

Job Number:
 Company:
 Lease/Well:
 Location:
 Rig Name:
 RKB:
 G.L. or M.S.L.:

State/Country:
 Declination:
 Grid:
 File name: D:\WINSERVE\JOBSIP#9H.SVY
 Date/Time: 07-Oct-11 / 13:53
 Curve Name: Potts #9H As Drilled

Scientific Drilling

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 355.80
 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	Distance FT	C L O S U R E Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
108.00	.04	284.42	108.00	.01	-.04	.01	.04	284.44	.04
208.00	.08	244.97	208.00	-.01	-.13	.00	.13	265.10	.06
308.00	.12	334.77	308.00	.05	-.24	.07	.25	282.55	.14
408.00	.04	266.78	408.00	.15	-.32	.17	.35	294.54	.11
508.00	.11	343.75	508.00	.24	-.38	.26	.45	301.74	.11
608.00	.03	80.46	608.00	.33	-.38	.36	.51	310.97	.12
708.00	.17	309.69	708.00	.43	-.47	.47	.64	312.48	.19
808.00	.11	328.37	808.00	.61	-.64	.65	.88	313.72	.07
908.00	.19	312.84	908.00	.80	-.81	.86	1.14	314.81	.09
1008.00	.15	158.14	1008.00	.79	-.88	.86	1.19	312.03	.33
1108.00	.09	268.23	1108.00	.67	-.91	.74	1.13	306.35	.20
1208.00	.11	334.74	1208.00	.75	-1.03	.83	1.28	306.23	.11

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	
1308.00	.28	344.68	1308.00	1.08	-1.14	1.16	1.57	313.48	.17
1408.00	.74	308.93	1407.99	1.72	-1.70	1.84	2.42	315.27	.54
1508.00	.75	290.61	1507.99	2.36	-2.82	2.56	3.67	309.89	.24
1608.00	1.34	291.64	1607.97	3.02	-4.52	3.34	5.43	303.73	.59
1708.00	1.92	294.92	1707.93	4.15	-7.12	4.66	8.25	300.25	.59
1808.00	2.10	295.30	1807.87	5.64	-10.30	6.38	11.74	298.72	.18
1908.00	2.07	294.09	1907.80	7.16	-13.60	8.14	15.37	297.77	.05
2008.00	2.19	296.49	2007.73	8.75	-16.96	9.97	19.09	297.29	.15
2108.00	2.25	307.12	2107.66	10.79	-20.24	12.24	22.93	298.06	.42
2208.00	2.31	304.19	2207.58	13.11	-23.47	14.79	26.88	299.18	.13
2308.00	2.16	294.69	2307.50	15.03	-26.85	16.95	30.77	299.23	.40
2408.00	2.14	294.92	2407.43	16.60	-30.26	18.77	34.51	298.75	.02
2508.00	2.29	291.73	2507.36	18.13	-33.80	20.55	38.36	298.20	.19
2608.00	2.49	289.01	2607.27	19.57	-37.71	22.28	42.49	297.43	.23
2708.00	2.67	314.16	2707.17	21.90	-41.44	24.88	46.87	297.86	1.14
2808.00	3.19	341.06	2807.04	26.16	-44.01	29.31	51.20	300.72	1.45
2908.00	3.59	8.63	2906.88	31.89	-44.45	35.06	54.70	305.66	1.66
3008.00	4.92	19.10	3006.60	39.03	-42.57	42.05	57.76	312.52	1.53
3108.00	5.78	36.60	3106.17	47.13	-38.17	49.80	60.65	321.00	1.83
3208.00	7.02	49.79	3205.55	55.12	-30.50	57.20	62.99	331.04	1.92
3308.00	7.62	49.74	3304.73	63.35	-20.77	64.70	66.67	341.85	.60
3408.00	8.22	49.83	3403.78	72.24	-10.25	72.80	72.97	351.93	.60
3508.00	8.22	52.28	3502.75	81.23	.87	80.95	81.23	.61	.35
3608.00	8.34	43.72	3601.71	90.84	11.54	89.76	91.57	7.24	1.24
3708.00	8.76	35.06	3700.61	102.32	20.92	100.51	104.44	11.56	1.35
3808.00	8.15	44.42	3799.52	113.62	30.26	111.09	117.58	14.91	1.50
3908.00	8.27	49.98	3898.50	123.30	40.73	119.99	129.86	18.28	.80
4008.00	9.02	49.67	3997.36	133.00	52.21	128.82	142.88	21.43	.75
4108.00	8.84	50.45	4096.15	142.97	64.11	137.89	156.68	24.15	.22
4208.00	8.24	47.66	4195.04	152.69	75.33	146.76	170.26	26.26	.73
4308.00	8.26	46.02	4294.01	162.50	85.80	155.78	183.76	27.83	.24
4408.00	9.07	45.85	4392.87	172.98	96.62	165.44	198.14	29.19	.81
4508.00	9.22	43.98	4491.60	184.23	107.84	175.84	213.48	30.34	.33
4608.00	9.35	44.93	4590.29	195.75	119.14	186.50	229.16	31.33	.20

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	
4708.00	9.79	45.25	4688.89	207.49	130.92	197.34	245.34	32.25	.44
4808.00	9.38	44.23	4787.50	219.31	142.64	208.28	261.62	33.04	.44
4908.00	9.65	43.62	4886.12	231.22	154.11	219.31	277.87	33.68	.29
5008.00	10.14	39.11	4984.64	244.12	165.44	231.34	294.90	34.13	.92
5108.00	9.70	33.18	5083.14	258.00	175.61	244.44	312.09	34.24	1.11
5208.00	8.49	28.73	5181.88	271.52	183.76	257.34	327.86	34.09	1.40
5308.00	8.74	26.35	5280.76	284.80	190.68	270.07	342.74	33.80	.44
5408.00	9.66	30.59	5379.47	298.84	198.33	283.51	358.66	33.57	1.14
5433.00	9.01	31.43	5404.14	302.31	200.42	286.82	362.71	33.54	2.66
5458.00	8.83	32.05	5428.84	305.61	202.45	289.96	366.58	33.52	.82
5522.00	8.89	30.65	5492.07	314.03	207.58	297.98	376.43	33.47	.35
5586.00	8.27	30.91	5555.36	322.23	212.47	305.80	385.97	33.40	.97
5618.00	7.86	27.63	5587.04	326.14	214.66	309.54	390.45	33.35	1.93
5649.00	7.21	27.72	5617.77	329.74	216.55	313.00	394.49	33.29	2.10
5681.00	7.87	32.89	5649.50	333.36	218.68	316.45	398.68	33.26	2.96
5713.00	9.13	40.67	5681.14	337.13	221.52	320.00	403.39	33.31	5.32
5745.00	10.25	46.35	5712.69	341.02	225.24	323.60	408.68	33.44	4.60
5777.00	11.49	51.28	5744.11	344.98	229.78	327.22	414.50	33.67	4.84
5809.00	13.44	52.28	5775.36	349.24	235.21	331.08	421.07	33.96	6.13
5841.00	15.21	52.55	5806.36	354.07	241.49	335.44	428.58	34.29	5.54
5873.00	17.38	51.70	5837.08	359.59	248.57	340.42	437.14	34.65	6.82
5905.00	19.38	51.03	5867.44	365.89	256.45	346.13	446.81	35.03	6.28
5936.00	21.65	51.21	5896.47	372.71	264.91	352.31	457.26	35.40	7.33
5968.00	23.58	51.55	5926.01	380.39	274.52	359.26	469.10	35.82	6.05
6000.00	26.41	50.79	5955.01	388.87	285.05	366.95	482.15	36.24	8.90
6031.00	28.44	52.34	5982.53	397.74	296.24	374.97	495.93	36.68	6.94
6063.00	30.85	53.74	6010.34	407.25	308.89	383.53	511.14	37.18	7.84
6095.00	32.67	55.73	6037.54	416.96	322.64	392.21	527.22	37.73	6.56
6127.00	34.29	58.06	6064.23	426.60	337.43	400.74	543.92	38.34	6.46
6159.00	36.19	59.82	6090.37	436.12	353.25	409.07	561.23	39.01	6.73
6191.00	38.75	61.61	6115.77	445.63	370.23	417.32	579.36	39.72	8.69
6222.00	40.90	62.73	6139.57	454.89	387.79	425.27	597.75	40.45	7.31
6254.00	44.16	63.64	6163.15	464.64	407.09	433.58	617.75	41.22	10.37
6285.00	47.03	64.45	6184.84	474.33	427.00	441.79	638.22	41.99	9.44

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	
6317.00	50.12	64.11	6206.01	484.75	448.62	450.59	660.48	42.78	9.69
6349.00	52.41	63.18	6226.03	495.83	470.98	460.00	683.86	43.53	7.51
6381.00	55.47	63.11	6244.87	507.51	494.06	469.97	708.28	44.23	9.56
6413.00	58.75	61.98	6262.24	519.91	517.89	480.58	733.84	44.89	10.67
6445.00	61.35	61.80	6278.22	532.97	542.35	491.82	760.39	45.50	8.14
6477.00	62.94	61.14	6293.17	546.48	567.20	503.47	787.63	46.07	5.29
6508.00	63.73	61.36	6307.08	559.81	591.49	514.98	814.40	46.58	2.63
6540.00	65.31	60.56	6320.85	573.83	616.75	527.12	842.41	47.06	5.43
6572.00	66.68	60.34	6333.86	588.25	642.17	539.63	870.87	47.51	4.33
6604.00	67.47	60.03	6346.33	602.90	667.75	552.38	899.65	47.92	2.63
6634.00	69.15	59.00	6357.42	617.04	691.77	564.72	926.97	48.27	6.44
6665.00	70.58	57.55	6368.09	632.35	716.52	578.17	955.65	48.57	6.37
6696.00	71.60	56.02	6378.13	648.41	741.05	592.40	984.68	48.81	5.71
6727.00	71.95	53.89	6387.83	665.32	765.16	607.49	1013.96	48.99	6.62
6757.00	72.10	50.85	6397.09	682.74	787.75	623.21	1042.45	49.08	9.65
6788.00	71.96	48.30	6406.66	701.86	810.20	640.64	1071.93	49.10	7.84
6819.00	71.72	44.75	6416.32	722.12	831.57	659.28	1101.35	49.03	10.91
6850.00	71.48	43.03	6426.11	743.32	851.96	678.93	1130.65	48.90	5.32
6881.00	71.64	39.91	6435.91	765.35	871.44	699.47	1159.81	48.71	9.56
6912.00	71.99	37.41	6445.59	788.35	889.83	721.06	1188.82	48.46	7.74
6942.00	71.75	34.67	6454.93	811.40	906.61	742.82	1216.68	48.17	8.72
6973.00	71.64	33.02	6464.66	835.84	923.00	766.00	1245.21	47.84	5.07
7004.00	71.74	30.37	6474.40	860.88	938.46	789.84	1273.51	47.47	8.12
7035.00	72.40	27.66	6483.95	886.67	952.76	814.51	1301.51	47.06	8.59
7066.00	73.30	25.70	6493.09	913.14	966.06	839.93	1329.32	46.61	6.70
7097.00	74.06	24.57	6501.80	940.07	978.69	865.87	1357.05	46.15	4.27
7128.00	74.83	23.28	6510.12	967.37	990.80	892.21	1384.74	45.69	4.72
7158.00	75.14	20.26	6517.89	994.28	1001.55	918.25	1411.27	45.21	9.78
7189.00	74.97	17.69	6525.89	1022.60	1011.29	945.79	1438.20	44.68	8.03
7220.00	74.55	16.21	6534.03	1051.21	1020.01	973.68	1464.73	44.14	4.80
7250.00	74.82	14.03	6541.96	1079.14	1027.55	1000.98	1490.10	43.60	7.07
Bottom Line									
7281.00	76.11	11.47	6549.74	1108.40	1034.17	1029.68	1515.94	43.02	9.01
7312.00	77.67	9.90	6556.77	1138.07	1039.77	1058.86	1541.53	42.42	7.05

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		
7342.00	79.00	7.93	6562.84	1167.09	1044.32	1087.47	1566.11	41.82	7.81	
7372.00	79.75	7.09	6568.37	1196.32	1048.18	1116.35	1590.55	41.22	3.72	
7403.00	80.52	5.14	6573.68	1226.69	1051.43	1146.39	1615.63	40.60	6.68	
7434.00	81.11	4.00	6578.63	1257.19	1053.87	1176.64	1640.48	39.97	4.10	
7465.00	81.38	2.52	6583.35	1287.78	1055.61	1207.01	1665.14	39.34	4.80	
Bottom Line										
7495.00	81.88	.53	6587.72	1317.45	1056.40	1236.54	1688.68	38.72	6.77	
7526.00	82.97	358.62	6591.80	1348.18	1056.17	1267.21	1712.62	38.08	7.05	
7557.00	84.19	355.91	6595.27	1378.95	1054.70	1298.00	1736.05	37.41	9.54	
7587.00	84.89	353.00	6598.12	1408.67	1051.81	1327.85	1758.02	36.75	9.93	
7618.00	85.46	350.74	6600.73	1439.24	1047.44	1358.67	1780.05	36.05	7.49	
7649.00	86.68	348.00	6602.86	1469.64	1041.74	1389.39	1801.40	35.33	9.66	
7681.00	88.26	346.91	6604.27	1500.84	1034.80	1421.02	1823.00	34.59	6.00	
7712.00	88.82	346.11	6605.06	1530.97	1027.57	1451.61	1843.85	33.87	3.15	
7776.00	89.77	346.01	6605.85	1593.08	1012.15	1514.68	1887.42	32.43	1.49	
7840.00	90.74	344.21	6605.56	1654.93	995.71	1577.56	1931.38	31.03	3.19	
7903.00	91.58	343.93	6604.29	1715.50	978.42	1639.23	1974.90	29.70	1.41	
7967.00	91.34	343.01	6602.66	1776.83	960.21	1701.74	2019.69	28.39	1.49	
8030.00	91.51	342.57	6601.09	1836.99	941.58	1763.10	2064.25	27.14	.75	
8093.00	92.25	342.05	6599.02	1896.98	922.45	1824.33	2109.37	25.93	1.44	
8157.00	91.21	341.52	6597.09	1957.75	902.45	1886.39	2155.73	24.75	1.82	
8221.00	91.11	343.12	6595.79	2018.71	883.02	1948.62	2203.39	23.63	2.50	
8284.00	92.01	343.13	6594.08	2078.97	864.74	2010.06	2251.64	22.58	1.43	
8348.00	90.97	342.66	6592.42	2140.12	845.92	2072.42	2301.24	21.57	1.78	
8412.00	91.31	342.39	6591.14	2201.15	826.71	2134.70	2351.28	20.59	.68	
8476.00	90.10	342.56	6590.35	2262.18	807.44	2196.97	2401.96	19.64	1.91	
8539.00	89.80	342.35	6590.41	2322.25	788.44	2258.27	2452.44	18.75	.58	
8603.00	90.50	341.55	6590.24	2383.10	768.61	2320.40	2503.98	17.88	1.66	
8666.00	91.11	341.64	6589.36	2442.87	748.73	2381.47	2555.03	17.04	.98	
8730.00	89.70	340.88	6588.90	2503.47	728.17	2443.42	2607.22	16.22	2.50	
8793.00	89.09	340.73	6589.57	2562.97	707.45	2504.27	2658.81	15.43	1.00	
8857.00	89.87	339.77	6590.15	2623.20	685.83	2565.92	2711.37	14.65	1.93	
8921.00	90.47	339.86	6589.96	2683.27	663.74	2627.45	2764.14	13.89	.95	
8984.00	91.28	338.98	6589.00	2742.24	641.60	2687.88	2816.30	13.17	1.90	

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	
9048.00	90.40	339.46	6588.06	2802.07	618.90	2749.22	2869.60	12.46	1.57
9111.00	90.60	339.59	6587.51	2861.08	596.86	2809.69	2922.68	11.78	.38
9174.00	89.83	340.28	6587.27	2920.26	575.25	2870.29	2976.38	11.14	1.64
9238.00	89.63	340.68	6587.58	2980.58	553.86	2932.01	3031.60	10.53	.70
9302.00	90.50	339.83	6587.50	3040.82	532.24	2993.67	3087.05	9.93	1.90
9365.00	91.48	340.13	6586.42	3100.00	510.68	3054.27	3141.78	9.35	1.63
9429.00	90.57	340.70	6585.27	3160.29	489.23	3115.97	3197.93	8.80	1.68
9492.00	90.40	341.31	6584.74	3219.85	468.72	3176.88	3253.79	8.28	1.01
9556.00	90.37	341.32	6584.31	3280.48	448.22	3238.84	3310.96	7.78	.05
9619.00	90.07	342.21	6584.06	3340.31	428.51	3299.96	3367.69	7.31	1.49
9683.00	89.50	343.49	6584.31	3401.47	409.64	3362.33	3426.04	6.87	2.19
9747.00	90.60	343.42	6584.25	3462.82	391.41	3424.85	3484.87	6.45	1.72
9810.00	91.64	343.16	6583.02	3523.14	373.30	3486.34	3542.86	6.05	1.70
9874.00	91.17	343.04	6581.45	3584.36	354.70	3548.76	3601.87	5.65	.76
9938.00	90.67	341.66	6580.42	3645.34	335.30	3610.99	3660.73	5.26	2.29
10001.00	91.41	340.99	6579.28	3705.01	315.13	3671.98	3718.39	4.86	1.58
10065.00	90.84	340.85	6578.02	3765.48	294.21	3733.82	3776.96	4.47	.92
10129.00	91.17	340.51	6576.90	3825.87	273.04	3795.60	3835.60	4.08	.74
10193.00	90.67	341.05	6575.87	3886.29	251.98	3857.40	3894.45	3.71	1.15
10255.00	90.40	341.41	6575.29	3944.99	232.03	3917.41	3951.81	3.37	.73
10319.00	90.84	341.37	6574.60	4005.64	211.61	3979.39	4011.23	3.02	.69
10383.00	90.13	342.67	6574.06	4066.51	191.85	4041.54	4071.04	2.70	2.31
10446.00	90.23	343.43	6573.86	4126.78	173.49	4102.99	4130.42	2.41	1.22
10510.00	91.04	342.90	6573.15	4188.03	154.95	4165.43	4190.90	2.12	1.51
10574.00	89.30	343.15	6572.96	4249.24	136.27	4227.85	4251.42	1.84	2.75
10638.00	89.03	343.06	6573.89	4310.47	117.67	4290.28	4312.08	1.56	.44
Bottom Line									
10701.00	89.63	343.30	6574.63	4370.77	99.44	4351.75	4371.90	1.30	1.03
10765.00	90.37	342.25	6574.63	4431.90	80.49	4414.10	4432.63	1.04	2.01
10828.00	91.01	342.30	6573.87	4491.90	61.31	4475.35	4492.32	.78	1.02
10892.00	91.78	341.69	6572.31	4552.75	41.53	4537.48	4552.94	.52	1.53
10956.00	91.21	341.11	6570.64	4613.39	21.13	4599.45	4613.43	.26	1.27
11019.00	90.94	341.18	6569.46	4672.99	.77	4660.39	4672.99	.01	.44
11083.00	92.52	341.10	6567.53	4733.53	-19.91	4722.28	4733.57	359.76	2.47

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	
11147.00	93.63	341.60	6564.10	4794.08	-40.34	4784.16	4794.25	359.52	1.90
11211.00	91.01	340.87	6561.51	4854.62	-60.91	4846.05	4855.00	359.28	4.25
11275.00	89.26	340.44	6561.35	4915.01	-82.11	4907.82	4915.69	359.04	2.82
11338.00	88.76	341.98	6562.44	4974.64	-102.40	4968.78	4975.69	358.82	2.57
11401.00	89.06	342.65	6563.64	5034.65	-121.54	5030.03	5036.12	358.62	1.17
11465.00	89.97	342.29	6564.18	5095.67	-140.81	5092.30	5097.62	358.42	1.53
11529.00	89.13	342.60	6564.69	5156.69	-160.11	5154.57	5159.18	358.22	1.40
11592.00	88.76	342.57	6565.85	5216.79	-178.97	5215.89	5219.86	358.04	.59
Bottom Line									
11656.00	88.62	342.01	6567.31	5277.74	-198.43	5278.10	5281.47	357.85	.90
11719.00	88.79	342.26	6568.73	5337.69	-217.75	5339.30	5342.13	357.66	.48
11783.00	89.63	341.80	6569.62	5398.56	-237.50	5401.46	5403.78	357.48	1.50
11847.00	90.23	342.02	6569.69	5459.40	-257.37	5463.59	5465.46	357.30	1.00
11910.00	89.53	342.34	6569.83	5519.38	-276.65	5524.81	5526.30	357.13	1.22
11974.00	89.77	343.63	6570.22	5580.57	-295.37	5587.22	5588.38	356.97	2.05
12037.00	90.57	343.48	6570.03	5640.99	-313.21	5648.78	5649.68	356.82	1.29
Bottom Line									
12100.00	89.87	344.24	6569.79	5701.51	-330.72	5710.42	5711.09	356.68	1.64
12164.00	89.56	345.72	6570.11	5763.32	-347.31	5773.28	5773.78	356.55	2.36
12227.00	88.22	345.21	6571.33	5824.29	-363.12	5835.24	5835.60	356.43	2.28
12291.00	87.85	345.63	6573.52	5886.19	-379.22	5898.16	5898.40	356.31	.87
12354.00	88.36	345.01	6575.60	5947.10	-395.17	5960.07	5960.22	356.20	1.27
12417.00	88.86	344.82	6577.13	6007.91	-411.56	6021.92	6021.99	356.08	.85
12481.00	89.56	343.42	6578.02	6069.46	-429.07	6084.59	6084.61	355.96	2.45
12535.00	89.93	343.12	6578.26	6121.18	-444.62	6137.30	6137.30	355.85	.88
Strait Line Projection To TD									
12588.00	89.93	343.12	6578.32	6171.89	-460.01	6189.01	6189.01	355.74	.00