



Gyroscopic Survey Report
for
K.P. KAUFFMAN
1675 BROADWAY SUITE 2800
DENVER, CO 80202

Well Location	WELD COUNTY, CO
Well Name	SHELDON SICKLER #1
Rig Number	FMC 324
Survey Date	6/17/2014
Latitude	40.0893020°N
Longitude	104.8746520°W
North Reference	True North
Grid Correction	None
Depth Reference	GROUND LEVEL (4960.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 291.68Azim (deg)
Definitive Survey	SHELDON SICKLER #1
Operator(s)	C JAQUES

Well Notes

Survey Report

Well Name: SHELDON SICKLER #1
Survey: SHELDON SICKLER #1
Survey Date: 6/17/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
99.33	0.42	226.96	99.33	0.15	-0.25	-0.27	0.42	0.36	226.96
124.05	0.50	216.10	124.05	0.22	-0.40	-0.39	0.48	0.56	224.88
148.99	0.38	216.83	148.98	0.27	-0.55	-0.51	0.46	0.75	222.73
173.92	0.29	214.53	173.92	0.30	-0.67	-0.59	0.37	0.89	221.60
198.95	0.35	246.44	198.95	0.37	-0.75	-0.70	0.74	1.03	222.96
224.94	0.72	265.50	224.94	0.58	-0.80	-0.94	1.56	1.23	229.61
248.87	0.83	266.90	248.86	0.87	-0.82	-1.26	0.44	1.50	236.99
274.74	0.82	262.18	274.73	1.20	-0.85	-1.63	0.26	1.84	242.36
299.27	0.78	256.90	299.26	1.49	-0.91	-1.97	0.36	2.17	245.04
323.83	0.69	252.73	323.81	1.74	-1.00	-2.27	0.40	2.48	246.29
350.00	0.66	269.36	349.98	2.00	-1.05	-2.57	0.76	2.77	247.87
374.46	0.69	264.04	374.44	2.26	-1.06	-2.86	0.28	3.05	249.61
399.82	0.67	257.76	399.80	2.52	-1.11	-3.15	0.30	3.34	250.61
424.24	0.62	241.15	424.22	2.72	-1.20	-3.41	0.78	3.61	250.55
449.17	0.53	237.35	449.15	2.87	-1.33	-3.62	0.41	3.86	249.83
473.63	0.41	248.65	473.61	3.00	-1.42	-3.80	0.60	4.06	249.46
499.76	0.48	266.61	499.74	3.17	-1.46	-3.99	0.60	4.25	249.88
524.62	0.48	248.99	524.59	3.34	-1.51	-4.20	0.59	4.46	250.25
549.53	0.56	236.13	549.50	3.49	-1.61	-4.40	0.56	4.68	249.86
573.85	0.52	233.54	573.83	3.61	-1.74	-4.58	0.21	4.90	249.17
599.98	0.52	226.13	599.96	3.72	-1.90	-4.76	0.26	5.13	248.30
624.83	0.41	242.85	624.81	3.83	-2.01	-4.92	0.69	5.32	247.75
649.31	0.46	242.36	649.28	3.95	-2.10	-5.09	0.18	5.50	247.57
674.15	0.54	247.70	674.12	4.10	-2.19	-5.28	0.38	5.72	247.49
698.96	0.55	242.43	698.93	4.26	-2.29	-5.49	0.20	5.95	247.39
723.76	0.50	228.70	723.73	4.39	-2.42	-5.68	0.53	6.17	246.97
749.86	0.45	231.16	749.82	4.49	-2.56	-5.85	0.23	6.38	246.40
774.23	0.50	242.74	774.19	4.61	-2.66	-6.02	0.44	6.58	246.12
798.89	0.57	242.51	798.86	4.76	-2.77	-6.22	0.32	6.81	246.00
824.04	0.65	235.18	824.01	4.92	-2.91	-6.45	0.42	7.07	245.72
848.85	0.62	228.27	848.81	5.06	-3.08	-6.66	0.33	7.34	245.21
874.85	0.54	228.25	874.81	5.17	-3.25	-6.86	0.32	7.59	244.63
899.16	0.49	236.75	899.12	5.28	-3.38	-7.03	0.37	7.80	244.29
923.99	0.60	243.44	923.95	5.43	-3.50	-7.24	0.53	8.04	244.18
948.84	0.66	234.29	948.80	5.59	-3.64	-7.47	0.46	8.31	244.00

Survey Report

Well Name:		SHELDON SICKLER #1							
Survey:		SHELDON SICKLER #1							
Survey Date:		6/17/2014							
MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
974.85	0.62	228.43	974.80	5.74	-3.82	-7.69	0.28	8.59	243.58
999.19	0.53	230.90	999.15	5.85	-3.98	-7.88	0.41	8.83	243.20
1023.96	0.55	230.93	1023.91	5.97	-4.13	-8.06	0.08	9.06	242.88
1048.70	0.59	237.39	1048.66	6.10	-4.27	-8.26	0.30	9.30	242.66
1074.73	0.64	231.27	1074.68	6.25	-4.43	-8.49	0.32	9.58	242.41
1098.94	0.70	222.65	1098.89	6.37	-4.63	-8.69	0.48	9.85	241.97
1124.45	0.57	222.60	1124.40	6.47	-4.84	-8.88	0.50	10.11	241.44
1148.97	0.59	228.98	1148.92	6.57	-5.01	-9.06	0.27	10.35	241.07
1174.90	0.59	232.47	1174.85	6.70	-5.18	-9.27	0.14	10.61	240.81
1198.84	0.74	231.80	1198.78	6.84	-5.35	-9.49	0.61	10.89	240.59
1224.97	0.64	222.75	1224.92	6.98	-5.56	-9.72	0.54	11.19	240.23
1249.41	0.54	227.16	1249.35	7.07	-5.74	-9.89	0.46	11.44	239.89
1274.91	0.47	233.21	1274.84	7.18	-5.88	-10.07	0.34	11.66	239.70
1299.10	0.53	243.64	1299.04	7.31	-5.99	-10.25	0.45	11.87	239.69
1324.81	0.66	234.91	1324.75	7.47	-6.13	-10.47	0.60	12.14	239.67
1349.32	0.57	254.96	1349.26	7.64	-6.24	-10.71	0.94	12.39	239.76
1374.29	0.63	230.91	1374.22	7.81	-6.36	-10.94	1.03	12.65	239.82
1399.17	0.48	233.99	1399.10	7.93	-6.51	-11.13	0.62	12.89	239.67
1423.49	0.45	243.87	1423.42	8.05	-6.61	-11.29	0.36	13.09	239.66
1449.46	0.50	239.52	1449.39	8.19	-6.71	-11.48	0.25	13.30	239.69
1474.19	0.54	232.84	1474.12	8.32	-6.84	-11.67	0.29	13.52	239.63
1498.99	0.49	232.34	1498.92	8.43	-6.97	-11.85	0.18	13.75	239.52
1524.96	0.47	223.43	1524.89	8.53	-7.12	-12.01	0.30	13.96	239.34
1549.25	0.41	236.45	1549.18	8.61	-7.24	-12.15	0.48	14.14	239.21
1574.38	0.46	246.79	1574.31	8.74	-7.33	-12.32	0.38	14.33	239.25
1599.13	0.56	236.46	1599.05	8.88	-7.43	-12.51	0.54	14.55	239.27
1624.98	0.54	224.67	1624.91	9.00	-7.59	-12.70	0.44	14.80	239.13
1649.61	0.46	219.26	1649.53	9.07	-7.75	-12.85	0.38	15.00	238.89
1673.70	0.42	230.89	1673.62	9.14	-7.88	-12.97	0.41	15.18	238.72
1699.69	0.48	246.64	1699.61	9.27	-7.98	-13.15	0.52	15.38	238.73
1724.30	0.52	242.93	1724.22	9.41	-8.08	-13.34	0.23	15.60	238.81
1749.42	0.53	237.87	1749.34	9.56	-8.19	-13.54	0.19	15.83	238.83
1773.98	0.52	228.27	1773.90	9.68	-8.33	-13.72	0.36	16.05	238.75
1799.85	0.47	233.41	1799.77	9.78	-8.47	-13.90	0.27	16.27	238.64
1824.36	0.49	239.43	1824.27	9.90	-8.58	-14.07	0.22	16.48	238.62
1848.44	0.54	250.85	1848.36	10.05	-8.67	-14.26	0.47	16.69	238.70

Survey Report

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Survey Date:		6/17/2014							
MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
1874.17	0.64	243.74	1874.08	10.24	-8.77	-14.50	0.50	16.95	238.83
1899.88	0.63	237.41	1899.79	10.41	-8.91	-14.75	0.28	17.24	238.86
1924.82	0.57	230.16	1924.73	10.55	-9.07	-14.96	0.37	17.49	238.79
1949.37	0.50	246.97	1949.28	10.69	-9.19	-15.15	0.70	17.72	238.78
1974.11	0.54	252.17	1974.02	10.85	-9.26	-15.36	0.28	17.94	238.91
1999.52	0.65	252.63	1999.43	11.06	-9.34	-15.62	0.42	18.20	239.11
2024.27	0.67	243.75	2024.17	11.27	-9.45	-15.88	0.42	18.48	239.25
2049.07	0.65	243.55	2048.97	11.46	-9.58	-16.14	0.09	18.77	239.31
2073.36	0.55	258.34	2073.27	11.65	-9.66	-16.37	0.76	19.01	239.46
2099.31	0.59	255.08	2099.21	11.86	-9.72	-16.62	0.20	19.26	239.68
2124.02	0.75	265.50	2123.93	12.10	-9.77	-16.91	0.81	19.52	239.99
2149.98	0.79	254.55	2149.88	12.40	-9.83	-17.25	0.59	19.85	240.33
2174.75	0.79	250.50	2174.64	12.66	-9.93	-17.57	0.23	20.18	240.53
2198.20	0.73	262.89	2198.10	12.91	-10.00	-17.87	0.74	20.48	240.77
2223.73	0.68	257.32	2223.62	13.18	-10.06	-18.18	0.34	20.78	241.06
2249.66	0.80	263.83	2249.55	13.47	-10.11	-18.51	0.56	21.09	241.37
2274.26	0.87	282.78	2274.14	13.81	-10.09	-18.87	1.15	21.39	241.87
2299.33	0.87	258.69	2299.21	14.15	-10.08	-19.24	1.45	21.72	242.35
2324.97	0.75	253.40	2324.85	14.45	-10.17	-19.59	0.55	22.07	242.57
2349.26	0.59	265.19	2349.14	14.69	-10.22	-19.87	0.88	22.35	242.77
2374.75	0.66	278.45	2374.62	14.95	-10.21	-20.15	0.62	22.59	243.12
2398.96	0.71	285.25	2398.84	15.23	-10.15	-20.43	0.41	22.81	243.57
2423.65	0.72	274.66	2423.52	15.53	-10.10	-20.73	0.54	23.06	244.03
2449.86	0.67	271.29	2449.73	15.84	-10.08	-21.05	0.25	23.34	244.40
2474.42	0.44	269.66	2474.29	16.06	-10.08	-21.29	0.93	23.56	244.66
2499.21	0.70	269.23	2499.08	16.29	-10.08	-21.54	1.05	23.78	244.91
2524.32	0.60	282.75	2524.19	16.56	-10.06	-21.82	0.73	24.03	245.26
2548.90	0.69	273.04	2548.77	16.83	-10.02	-22.09	0.56	24.26	245.60
2574.39	0.89	277.39	2574.25	17.17	-9.99	-22.44	0.83	24.57	246.01
2599.05	0.70	274.58	2598.91	17.50	-9.95	-22.78	0.80	24.86	246.41
2623.78	0.75	278.23	2623.64	17.80	-9.91	-23.09	0.28	25.13	246.77
2648.88	0.79	287.91	2648.73	18.13	-9.84	-23.42	0.54	25.40	247.22
2674.77	0.84	297.52	2674.62	18.49	-9.70	-23.76	0.56	25.66	247.80
2699.44	1.00	289.42	2699.30	18.89	-9.54	-24.12	0.85	25.94	248.42
2724.11	1.08	283.22	2723.96	19.34	-9.42	-24.55	0.54	26.30	249.02
2749.38	1.03	279.16	2749.22	19.79	-9.33	-25.01	0.35	26.69	249.55

Survey Report

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
2773.60	1.01	278.61	2773.44	20.21	-9.26	-25.43	0.09	27.07	250.00
2799.36	0.97	286.88	2799.19	20.65	-9.16	-25.86	0.57	27.44	250.50
2824.18	1.00	285.22	2824.01	21.07	-9.04	-26.28	0.18	27.79	251.01
2848.79	1.16	282.83	2848.62	21.54	-8.93	-26.73	0.66	28.18	251.52
2874.67	1.16	280.54	2874.50	22.05	-8.83	-27.24	0.18	28.63	252.05
2898.89	1.11	273.52	2898.71	22.51	-8.77	-27.71	0.61	29.07	252.45
2924.76	1.07	274.41	2924.58	22.98	-8.73	-28.21	0.18	29.53	252.80
2949.47	1.07	273.59	2949.28	23.42	-8.70	-28.66	0.06	29.96	253.12
2974.08	0.94	284.51	2973.88	23.84	-8.64	-29.09	0.93	30.34	253.47
2999.03	1.08	278.46	2998.83	24.27	-8.55	-29.52	0.71	30.73	253.85
3024.94	1.07	270.55	3024.74	24.73	-8.51	-30.00	0.57	31.18	254.16
3049.54	1.06	270.34	3049.33	25.16	-8.51	-30.46	0.02	31.62	254.39
3073.71	1.00	263.90	3073.50	25.55	-8.53	-30.89	0.55	32.05	254.57
3099.59	0.88	274.21	3099.38	25.94	-8.54	-31.31	0.78	32.46	254.75
3124.17	0.95	283.94	3123.96	26.33	-8.48	-31.70	0.69	32.81	255.03
3149.97	1.06	281.89	3149.74	26.77	-8.37	-32.14	0.44	33.21	255.40
3174.49	1.21	283.36	3174.27	27.25	-8.27	-32.62	0.63	33.65	255.78
3199.83	1.15	281.54	3199.60	27.77	-8.16	-33.13	0.27	34.11	256.17
3224.01	0.87	279.91	3223.77	28.19	-8.07	-33.55	1.16	34.50	256.47
3249.35	0.83	273.65	3249.11	28.55	-8.03	-33.92	0.41	34.86	256.68
3274.73	0.75	279.33	3274.49	28.89	-7.99	-34.27	0.43	35.19	256.87
3298.82	0.79	292.44	3298.58	29.21	-7.90	-34.58	0.75	35.47	257.13
3323.73	0.96	291.63	3323.49	29.59	-7.76	-34.93	0.67	35.78	257.48
3349.06	0.90	290.43	3348.81	30.00	-7.61	-35.31	0.23	36.12	257.84
3374.40	1.07	285.45	3374.15	30.44	-7.48	-35.73	0.74	36.50	258.18
3399.74	0.95	289.22	3399.48	30.88	-7.35	-36.16	0.53	36.89	258.51
3423.93	0.83	295.96	3423.67	31.26	-7.20	-36.50	0.68	37.21	258.84
3449.24	0.90	306.29	3448.98	31.63	-7.01	-36.83	0.67	37.49	259.23
3474.14	1.11	309.35	3473.88	32.05	-6.74	-37.17	0.87	37.78	259.73
3498.63	1.21	301.53	3498.36	32.53	-6.45	-37.57	0.78	38.12	260.26
3523.88	1.18	303.72	3523.61	33.05	-6.17	-38.02	0.24	38.52	260.78
3548.84	1.17	296.18	3548.56	33.55	-5.91	-38.46	0.62	38.91	261.26
3574.21	1.19	307.10	3573.92	34.07	-5.64	-38.90	0.89	39.31	261.75
3599.12	1.26	310.76	3598.83	34.58	-5.30	-39.32	0.43	39.67	262.32
3624.45	1.49	309.88	3624.15	35.15	-4.91	-39.78	0.88	40.08	262.96
3649.79	1.47	307.80	3649.49	35.78	-4.50	-40.29	0.23	40.54	263.62

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
3675.00	1.60	307.16	3674.68	36.42	-4.09	-40.83	0.53	41.03	264.28
3699.10	1.72	311.07	3698.77	37.09	-3.65	-41.37	0.70	41.53	264.96
3724.28	1.41	310.33	3723.94	37.74	-3.20	-41.89	1.24	42.01	265.63
3749.53	1.51	321.56	3749.19	38.33	-2.74	-42.33	1.20	42.42	266.30
3774.38	1.93	324.55	3774.02	38.96	-2.14	-42.78	1.70	42.83	267.13
3799.36	1.82	324.75	3798.99	39.65	-1.48	-43.25	0.42	43.28	268.05
3824.61	1.74	323.05	3824.23	40.31	-0.84	-43.71	0.39	43.72	268.90
3849.72	1.73	327.22	3849.33	40.94	-0.22	-44.15	0.50	44.15	269.72
3874.86	1.67	328.88	3874.45	41.55	0.42	-44.54	0.32	44.55	270.53
3898.92	1.63	333.31	3898.50	42.08	1.02	-44.88	0.55	44.89	271.30
3923.54	1.60	337.84	3923.12	42.58	1.65	-45.17	0.54	45.20	272.10
3949.81	1.53	341.29	3949.38	43.06	2.33	-45.42	0.44	45.48	272.93
3974.96	1.44	341.94	3974.52	43.48	2.95	-45.62	0.36	45.72	273.70
3999.99	1.39	341.23	3999.54	43.88	3.54	-45.82	0.21	45.96	274.41
4023.91	1.29	346.45	4023.45	44.23	4.07	-45.98	0.68	46.16	275.06
4048.91	1.21	349.30	4048.44	44.53	4.60	-46.09	0.40	46.32	275.70
4074.06	1.29	352.25	4073.59	44.81	5.14	-46.18	0.42	46.46	276.36
4098.58	1.42	348.55	4098.11	45.11	5.72	-46.28	0.65	46.63	277.04
4124.74	1.32	346.02	4124.25	45.47	6.33	-46.41	0.47	46.84	277.76
4149.40	1.27	346.07	4148.91	45.79	6.87	-46.55	0.20	47.05	278.39
4173.91	1.28	343.12	4173.42	46.12	7.39	-46.69	0.28	47.27	279.00
4199.66	1.31	348.20	4199.16	46.46	7.96	-46.84	0.46	47.51	279.64
4224.25	1.44	346.71	4223.74	46.79	8.53	-46.96	0.54	47.73	280.30
4249.84	1.55	344.28	4249.32	47.19	9.18	-47.13	0.50	48.02	281.02
4274.10	1.44	344.45	4273.57	47.57	9.79	-47.30	0.45	48.30	281.69
4299.43	1.41	347.98	4298.89	47.94	10.40	-47.45	0.37	48.58	282.36
4324.76	1.56	353.33	4324.22	48.27	11.05	-47.56	0.82	48.82	283.08
4348.56	1.66	346.95	4348.01	48.62	11.70	-47.67	0.87	49.09	283.79
4374.60	1.59	340.59	4374.03	49.08	12.41	-47.88	0.74	49.46	284.54
4399.60	1.50	345.08	4399.03	49.50	13.06	-48.08	0.62	49.82	285.19
4423.87	1.60	341.04	4423.29	49.91	13.68	-48.27	0.62	50.17	285.83
4449.86	1.67	339.48	4449.27	50.40	14.38	-48.52	0.32	50.61	286.51
4474.13	1.66	337.15	4473.53	50.88	15.04	-48.78	0.28	51.05	287.13
4498.52	1.59	329.92	4497.91	51.40	15.66	-49.09	0.89	51.52	287.69
4524.70	1.40	327.18	4524.08	51.94	16.24	-49.44	0.81	52.04	288.18
4549.78	1.26	334.67	4549.16	52.40	16.75	-49.73	0.87	52.47	288.61



Well Name: SHELDON SICKLER #1

Survey: SHELDON SICKLER #1

Survey Date: 6/17/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
4574.54	1.30	330.20	4573.91	52.82	17.24	-49.98	0.43	52.87	289.03
4598.91	1.47	327.29	4598.27	53.29	17.74	-50.29	0.75	53.33	289.43
4624.68	1.21	317.40	4624.03	53.80	18.22	-50.65	1.36	53.83	289.78
4648.80	1.39	336.96	4648.14	54.23	18.67	-50.94	1.96	54.25	290.13
4673.98	1.60	334.16	4673.32	54.71	19.27	-51.21	0.91	54.72	290.62
4699.33	1.51	330.07	4698.66	55.23	19.88	-51.53	0.57	55.24	291.10
4724.74	1.19	352.89	4724.06	55.62	20.43	-51.73	2.44	55.62	291.55
4731.99	1.18	347.97	4731.31	55.70	20.58	-51.76	1.41	55.70	291.68