



PHOENIX

TECHNOLOGY SERVICES

Job Number: 1420765
 Company: Samson Resources
 Lease/Well: Bonine 34-7-24 #4
 Location: La Plata County
 Rig Name: Aztec 507
 RKB: ☐
 G.L. or M.S.L.: ☐

State/Country: Colorado / US
 Declination: ☐
 Grid: ☐
 File name: C:\WINSERVE\1420765.SVY
 Date/Time: 08-Jun-14 / 02:53
 Curve Name: Samson Resources 34-7-24 #4 -as Drilled

Samson Resources 34-7-24 #4 -as Drilled

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 57.50
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
87.00	.70	76.20	87.00	.13	.52	.50	.53	76.20	.80
117.00	.80	74.90	117.00	.23	.90	.88	.92	75.90	.34
148.00	.90	89.70	147.99	.28	1.35	1.29	1.38	78.16	.78
179.00	.90	82.60	178.99	.32	1.83	1.72	1.86	80.24	.36
210.00	.70	78.30	209.99	.39	2.26	2.11	2.29	80.33	.67
240.00	.90	70.70	239.98	.50	2.66	2.51	2.71	79.36	.75
271.00	.70	75.20	270.98	.63	3.08	2.93	3.14	78.44	.68
305.00	.70	66.90	304.98	.76	3.47	3.33	3.55	77.58	.30
391.00	.80	70.80	390.97	1.17	4.52	4.44	4.67	75.51	.13
422.00	1.00	72.60	421.97	1.32	4.98	4.91	5.15	75.16	.65
453.00	1.80	60.60	452.96	1.64	5.66	5.66	5.89	73.86	2.73
484.00	2.60	59.30	483.93	2.24	6.69	6.84	7.05	71.51	2.59
515.00	3.70	56.20	514.89	3.15	8.13	8.55	8.72	68.80	3.59
546.00	5.00	56.80	545.80	4.45	10.09	10.90	11.03	66.20	4.20
578.00	4.90	60.10	577.68	5.89	12.44	13.66	13.77	64.65	.94
609.00	5.70	62.50	608.54	7.26	14.95	16.51	16.62	64.09	2.68
640.00	6.50	63.00	639.37	8.77	17.88	19.79	19.92	63.87	2.59
671.00	6.30	63.30	670.17	10.33	20.97	23.23	23.37	63.76	.65
702.00	7.60	62.30	700.95	12.05	24.30	26.97	27.12	63.62	4.21
733.00	8.90	59.10	731.62	14.23	28.17	31.41	31.56	63.19	4.45
764.00	8.70	58.10	762.26	16.70	32.22	36.15	36.29	62.60	.81
795.00	9.40	61.40	792.87	19.16	36.43	41.02	41.16	62.27	2.81
827.00	10.50	60.40	824.39	21.85	41.26	46.54	46.69	62.10	3.48
858.00	10.30	60.60	854.88	24.60	46.13	52.13	52.28	61.93	.66

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
				FT	FT	FT	Distance FT	Direction Deg	
889.00	11.20	59.90	885.34	27.47	51.15	57.90	58.06	61.76	2.93
921.00	13.30	58.30	916.61	30.97	56.97	64.69	64.85	61.48	6.65
951.00	13.90	58.50	945.77	34.66	62.98	71.74	71.89	61.17	2.01
982.00	14.60	56.50	975.81	38.76	69.42	79.37	79.51	60.82	2.76
1013.00	16.60	53.20	1005.67	43.57	76.22	87.70	87.80	60.24	7.06
1045.00	17.70	52.60	1036.25	49.27	83.75	97.10	97.16	59.53	3.48
1077.00	19.90	53.20	1066.54	55.48	91.97	107.38	107.41	58.90	6.90
1108.00	21.70	54.00	1095.52	62.01	100.83	118.36	118.38	58.41	5.88
1138.00	23.70	56.10	1123.19	68.64	110.33	129.93	129.93	58.11	7.19
1170.00	25.60	56.00	1152.27	76.09	121.40	143.27	143.27	57.92	5.94
1202.00	28.20	56.20	1180.81	84.16	133.41	157.74	157.74	57.75	8.13
1234.00	30.00	56.00	1208.77	92.84	146.33	173.30	173.30	57.61	5.63
1265.00	30.40	56.20	1235.56	101.54	159.27	188.89	188.89	57.48	1.33
1296.00	31.10	56.20	1262.20	110.36	172.44	204.73	204.73	57.38	2.26
1328.00	32.20	56.60	1289.44	119.65	186.43	221.52	221.52	57.31	3.50
1359.00	32.70	56.30	1315.60	128.84	200.29	238.15	238.15	57.25	1.69
1391.00	33.70	56.70	1342.38	138.51	214.90	255.67	255.67	57.20	3.20
1423.00	34.00	56.30	1368.95	148.35	229.77	273.49	273.50	57.15	1.17
1454.00	35.10	56.60	1394.49	158.07	244.42	291.07	291.08	57.11	3.59
1484.00	37.10	56.50	1418.73	167.81	259.17	308.74	308.75	57.08	6.67
1515.00	38.50	56.90	1443.22	178.24	275.05	327.74	327.75	57.06	4.58
1546.00	39.50	56.40	1467.31	188.97	291.34	347.25	347.26	57.03	3.38
1577.00	39.80	55.90	1491.18	199.98	307.77	367.02	367.04	56.98	1.41
1608.00	40.10	55.70	1514.94	211.17	324.23	386.92	386.94	56.92	1.05
1639.00	41.10	57.00	1538.48	222.35	341.03	407.09	407.11	56.90	4.23
1670.00	41.90	60.30	1561.70	233.03	358.57	427.62	427.64	56.98	7.51
1701.00	43.70	59.50	1584.45	243.59	376.79	448.66	448.67	57.12	6.07
1732.00	46.30	59.50	1606.37	254.72	395.67	470.57	470.57	57.23	8.39
1763.00	49.60	58.80	1627.13	266.52	415.43	493.57	493.58	57.32	10.78
1795.00	53.20	59.40	1647.09	279.36	436.89	518.57	518.57	57.40	11.34
1826.00	53.90	59.10	1665.50	292.11	458.32	543.49	543.49	57.49	2.39
1857.00	53.70	60.10	1683.81	304.77	479.89	568.49	568.49	57.58	2.68
1889.00	53.50	59.80	1702.80	317.67	502.19	594.22	594.23	57.68	.98
1919.00	53.40	58.40	1720.67	330.04	522.87	618.31	618.32	57.74	3.76
1951.00	53.10	56.10	1739.82	343.91	544.43	643.95	643.95	57.72	5.83
1982.00	52.00	57.20	1758.67	357.44	564.98	668.56	668.56	57.68	4.53
2013.00	51.40	58.60	1777.88	370.37	585.59	692.88	692.89	57.69	4.04
2065.00	50.90	56.70	1810.50	392.04	619.80	733.38	733.38	57.69	3.00
2076.00	50.10	56.30	1817.50	396.72	626.88	741.86	741.87	57.67	7.80
2107.00	49.20	56.70	1837.57	409.76	646.58	765.48	765.49	57.64	3.07
2138.00	49.20	57.90	1857.83	422.44	666.33	788.95	788.95	57.63	2.93
2170.00	49.00	55.80	1878.78	435.66	686.57	813.13	813.13	57.60	5.00
2201.00	48.80	55.50	1899.16	448.84	705.86	836.48	836.48	57.55	.97
2232.00	48.40	55.10	1919.66	462.08	724.98	859.72	859.72	57.49	1.61
2263.00	47.70	55.90	1940.38	475.14	743.98	882.76	882.76	57.44	2.96

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	
2294.00	47.30	56.90	1961.32	487.79	763.02	905.61	905.61	57.41	2.71
2325.00	47.20	56.20	1982.37	500.34	782.01	928.37	928.37	57.39	1.69
2357.00	46.50	55.40	2004.25	513.46	801.32	951.70	951.71	57.35	2.85
2388.00	46.40	56.90	2025.61	525.97	819.98	974.17	974.17	57.32	3.52
2420.00	47.40	59.30	2047.48	538.31	839.81	997.53	997.53	57.34	6.30
2452.00	48.10	60.50	2068.99	550.19	860.30	1021.19	1021.19	57.40	3.53
2483.00	47.80	60.40	2089.76	561.54	880.33	1044.18	1044.18	57.47	1.00
2514.00	47.10	59.90	2110.72	572.91	900.14	1066.99	1066.99	57.52	2.55
2545.00	47.10	59.80	2131.82	584.32	919.77	1089.68	1089.68	57.57	.24
2576.00	46.80	59.00	2152.98	595.85	939.27	1112.32	1112.32	57.61	2.12
2607.00	46.70	58.70	2174.23	607.53	958.60	1134.90	1134.90	57.63	.78
2639.00	46.30	58.20	2196.25	619.67	978.38	1158.10	1158.11	57.65	1.69
2671.00	46.00	57.70	2218.42	631.92	997.94	1181.18	1181.19	57.66	1.47
2702.00	45.80	57.60	2239.99	643.83	1016.74	1203.44	1203.45	57.66	.69
2733.00	46.40	56.90	2261.49	655.91	1035.53	1225.78	1225.78	57.65	2.53
2764.00	47.00	56.80	2282.75	668.25	1054.42	1248.34	1248.34	57.63	1.95
2796.00	46.50	56.80	2304.68	681.01	1073.92	1271.64	1271.65	57.62	1.56
2828.00	46.00	56.20	2326.80	693.77	1093.20	1294.76	1294.76	57.60	2.07
2859.00	45.40	56.00	2348.46	706.15	1111.61	1316.94	1316.94	57.57	1.99
2890.00	46.50	55.90	2370.01	718.62	1130.07	1339.21	1339.21	57.55	3.56
2922.00	48.20	55.40	2391.69	731.90	1149.50	1362.73	1362.73	57.51	5.44
2952.00	47.50	55.20	2411.82	744.56	1167.79	1384.96	1384.96	57.48	2.39
2984.00	47.10	54.80	2433.52	758.05	1187.05	1408.45	1408.45	57.44	1.55
3014.00	46.50	54.80	2454.06	770.66	1204.92	1430.30	1430.30	57.40	2.00
3045.00	45.90	54.00	2475.52	783.68	1223.12	1452.64	1452.64	57.35	2.69
3076.00	46.30	54.40	2497.01	796.75	1241.23	1474.94	1474.95	57.30	1.59
3107.00	46.70	55.70	2518.35	809.63	1259.66	1497.40	1497.41	57.27	3.30
3139.00	45.70	55.30	2540.50	822.71	1278.70	1520.48	1520.50	57.24	3.25
3170.00	46.20	55.50	2562.05	835.36	1297.04	1542.75	1542.77	57.22	1.68
3202.00	47.10	56.20	2584.02	848.42	1316.29	1566.01	1566.03	57.20	3.23
3233.00	46.50	56.30	2605.24	860.98	1335.08	1588.60	1588.63	57.18	1.95
3265.00	45.50	55.90	2627.47	873.82	1354.19	1611.61	1611.64	57.17	3.25
3296.00	45.70	55.70	2649.16	886.26	1372.51	1633.75	1633.78	57.15	.79
3327.00	47.90	56.40	2670.38	898.88	1391.25	1656.34	1656.38	57.13	7.29
3358.00	48.70	56.80	2691.00	911.62	1410.58	1679.48	1679.52	57.13	2.75
3390.00	48.10	56.70	2712.25	924.74	1430.59	1703.41	1703.45	57.12	1.89
3421.00	47.60	57.00	2733.05	937.31	1449.83	1726.39	1726.43	57.12	1.77
3452.00	47.40	56.80	2753.99	949.79	1468.98	1749.25	1749.29	57.11	.80
3483.00	48.70	57.10	2774.71	962.37	1488.30	1772.30	1772.34	57.11	4.25
3514.00	48.10	57.10	2795.30	974.96	1507.77	1795.48	1795.52	57.11	1.94
3546.00	47.00	56.70	2816.89	987.85	1527.55	1819.09	1819.13	57.11	3.56
Last Survey									
3570.00	46.10	55.90	2833.40	997.52	1542.04	1836.51	1836.56	57.10	4.46
Projection to bit									
3627.00	46.10	55.90	2872.92	1020.54	1576.05	1877.57	1877.62	57.08	.00