	6771.96	-523.15	-905.58	392.02	7.58	7.50	-1.22	SDI MWD
7113.00	73.28	168.91	6782.30	-552.90	-900.00	422.27	13.61	13.31	-3.00	SDI MWD
7144.00	75.43	169.15	6790.66	-582.21	-894.32	452.08	6.98	6.94	0.77	SDI MWD
7176.00	77.40	169.54	6798.18	-612.78	-888.57	483.15	6.27	6.16	1.22	SDI MWD
7202.00	78.72	168.46	6803.56	-637.75	-883.71	508.55	6.50	5.08	-4.15	SDI MWD
7232.00	82.44	169.43	6808.47	-666.79	-878.04	538.10	12.80	12.40	3.23	SDI MWD
7265.00	86.71	167.69	6811.58	-698.98	-871.52	570.88	13.96	12.94	-5.27	SDI MWD
7296.00	88.49	167.63	6812.88	-729.23	-864.91	601.76	5.75	5.74	-0.19	SDI MWD
7328.00	89.03	167.21	6813.58	-760.46	-857.94	633.65	2.14	1.69	-1.31	SDI MWD
7390.00	89.09	168.85	6814.59	-821.10	-845.08	695.50	2.65	0.10	2.65	SDI MWD
7452.00	89.77	168.47	6815.21	-881.88	-832.89	757.39	1.26	1.10	-0.61	SDI MWD
7515.00	91.27	169.85	6814.64	-943.75	-821.04	820.30	3.24	2.38	2.19	SDI MWD
7577.00	90.94	170.74	6813.44	-1004.86	-810.59	882.26	1.53	-0.53	1.44	SDI MWD
7640.00	89.23	170.86	6813.35	-1067.04	-800.52	945.25	2.72	-2.71	0.19	SDI MWD
7703.00	88.32	170.22	6814.70	-1129.17	-790.17	1008.21	1.77	-1.44	-1.02	SDI MWD
7765.00	88.99	169.67	6816.15	-1190.20	-779.35	1070.15	1.40	1.08	-0.89	SDI MWD

SDI Survey Report

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 15:36:05	Page: 4
Field: Upshur, WV	Co-ordinate(NE) Reference: Well: 6H, Grid North		
Site: Tall Trees	Vertical (TVD) Reference: SITE 1679.0		
Well: 6H	Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7828.00	88.06	169.28	6817.77	-1252.12	-767.84	1133.07	1.60	-1.48	-0.62	SDI MWD
7891.00	89.83	170.07	6818.93	-1314.09	-756.55	1196.01	3.08	2.81	1.25	SDI MWD
7954.00	91.28	170.66	6818.32	-1376.19	-746.01	1258.97	2.48	2.30	0.94	SDI MWD
8018.00	92.05	171.04	6816.46	-1439.35	-735.84	1322.93	1.34	1.20	0.59	SDI MWD
8080.00	91.07	169.58	6814.77	-1500.44	-725.41	1384.88	2.84	-1.58	-2.35	SDI MWD
8143.00	89.97	169.55	6814.20	-1562.40	-714.00	1447.82	1.75	-1.75	-0.05	SDI MWD
8206.00	89.16	169.48	6814.68	-1624.34	-702.53	1510.76	1.29	-1.29	-0.11	SDI MWD
8269.00	88.79	168.81	6815.81	-1686.20	-690.67	1573.67	1.21	-0.59	-1.06	SDI MWD
8331.00	89.53	168.55	6816.72	-1746.99	-678.50	1635.56	1.27	1.19	-0.42	SDI MWD
8395.00	91.14	168.44	6816.34	-1809.70	-665.74	1699.44	2.52	2.52	-0.17	SDI MWD
8458.00	90.37	167.20	6815.51	-1871.28	-652.45	1762.26	2.32	-1.22	-1.97	SDI MWD
8520.00	90.77	166.75	6814.90	-1931.68	-638.47	1824.02	0.97	0.65	-0.73	SDI MWD
8582.00	90.67	166.85	6814.12	-1992.04	-624.32	1885.76	0.23	-0.16	0.16	SDI MWD
8645.00	90.57	167.27	6813.44	-2053.43	-610.21	1948.52	0.69	-0.16	0.67	SDI MWD
8707.00	90.03	167.22	6813.11	-2113.90	-596.52	2010.31	0.87	-0.87	-0.08	SDI MWD
8770.00	89.16	166.44	6813.56	-2175.24	-582.17	2073.05	1.85	-1.38	-1.24	SDI MWD
8833.00	89.93	165.77	6814.06	-2236.39	-567.04	2135.71	1.62	1.22	-1.06	SDI MWD
8896.00	90.24	166.11	6813.96	-2297.51	-551.74	2198.36	0.73	0.49	0.54	SDI MWD
8959.00	89.93	165.45	6813.87	-2358.58	-536.26	2260.99	1.16	-0.49	-1.05	SDI MWD
9021.00	90.23	165.18	6813.78	-2418.55	-520.54	2322.57	0.65	0.48	-0.44	SDI MWD
9083.00	90.20	164.98	6813.55	-2478.46	-504.58	2384.12	0.33	-0.05	-0.32	SDI MWD
9146.00	89.87	166.34	6813.51	-2539.50	-488.98	2446.73	2.22	-0.52	2.16	SDI MWD
9210.00	89.50	165.17	6813.86	-2601.53	-473.23	2510.35	1.92	-0.58	-1.83	SDI MWD
9272.00	89.90	165.39	6814.19	-2661.49	-457.48	2571.92	0.74	0.65	0.35	SDI MWD
9335.00	90.40	165.67	6814.02	-2722.49	-441.73	2634.52	0.91	0.79	0.44	SDI MWD
9398.00	90.91	165.78	6813.30	-2783.54	-426.20	2697.14	0.83	0.81	0.17	SDI MWD
9460.00	91.01	167.01	6812.26	-2843.79	-411.62	2758.83	1.99	0.16	1.98	SDI MWD
9523.00	91.34	166.99	6810.97	-2905.16	-397.45	2821.58	0.52	0.52	-0.03	SDI MWD
9586.00	90.07	166.90	6810.20	-2966.53	-383.22	2884.33	2.02	-2.02	-0.14	SDI MWD
9648.00	89.43	168.43	6810.47	-3027.10	-369.98	2946.15	2.67	-1.03	2.47	SDI MWD
9709.00	89.83	168.22	6810.86	-3086.83	-357.63	3007.02	0.74	0.66	-0.34	SDI MWD
9771.00	90.74	169.04	6810.55	-3147.61	-345.41	3068.91	1.98	1.47	1.32	SDI MWD
9834.00	91.54	169.08	6809.30	-3209.46	-333.46	3131.81	1.27	1.27	0.06	SDI MWD
9897.00	91.95	169.19	6807.38	-3271.30	-321.59	3194.71	0.67	0.65	0.17	SDI MWD
9960.00	93.73	169.60	6804.26	-3333.14	-310.01	3257.56	2.90	2.83	0.65	SDI MWD
10023.00	93.03	170.01	6800.55	-3395.04	-298.87	3320.40	1.29	-1.11	0.65	SDI MWD
10086.00	94.10	169.63	6796.63	-3456.93	-287.76	3383.24	1.80	1.70	-0.60	SDI MWD
10149.00	92.32	169.23	6793.10	-3518.76	-276.22	3446.07	2.90	-2.83	-0.63	SDI MWD
10213.00	91.28	169.54	6791.09	-3581.63	-264.44	3509.97	1.70	-1.62	0.48	SDI MWD
10276.00	91.61	169.58	6789.50	-3643.57	-253.03	3572.90	0.53	0.52	0.06	SDI MWD
10340.00	90.67	168.54	6788.23	-3706.39	-240.89	3636.80	2.19	-1.47	-1.62	SDI MWD
10404.00	90.91	168.59	6787.35	-3769.12	-228.20	3700.68	0.38	0.37	0.08	SDI MWD
10467.00	91.41	168.69	6786.07	-3830.87	-215.79	3763.55	0.81	0.79	0.16	SDI MWD
10530.00	91.18	168.78	6784.65	-3892.64	-203.49	3826.44	0.39	-0.37	0.14	SDI MWD
10594.00	91.24	168.09	6783.30	-3955.33	-190.66	3890.30	1.08	0.09	-1.08	SDI MWD
10657.00	90.97	167.17	6782.08	-4016.85	-177.17	3953.10	1.52	-0.43	-1.46	SDI MWD
10720.00	90.81	167.14	6781.10	-4078.27	-163.16	4015.87	0.26	-0.25	-0.05	SDI MWD
10782.00	89.43	167.12	6780.97	-4138.71	-149.35	4077.64	2.23	-2.23	-0.03	SDI MWD
10845.00	89.19	166.50	6781.73	-4200.04	-134.98	4140.38	1.06	-0.38	-0.98	SDI MWD
10908.00	90.24	167.36	6782.04	-4261.41	-120.73	4203.13	2.15	1.67	1.37	SDI MWD
10971.00	87.35	167.21	6783.37	-4322.84	-106.87	4265.90	4.59	-4.59	-0.24	SDI MWD
11034.00	87.62	167.49	6786.13	-4384.25	-93.09	4328.63	0.62	0.43	0.44	SDI MWD
11096.00	87.92	167.95	6788.55	-4444.79	-79.91	4390.41	0.89	0.48	0.74	SDI MWD

SDI Survey Report

APR 3 2012
WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 15:36:05	Page: 5
Field: Upshur, WV	Co-ordinate(NE) Reference: Well: 6H, Grid North		
Site: Tall Trees	Vertical (TVD) Reference: SITE 1679.0		
Well: 6H	Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
11160.00	87.04	167.64	6791.36	-4507.28	-66.39	4454.18	1.46	-1.37	-0.48	SDI MWD
11222.00	86.43	167.34	6794.89	-4567.71	-52.99	4515.88	1.10	-0.98	-0.48	SDI MWD
11285.00	86.94	167.63	6798.53	-4629.11	-39.36	4578.58	0.93	0.81	0.46	SDI MWD
11348.00	86.50	166.06	6802.14	-4690.35	-25.04	4641.22	2.58	-0.70	-2.49	SDI MWD
11411.00	87.18	166.34	6805.61	-4751.44	-10.04	4703.80	1.17	1.08	0.44	SDI MWD
11474.00	87.48	166.56	6808.55	-4812.62	4.71	4766.44	0.59	0.48	0.35	SDI MWD
11537.00	86.27	164.88	6811.98	-4873.58	20.22	4828.97	3.28	-1.92	-2.67	SDI MWD
11599.00	86.57	164.71	6815.85	-4933.29	36.45	4890.36	0.56	0.48	-0.27	SDI MWD
11661.00	86.44	164.59	6819.63	-4992.97	52.83	4951.73	0.29	-0.21	-0.19	SDI MWD
11724.00	85.42	163.66	6824.10	-5053.41	70.02	5013.98	2.19	-1.62	-1.48	SDI MWD
11787.00	86.97	163.00	6828.28	-5113.63	88.05	5076.12	2.67	2.46	-1.05	SDI MWD
11849.00	87.38	163.00	6831.34	-5172.85	106.16	5137.28	0.66	0.66	0.00	SDI MWD
11911.00	88.39	163.21	6833.63	-5232.13	124.16	5198.49	1.66	1.63	0.34	SDI MWD
11975.00	90.47	163.82	6834.26	-5293.49	142.32	5261.79	3.39	3.25	0.95	SDI MWD
12037.00	90.94	163.98	6833.50	-5353.06	159.52	5323.16	0.80	0.76	0.26	SDI MWD
12100.00	92.22	164.30	6831.76	-5413.64	176.73	5385.55	2.09	2.03	0.51	SDI MWD
12163.00	92.11	163.98	6829.38	-5474.19	193.93	5447.91	0.54	-0.17	-0.51	SDI MWD
12226.00	92.86	164.50	6826.65	-5534.77	211.03	5510.27	1.45	1.19	0.83	SDI MWD
12290.00	92.96	164.05	6823.40	-5596.29	228.35	5573.61	0.72	0.16	-0.70	SDI MWD
12352.00	93.36	164.02	6819.99	-5655.81	245.38	5634.92	0.65	0.65	-0.05	SDI MWD
12415.00	93.87	164.18	6816.01	-5716.28	262.60	5697.20	0.85	0.81	0.25	SDI MWD
12478.00	94.07	164.07	6811.65	-5776.73	279.79	5759.45	0.36	0.32	-0.17	SDI MWD
12541.00	94.41	164.22	6806.99	-5837.17	296.96	5821.69	0.59	0.54	0.24	SDI MWD
12604.00	95.62	164.61	6801.49	-5897.62	313.82	5883.90	2.02	1.92	0.62	SDI MWD
12667.00	96.20	164.92	6795.00	-5958.08	330.28	5946.06	1.04	0.92	0.49	SDI MWD
12728.00	96.20	164.92	6788.41	-6016.64	346.06	6006.25	0.00	0.00	0.00	Proj to Bit @ TD

Annotation

MD ft	TVD ft	
12728.00	6788.41	Proj to Bit @ TD

SDI

Survey Report - Geographic

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APR 3 2012

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 15:35:28	Page: 1
Field: Upshur, WV	Co-ordinate(NE) Reference: Well: 6H, Grid North		
Site: Tall Trees	Vertical (TVD) Reference: SITE 1679.0		
Well: 6H	Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Upshur, WV	Map Zone: West Virginia, Southern Zone
Map System: US State Plane Coordinate System 1927	Coordinate System: Well Centre
Geo Datum: NAD27 (Clarke 1866)	Geomagnetic Model: IGRF2010
Sys Datum: Mean Sea Level	

Site: Tall Trees			
Site Position:	Northing: 653502.70 ft	Latitude: 38 47 34.283 N	
From: Map	Easting: 2185868.70 ft	Longitude: 80 20 52.460 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1664.00 ft		Grid Convergence: 0.40 deg	

Well: 6H				Slot Name:			
Well Position:	+N/-S 13.30 ft	Northing: 653516.00 ft	Latitude: 38 47 34.415 N		Longitude: 80 20 52.516 W		
	+E/-W -4.50 ft	Easting: 2185864.20 ft					
Position Uncertainty: 0.00 ft							

Wellpath: OH				Drilled From: Surface			
Current Datum: SITE		Height 1679.00 ft	Tie-on Depth: 0.00 ft	Above System Datum: Mean Sea Level			
Magnetic Data: 09/14/2010			Declination: -8.51 deg				
Field Strength: 52457 nT			Mag Dip Angle: 66.73 deg				
Vertical Section: Depth From (TVD)		+N/-S	+E/-W	Direction			
ft	ft	ft	ft	deg			
0.00	0.00	0.00	0.00	172.00			

Survey Program for Definitive Wellpath					
Date: 09/20/2010	Validated: No	Version: 6	Toolcode	Tool Name	
Actual From ft	To ft	Survey			
0.00	2152.00	Survey #1 (0.00-2152.00)	VES GYRO	Rate Gyro	
2152.00	12728.00	Survey #2 (2152.00-12728.00)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey											
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude		Longitude	
								Deg	Min Sec	Deg	Min Sec
0.00	0.00	0.00	0.00	0.00	0.00	653516.00	2185864.20	38 47	34.415 N	80 20	52.516 W
100.00	0.18	262.57	100.00	-0.02	-0.16	653515.98	2185864.04	38 47	34.415 N	80 20	52.517 W
200.00	0.19	353.59	200.00	0.12	-0.33	653516.12	2185863.87	38 47	34.416 N	80 20	52.520 W
300.00	0.07	277.37	300.00	0.30	-0.41	653516.30	2185863.79	38 47	34.418 N	80 20	52.521 W
400.00	0.40	337.95	400.00	0.63	-0.60	653516.63	2185863.60	38 47	34.421 N	80 20	52.523 W
500.00	0.24	22.35	500.00	1.15	-0.65	653517.15	2185863.55	38 47	34.427 N	80 20	52.524 W
600.00	0.21	11.12	600.00	1.52	-0.54	653517.52	2185863.66	38 47	34.430 N	80 20	52.522 W
700.00	0.25	353.08	700.00	1.92	-0.53	653517.92	2185863.67	38 47	34.434 N	80 20	52.522 W
800.00	0.37	6.12	799.99	2.45	-0.52	653518.45	2185863.68	38 47	34.440 N	80 20	52.522 W
900.00	0.29	19.90	899.99	3.01	-0.40	653519.01	2185863.80	38 47	34.445 N	80 20	52.520 W
1000.00	0.33	38.47	999.99	3.48	-0.13	653519.48	2185864.07	38 47	34.450 N	80 20	52.517 W
1100.00	0.61	34.07	1099.99	4.14	0.34	653520.14	2185864.54	38 47	34.456 N	80 20	52.511 W
1200.00	0.65	46.31	1199.98	4.97	1.05	653520.97	2185865.25	38 47	34.464 N	80 20	52.502 W
1300.00	0.61	50.71	1299.98	5.70	1.87	653521.70	2185866.07	38 47	34.471 N	80 20	52.491 W
1400.00	0.53	31.69	1399.97	6.43	2.53	653522.43	2185866.73	38 47	34.479 N	80 20	52.483 W
1500.00	0.42	86.36	1499.97	6.85	3.14	653522.85	2185867.34	38 47	34.483 N	80 20	52.475 W
1600.00	0.69	72.69	1599.96	7.05	4.08	653523.05	2185868.28	38 47	34.485 N	80 20	52.463 W
1700.00	0.73	58.32	1699.96	7.57	5.20	653523.57	2185869.40	38 47	34.490 N	80 20	52.449 W
1800.00	0.83	93.75	1799.95	7.85	6.46	653523.85	2185870.66	38 47	34.492 N	80 20	52.433 W
1900.00	0.75	110.15	1899.94	7.58	7.80	653523.58	2185872.00	38 47	34.490 N	80 20	52.416 W
2000.00	0.84	119.57	1999.93	6.99	9.05	653522.99	2185873.25	38 47	34.484 N	80 20	52.401 W

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SDI Survey Report - Geographic

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Company: CHESAPEAKE OPERATING, INC.	Date: 09/22/2010	Time: 15:35:28	Page: 2
Field: Upshur, WV	Co-ordinate(NE) Reference:	Well: 6H, Grid North	
Site: Tall Trees	Vertical (TVD) Reference:	SITE 1679.0	
Well: 6H	Section (VS) Reference:	Well (0.00N,0.00E,172.00Azi)	
Wellpath: OH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude		Longitude		
								Deg	Min Sec	Deg	Min Sec	
2100.00	0.72	127.67	2099.92	6.25	10.18	653522.25	2185874.38	38	47	34.476	N 80 20 52.386	W
2152.00	0.68	134.53	2151.91	5.83	10.66	653521.83	2185874.86	38	47	34.472	N 80 20 52.380	W
2241.00	0.55	111.38	2240.91	5.31	11.44	653521.31	2185875.64	38	47	34.467	N 80 20 52.371	W
2304.00	1.28	220.64	2303.90	4.66	11.26	653520.66	2185875.46	38	47	34.461	N 80 20 52.373	W
2367.00	3.01	243.60	2366.86	3.39	9.32	653519.39	2185873.52	38	47	34.448	N 80 20 52.398	W
2430.00	4.77	245.80	2429.71	1.58	5.45	653517.58	2185869.65	38	47	34.430	N 80 20 52.447	W
2493.00	6.45	249.24	2492.41	-0.74	-0.25	653515.26	2185863.95	38	47	34.408	N 80 20 52.519	W
2556.00	7.42	247.11	2554.95	-3.58	-7.31	653512.42	2185856.89	38	47	34.380	N 80 20 52.608	W
2619.00	8.53	246.20	2617.34	-7.05	-15.33	653508.95	2185848.87	38	47	34.347	N 80 20 52.710	W
2682.00	9.16	245.48	2679.59	-11.02	-24.17	653504.98	2185840.03	38	47	34.308	N 80 20 52.822	W
2745.00	9.37	241.04	2741.76	-15.58	-33.22	653500.42	2185830.98	38	47	34.264	N 80 20 52.936	W
2808.00	9.53	240.61	2803.91	-20.62	-42.25	653495.38	2185821.95	38	47	34.214	N 80 20 53.051	W
2871.00	9.98	241.84	2866.00	-25.76	-51.60	653490.24	2185812.60	38	47	34.164	N 80 20 53.170	W
2934.00	11.32	246.82	2927.91	-30.77	-62.10	653485.23	2185802.10	38	47	34.115	N 80 20 53.303	W
2997.00	12.28	248.76	2989.58	-35.63	-74.03	653480.37	2185790.17	38	47	34.068	N 80 20 53.454	W
3061.00	12.64	255.29	3052.08	-39.87	-87.15	653476.13	2185777.05	38	47	34.027	N 80 20 53.620	W
3124.00	12.81	261.98	3113.53	-42.60	-100.73	653473.40	2185763.47	38	47	34.001	N 80 20 53.792	W
3187.00	13.19	266.92	3174.92	-43.96	-114.83	653472.04	2185749.37	38	47	33.989	N 80 20 53.970	W
3250.00	13.99	267.00	3236.16	-44.74	-129.61	653471.26	2185734.59	38	47	33.982	N 80 20 54.156	W
3311.00	14.71	267.78	3295.25	-45.43	-144.71	653470.57	2185719.49	38	47	33.976	N 80 20 54.347	W
3374.00	14.05	266.65	3356.28	-46.19	-160.34	653469.81	2185703.86	38	47	33.970	N 80 20 54.545	W
3437.00	13.91	267.07	3417.41	-47.02	-175.53	653468.98	2185688.67	38	47	33.963	N 80 20 54.737	W
3500.00	14.81	271.28	3478.44	-47.23	-191.15	653468.77	2185673.05	38	47	33.962	N 80 20 54.934	W
3563.00	15.04	272.72	3539.32	-46.66	-207.36	653469.34	2185656.84	38	47	33.968	N 80 20 55.139	W
3625.00	14.37	273.15	3599.29	-45.86	-223.08	653470.14	2185641.12	38	47	33.977	N 80 20 55.337	W
3687.00	13.62	268.78	3659.45	-45.59	-238.06	653470.41	2185626.14	38	47	33.981	N 80 20 55.526	W
3750.00	13.26	265.00	3720.73	-46.38	-252.67	653469.62	2185611.53	38	47	33.974	N 80 20 55.711	W
3813.00	13.87	263.43	3781.97	-47.87	-267.37	653468.13	2185596.83	38	47	33.961	N 80 20 55.897	W
3876.00	14.81	268.35	3843.01	-48.97	-282.93	653467.03	2185581.27	38	47	33.951	N 80 20 56.093	W
3939.00	15.79	269.35	3903.77	-49.30	-299.54	653466.70	2185564.66	38	47	33.949	N 80 20 56.303	W
4001.00	15.97	271.05	3963.41	-49.23	-316.51	653466.77	2185547.69	38	47	33.951	N 80 20 56.517	W
4064.00	16.23	271.66	4023.94	-48.82	-333.97	653467.18	2185530.23	38	47	33.956	N 80 20 56.738	W
4128.00	15.83	270.44	4085.45	-48.49	-351.64	653467.51	2185512.56	38	47	33.960	N 80 20 56.961	W
4190.00	16.67	269.24	4144.97	-48.55	-368.99	653467.45	2185495.21	38	47	33.961	N 80 20 57.180	W
4253.00	16.25	272.16	4205.39	-48.34	-386.83	653467.66	2185477.37	38	47	33.964	N 80 20 57.405	W
4314.00	15.50	271.67	4264.06	-47.78	-403.51	653468.22	2185460.69	38	47	33.971	N 80 20 57.616	W
4377.00	14.64	267.93	4324.90	-47.82	-419.88	653468.18	2185444.32	38	47	33.972	N 80 20 57.823	W
4440.00	15.09	265.47	4385.79	-48.75	-436.01	653467.25	2185428.19	38	47	33.964	N 80 20 58.027	W
4503.00	15.54	268.64	4446.55	-49.60	-452.63	653466.40	2185411.57	38	47	33.956	N 80 20 58.236	W
4563.00	16.33	271.01	4504.25	-49.64	-469.10	653466.36	2185395.10	38	47	33.957	N 80 20 58.444	W
4626.00	16.64	271.15	4564.66	-49.31	-486.97	653466.69	2185377.23	38	47	33.962	N 80 20 58.670	W
4688.00	16.44	269.18	4624.09	-49.25	-504.62	653466.75	2185359.58	38	47	33.963	N 80 20 58.893	W
4750.00	16.35	266.33	4683.57	-49.94	-522.10	653466.06	2185342.10	38	47	33.958	N 80 20 59.114	W
4814.00	16.67	267.68	4744.93	-50.89	-540.26	653465.11	2185323.94	38	47	33.950	N 80 20 59.343	W
4876.00	16.60	269.90	4804.34	-51.26	-558.00	653464.74	2185306.20	38	47	33.947	N 80 20 59.567	W
4936.00	16.50	270.17	4861.85	-51.25	-575.09	653464.75	2185289.11	38	47	33.949	N 80 20 59.783	W
4999.00	15.57	269.99	4922.40	-51.23	-592.50	653464.77	2185271.70	38	47	33.950	N 80 21 0.003	W
5062.00	14.19	268.93	4983.29	-51.37	-608.67	653464.63	2185255.53	38	47	33.950	N 80 21 0.207	W
5125.00	14.09	267.74	5044.38	-51.82	-624.05	653464.18	2185240.15	38	47	33.946	N 80 21 0.402	W
5188.00	13.54	263.12	5105.56	-53.00	-639.04	653463.00	2185225.16	38	47	33.936	N 80 21 0.591	W
5251.00	13.73	264.20	5166.78	-54.64	-653.80	653461.36	2185210.40	38	47	33.920	N 80 21 0.778	W
5315.00	14.85	265.61	5228.80	-56.04	-669.53	653459.96	2185194.67	38	47	33.908	N 80 21 0.976	W
5377.00	14.91	263.09	5288.72	-57.61	-685.37	653458.39	2185178.83	38	47	33.893	N 80 21 1.177	W

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Survey Report - Geographic

APR 3 2012

Company: CHESAPEAKE OPERATING, INC.
 Field: Upshur, WV
 Site: Tall Trees
 Well: 6H
 Wellpath: OH

Date: 09/22/2010 Time: 15:35:28 Page: 3
 Co-ordinate(NE) Reference: Well: 6H, Grid North
 Vertical (TVD) Reference: SITE 1679.0
 Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude		Longitude	
								Deg	Min Sec	Deg	Min Sec
5440.00	15.16	265.05	5349.57	-59.29	-701.63	653456.71	2185162.57	38 47	33.878 N	80 21	1.382 W
5503.00	15.12	269.99	5410.38	-60.00	-718.05	653456.00	2185146.15	38 47	33.872 N	80 21	1.590 W
5566.00	14.65	266.99	5471.27	-60.42	-734.22	653455.58	2185129.98	38 47	33.869 N	80 21	1.794 W
5629.00	14.68	264.65	5532.22	-61.59	-750.13	653454.41	2185114.07	38 47	33.859 N	80 21	1.995 W
5692.00	14.38	264.44	5593.20	-63.09	-765.86	653452.91	2185098.34	38 47	33.845 N	80 21	2.194 W
5755.00	14.71	265.41	5654.18	-64.49	-781.62	653451.51	2185082.58	38 47	33.832 N	80 21	2.393 W
5816.00	15.64	263.24	5713.06	-66.08	-797.51	653449.92	2185066.69	38 47	33.817 N	80 21	2.594 W
5880.00	16.27	265.40	5774.59	-67.81	-815.01	653448.19	2185049.19	38 47	33.802 N	80 21	2.815 W
5943.00	15.76	269.77	5835.15	-68.55	-832.36	653447.45	2185031.84	38 47	33.795 N	80 21	3.034 W
6006.00	16.32	269.04	5895.70	-68.73	-849.77	653447.27	2185014.43	38 47	33.795 N	80 21	3.254 W
6069.00	16.77	266.23	5956.09	-69.48	-867.69	653446.52	2184996.51	38 47	33.789 N	80 21	3.480 W
6132.00	16.87	266.71	6016.39	-70.60	-885.89	653445.40	2184978.31	38 47	33.779 N	80 21	3.710 W
6185.00	15.96	269.47	6067.23	-71.11	-900.85	653444.89	2184963.35	38 47	33.775 N	80 21	3.899 W
6266.00	14.33	257.60	6145.44	-73.37	-921.78	653442.63	2184942.42	38 47	33.754 N	80 21	4.164 W
6297.00	13.57	239.05	6175.54	-76.06	-928.65	653439.94	2184935.55	38 47	33.728 N	80 21	4.251 W
6327.00	14.55	222.99	6204.65	-80.63	-934.24	653435.37	2184929.96	38 47	33.683 N	80 21	4.322 W
6359.00	16.06	213.23	6235.52	-87.28	-939.41	653428.72	2184924.79	38 47	33.618 N	80 21	4.388 W
6391.00	17.88	204.48	6266.13	-95.45	-943.87	653420.55	2184920.33	38 47	33.537 N	80 21	4.445 W
6422.00	19.28	199.04	6295.51	-104.62	-947.51	653411.38	2184916.69	38 47	33.447 N	80 21	4.492 W
6454.00	20.69	195.57	6325.59	-115.06	-950.75	653400.94	2184913.45	38 47	33.344 N	80 21	4.533 W
6485.00	22.27	191.10	6354.44	-126.10	-953.36	653389.90	2184910.84	38 47	33.235 N	80 21	4.567 W
6516.00	24.07	187.58	6382.94	-138.13	-955.32	653377.87	2184908.88	38 47	33.116 N	80 21	4.593 W
6548.00	26.49	183.38	6411.87	-151.73	-956.60	653364.27	2184907.60	38 47	32.982 N	80 21	4.611 W
6579.00	28.56	180.55	6439.36	-166.04	-957.08	653349.96	2184907.12	38 47	32.840 N	80 21	4.618 W
6610.00	30.66	178.04	6466.31	-181.36	-956.88	653334.64	2184907.32	38 47	32.689 N	80 21	4.617 W
6642.00	32.10	175.81	6493.63	-197.99	-955.98	653318.01	2184908.22	38 47	32.524 N	80 21	4.607 W
6673.00	33.58	174.01	6519.68	-214.73	-954.49	653301.27	2184909.71	38 47	32.359 N	80 21	4.589 W
6704.00	36.00	172.87	6545.14	-232.30	-952.46	653283.70	2184911.74	38 47	32.185 N	80 21	4.565 W
6736.00	39.36	171.89	6570.46	-251.69	-949.86	653264.31	2184914.34	38 47	31.993 N	80 21	4.534 W
6766.00	42.19	171.84	6593.17	-271.08	-947.09	653244.92	2184917.11	38 47	31.801 N	80 21	4.501 W
6798.00	44.75	171.08	6616.40	-292.85	-943.82	653223.15	2184920.38	38 47	31.586 N	80 21	4.461 W
6829.00	46.70	170.23	6638.04	-314.75	-940.21	653201.25	2184923.99	38 47	31.369 N	80 21	4.418 W
6861.00	48.86	170.49	6659.54	-338.11	-936.24	653177.89	2184927.96	38 47	31.138 N	80 21	4.370 W
6892.00	51.02	169.05	6679.49	-361.46	-932.02	653154.54	2184932.18	38 47	30.907 N	80 21	4.319 W
6923.00	53.80	171.05	6698.40	-385.65	-927.79	653130.35	2184936.41	38 47	30.668 N	80 21	4.267 W
6955.00	57.39	171.36	6716.48	-411.74	-923.75	653104.26	2184940.45	38 47	30.409 N	80 21	4.219 W
6987.00	61.14	171.08	6732.83	-438.91	-919.55	653077.09	2184944.65	38 47	30.141 N	80 21	4.168 W
7018.00	64.35	171.04	6747.02	-466.13	-915.27	653049.87	2184948.93	38 47	29.871 N	80 21	4.116 W
7049.00	66.62	170.26	6759.88	-493.96	-910.69	653022.04	2184953.51	38 47	29.596 N	80 21	4.061 W
7081.00	69.02	169.87	6771.96	-523.15	-905.58	652992.85	2184958.62	38 47	29.307 N	80 21	3.999 W
7113.00	73.28	168.91	6782.30	-552.90	-900.00	652963.10	2184964.20	38 47	29.012 N	80 21	3.931 W
7144.00	75.43	169.15	6790.66	-582.21	-894.32	652933.79	2184969.88	38 47	28.722 N	80 21	3.862 W
7176.00	77.40	169.54	6798.18	-612.78	-888.57	652903.22	2184975.63	38 47	28.420 N	80 21	3.792 W
7202.00	78.72	168.46	6803.56	-637.75	-883.71	652878.25	2184980.49	38 47	28.173 N	80 21	3.733 W
7232.00	82.44	169.43	6808.47	-666.79	-878.04	652849.21	2184986.16	38 47	27.885 N	80 21	3.664 W
7265.00	86.71	167.69	6811.58	-698.98	-871.52	652817.02	2184992.68	38 47	27.567 N	80 21	3.584 W
7296.00	88.49	167.63	6812.88	-729.23	-864.91	652786.77	2184999.29	38 47	27.267 N	80 21	3.503 W
7328.00	89.03	167.21	6813.58	-760.46	-857.94	652755.54	2185006.26	38 47	26.958 N	80 21	3.418 W
7390.00	89.09	168.85	6814.59	-821.10	-845.08	652694.90	2185019.12	38 47	26.358 N	80 21	3.261 W
7452.00	89.77	168.47	6815.21	-881.88	-832.89	652634.12	2185031.31	38 47	25.756 N	80 21	3.113 W
7515.00	91.27	169.85	6814.64	-943.75	-821.04	652572.25	2185043.16	38 47	25.144 N	80 21	2.969 W
7577.00	90.94	170.74	6813.44	-1004.86	-810.59	652511.14	2185053.61	38 47	24.539 N	80 21	2.842 W

Survey Report - Geographic

APR 8 2012

Company: CHESAPEAKE OPERATING, INC.
 Field: Upshur, WV
 Site: Tall Trees
 Well: 6H
 Wellpath: OH

Date: 09/22/2010 Time: 15:35:28 Page: 4
 Co-ordinate(NE) Reference: Well: 6H, Grid North
 Vertical (TVD) Reference: SITE 1679.0
 Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude		Longitude	
								Deg	Min Sec	Deg	Min Sec
7640.00	89.23	170.86	6813.35	-1067.04	-800.52	652448.96	2185063.68	38 47	23.924 N	80 21	2.720 W
7703.00	88.32	170.22	6814.70	-1129.17	-790.17	652386.83	2185074.03	38 47	23.309 N	80 21	2.595 W
7765.00	88.99	169.67	6816.15	-1190.20	-779.35	652325.80	2185084.85	38 47	22.705 N	80 21	2.464 W
7828.00	88.06	169.28	6817.77	-1252.12	-767.84	652263.88	2185096.36	38 47	22.092 N	80 21	2.324 W
7891.00	89.83	170.07	6818.93	-1314.09	-756.55	652201.91	2185107.65	38 47	21.479 N	80 21	2.187 W
7954.00	91.28	170.66	6818.32	-1376.19	-746.01	652139.81	2185118.19	38 47	20.864 N	80 21	2.059 W
8018.00	92.05	171.04	6816.46	-1439.35	-735.84	652076.65	2185128.36	38 47	20.239 N	80 21	1.936 W
8080.00	91.07	169.58	6814.77	-1500.44	-725.41	652015.56	2185138.79	38 47	19.634 N	80 21	1.810 W
8143.00	89.97	169.55	6814.20	-1562.40	-714.00	651953.60	2185150.20	38 47	19.021 N	80 21	1.671 W
8206.00	89.16	169.48	6814.68	-1624.34	-702.53	651891.66	2185161.67	38 47	18.408 N	80 21	1.532 W
8269.00	88.79	168.81	6815.81	-1686.20	-690.67	651829.80	2185173.53	38 47	17.796 N	80 21	1.388 W
8331.00	89.53	168.55	6816.72	-1746.99	-678.50	651769.01	2185185.70	38 47	17.194 N	80 21	1.239 W
8395.00	91.14	168.44	6816.34	-1809.70	-665.74	651706.30	2185198.46	38 47	16.573 N	80 21	1.084 W
8458.00	90.37	167.20	6815.51	-1871.28	-652.45	651644.72	2185211.75	38 47	15.964 N	80 21	0.921 W
8520.00	90.77	166.75	6814.90	-1931.68	-638.47	651584.32	2185225.73	38 47	15.366 N	80 21	0.750 W
8582.00	90.67	166.85	6814.12	-1992.04	-624.32	651523.96	2185239.88	38 47	14.768 N	80 21	0.577 W
8645.00	90.57	167.27	6813.44	-2053.43	-610.21	651462.57	2185253.99	38 47	14.160 N	80 21	0.404 W
8707.00	90.03	167.22	6813.11	-2113.90	-596.52	651402.10	2185267.68	38 47	13.562 N	80 21	0.237 W
8770.00	89.16	166.44	6813.56	-2175.24	-582.17	651340.76	2185282.03	38 47	12.954 N	80 21	0.061 W
8833.00	89.93	165.77	6814.06	-2236.39	-567.04	651279.61	2185297.16	38 47	12.349 N	80 20	59.875 W
8896.00	90.24	166.11	6813.96	-2297.51	-551.74	651218.49	2185312.46	38 47	11.744 N	80 20	59.687 W
8959.00	89.93	165.45	6813.87	-2358.58	-536.26	651157.42	2185327.94	38 47	11.139 N	80 20	59.497 W
9021.00	90.23	165.18	6813.78	-2418.55	-520.54	651097.45	2185343.66	38 47	10.545 N	80 20	59.304 W
9083.00	90.20	164.98	6813.55	-2478.46	-504.58	651037.54	2185359.62	38 47	9.952 N	80 20	59.108 W
9146.00	89.87	166.34	6813.51	-2539.50	-488.98	650976.50	2185375.22	38 47	9.347 N	80 20	58.916 W
9210.00	89.50	165.17	6813.86	-2601.53	-473.23	650914.47	2185390.97	38 47	8.733 N	80 20	58.723 W
9272.00	89.90	165.39	6814.19	-2661.49	-457.48	650854.51	2185406.72	38 47	8.139 N	80 20	58.529 W
9335.00	90.40	165.67	6814.02	-2722.49	-441.73	650793.51	2185422.47	38 47	7.535 N	80 20	58.336 W
9398.00	90.91	165.78	6813.30	-2783.54	-426.20	650732.46	2185438.00	38 47	6.931 N	80 20	58.145 W
9460.00	91.01	167.01	6812.26	-2843.79	-411.62	650672.21	2185452.58	38 47	6.334 N	80 20	57.966 W
9523.00	91.34	166.99	6810.97	-2905.16	-397.45	650610.84	2185466.75	38 47	5.727 N	80 20	57.793 W
9586.00	90.07	166.90	6810.20	-2966.53	-383.22	650549.47	2185480.98	38 47	5.119 N	80 20	57.618 W
9648.00	89.43	168.43	6810.47	-3027.10	-369.98	650488.90	2185494.22	38 47	4.519 N	80 20	57.457 W
9709.00	89.83	168.22	6810.86	-3086.83	-357.63	650429.17	2185506.57	38 47	3.928 N	80 20	57.306 W
9771.00	90.74	169.04	6810.55	-3147.61	-345.41	650368.39	2185518.79	38 47	3.326 N	80 20	57.157 W
9834.00	91.54	169.08	6809.30	-3209.46	-333.46	650306.54	2185530.74	38 47	2.714 N	80 20	57.012 W
9897.00	91.95	169.19	6807.38	-3271.30	-321.59	650244.70	2185542.61	38 47	2.102 N	80 20	56.867 W
9960.00	93.73	169.60	6804.26	-3333.14	-310.01	650182.86	2185554.19	38 47	1.490 N	80 20	56.726 W
10023.00	93.03	170.01	6800.55	-3395.04	-298.87	650120.96	2185565.33	38 47	0.878 N	80 20	56.591 W
10086.00	94.10	169.63	6796.63	-3456.93	-287.76	650059.07	2185576.44	38 47	0.265 N	80 20	56.457 W
10149.00	92.32	169.23	6793.10	-3518.76	-276.22	649997.24	2185587.98	38 46	59.653 N	80 20	56.316 W
10213.00	91.28	169.54	6791.09	-3581.63	-264.44	649934.37	2185599.76	38 46	59.031 N	80 20	56.173 W
10276.00	91.61	169.58	6789.50	-3643.57	-253.03	649872.43	2185611.17	38 46	58.418 N	80 20	56.034 W
10340.00	90.67	168.54	6788.23	-3706.39	-240.89	649809.61	2185623.31	38 46	57.796 N	80 20	55.887 W
10404.00	90.91	168.59	6787.35	-3769.12	-228.20	649746.88	2185636.00	38 46	57.175 N	80 20	55.732 W
10467.00	91.41	168.69	6786.07	-3830.87	-215.79	649685.13	2185648.41	38 46	56.564 N	80 20	55.581 W
10530.00	91.18	168.78	6784.65	-3892.64	-203.49	649623.36	2185660.71	38 46	55.952 N	80 20	55.431 W
10594.00	91.24	168.09	6783.30	-3955.33	-190.66	649560.67	2185673.54	38 46	55.332 N	80 20	55.275 W
10657.00	90.97	167.17	6782.08	-4016.85	-177.17	649499.15	2185687.03	38 46	54.723 N	80 20	55.110 W
10720.00	90.81	167.14	6781.10	-4078.27	-163.16	649437.73	2185701.04	38 46	54.115 N	80 20	54.938 W
10782.00	89.43	167.12	6780.97	-4138.71	-149.35	649377.29	2185714.85	38 46	53.516 N	80 20	54.769 W
10845.00	89.19	166.50	6781.73	-4200.04	-134.98	649315.96	2185729.22	38 46	52.909 N	80 20	54.593 W
10908.00	90.24	167.36	6782.04	-4261.41	-120.73	649254.59	2185743.47	38 46	52.302 N	80 20	54.419 W

Survey Report - Geographic

APR 8 2012

Company: CHESAPEAKE OPERATING, INC.
 Field: Upshur, WV
 Site: Tall Trees
 Well: 6H
 Wellpath: OH

Date: 09/22/2010 Time: 15:35:28 Page: 5
 Co-ordinate(NE) Reference: Well: 6H, Grid North
 Vertical (TVD) Reference: SITE 1679.0
 Section (VS) Reference: Well (0.00N,0.00E,172.00Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	←-- Latitude --→			←-- Longitude --→				
								Deg	Min	Sec	Deg	Min	Sec		
10971.00	87.35	167.21	6783.37	-4322.84	-106.87	649193.16	2185757.33	38	46	51.693	N	80	20	54.249	W
11034.00	87.62	167.49	6786.13	-4384.25	-93.09	649131.75	2185771.11	38	46	51.085	N	80	20	54.080	W
11096.00	87.92	167.95	6788.55	-4444.79	-79.91	649071.21	2185784.29	38	46	50.486	N	80	20	53.919	W
11160.00	87.04	167.64	6791.36	-4507.28	-66.39	649008.72	2185797.81	38	46	49.867	N	80	20	53.754	W
11222.00	86.43	167.34	6794.89	-4567.71	-52.99	648948.29	2185811.21	38	46	49.269	N	80	20	53.590	W
11285.00	86.94	167.63	6798.53	-4629.11	-39.36	648886.89	2185824.84	38	46	48.661	N	80	20	53.424	W
11348.00	86.50	166.06	6802.14	-4690.35	-25.04	648825.65	2185839.16	38	46	48.055	N	80	20	53.248	W
11411.00	87.18	166.34	6805.61	-4751.44	-10.04	648764.56	2185854.16	38	46	47.450	N	80	20	53.064	W
11474.00	87.48	166.56	6808.55	-4812.62	4.71	648703.38	2185868.91	38	46	46.844	N	80	20	52.884	W
11537.00	86.27	164.88	6811.98	-4873.58	20.22	648642.42	2185884.42	38	46	46.241	N	80	20	52.693	W
11599.00	86.57	164.71	6815.85	-4933.29	36.45	648582.71	2185900.65	38	46	45.649	N	80	20	52.494	W
11661.00	86.44	164.59	6819.63	-4992.97	52.83	648523.03	2185917.03	38	46	45.058	N	80	20	52.292	W
11724.00	85.42	163.66	6824.10	-5053.41	70.02	648462.59	2185934.22	38	46	44.460	N	80	20	52.080	W
11787.00	86.97	163.00	6828.28	-5113.63	88.05	648402.37	2185952.25	38	46	43.863	N	80	20	51.858	W
11849.00	87.38	163.00	6831.34	-5172.85	106.16	648343.15	2185970.36	38	46	43.277	N	80	20	51.635	W
11911.00	88.39	163.21	6833.63	-5232.13	124.16	648283.87	2185988.36	38	46	42.689	N	80	20	51.413	W
11975.00	90.47	163.82	6834.26	-5293.49	142.32	648222.51	2186006.52	38	46	42.081	N	80	20	51.189	W
12037.00	90.94	163.98	6833.50	-5353.06	159.52	648162.94	2186023.72	38	46	41.492	N	80	20	50.977	W
12100.00	92.22	164.30	6831.76	-5413.64	176.73	648102.36	2186040.93	38	46	40.892	N	80	20	50.765	W
12163.00	92.11	163.98	6829.38	-5474.19	193.93	648041.81	2186058.13	38	46	40.292	N	80	20	50.553	W
12226.00	92.86	164.50	6826.65	-5534.77	211.03	647981.23	2186075.23	38	46	39.692	N	80	20	50.343	W
12290.00	92.96	164.05	6823.40	-5596.29	228.35	647919.71	2186092.55	38	46	39.082	N	80	20	50.129	W
12352.00	93.36	164.02	6819.99	-5655.81	245.38	647860.19	2186109.58	38	46	38.493	N	80	20	49.920	W
12415.00	93.87	164.18	6816.01	-5716.28	262.60	647799.72	2186126.80	38	46	37.894	N	80	20	49.708	W
12478.00	94.07	164.07	6811.65	-5776.73	279.79	647739.27	2186143.99	38	46	37.295	N	80	20	49.496	W
12541.00	94.41	164.22	6806.99	-5837.17	296.96	647678.83	2186161.16	38	46	36.697	N	80	20	49.284	W
12604.00	95.62	164.61	6801.49	-5897.62	313.82	647618.38	2186178.02	38	46	36.098	N	80	20	49.077	W
12667.00	96.20	164.92	6795.00	-5958.08	330.28	647557.92	2186194.48	38	46	35.499	N	80	20	48.874	W
12728.00	96.20	164.92	6788.41	-6016.64	346.06	647499.36	2186210.26	38	46	34.919	N	80	20	48.680	W

Annotation

MD ft	TVD ft	
12728.00	6788.41	Proj to Bit @ TD