



CHESAPEAKE
VAN ASTON MSH 10H
MARSHALL COUNTY, WV
FINAL PVA

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	13434.00	89.20	148.82	6706.23	-5185.92	4285.73	0.00	0.00	6635.56	
2	13497.00	89.20	148.82	6707.11	-5239.82	4318.34	0.00	0.00	6698.54	
3	13572.92	88.55	149.21	6708.60	-5304.89	4357.42	1.00	148.89	6774.44	10H PBHL P9
4	13632.92	88.55	149.21	6710.12	-5356.42	4388.12	0.00	0.00	6834.42	
5	13667.97	88.90	149.21	6710.90	-5386.52	4406.06	1.00	0.00	6869.45	
6	14037.37	88.90	149.21	6717.99	-5703.80	4595.10	0.00	0.00	7238.75	10H PBHL P9

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
10H	-36.60	20.50	493024.20	1676966.40	39°50'52.603N	080°39'01.920W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
10H PBHL P9	6717.99	-5703.80	4595.10	487320.40	1681561.50	Point

FIELD DETAILS

MARSHALL COUNTY (NAD 27)

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: West Virginia, Northern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

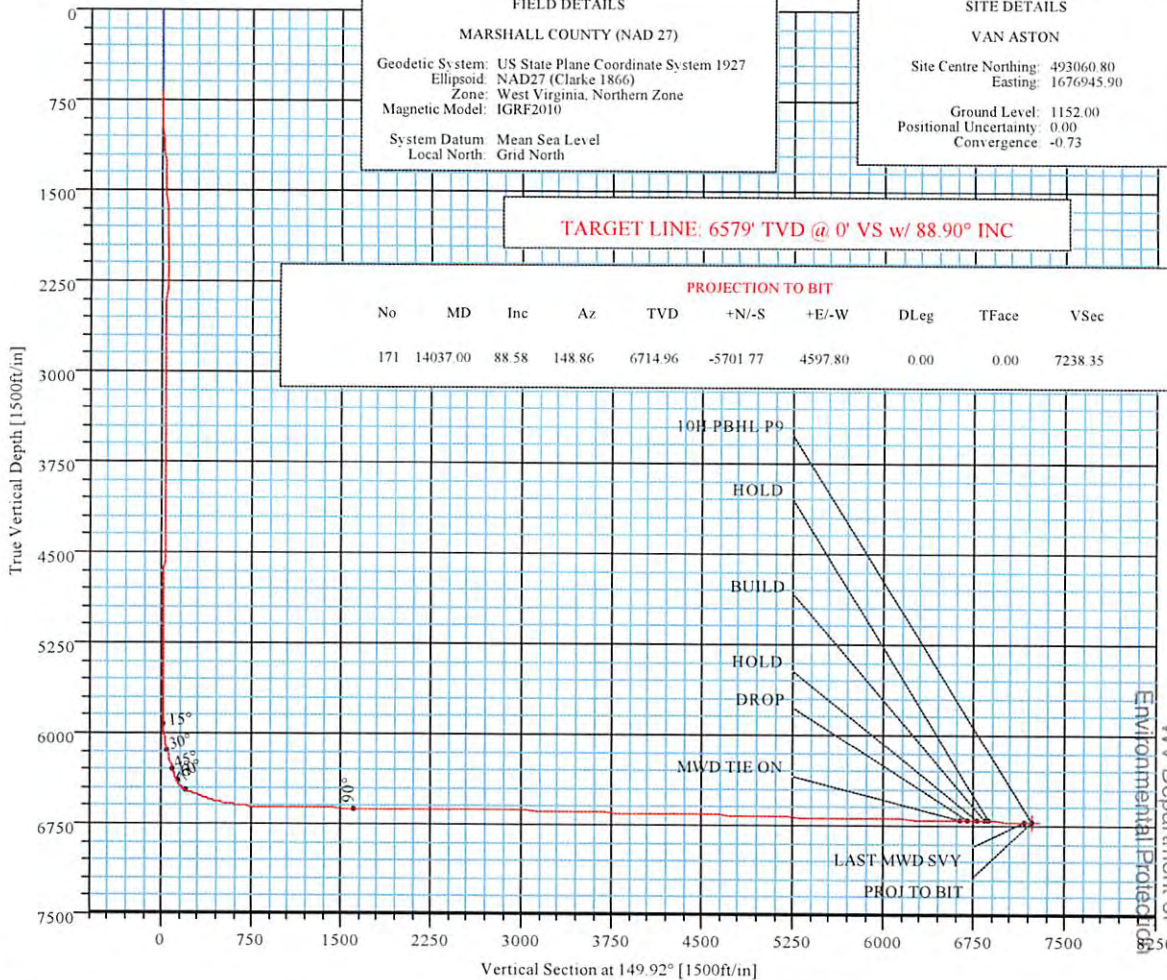
SITE DETAILS

VAN ASTON
Site Centre Northing: 493060.80
Easting: 1676945.90
Ground Level: 1152.00
Positional Uncertainty: 0.00
Convergence: -0.73

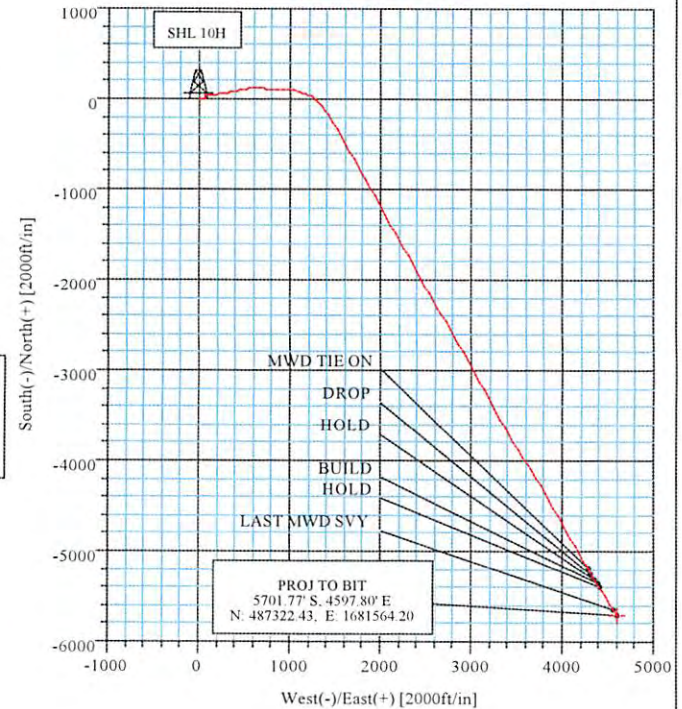
TARGET LINE: 6579' TVD @ 0° VS w/ 88.90° INC

PROJECTION TO BIT

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
171	14037.00	88.58	148.86	6714.96	-5701.77	4597.80	0.00	0.00	7238.35



VERTICAL SECTION @ 149.92°



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Azimuths to Grid North
 True North: 0.73°
 Magnetic North: -7.94°
 Magnetic Field Strength: 52632nT
 Dip Angle: 67.28°
 Date: 12/19/2013
 Model: IGRF2010
 TOTAL CORRECTION TO GRID NORTH: -7.94° WEST

Survey: MWD (10H/HORIZONTAL)



Weatherford Survey Report



Company: CHESAPEAKE	Date: 3/3/2014	Time: 11:14:18	Page: 1
Field: MARSHALL COUNTY (NAD 27)	Co-ordinate(NE) Reference: Well: 10H, Grid North		
Site: VAN ASTON	Vertical (TVD) Reference: SITE 1174.0		
Well: 10H	Section (VS) Reference: Well (0.00N,0.00E,149.92Azi)		
Wellpath: HORIZONTAL	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: MWD	Start Date: 2/22/2014
Company: Weatherford International Ltd.	Engineer: Adam Bordelon
Tool: MWD:MWD - Standard	Tied-to: From: GYROS

Field: MARSHALL COUNTY (NAD 27)	
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Northern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: VAN ASTON			
Site Position:	Northing:	Latitude:	
From: Map	493060.80 ft	39 50 52.962 N	
Position Uncertainty:	Easting: 1676945.90 ft	Longitude: 80 39 2.189 W	
Ground Level:	0.00 ft	North Reference: Grid	
	1152.00 ft	Grid Convergence: -0.73 deg	

Well: 10H	Slot Name:
Well Position:	
+N/-S -36.60 ft	Northing: 493024.20 ft
+E/-W 20.50 ft	Easting : 1676966.40 ft
Position Uncertainty: 0.00 ft	Latitude: 39 50 52.603 N
	Longitude: 80 39 1.920 W

Wellpath: HORIZONTAL	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 12/19/2013	Above System Datum: Mean Sea Level
Field Strength: 52632 nT	Declination: -8.68 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.28 deg
ft	+N/-S ft
	+E/-W ft
0.00	0.00
	0.00
	149.92

Survey											
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment	
682.00	0.43	227.10	681.99	-1.27	0.77	1.49	0.00	493022.93	1676967.17		
840.00	0.60	70.87	839.99	-1.41	1.12	1.78	0.64	493022.79	1676967.52		
872.00	1.05	72.95	871.98	-1.27	1.56	1.88	1.41	493022.93	1676967.96		
967.00	4.68	86.60	966.85	-0.78	6.26	3.81	3.86	493023.42	1676972.66		
1062.00	6.42	89.41	1061.40	-0.50	15.44	8.17	1.85	493023.70	1676981.84		
1157.00	6.52	96.97	1155.80	-1.10	26.10	14.03	0.90	493023.10	1676992.50		
1251.00	5.43	111.87	1249.29	-3.40	35.53	20.75	2.01	493020.80	1677001.93		
1345.00	4.34	108.48	1342.95	-6.19	43.03	26.92	1.20	493018.01	1677009.43		
1440.00	4.94	92.29	1437.64	-7.49	50.53	31.80	1.51	493016.71	1677016.93		
1535.00	3.12	89.22	1532.40	-7.62	57.20	35.26	1.93	493016.58	1677023.60		
1629.00	1.07	98.08	1626.33	-7.70	60.63	37.05	2.20	493016.50	1677027.03		
1724.00	0.09	323.03	1721.33	-7.77	61.46	37.53	1.20	493016.43	1677027.86		
1819.00	0.22	59.15	1816.33	-7.62	61.57	37.45	0.26	493016.58	1677027.97		
1913.00	0.31	71.57	1910.33	-7.44	61.97	37.50	0.11	493016.76	1677028.37		
2008.00	0.41	63.15	2005.33	-7.21	62.52	37.57	0.12	493016.99	1677028.92		
2102.00	0.63	41.34	2099.32	-6.67	63.16	37.43	0.31	493017.53	1677029.56		
2180.00	0.61	34.44	2177.32	-6.00	63.67	37.11	0.10	493018.20	1677030.07		
2322.00	0.31	329.62	2319.31	-5.05	63.91	36.40	0.39	493019.15	1677030.31		
2416.00	0.28	329.77	2413.31	-4.63	63.66	35.92	0.03	493019.57	1677030.06		
2509.00	0.20	264.44	2506.31	-4.45	63.39	35.62	0.29	493019.75	1677029.79		
2698.00	0.18	6.80	2695.31	-4.19	63.09	35.25	0.16	493020.01	1677029.49		
2887.00	0.56	332.24	2884.31	-3.08	62.70	34.09	0.22	493021.12	1677029.10		
2981.00	0.65	326.48	2978.30	-2.23	62.19	33.10	0.12	493021.97	1677028.59		
3076.00	0.58	337.42	3073.30	-1.33	61.71	32.08	0.14	493022.87	1677028.11		

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Weatherford Survey Report



Company: CHESAPEAKE	Date: 3/3/2014	Time: 11:14:18	Page: 2
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Site: VAN ASTON	Vertical (TVD) Reference: SITE 1174.0		
Well: 10H	Section (VS) Reference: Well (0.00N,0.00E,149.92Azi)		
Wellpath: HORIZONTAL	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	MapN ft	MapE ft	Comment
3171.00	0.45	335.64	3168.29	-0.55	61.37	31.23	0.14	493023.65	1677027.77	
3360.00	0.32	331.16	3357.29	0.59	60.81	29.97	0.07	493024.79	1677027.21	
3548.00	0.34	318.82	3545.29	1.47	60.19	28.90	0.04	493025.67	1677026.59	
3737.00	0.44	317.70	3734.28	2.43	59.33	27.64	0.05	493026.63	1677025.73	
3924.00	0.70	335.36	3921.27	4.00	58.37	25.80	0.17	493028.20	1677024.77	
4113.00	0.58	343.41	4110.26	5.96	57.62	23.72	0.08	493030.16	1677024.02	
4207.00	0.53	354.76	4204.26	6.85	57.44	22.86	0.13	493031.05	1677023.84	
4397.00	0.27	357.42	4394.25	8.18	57.34	21.67	0.14	493032.38	1677023.74	
4584.00	0.60	357.19	4581.24	9.59	57.27	20.41	0.18	493033.79	1677023.67	
4771.00	0.94	356.28	4768.23	12.10	57.13	18.16	0.18	493036.30	1677023.53	
4961.00	0.88	354.68	4958.20	15.11	56.89	15.44	0.03	493039.31	1677023.29	
5151.00	0.75	354.16	5148.18	17.80	56.63	12.98	0.07	493042.00	1677023.03	
5245.00	0.63	3.78	5242.18	18.93	56.60	11.99	0.18	493043.13	1677023.00	
5383.00	0.74	13.00	5380.17	20.55	56.85	10.71	0.11	493044.75	1677023.25	
5478.00	0.72	354.33	5475.16	21.74	56.93	9.72	0.25	493045.94	1677023.33	
5573.00	0.73	356.62	5570.15	22.94	56.83	8.63	0.03	493047.14	1677023.23	
5668.00	0.73	353.15	5665.15	24.15	56.73	7.54	0.05	493048.35	1677023.13	
5700.00	0.63	355.53	5697.14	24.53	56.69	7.19	0.32	493048.73	1677023.09	
5731.00	0.81	356.16	5728.14	24.91	56.66	6.84	0.58	493049.11	1677023.06	
5763.00	3.22	46.19	5760.12	25.76	57.29	6.42	8.66	493049.96	1677023.69	
5794.00	7.13	55.53	5790.99	27.45	59.51	6.07	12.86	493051.65	1677025.91	
5826.00	9.19	65.91	5822.66	29.62	63.48	6.18	7.89	493053.82	1677029.88	
5857.00	11.52	71.66	5853.16	31.61	68.68	7.07	8.21	493055.81	1677035.08	
5888.00	12.88	72.03	5883.46	33.65	74.90	8.43	4.39	493057.85	1677041.30	
5920.00	13.88	75.28	5914.59	35.72	82.01	10.19	3.91	493059.92	1677048.41	
5951.00	16.21	73.66	5944.52	37.88	89.76	12.21	7.64	493062.08	1677056.16	
5982.00	18.44	74.66	5974.12	40.40	98.64	14.48	7.26	493064.60	1677065.04	
6014.00	19.56	79.53	6004.37	42.71	108.79	17.57	6.06	493066.91	1677075.19	
6045.00	22.07	81.08	6033.35	44.56	119.65	21.41	8.29	493068.76	1677086.05	
6077.00	24.06	81.78	6062.79	46.42	132.04	26.01	6.28	493070.62	1677098.44	
6108.00	26.81	84.03	6090.78	48.05	145.25	31.22	9.40	493072.25	1677111.65	
6140.00	28.37	86.76	6119.14	49.23	160.02	37.60	6.27	493073.43	1677126.42	
6171.00	30.44	86.66	6146.15	50.11	175.22	44.46	6.68	493074.31	1677141.62	
6202.00	33.63	85.66	6172.42	51.22	191.62	51.72	10.43	493075.42	1677158.02	
6232.00	36.04	84.30	6197.05	52.72	208.69	58.98	8.44	493076.92	1677175.09	
6264.00	39.25	83.41	6222.38	54.82	228.12	66.90	10.17	493079.02	1677194.52	
6295.00	41.50	82.78	6246.00	57.23	248.05	74.80	7.38	493081.43	1677214.45	
6327.00	42.72	81.08	6269.74	60.25	269.30	82.84	5.22	493084.45	1677235.70	
6359.00	45.25	79.41	6292.76	64.02	291.19	90.55	8.70	493088.22	1677257.59	
6390.00	48.06	79.28	6314.04	68.19	313.35	98.04	9.07	493092.39	1677279.75	
6422.00	51.00	78.19	6334.80	72.95	337.22	105.89	9.55	493097.15	1677303.62	
6453.00	53.56	77.66	6353.77	78.08	361.19	113.47	8.37	493102.28	1677327.59	
6485.00	55.56	77.16	6372.32	83.77	386.64	121.30	6.38	493107.97	1677353.04	
6516.00	59.06	75.91	6389.06	89.85	412.00	128.75	11.79	493114.05	1677378.40	
6548.00	62.50	75.78	6404.68	96.67	439.08	136.41	10.76	493120.87	1677405.48	
6579.00	64.44	76.41	6418.53	103.34	466.00	144.14	6.52	493127.54	1677432.40	
6611.00	66.96	78.60	6431.70	109.64	494.47	152.96	10.05	493133.84	1677460.87	
6642.00	69.63	81.91	6443.16	114.51	522.85	162.97	13.14	493138.71	1677489.25	
6673.00	71.63	85.03	6453.45	117.83	551.90	174.66	11.48	493142.03	1677518.30	
6705.00	74.22	87.90	6462.84	119.71	582.43	188.33	11.79	493143.91	1677548.83	
6736.00	76.75	91.53	6470.62	119.85	612.43	203.24	13.97	493144.05	1677578.83	
6768.00	77.06	93.03	6477.87	118.61	643.57	219.92	4.67	493142.81	1677609.97	

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Weatherford Survey Report



Company: CHESAPEAKE
 Field: MARSHALL COUNTY (NAD 27)
 Site: VAN ASTON
 Well: 10H
 Wellpath: HORIZONTAL

Date: 3/3/2014 Time: 11:14:18 Page: 3
 Co-ordinate(NE) Reference: Well: 10H, Grid North
 Vertical (TVD) Reference: SITE 1174.0
 Section (VS) Reference: Well (0.00N,0.00E,149.92Azi)
 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	MapN ft	MapE ft	Comment
6799.00	77.23	92.93	6484.76	117.04	673.75	236.41	0.63	493141.24	1677640.15	
6831.00	77.13	92.66	6491.86	115.52	704.92	253.35	0.88	493139.72	1677671.32	
6862.00	77.19	92.66	6498.75	114.12	735.11	269.70	0.19	493138.32	1677701.51	
6894.00	77.69	92.16	6505.71	112.80	766.32	286.47	2.18	493137.00	1677732.72	
6925.00	79.19	91.53	6511.92	111.83	796.67	302.53	5.23	493136.03	1677763.07	
6957.00	79.50	91.28	6517.84	111.06	828.11	318.96	1.24	493135.26	1677794.51	
6988.00	79.51	91.45	6523.49	110.33	858.58	334.86	0.54	493134.53	1677824.98	
7020.00	79.81	92.16	6529.23	109.34	890.05	351.49	2.38	493133.54	1677856.45	
7052.00	80.13	93.66	6534.80	107.74	921.52	368.64	4.72	493131.94	1677887.92	
7083.00	80.27	93.34	6540.08	105.87	952.01	385.54	1.11	493130.07	1677918.41	
7115.00	80.56	94.28	6545.41	103.78	983.49	403.13	3.03	493127.98	1677949.89	
7146.00	80.75	96.53	6550.44	100.89	1013.94	420.89	7.19	493125.09	1677980.34	
7178.00	80.36	99.75	6555.70	96.43	1045.18	440.42	10.00	493120.63	1678011.58	
7209.00	80.38	103.53	6560.88	90.26	1075.11	460.75	12.02	493114.46	1678041.51	
7241.00	80.63	106.91	6566.16	81.98	1105.56	483.18	10.45	493106.18	1678071.96	
7272.00	80.80	109.57	6571.17	72.40	1134.62	506.03	8.49	493096.60	1678101.02	
7304.00	81.19	113.78	6576.18	60.73	1163.98	530.85	13.05	493084.93	1678130.38	
7336.00	81.44	117.41	6581.01	47.07	1192.50	556.97	11.24	493071.27	1678158.90	
7367.00	81.37	120.34	6585.64	32.27	1219.34	583.22	9.35	493056.47	1678185.74	
7399.00	82.56	123.66	6590.12	15.48	1246.21	611.22	10.93	493039.68	1678212.61	
7431.00	83.38	127.66	6594.04	-3.03	1272.01	640.17	12.67	493021.17	1678238.41	
7462.00	84.91	130.64	6597.20	-22.50	1295.92	669.00	10.76	493001.70	1678262.32	
7494.00	86.13	134.03	6599.70	-43.98	1319.49	699.40	11.23	492980.22	1678285.89	
7525.00	86.88	138.78	6601.59	-66.39	1340.82	729.48	15.48	492957.81	1678307.22	
7556.00	88.48	143.08	6602.85	-90.43	1360.34	760.07	14.79	492933.77	1678326.74	
7587.00	89.31	145.16	6603.44	-115.54	1378.51	790.90	7.22	492908.66	1678344.91	
7650.00	89.14	147.19	6604.30	-167.87	1413.57	853.76	3.23	492856.33	1678379.97	
7744.00	87.82	148.54	6606.79	-247.44	1463.55	947.66	2.01	492776.76	1678429.95	
7840.00	88.83	150.02	6609.60	-329.93	1512.57	1043.61	1.87	492694.27	1678478.97	
7935.00	89.00	150.70	6611.39	-412.48	1559.54	1138.59	0.74	492611.72	1678525.94	
8030.00	89.14	149.35	6612.94	-494.76	1607.00	1233.57	1.43	492529.44	1678573.40	
8124.00	89.09	150.92	6614.39	-576.27	1653.80	1327.56	1.67	492447.93	1678620.20	
8218.00	88.64	150.85	6616.25	-658.37	1699.53	1421.53	0.48	492365.83	1678665.93	
8313.00	88.92	150.45	6618.27	-741.16	1746.08	1516.50	0.51	492283.04	1678712.48	
8408.00	90.02	150.58	6619.15	-823.85	1792.84	1611.49	1.17	492200.35	1678759.24	
8501.00	90.28	150.89	6618.91	-904.98	1838.30	1704.48	0.44	492119.22	1678804.70	
8596.00	89.98	151.30	6618.69	-988.15	1884.22	1799.45	0.53	492036.05	1678850.62	
8691.00	89.04	151.45	6619.51	-1071.53	1929.73	1894.42	1.00	491952.67	1678896.13	
8786.00	90.45	150.47	6619.93	-1154.58	1975.84	1989.40	1.81	491869.62	1678942.24	
8880.00	90.45	150.61	6619.19	-1236.43	2022.07	2083.39	0.15	491787.77	1678988.47	
8975.00	90.28	150.84	6618.59	-1319.29	2068.52	2178.38	0.30	491704.91	1679034.92	
9069.00	90.03	150.90	6618.33	-1401.40	2114.28	2272.37	0.27	491622.80	1679080.68	
9164.00	88.38	149.83	6619.65	-1483.96	2161.25	2367.35	2.07	491540.24	1679127.65	
9258.00	87.13	149.75	6623.33	-1565.13	2208.51	2461.28	1.33	491459.07	1679174.91	
9353.00	89.37	149.93	6626.23	-1647.23	2256.21	2556.22	2.37	491376.97	1679222.61	
9447.00	89.77	150.42	6626.94	-1728.78	2302.96	2650.22	0.67	491295.42	1679269.36	
9541.00	89.32	150.53	6627.68	-1810.57	2349.29	2744.21	0.49	491213.63	1679315.69	
9636.00	89.25	150.55	6628.87	-1893.28	2396.01	2839.20	0.08	491130.92	1679362.41	
9730.00	89.07	150.80	6630.25	-1975.22	2442.04	2933.18	0.33	491048.98	1679408.44	
9825.00	88.46	150.93	6632.30	-2058.18	2488.28	3028.15	0.66	490966.02	1679454.68	
9919.00	90.37	151.26	6633.25	-2140.46	2533.71	3122.12	2.06	490883.74	1679500.11	
10014.00	88.81	150.01	6633.93	-2223.25	2580.29	3217.10	2.10	490800.95	1679546.69	
10107.00	88.01	149.60	6636.52	-2303.60	2627.05	3310.07	0.97	490720.60	1679593.45	

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Weatherford Survey Report



Company: CHESAPEAKE	Date: 3/3/2014	Time: 11:14:18	Page: 4
Field: MARSHALL COUNTY (NAD 27)	Co-ordinate(NE) Reference:	Well: 10H, Grid North	
Site: VAN ASTON	Vertical (TVD) Reference:	SITE 1174.0	
Well: 10H	Section (VS) Reference:	Well (0.00N,0.00E,149.92Azi)	
Wellpath: HORIZONTAL	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	MapN ft	MapE ft	Comment
10201.00	88.57	149.69	6639.32	-2384.68	2674.53	3404.02	0.60	490639.52	1679640.93	
10296.00	88.53	150.53	6641.72	-2467.01	2721.86	3498.99	0.88	490557.19	1679688.26	
10391.00	88.39	150.56	6644.28	-2549.70	2768.55	3593.95	0.15	490474.50	1679734.95	
10486.00	88.36	150.95	6646.97	-2632.56	2814.95	3688.90	0.41	490391.64	1679781.35	
10580.00	89.63	150.67	6648.62	-2714.61	2860.78	3782.87	1.38	490309.59	1679827.18	
10675.00	89.58	150.35	6649.27	-2797.30	2907.55	3877.87	0.34	490226.90	1679873.95	
10770.00	89.49	150.89	6650.05	-2880.08	2954.15	3972.86	0.58	490144.12	1679920.55	
10865.00	89.11	150.93	6651.21	-2963.09	3000.34	4067.83	0.40	490061.11	1679966.74	
10960.00	89.39	151.17	6652.45	-3046.21	3046.32	4162.81	0.39	489977.99	1680012.72	
11055.00	89.06	151.15	6653.73	-3129.42	3092.14	4257.78	0.35	489894.78	1680058.54	
11150.00	88.69	151.90	6655.60	-3212.91	3137.42	4352.72	0.88	489811.29	1680103.82	
11245.00	88.41	151.32	6658.00	-3296.46	3182.58	4447.65	0.68	489727.74	1680148.98	
11340.00	88.85	150.53	6660.28	-3379.46	3228.73	4542.61	0.95	489644.74	1680195.13	
11435.00	88.50	151.78	6662.47	-3462.65	3274.55	4637.56	1.37	489561.55	1680240.95	
11531.00	89.48	150.26	6664.16	-3546.61	3321.05	4733.52	1.88	489477.59	1680287.45	
11626.00	89.28	149.92	6665.19	-3628.96	3368.42	4828.51	0.42	489395.24	1680334.82	
11721.00	89.51	149.49	6666.20	-3710.98	3416.34	4923.51	0.51	489313.22	1680382.74	
11816.00	87.96	148.23	6668.29	-3792.27	3465.45	5018.46	2.10	489231.93	1680431.85	
11911.00	86.91	146.84	6672.54	-3872.34	3516.39	5113.28	1.83	489151.86	1680482.79	
12005.00	87.92	147.88	6676.78	-3951.41	3567.04	5207.09	1.54	489072.79	1680533.44	
12101.00	88.43	147.83	6679.84	-4032.65	3618.09	5302.98	0.53	488991.55	1680584.49	
12196.00	88.67	149.14	6682.25	-4113.61	3667.73	5397.92	1.40	488910.59	1680634.13	
12292.00	88.57	149.33	6684.56	-4196.08	3716.83	5493.88	0.22	488828.12	1680683.23	
12386.00	88.78	150.00	6686.73	-4277.18	3764.29	5587.85	0.75	488747.02	1680730.69	
12481.00	88.43	150.62	6689.04	-4359.69	3811.33	5682.82	0.75	488664.51	1680777.73	
12577.00	89.72	150.63	6690.59	-4443.33	3858.41	5778.80	1.34	488580.87	1680824.81	
12672.00	89.58	150.72	6691.17	-4526.16	3904.94	5873.79	0.18	488498.04	1680871.34	
12768.00	89.49	150.68	6691.95	-4609.87	3951.92	5969.78	0.10	488414.33	1680918.32	
12863.00	89.21	150.46	6693.03	-4692.61	3998.59	6064.77	0.37	488331.59	1680964.99	
12958.00	88.72	150.67	6694.75	-4775.33	4045.27	6159.75	0.56	488248.87	1681011.67	
13053.00	89.41	150.25	6696.30	-4857.97	4092.10	6254.73	0.85	488166.23	1681058.50	
13149.00	87.06	148.92	6699.25	-4940.71	4140.68	6350.67	2.81	488083.49	1681107.08	
13244.00	89.09	149.58	6702.44	-5022.31	4189.22	6445.61	2.25	488001.89	1681155.62	
13339.00	88.57	149.73	6704.38	-5104.27	4237.20	6540.59	0.57	487919.93	1681203.60	
13434.00	89.20	148.82	6706.23	-5185.92	4285.73	6635.56	1.16	487838.28	1681252.13	MWD TIE ON
13497.00	88.20	148.55	6707.66	-5239.73	4318.46	6698.53	1.64	487784.47	1681284.86	DROP
13528.00	87.71	148.42	6708.77	-5266.14	4334.66	6729.50	1.64	487758.06	1681301.06	
13572.92	88.90	148.73	6710.10	-5304.45	4358.07	6774.39	2.74	487719.75	1681324.47	HOLD
13623.00	90.23	149.07	6710.48	-5347.33	4383.94	6824.45	2.74	487676.87	1681350.34	
13632.92	90.16	149.00	6710.44	-5355.84	4389.04	6834.37	1.00	487668.36	1681355.44	BUILD
13667.97	89.91	148.75	6710.42	-5385.84	4407.16	6869.42	1.00	487638.36	1681373.56	HOLD
13718.00	89.56	148.39	6710.65	-5428.53	4433.25	6919.43	1.00	487595.67	1681399.65	
13813.00	89.79	149.27	6711.19	-5509.81	4482.42	7014.41	0.96	487514.39	1681448.82	
13907.00	89.14	148.98	6712.07	-5590.49	4530.65	7108.40	0.76	487433.71	1681497.05	
13974.00	88.58	148.86	6713.40	-5647.86	4565.23	7175.38	0.85	487376.34	1681531.63	LAST MWD SVY
14037.00	88.58	148.86	6714.96	-5701.77	4597.80	7238.35	0.00	487322.43	1681564.20	PROJ TO BIT

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Annotation

MD ft	TVD ft	
13434.00	6706.23	MWD TIE ON
13497.00	6707.66	DROP
13572.92	6710.10	HOLD



Weatherford Survey Report



Company: CHESAPEAKE
Field: MARSHALL COUNTY (NAD 27)
Site: VAN ASTON
Well: 10H
Wellpath: HORIZONTAL

Date: 3/3/2014 Time: 11:14:18 Page: 5
Co-ordinate(NE) Reference: Well: 10H, Grid North
Vertical (TVD) Reference: SITE 1174.0
Section (VS) Reference: Well (0.00N,0.00E,149.92Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Annotation

MD ft	TVD ft	
13632.92	6710.44	BUILD
13667.97	6710.42	HOLD
14037.37	0.00	PBHL
13974.00	6713.40	LAST MWD SVY
14037.00	6714.96	PROJ TO BIT

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