



Company: QUICKSILVER RESOURCES  
 Lease/Well: PRICE UNIT/# 3-H  
 Location:  
 Rig Name: UNION 224  
 State/County: TEXAS/HOOD COUNTY  
 Latitude: 40.33  
 GRID North is 0.62 Degrees East of True North  
 VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : KB = 25 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01.ut  
 Minimum Curvature Method  
 Report Date/Time: 3/22/2011 / 13:13

Vaughn Energy Services  
 Rifle, Colorado  
 970-456-2071  
 Garry Fowler  
 Kissler 3-1/05-123-12282

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.34	279.71	100.00	0.05	-0.29	0.05	0.30	279.71	0.34
200.00	0.35	276.36	200.00	0.13	-0.89	0.13	0.90	278.56	0.02
300.00	0.38	278.86	300.00	0.22	-1.52	0.22	1.54	278.18	0.03
400.00	0.36	270.41	399.99	0.27	-2.16	0.27	2.18	277.17	0.06
500.00	0.42	268.93	499.99	0.27	-2.84	0.27	2.86	275.37	0.06
600.00	0.68	269.75	599.99	0.26	-3.80	0.26	3.81	273.88	0.26
700.00	0.77	265.70	699.98	0.20	-5.07	0.20	5.07	272.31	0.11
800.00	0.40	260.17	799.97	0.09	-6.09	0.09	6.09	270.89	0.38
900.00	0.35	226.55	899.97	-0.17	-6.65	-0.17	6.65	268.50	0.22
1000.00	0.63	224.97	999.97	-0.77	-7.26	-0.77	7.30	263.92	0.28
1100.00	0.46	227.38	1099.96	-1.43	-7.94	-1.43	8.07	259.77	0.17
1200.00	0.15	278.72	1199.96	-1.68	-8.37	-1.68	8.53	258.61	0.38
1300.00	0.23	277.48	1299.96	-1.64	-8.69	-1.64	8.84	259.32	0.08
1400.00	0.46	283.04	1399.96	-1.52	-9.27	-1.52	9.40	260.67	0.23
1500.00	0.81	321.95	1499.95	-0.88	-10.10	-0.88	10.14	265.04	0.54
1600.00	0.93	326.00	1599.94	0.35	-10.99	0.35	10.99	271.84	0.13
1700.00	1.04	329.82	1699.93	1.81	-11.90	1.81	12.04	278.66	0.13
1800.00	1.05	327.91	1799.91	3.38	-12.85	3.38	13.28	284.74	0.04
1900.00	1.08	290.89	1899.89	4.49	-14.22	4.49	14.91	287.54	0.68
2000.00	1.20	290.17	1999.87	5.19	-16.09	5.19	16.90	287.89	0.12
2100.00	1.57	293.17	2099.84	6.09	-18.33	6.09	19.32	288.39	0.38
2200.00	2.03	306.61	2199.80	7.69	-21.01	7.69	22.38	290.10	0.62
2300.00	2.04	317.66	2299.73	10.06	-23.63	10.06	25.69	293.06	0.39
2400.00	2.32	321.40	2399.66	12.96	-26.09	12.96	29.14	296.41	0.31
2500.00	2.05	334.47	2499.59	16.15	-28.13	16.15	32.44	299.87	0.57
2600.00	1.95	333.75	2599.53	19.29	-29.65	19.29	35.37	303.05	0.11
2700.00	1.82	314.77	2699.47	21.93	-31.52	21.93	38.40	304.82	0.63
2800.00	1.58	322.27	2799.43	24.14	-33.49	24.14	41.29	305.78	0.32
2900.00	1.58	322.72	2899.39	26.33	-35.18	26.33	43.94	306.81	0.01
3000.00	1.10	333.07	2999.36	28.28	-36.45	28.28	46.13	307.81	0.53
3100.00	1.09	339.11	3099.35	30.03	-37.22	30.03	47.82	308.89	0.12

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3200.00	1.09	358.71	3199.33	31.87	-37.58	31.87	49.27	310.30	0.37
3300.00	1.31	30.13	3299.31	33.81	-37.03	33.81	50.14	312.39	0.68
3400.00	1.57	47.94	3399.28	35.71	-35.44	35.71	50.31	315.22	0.51
3500.00	1.52	75.94	3499.24	36.95	-33.13	36.95	49.63	318.12	0.75
3600.00	1.56	76.61	3599.21	37.59	-30.52	37.59	48.42	320.93	0.04
3700.00	1.43	82.76	3699.17	38.06	-27.96	38.06	47.23	323.70	0.21
3800.00	1.15	85.07	3799.15	38.30	-25.73	38.30	46.14	326.11	0.28
3900.00	0.61	96.87	3899.13	38.33	-24.20	38.33	45.33	327.73	0.56
4000.00	0.22	92.82	3999.13	38.25	-23.48	38.25	44.89	328.45	0.40
4100.00	0.21	149.79	4099.13	38.09	-23.20	38.09	44.60	328.65	0.20
4200.00	0.27	157.05	4199.13	37.71	-23.02	37.71	44.18	328.60	0.07
4300.00	0.29	175.27	4299.13	37.24	-22.91	37.24	43.72	328.41	0.09
4400.00	0.53	173.28	4399.13	36.53	-22.83	36.53	43.08	327.99	0.25
4500.00	0.94	181.41	4499.12	35.24	-22.80	35.24	41.97	327.10	0.42
4600.00	0.93	183.20	4599.10	33.61	-22.86	33.61	40.65	325.78	0.03
4700.00	0.93	246.42	4699.09	32.48	-23.65	32.48	40.18	323.93	0.98
4800.00	1.11	243.62	4799.08	31.72	-25.27	31.72	40.55	321.46	0.19
4900.00	1.13	246.49	4899.06	30.89	-27.04	30.89	41.06	318.80	0.06
5000.00	1.29	262.10	4999.04	30.35	-29.06	30.35	42.02	316.24	0.36
5100.00	1.37	273.26	5099.01	30.26	-31.37	30.26	43.58	313.97	0.27
5200.00	1.32	294.37	5198.98	30.80	-33.61	30.80	45.59	312.51	0.49
5300.00	1.41	303.15	5298.95	31.95	-35.69	31.95	47.90	311.84	0.23
5400.00	1.60	315.81	5398.92	33.62	-37.69	33.62	50.51	311.74	0.38
5500.00	1.93	311.88	5498.87	35.75	-39.92	35.75	53.58	311.85	0.36
5600.00	1.97	313.47	5598.81	38.06	-42.42	38.06	56.99	311.90	0.07
5700.00	1.99	304.28	5698.75	40.22	-45.11	40.22	60.44	311.72	0.32
5800.00	2.40	301.56	5798.68	42.30	-48.33	42.30	64.23	311.19	0.42
5900.00	2.53	306.70	5898.59	44.72	-51.89	44.72	68.50	310.76	0.25
6000.00	2.20	303.90	5998.50	47.11	-55.25	47.11	72.61	310.45	0.34
6100.00	1.99	306.82	6098.44	49.22	-58.24	49.22	76.25	310.20	0.24
6200.00	1.52	301.27	6198.39	50.95	-60.76	50.95	79.29	309.98	0.50
6300.00	1.41	306.62	6298.36	52.37	-62.87	52.37	81.83	309.79	0.17
6400.00	1.41	304.94	6398.33	53.81	-64.87	53.81	84.28	309.67	0.04
6500.00	1.41	303.36	6498.30	55.19	-66.91	55.19	86.73	309.52	0.04
6600.00	1.33	331.54	6598.27	56.88	-68.49	56.88	89.03	309.71	0.67
6700.00	0.97	332.26	6698.25	58.65	-69.43	58.65	90.89	310.19	0.36
<div> <div>HORIZONTAL DISPLACEMENT IS</div> <div>90.89 FEET AT 310.19 DEGREES</div> </div>									