

Job Number: 23D0512115
 Company: Stone Energy
 Lease/Well: Mills Wetzel 5H
 Location: Jacksonburg
 Rig Name: Saxon 141
 RKB: 18
 G.L. or M.S.L.: 1331

State/Country: West Virginia 103-02721
 Declination: -8.52
 Grid: -7.77
 File name: D:\WINSERVE\STONEJ~1\MW#5H.SVY
 Date/Time: 04-Jun-12 / 16:40
 Curve Name: MW#5H As Drilled

Scientific Drilling

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 163.29
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 Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
108.00	.66	196.34	108.00	-.60	-.17	.52	.62	196.34	.61
208.00	.57	190.26	207.99	-1.64	-.43	1.45	1.69	194.56	.11
308.00	.58	180.79	307.99	-2.63	-.52	2.37	2.69	191.19	.10
408.00	.24	188.51	407.98	-3.35	-.56	3.05	3.39	189.48	.34
508.00	.29	212.81	507.98	-3.77	-.73	3.40	3.84	190.93	.12
608.00	.19	154.66	607.98	-4.13	-.79	3.73	4.21	190.87	.25
708.00	.15	204.97	707.98	-4.40	-.78	3.99	4.47	190.03	.15
808.00	.26	210.13	807.98	-4.71	-.95	4.24	4.81	191.36	.11
908.00	.24	197.30	907.98	-5.11	-1.12	4.57	5.23	192.40	.06
1008.00	.18	202.54	1007.98	-5.45	-1.25	4.87	5.60	192.86	.06
1108.00	.08	185.43	1107.98	-5.67	-1.31	5.05	5.82	193.03	.11
1208.00	.17	185.48	1207.98	-5.89	-1.33	5.25	6.04	192.76	.09
1308.00	.44	198.48	1307.98	-6.40	-1.47	5.71	6.56	192.93	.28
1408.00	.60	195.11	1407.97	-7.27	-1.73	6.46	7.47	193.37	.16
1508.00	.69	211.86	1507.97	-8.29	-2.18	7.31	8.57	194.75	.21
1608.00	.41	219.52	1607.96	-9.07	-2.73	7.91	9.47	196.73	.29
1708.00	.28	235.53	1707.96	-9.49	-3.16	8.18	10.00	198.40	.16
1808.00	.14	252.44	1807.96	-9.66	-3.47	8.25	10.27	199.78	.15
1908.00	.12	237.89	1907.96	-9.75	-3.68	8.28	10.43	200.67	.04
2008.00	.16	189.97	2007.96	-9.95	-3.79	8.44	10.65	200.87	.12
2108.00	.20	180.25	2107.96	-10.26	-3.82	8.73	10.95	200.41	.05
2208.00	.60	185.10	2207.96	-10.96	-3.86	9.38	11.62	199.43	.40
2308.00	.78	173.66	2307.95	-12.15	-3.84	10.54	12.74	197.52	.23
2408.00	.83	161.02	2407.94	-13.52	-3.53	11.93	13.97	194.62	.18
2508.00	.85	141.64	2507.93	-14.78	-2.83	13.34	15.05	190.89	.28
2608.00	.64	138.93	2607.92	-15.78	-2.00	14.54	15.91	187.29	.28
2708.00	.60	145.58	2707.91	-16.64	-1.34	15.55	16.69	184.60	.08
2808.00	.62	148.79	2807.91	-17.53	-.76	16.57	17.55	182.49	.04
2908.00	1.11	187.94	2907.90	-18.05	-.62	17.00	18.00	182.00	.00

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3008.00	3.27	195.64	3007.82	-22.66	-1.52	21.27	22.71	183.83	2.18
3108.00	4.87	211.74	3107.57	-29.02	-4.52	26.49	29.37	188.86	1.95
3208.00	5.99	223.93	3207.12	-36.39	-10.37	31.87	37.84	195.91	1.60
3308.00	7.14	227.84	3306.46	-44.31	-18.60	37.09	48.06	202.77	1.23
3408.00	7.68	221.51	3405.63	-53.49	-27.64	43.28	60.21	207.32	.98
3508.00	8.12	226.49	3504.68	-63.36	-37.19	49.99	73.46	210.41	.81
3608.00	7.43	226.23	3603.76	-72.69	-46.98	56.11	86.55	212.87	.69
3708.00	9.02	226.44	3702.73	-82.57	-57.33	62.60	100.52	214.77	1.59
3808.00	8.93	215.04	3801.51	-94.32	-67.47	70.94	115.97	215.57	1.78
3908.00	8.83	222.62	3900.32	-106.33	-77.12	79.66	131.35	215.95	1.17
4008.00	9.36	222.98	3999.06	-117.92	-87.86	87.68	147.06	216.69	.53
4108.00	11.79	223.09	4097.35	-131.34	-100.39	96.93	165.31	217.39	2.43
4208.00	14.13	225.69	4194.80	-147.33	-116.10	107.72	187.58	218.24	2.41
4308.00	15.22	230.69	4291.54	-164.17	-134.99	118.42	212.54	219.43	1.67
4408.00	15.34	231.78	4388.01	-180.67	-155.54	128.32	238.40	220.73	.31
4508.00	15.30	231.82	4484.45	-197.01	-176.31	138.00	264.38	221.83	.04
4608.00	14.61	229.91	4581.07	-213.29	-196.33	147.83	289.89	222.63	.85
4708.00	15.40	229.75	4677.66	-229.99	-216.11	158.14	315.59	223.22	.79
4808.00	15.58	227.16	4774.02	-247.70	-236.09	169.36	342.19	223.63	.71
4908.00	16.41	226.43	4870.15	-266.56	-256.17	181.65	369.70	223.86	.85
5008.00	16.39	226.12	4966.08	-286.08	-276.58	194.48	397.91	224.03	.09
5108.00	15.61	229.21	5062.21	-304.65	-296.93	206.41	425.42	224.26	1.15
5208.00	15.22	228.18	5158.61	-322.19	-316.90	217.47	451.92	224.53	.48
5308.00	14.92	226.28	5255.17	-339.84	-335.99	228.89	477.89	224.67	.58
5408.00	15.18	226.09	5351.74	-357.82	-354.72	240.72	503.85	224.75	.26
5508.00	14.96	223.61	5448.31	-376.24	-373.06	253.09	529.84	224.76	.68
5608.00	15.93	222.52	5544.69	-395.71	-391.24	266.50	556.46	224.67	1.01
5708.00	16.08	221.67	5640.82	-416.17	-409.72	280.79	584.01	224.55	.28
5808.00	16.04	222.46	5736.92	-436.70	-428.25	295.13	611.64	224.44	.22
5908.00	16.74	223.66	5832.85	-457.31	-447.52	309.33	639.85	224.38	.78
6008.00	16.66	224.67	5928.63	-477.93	-467.54	323.31	668.59	224.37	.30
6108.00	15.41	223.51	6024.74	-497.76	-486.77	336.78	696.21	224.36	1.29
6208.00	15.17	223.72	6121.20	-516.85	-504.96	349.84	722.58	224.33	.25
6308.00	15.46	221.87	6217.65	-536.23	-522.90	363.24	748.98	224.28	.57
6408.00	15.44	222.46	6314.04	-555.98	-540.78	377.01	775.60	224.21	.16
6451.61	15.20	223.69	6356.10	-564.39	-548.65	382.81	787.12	224.19	.93
6488.00	14.57	220.17	6391.27	-571.34	-554.89	387.67	796.45	224.16	3.03
6520.00	13.83	218.50	6422.29	-577.41	-559.87	392.05	804.28	224.12	2.64
6552.00	13.46	217.50	6453.39	-583.36	-564.52	396.41	811.78	224.06	1.37
6584.00	13.49	213.07	6484.51	-589.44	-568.82	401.00	819.15	223.98	3.23
6616.00	14.83	207.80	6515.53	-596.19	-572.77	406.33	826.75	223.85	5.81
6647.00	16.41	204.22	6545.39	-603.69	-576.42	412.47	834.69	223.66	5.97
6679.00	18.43	204.68	6575.92	-612.41	-580.39	419.68	843.74	223.46	6.33
6711.00	20.44	205.55	6606.10	-622.05	-584.91	427.61	853.85	223.24	6.35
6743.00	22.49	204.41	6635.87	-632.67	-589.85	436.35	864.98	222.99	6.54
6775.00	24.44	203.00	6665.23	-644.34	-594.96	446.06	877.01	222.72	6.34
6806.00	26.07	202.04	6693.26	-656.55	-600.03	456.31	889.44	222.42	6.00
6838.00	27.99	202.08	6721.77	-670.03	-605.49	467.64	903.08	222.10	6.00
6869.00	29.70	202.16	6748.92	-683.89	-611.12	479.29	917.15	221.78	5.52
6901.00	31.59	202.54	6776.45	-698.97	-617.32	491.96	932.55	221.45	5.04

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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	
6933.00	33.15	201.65	6803.48	-714.84	-623.76	505.31	948.73	221.11	5.10
6964.00	34.35	199.76	6829.25	-730.95	-629.85	518.99	964.89	220.75	5.14
6996.00	35.74	197.81	6855.45	-748.35	-635.76	533.95	981.95	220.35	5.58
7028.00	37.79	196.28	6881.08	-766.66	-641.37	549.88	999.56	219.91	7.02
7059.00	40.14	195.53	6905.19	-785.41	-646.71	566.30	1017.40	219.47	7.73
7091.00	41.65	194.41	6929.37	-805.65	-652.11	584.13	1036.49	218.99	5.25
7123.00	42.90	193.62	6953.05	-826.53	-657.33	602.63	1056.05	218.49	4.24
Check Bottom Line									
7155.00	44.50	192.85	6976.19	-848.05	-662.38	621.79	1076.08	217.99	5.27
7187.00	46.43	192.22	6998.63	-870.32	-667.33	641.69	1096.72	217.48	6.19
7219.00	48.70	192.18	7020.22	-893.40	-672.32	662.36	1118.12	216.96	7.09
7251.00	50.60	191.46	7040.94	-917.27	-677.32	683.79	1140.24	216.44	6.18
7283.00	52.82	190.66	7060.76	-941.92	-682.13	706.01	1162.98	215.91	7.21
7314.00	55.54	190.27	7078.91	-966.63	-686.70	728.37	1185.72	215.39	8.83
7346.00	57.26	190.53	7096.61	-992.85	-691.51	752.10	1209.93	214.86	5.42
7378.00	58.63	190.87	7113.60	-1019.50	-696.54	776.17	1234.73	214.34	4.37
7410.00	59.65	190.97	7130.01	-1046.47	-701.75	800.51	1259.98	213.85	3.20
7441.00	61.11	190.09	7145.33	-1072.96	-706.67	824.47	1284.77	213.37	5.32
7473.00	63.26	189.14	7160.26	-1100.87	-711.40	849.83	1310.72	212.87	7.21
7504.00	64.62	188.03	7173.88	-1128.40	-715.55	875.01	1336.15	212.38	5.44
7536.00	65.89	186.03	7187.28	-1157.24	-719.10	901.61	1362.47	211.86	6.93
7568.00	67.32	183.23	7199.99	-1186.51	-721.47	928.97	1388.64	211.30	9.19
7599.00	68.55	180.67	7211.63	-1215.22	-722.45	956.18	1413.75	210.73	8.62
7631.00	69.47	178.58	7223.10	-1245.10	-722.25	984.85	1439.41	210.12	6.74
7663.00	70.75	176.29	7233.98	-1275.15	-720.90	1014.03	1464.83	209.48	7.83
7694.00	71.91	174.09	7243.91	-1304.42	-718.44	1042.76	1489.18	208.84	7.69
7726.00	73.00	171.99	7253.56	-1334.70	-714.74	1072.83	1514.03	208.17	7.12
7758.00	74.04	170.25	7262.63	-1365.02	-710.00	1103.23	1538.62	207.48	6.14
7790.00	75.37	168.08	7271.08	-1395.33	-704.20	1133.93	1562.96	206.78	7.75
7822.00	76.90	165.81	7278.74	-1425.59	-697.18	1164.93	1586.93	206.06	8.38
7853.00	78.10	163.27	7285.46	-1454.76	-689.11	1195.19	1609.72	205.35	8.89
7885.00	79.40	160.27	7291.70	-1484.56	-679.29	1226.56	1632.59	204.59	10.05
7917.00	80.79	157.99	7297.20	-1514.01	-668.06	1257.99	1654.85	203.81	8.25
7949.00	81.27	156.22	7302.19	-1543.13	-655.76	1289.42	1676.69	203.02	5.67
7981.00	83.00	153.77	7306.57	-1571.85	-642.36	1320.78	1698.04	202.23	9.31
8013.00	85.06	152.03	7309.90	-1600.18	-627.87	1352.08	1718.95	201.42	8.41
8045.00	87.08	149.86	7312.10	-1628.09	-612.36	1383.27	1739.44	200.61	9.25
Check bottom line									
8077.00	88.76	149.25	7313.26	-1655.66	-596.16	1414.33	1759.72	199.80	5.58
8140.00	91.01	149.62	7313.38	-1709.90	-564.12	1475.49	1800.55	198.26	3.62
8204.00	91.28	149.50	7312.10	-1765.07	-531.71	1537.65	1843.41	196.76	.46
8267.00	90.97	148.96	7310.87	-1819.19	-499.48	1598.75	1886.51	195.35	.99
8331.00	91.51	148.69	7309.48	-1873.93	-466.36	1660.71	1931.09	193.98	.94
8395.00	90.47	148.47	7308.38	-1928.54	-433.00	1722.60	1976.55	192.65	1.66
8458.00	89.16	147.78	7308.58	-1982.04	-399.73	1783.40	2021.94	191.40	2.35
8521.00	88.76	146.48	7309.72	-2034.94	-365.55	1843.90	2067.51	190.08	2.16
8585.00	89.09	145.92	7310.92	-2088.11	-329.95	1905.07	2114.02	188.98	1.02
8649.00	89.16	145.22	7311.90	-2140.89	-293.77	1966.02	2160.96	187.81	1.10
8713.00	89.66	145.58	7312.56	-2193.57	-257.43	2026.92	2208.63	186.69	.96
8776.00	89.80	145.21	7312.86	-2245.43	-221.65	2086.88	2256.34	185.64	.62

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
8839.00	90.03	145.27	7312.95	-2297.18	-185.73	2146.77	2304.68	184.62	.38
8903.00	88.32	145.88	7313.87	-2349.97	-149.56	2207.73	2354.72	183.64	2.84
8966.00	87.61	145.71	7316.11	-2402.04	-114.17	2267.78	2404.75	182.72	1.16
9030.00	88.29	146.04	7318.40	-2454.98	-78.29	2328.81	2456.23	181.83	1.18
9093.00	88.96	146.64	7319.91	-2507.40	-43.38	2389.05	2507.78	180.99	1.43
Checked Bottom Line									
9157.00	90.00	147.67	7320.49	-2561.17	-8.67	2450.53	2561.18	180.19	2.29
9220.00	90.24	147.87	7320.36	-2614.46	24.93	2511.23	2614.58	179.45	.50
9284.00	89.76	147.71	7320.36	-2668.61	59.04	2572.90	2669.27	178.73	.79
9348.00	90.71	147.39	7320.10	-2722.62	93.38	2634.50	2724.22	178.04	1.57
9411.00	91.48	146.96	7318.89	-2775.55	127.53	2695.01	2778.48	177.37	1.40
9475.00	90.91	146.25	7317.56	-2828.97	162.75	2756.30	2833.65	176.71	1.42
9539.00	89.93	146.81	7317.09	-2882.36	198.04	2817.58	2889.15	176.07	1.76
9602.00	89.09	145.38	7317.63	-2934.64	233.18	2877.76	2943.89	175.46	2.63
9666.00	89.70	145.31	7318.30	-2987.28	269.57	2938.64	2999.42	174.84	.96
9729.00	90.47	145.17	7318.21	-3039.04	305.49	2998.54	3054.35	174.26	1.24
9793.00	89.36	144.97	7318.31	-3091.51	342.13	3059.33	3110.38	173.68	1.76
9857.00	90.23	144.65	7318.53	-3143.81	379.02	3120.03	3166.58	173.13	1.45
9920.00	90.17	144.93	7318.31	-3195.28	415.34	3179.78	3222.17	172.59	.45
9984.00	89.33	144.65	7318.59	-3247.57	452.24	3240.47	3278.91	172.07	1.38
10047.00	90.10	144.63	7318.91	-3298.95	488.70	3300.16	3334.95	171.57	1.22
10111.00	89.53	145.39	7319.11	-3351.38	525.40	3360.93	3392.32	171.09	1.48
10174.00	88.39	144.97	7320.26	-3403.09	561.36	3420.80	3449.08	170.63	1.93
Checked Bottom Line									
10238.00	89.29	144.91	7321.55	-3455.47	598.12	3481.53	3506.85	170.18	1.41
10301.00	89.83	145.32	7322.04	-3507.15	634.15	3541.38	3564.02	169.75	1.08
10365.00	90.67	145.09	7321.76	-3559.70	670.67	3602.22	3622.33	169.33	1.36
10429.00	91.51	145.26	7320.54	-3612.23	707.21	3663.04	3680.81	168.92	1.34
10493.00	89.90	145.58	7319.75	-3664.92	743.53	3723.94	3739.58	168.53	2.56
10556.00	88.79	145.69	7320.47	-3716.92	779.09	3783.97	3797.69	168.16	1.77
10619.00	89.43	145.70	7321.45	-3768.95	814.59	3844.02	3855.98	167.80	1.02
10683.00	89.83	145.82	7321.86	-3821.86	850.60	3905.04	3915.37	167.45	.65
10747.00	90.10	146.63	7321.90	-3875.06	886.18	3966.22	3975.10	167.12	1.33
10810.00	88.79	147.30	7322.51	-3927.87	920.52	4026.68	4034.29	166.81	2.34
10873.00	89.09	147.23	7323.68	-3980.85	954.58	4087.22	4093.71	166.52	.49
10937.00	89.26	147.98	7324.60	-4034.89	988.87	4148.83	4154.30	166.23	1.20
11001.00	88.19	147.54	7326.02	-4089.01	1023.00	4210.48	4215.03	165.95	1.81
11064.00	88.82	147.12	7327.67	-4142.02	1057.00	4271.03	4274.76	165.68	1.20
11127.00	89.56	147.91	7328.56	-4195.16	1090.83	4331.65	4334.66	165.42	1.72
11191.00	90.00	147.96	7328.80	-4249.39	1124.80	4393.36	4395.74	165.17	.69
11254.00	88.86	147.44	7329.43	-4302.64	1158.47	4454.04	4455.87	164.93	1.99
11318.00	89.46	147.34	7330.37	-4356.55	1192.95	4515.59	4516.93	164.69	.95
11382.00	89.66	147.47	7330.86	-4410.46	1227.43	4577.14	4578.08	164.45	.37
11445.00	88.72	147.01	7331.75	-4463.44	1261.52	4637.68	4638.29	164.22	.66
11509.00	89.46	146.99	7332.77	-4517.10	1296.37	4699.10	4699.45	163.99	1.16
Projection to Bit									
11590.00	89.46	146.99	7333.53	-4585.03	1340.49	4776.84	4776.96	163.70	.00

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