

Job Number: 23D0213064
 Company: Stone Energy
 Lease/Well: Bowyers 6H
 Location: New Martinsville
 Rig Name: Saxon 141
 RKB: 18
 G.L. or M.S.L.: 1156

State/Country: West Virginia
 Declination: -8.45
 Grid: North
 File name: D:\WINSERVE\STONEE-1\BOW6H.SVY
 Date/Time: 02-Mar-13 / 20:14
 Curve Name: D:\WINSERVE\STONEE-1\B4DRIL.TXT

Scientific Drilling

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 157.22
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8.00	.00	.00	8.00	.00	.00	.00	.00	.00	.00
108.00	.70	223.45	108.00	-.44	-.42	.25	.61	223.45	.70
208.00	.74	263.89	207.99	-.96	-1.48	.31	1.76	237.19	.50
308.00	.18	273.26	307.99	-1.02	-2.28	.05	2.50	246.00	.56
408.00	.19	101.21	407.99	-1.04	-2.28	.08	2.50	245.46	.37
508.00	.12	140.48	507.99	-1.15	-2.05	.27	2.35	240.62	.12
608.00	.34	111.61	607.99	-1.34	-1.70	.58	2.17	231.77	.24
708.00	.35	125.70	707.98	-1.63	-1.18	1.05	2.01	215.91	.09
808.00	.19	212.38	807.98	-1.95	-1.02	1.40	2.20	207.65	.39
908.00	.12	246.17	907.98	-2.13	-1.21	1.50	2.45	209.50	.11
1008.00	.08	293.64	1007.98	-2.14	-1.36	1.45	2.54	212.48	.09
1108.00	.21	308.59	1107.98	-2.00	-1.57	1.24	2.55	218.14	.13

103.02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth				CLOSURE		Dogleg Severity Deg/100
				N-S FT	E-W FT	Vertical Section FT	Distance FT	Direction Deg	
1208.00	.68	350.00	1207.98	-1.30	-1.82	.50	2.24	234.37	.54
1308.00	.71	349.60	1307.97	-.11	-2.03	-.69	2.04	266.92	.03
1408.00	.94	.11	1407.96	1.32	-2.14	-2.05	2.52	301.63	.27
1508.00	.68	329.51	1507.95	2.65	-2.44	-3.39	3.61	317.35	.50
1608.00	.69	328.15	1607.94	3.67	-3.06	-4.57	4.78	320.20	.02
1708.00	.58	336.55	1707.94	4.65	-3.58	-5.67	5.87	322.40	.14
1808.00	.64	338.11	1807.93	5.63	-3.99	-6.74	6.90	324.69	.06
1908.00	.65	358.04	1907.93	6.72	-4.22	-7.83	7.93	327.88	.22
2008.00	.82	13.43	2007.92	7.98	-4.07	-8.93	8.96	332.97	.26
2108.00	.72	29.47	2107.91	9.22	-3.60	-9.90	9.90	338.70	.24
2208.00	.63	38.76	2207.90	10.20	-2.94	-10.54	10.62	343.91	.14
2308.00	.41	30.16	2307.90	10.94	-2.42	-11.02	11.20	347.53	.23
2408.00	1.55	115.34	2407.88	10.67	-1.02	-10.23	10.72	354.56	1.57
2508.00	3.03	121.17	2507.80	8.72	2.47	-7.09	9.06	15.80	1.50
2608.00	4.40	117.51	2607.59	5.58	8.13	-2.00	9.86	55.53	1.39
2708.00	5.67	111.27	2707.20	2.02	16.14	4.39	16.26	82.87	1.38
2808.00	6.39	106.05	2806.65	-1.31	26.09	11.31	26.12	92.88	.90
2908.00	6.85	102.91	2905.98	-4.18	37.25	18.28	37.48	96.41	.59
3008.00	6.98	101.66	3005.26	-6.74	49.01	25.20	49.47	97.84	.20
3108.00	7.12	98.51	3104.50	-8.89	61.09	31.85	61.74	98.28	.41
3208.00	7.23	100.10	3203.72	-10.91	73.42	38.49	74.22	98.45	.23
3308.00	7.55	101.81	3302.89	-13.36	86.04	45.63	87.07	98.82	.39
3408.00	7.45	104.44	3402.03	-16.32	98.75	53.28	100.09	99.38	.36
3508.00	7.12	104.56	3501.22	-19.49	111.03	60.96	112.73	99.96	.33
3608.00	6.71	104.01	3600.50	-22.47	122.70	68.22	124.74	100.38	.42
3708.00	6.41	104.08	3699.84	-25.24	133.78	75.07	136.14	100.68	.30
3808.00	7.00	104.55	3799.16	-28.13	145.09	82.11	147.79	100.97	.59
3908.00	7.82	103.28	3898.32	-31.22	157.61	89.81	160.67	101.20	.84
4008.00	8.00	102.31	3997.37	-34.27	171.03	97.82	174.43	101.33	.22
4108.00	5.87	100.77	4096.63	-36.71	182.85	104.64	186.50	101.35	2.14
4208.00	4.06	93.21	4196.25	-37.86	191.41	109.02	195.12	101.19	1.92
4308.00	3.68	94.01	4296.03	-38.28	198.15	112.02	201.81	100.94	.38
4408.00	3.63	94.23	4395.82	-38.74	204.51	114.90	208.14	100.73	.05
4508.00	2.77	101.53	4495.67	-39.46	210.03	117.70	213.71	100.64	.95

103-02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth			Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
				N-S FT	E-W FT		Distance FT	Direction Deg	
4608.00	1.07	101.74	4595.61	-40.13	213.31	119.59	217.06	100.65	1.70
4708.00	.04	215.32	4695.60	-40.35	214.21	120.14	217.97	100.67	1.09
4808.00	.25	351.94	4795.60	-40.16	214.16	119.95	217.89	100.62	.28
4908.00	.44	349.89	4895.60	-39.57	214.06	119.36	217.68	100.47	.19
5008.00	.45	347.01	4995.59	-38.81	213.90	118.60	217.39	100.28	.02
5047.00	.23	5.96	5034.59	-38.58	213.88	118.38	217.33	100.23	.63
5111.00	.98	324.34	5098.59	-38.01	213.57	117.74	216.93	100.09	1.28
5142.00	1.73	324.18	5129.58	-37.41	213.14	117.02	216.40	99.96	2.42
5173.00	1.81	320.22	5160.57	-36.66	212.56	116.10	215.69	99.79	.47
5205.00	2.22	334.55	5192.55	-35.71	211.97	115.00	214.95	99.56	2.02
5237.00	3.43	.36	5224.51	-34.19	211.71	113.50	214.45	99.17	5.40
5269.00	5.17	10.46	5256.42	-31.82	211.97	111.41	214.35	98.54	5.91
5301.00	6.95	17.37	5288.24	-28.55	212.81	108.72	214.72	97.64	6.00
5332.00	8.87	25.59	5318.94	-24.61	214.41	105.70	215.81	96.55	7.17
5364.00	10.45	30.45	5350.49	-19.88	216.94	102.33	217.85	95.24	5.55
5396.00	12.26	35.01	5381.86	-14.59	220.36	98.78	220.84	93.79	6.31
5426.00	13.74	38.96	5411.09	-9.14	224.33	95.28	224.52	92.33	5.14
5458.00	15.30	35.58	5442.07	-2.71	229.13	91.22	229.15	90.68	4.88
5490.00	16.98	37.71	5472.81	4.38	234.51	86.76	234.55	88.93	5.34
5521.00	18.21	37.57	5502.36	11.80	240.23	82.14	240.52	87.19	3.97
5553.00	19.10	39.59	5532.67	19.80	246.62	77.24	247.41	85.41	3.44
5585.00	20.75	43.44	5562.76	27.95	253.85	72.52	255.38	83.72	6.59
5616.00	22.58	47.83	5591.57	35.93	262.04	68.33	264.49	82.19	7.88
5648.00	24.43	50.39	5620.91	44.28	271.69	64.37	275.28	80.74	6.60
5680.00	26.49	52.91	5649.81	52.80	282.48	60.69	287.38	79.41	7.27
5711.00	28.45	55.33	5677.31	61.17	294.07	57.46	300.37	78.25	7.27
5743.00	30.57	57.73	5705.16	69.85	307.22	54.55	315.07	77.19	7.58
5775.00	32.61	59.05	5732.42	78.63	321.50	51.98	330.98	76.26	6.73
5807.00	34.50	61.21	5759.08	87.43	336.84	49.81	348.00	75.45	6.99
5838.00	35.57	65.41	5784.47	95.41	352.74	48.60	365.41	74.86	8.51
5870.00	36.14	71.16	5810.41	102.34	370.13	48.96	384.02	74.54	10.67
5901.00	36.84	76.26	5835.34	107.50	387.82	51.05	402.44	74.51	10.04
5931.00	37.63	81.29	5859.23	111.02	405.61	54.69	420.53	74.69	10.48
5961.00	38.36	85.47	5882.88	113.14	423.95	59.83	438.79	75.06	8.91

103.02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth			Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
				N-S FT	E-W FT		Distance FT	Direction Deg	
5992.00	38.68	89.34	5907.13	114.02	443.23	66.49	457.66	75.57	7.84
6022.00	38.73	93.41	5930.55	113.57	461.97	74.17	475.73	76.19	8.48
6053.00	38.82	97.40	5954.72	111.74	481.29	83.33	494.09	76.93	8.06
6083.00	38.58	102.78	5978.14	108.46	499.74	93.50	511.38	77.76	11.24
6113.00	38.41	106.85	6001.62	103.68	517.79	104.89	528.07	78.68	8.46
6144.00	39.18	110.57	6025.79	97.45	536.18	117.75	544.96	79.70	7.92
6174.00	39.91	113.17	6048.92	90.33	553.90	131.18	561.21	80.74	6.03
6205.00	40.88	116.10	6072.54	81.86	572.15	145.97	577.99	81.85	6.88
6235.00	41.85	118.75	6095.05	72.82	589.74	161.20	594.22	82.96	6.67
6266.00	43.78	121.27	6117.79	62.28	607.98	177.98	611.16	84.15	8.32
6297.00	45.53	124.13	6139.85	50.51	626.30	195.93	628.34	85.39	8.60
6327.00	47.71	126.65	6160.45	37.87	644.07	214.46	645.18	86.63	9.49
6358.00	49.64	128.82	6180.92	23.62	662.48	234.72	662.90	87.96	8.15
6388.00	51.61	131.11	6199.96	8.73	680.24	255.34	680.30	89.27	8.83
6419.00	53.53	133.34	6218.80	-7.82	698.46	277.65	698.51	90.64	8.43
6450.00	55.64	135.39	6236.76	-25.49	716.52	300.93	716.97	92.04	8.68
6480.00	57.99	137.79	6253.18	-43.73	733.76	324.43	735.07	93.41	10.30
6511.00	60.19	140.02	6269.11	-63.77	751.24	349.67	753.94	94.85	9.40
6541.00	62.20	142.35	6283.56	-84.26	767.71	374.94	772.32	96.26	9.55
6571.00	63.68	144.47	6297.21	-105.71	783.63	400.88	790.73	97.68	8.00
6602.00	65.11	146.19	6310.61	-128.70	799.53	428.23	809.82	99.14	6.81
6632.00	66.99	148.18	6322.79	-151.74	814.38	455.23	828.40	100.55	8.72
6663.00	69.46	150.11	6334.29	-176.45	829.14	483.73	847.71	102.01	9.84
6693.00	72.19	151.49	6344.14	-201.18	842.96	511.88	866.64	103.42	10.08
6723.00	73.98	153.05	6352.87	-226.59	856.32	540.47	885.79	104.82	7.77
6754.00	75.19	154.97	6361.11	-253.45	869.41	570.31	905.60	106.25	7.13
6784.00	75.97	156.73	6368.58	-279.96	881.29	599.36	924.69	107.62	6.25
6815.00	77.99	159.61	6375.57	-307.99	892.52	629.55	944.17	109.04	11.15
6846.00	80.36	161.36	6381.39	-336.69	902.69	659.94	963.44	110.45	9.44
6877.00	83.35	162.67	6385.78	-365.88	912.16	690.52	982.80	111.86	10.51
6907.00	85.77	164.25	6388.62	-394.50	920.66	720.20	1001.62	113.19	9.62
6943.00	86.44	164.72	6391.07	-429.11	930.27	755.83	1024.47	114.76	2.27
6973.00	87.79	165.20	6392.58	-458.04	938.04	785.52	1043.90	116.03	4.78
7037.00	88.49	165.32	6394.66	-519.90	954.32	848.86	1086.75	118.58	1.11

103.02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7100.00	89.19	165.30	6395.93	-580.83	970.29	911.22	1130.86	120.91	1.11
7163.00	89.73	164.81	6396.53	-641.70	988.54	973.63	1176.88	123.04	1.16
7226.00	90.64	165.44	6396.32	-702.59	1002.71	1036.03	1224.36	125.02	1.76
7289.00	91.21	165.84	6395.31	-763.61	1018.33	1098.34	1272.83	126.86	1.11
7352.00	90.64	166.00	6394.29	-824.71	1033.66	1160.61	1322.34	128.58	.94
7415.00	90.10	165.69	6393.88	-885.79	1049.06	1222.89	1373.01	130.18	.99
7479.00	88.86	165.60	6394.46	-947.79	1064.93	1286.20	1425.62	131.67	1.94
7542.00	89.36	165.48	6395.44	-1008.79	1080.66	1348.53	1478.34	133.03	.82
7606.00	89.06	165.76	6396.32	-1070.78	1096.55	1411.83	1532.64	134.32	.64
7669.00	89.09	165.80	6397.34	-1131.84	1112.03	1474.12	1586.71	135.51	.08
7733.00	89.23	166.47	6398.28	-1193.97	1127.36	1537.34	1642.10	136.64	1.07
7796.00	89.40	166.58	6399.03	-1255.23	1142.04	1599.51	1697.01	137.70	.32
7859.00	90.27	166.71	6399.21	-1316.52	1156.59	1661.66	1752.41	138.70	1.40
7922.00	90.27	166.51	6398.92	-1377.81	1171.18	1723.81	1808.32	139.63	.32
7985.00	89.70	165.83	6398.93	-1438.98	1186.24	1786.05	1864.90	140.50	1.41
8048.00	89.33	165.77	6399.47	-1500.06	1201.70	1848.34	1922.04	141.30	.59
8112.00	88.82	166.12	6400.50	-1562.13	1217.24	1911.59	1980.38	142.07	.97
8176.00	89.73	166.31	6401.31	-1624.28	1232.48	1974.80	2038.95	142.81	1.45
8239.00	89.70	166.79	6401.62	-1685.55	1247.14	2036.96	2096.77	143.50	.76
8303.00	89.16	166.40	6402.26	-1747.81	1261.97	2100.10	2155.79	144.17	1.04
8366.00	89.53	166.69	6402.98	-1809.07	1276.63	2162.27	2214.17	144.79	.75
8430.00	89.93	166.67	6403.28	-1871.35	1291.38	2225.40	2273.68	145.39	.63
8493.00	90.17	167.19	6403.23	-1932.72	1305.62	2287.49	2332.39	145.96	.91
8557.00	89.70	166.60	6403.30	-1995.05	1320.13	2350.58	2392.28	146.51	1.18
8620.00	90.20	165.95	6403.35	-2056.25	1335.08	2412.80	2451.66	147.01	1.30
8684.00	90.27	165.65	6403.09	-2118.30	1350.78	2476.08	2512.33	147.48	.48
8748.00	89.50	166.23	6403.22	-2180.38	1366.33	2539.34	2573.11	147.93	1.51
8811.00	88.49	166.23	6404.33	-2241.56	1381.32	2601.55	2632.99	148.36	1.60
Checked Bottom Line									
8875.00	89.26	166.40	6405.58	-2303.73	1396.46	2664.73	2693.93	148.78	1.23
8938.00	90.13	167.61	6405.92	-2365.11	1410.63	2726.82	2753.84	149.19	2.37
9001.00	89.90	167.83	6405.90	-2426.67	1424.03	2788.76	2813.64	149.59	.51
9065.00	88.52	168.00	6406.78	-2489.24	1437.42	2851.64	2874.46	150.00	2.17
9129.00	89.33	168.29	6407.98	-2551.87	1450.57	2914.47	2935.33	150.38	1.34

103.02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
9193.00	89.23	167.98	6408.79	-2614.50	1463.73	2977.31	2996.34	150.76	.51
9256.00	89.53	167.62	6409.47	-2676.07	1477.04	3039.23	3056.63	151.10	.74
9319.00	90.27	167.71	6409.58	-2737.61	1490.50	3101.19	3117.07	151.43	1.18
9383.00	90.17	167.21	6409.33	-2800.09	1504.39	3164.17	3178.63	151.75	.80
9447.00	90.07	165.83	6409.20	-2862.32	1519.31	3227.32	3240.55	152.04	2.16
9510.00	89.60	166.23	6409.38	-2923.46	1534.52	3289.58	3301.72	152.31	.98
9574.00	88.49	165.88	6410.45	-2985.56	1549.94	3352.81	3363.91	152.56	1.82
9637.00	89.23	165.47	6411.70	-3046.59	1565.53	3415.11	3425.29	152.80	1.34
9700.00	89.87	164.98	6412.20	-3107.51	1581.59	3477.50	3486.84	153.03	1.28
9763.00	90.10	164.58	6412.21	-3168.30	1598.13	3539.95	3548.54	153.23	.73
9827.00	89.16	164.44	6412.63	-3229.97	1615.22	3603.43	3611.32	153.43	1.48
9891.00	88.46	164.07	6413.95	-3291.55	1632.59	3666.93	3674.19	153.62	1.24
9954.00	89.40	164.90	6415.13	-3352.25	1649.43	3729.42	3736.07	153.80	1.99
10017.00	89.90	165.57	6415.52	-3413.16	1665.49	3791.80	3797.83	153.99	1.33
10081.00	89.70	166.35	6415.74	-3475.25	1681.02	3855.05	3860.46	154.19	1.26
10143.00	89.60	166.32	6416.12	-3535.49	1695.66	3916.27	3921.10	154.38	.17
10207.00	88.86	166.08	6416.98	-3597.64	1710.93	3979.48	3983.75	154.57	1.22
10270.00	88.46	166.15	6418.45	-3658.78	1726.04	4041.71	4045.48	154.74	.64
10334.00	88.05	166.22	6420.40	-3720.90	1741.32	4104.89	4108.20	154.92	.65
10397.00	88.76	166.63	6422.15	-3782.12	1756.10	4167.06	4169.93	155.09	1.30
10461.00	89.06	167.26	6423.37	-3844.45	1770.55	4230.13	4232.57	155.27	1.09
10524.00	89.46	168.52	6424.19	-3906.04	1783.77	4292.03	4294.07	155.46	2.10
10588.00	89.80	168.08	6424.60	-3968.71	1796.75	4354.84	4356.49	155.64	.87
10652.00	89.23	167.08	6425.14	-4031.21	1810.51	4417.79	4419.12	155.81	1.80
10715.00	88.62	166.54	6426.32	-4092.54	1824.88	4479.90	4480.97	155.97	1.29
10779.00	89.87	167.40	6427.17	-4154.88	1839.31	4542.97	4543.80	156.12	2.37
10843.00	90.03	167.25	6427.22	-4217.32	1853.35	4605.97	4606.60	156.28	.34
10905.00	89.46	167.88	6427.50	-4277.87	1866.70	4666.96	4667.41	156.43	1.37
10969.00	89.26	167.94	6428.21	-4340.45	1880.11	4729.85	4730.14	156.58	.33
11033.00	89.33	167.28	6429.00	-4402.95	1893.84	4792.79	4792.97	156.73	1.04
11097.00	88.62	166.46	6430.14	-4465.27	1908.37	4855.88	4855.97	156.86	1.69
11160.00	89.63	166.58	6431.11	-4526.52	1923.06	4918.04	4918.08	156.98	1.61
11224.00	89.87	166.63	6431.39	-4588.78	1937.88	4981.18	4981.19	157.11	.38
11287.00	89.26	165.30	6431.86	-4649.90	1953.16	5043.45	5043.45	157.22	2.32

103-02773

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
Checked Bottom Line									
11332.00	89.90	165.25	6432.19	-4693.42	1964.60	5088.00	5088.01	157.29	1.43
Straightline Proj to Bit									
11390.00	89.90	165.25	6432.30	-4749.51	1979.37	5145.43	5145.45	157.38	.00