



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

Well Location	WELD COUNTY, CO
Well Name	CARL R. DEEPE #2
Rig Number	
Survey Date	7/11/2014
Latitude	40.1177700°N
Longitude	104.8791700°W
North Reference	True North
Grid Correction	None
Depth Reference	GROUND LEVEL (4993.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 296.56Azim (deg)
Definitive Survey	CARL R. DEEPE #2
Operator(s)	C JAQUES

**Well Notes**

# Survey Report

**Well Name:** CARL R. DEEPE #2  
**Survey:** CARL R. DEEPE #2  
**Survey Date:** 7/11/2014

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
98.97	0.58	20.23	98.96	0.06	0.47	0.17	0.59	0.50	20.23
123.84	0.62	22.95	123.83	0.08	0.72	0.27	0.19	0.77	20.71
149.93	0.61	23.91	149.93	0.09	0.97	0.38	0.08	1.04	21.43
174.15	0.65	24.27	174.14	0.10	1.22	0.49	0.20	1.31	21.97
199.00	0.72	19.54	198.99	0.13	1.49	0.60	0.36	1.61	21.94
224.64	0.69	17.46	224.63	0.17	1.79	0.70	0.16	1.92	21.38
249.54	0.63	16.00	249.53	0.22	2.06	0.78	0.26	2.21	20.78
274.39	0.43	17.14	274.37	0.26	2.29	0.85	0.78	2.44	20.38
299.16	0.31	23.77	299.14	0.28	2.44	0.90	0.52	2.60	20.35
324.85	0.27	30.41	324.84	0.28	2.55	0.96	0.22	2.73	20.66
349.69	0.27	39.16	349.68	0.26	2.65	1.03	0.17	2.84	21.23
374.65	0.35	33.78	374.64	0.24	2.76	1.11	0.34	2.97	21.90
399.51	0.22	13.49	399.49	0.24	2.87	1.16	0.66	3.09	22.06
424.80	0.19	356.99	424.79	0.27	2.96	1.17	0.27	3.18	21.62
449.16	0.17	333.91	449.15	0.32	3.03	1.15	0.30	3.24	20.86
474.67	0.17	302.81	474.65	0.39	3.08	1.10	0.36	3.27	19.72
499.05	0.17	306.44	499.04	0.46	3.12	1.05	0.04	3.29	18.51
523.98	0.12	307.40	523.96	0.52	3.16	0.99	0.20	3.31	17.47
548.88	0.07	293.61	548.86	0.56	3.18	0.96	0.23	3.32	16.80
573.76	0.07	270.78	573.74	0.59	3.19	0.93	0.11	3.32	16.31
599.12	0.09	347.45	599.10	0.62	3.21	0.91	0.39	3.34	15.91
623.97	0.20	331.60	623.95	0.66	3.26	0.89	0.47	3.38	15.24
648.83	0.18	326.64	648.82	0.73	3.33	0.85	0.12	3.44	14.26
699.44	0.18	308.72	699.42	0.88	3.45	0.74	0.11	3.53	12.13
724.17	0.14	298.52	724.15	0.95	3.49	0.68	0.21	3.56	11.10
748.92	0.21	267.15	748.91	1.02	3.50	0.61	0.47	3.55	9.93
774.00	0.10	338.33	773.99	1.07	3.52	0.56	0.80	3.56	9.03
799.75	0.19	329.51	799.73	1.13	3.58	0.53	0.38	3.62	8.42
824.12	0.30	286.73	824.11	1.22	3.63	0.45	0.84	3.66	7.03
849.77	0.32	284.35	849.75	1.36	3.67	0.31	0.09	3.68	4.90
874.14	0.22	298.14	874.12	1.47	3.71	0.21	0.48	3.71	3.20
899.32	0.18	262.47	899.30	1.55	3.72	0.13	0.51	3.73	1.94
924.90	0.44	286.39	924.89	1.68	3.75	-0.01	1.14	3.75	359.88
949.08	0.41	279.87	949.07	1.86	3.79	-0.18	0.25	3.79	357.25
973.95	0.37	286.70	973.93	2.02	3.83	-0.34	0.24	3.84	354.85

# Survey Report

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**Survey Date:** 7/11/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
999.36	0.44	289.94	999.34	2.19	3.88	-0.51	0.29	3.92	352.47
1023.95	0.50	282.13	1023.93	2.39	3.94	-0.71	0.36	4.00	349.83
1049.66	0.59	284.26	1049.64	2.63	3.99	-0.94	0.37	4.10	346.69
1074.15	0.62	286.42	1074.13	2.88	4.06	-1.19	0.14	4.23	343.61
1099.37	0.62	280.59	1099.35	3.15	4.12	-1.46	0.25	4.38	340.51
1124.45	0.58	280.95	1124.43	3.40	4.17	-1.72	0.18	4.51	337.63
1149.88	0.63	271.74	1149.85	3.65	4.20	-1.98	0.44	4.65	334.74
1174.76	0.58	278.47	1174.73	3.90	4.22	-2.24	0.35	4.78	332.02
1199.20	0.47	277.45	1199.17	4.11	4.26	-2.47	0.44	4.92	329.91
1223.94	0.62	301.32	1223.91	4.34	4.34	-2.68	1.10	5.10	328.28
1249.67	0.61	316.54	1249.63	4.61	4.51	-2.90	0.64	5.36	327.31
1274.82	0.64	285.32	1274.79	4.87	4.65	-3.12	1.35	5.60	326.08
1298.82	0.68	274.26	1298.79	5.14	4.69	-3.40	0.55	5.79	324.10
1324.43	0.68	277.99	1324.40	5.42	4.73	-3.70	0.17	6.00	321.95
1349.14	0.64	282.95	1349.10	5.69	4.78	-3.98	0.28	6.21	320.22
1374.52	0.57	277.17	1374.48	5.95	4.82	-4.24	0.37	6.42	318.69
1399.76	0.54	276.13	1399.72	6.18	4.85	-4.48	0.11	6.60	317.27
1423.70	0.49	289.07	1423.66	6.38	4.90	-4.69	0.54	6.78	316.24
1449.90	0.57	293.57	1449.85	6.63	4.99	-4.92	0.37	7.00	315.41
1474.76	0.58	284.67	1474.71	6.87	5.07	-5.15	0.36	7.23	314.53
1499.16	0.66	286.37	1499.11	7.13	5.14	-5.41	0.33	7.46	313.55
1524.33	0.75	276.96	1524.28	7.43	5.20	-5.71	0.59	7.72	312.33
1549.48	0.71	284.39	1549.43	7.74	5.26	-6.02	0.42	7.99	311.12
1574.67	0.69	280.92	1574.62	8.04	5.33	-6.32	0.18	8.27	310.11
1599.00	0.69	274.74	1598.95	8.31	5.37	-6.61	0.31	8.51	309.06
1623.74	0.62	286.96	1623.69	8.58	5.42	-6.89	0.63	8.76	308.18
1649.75	0.63	281.59	1649.70	8.86	5.49	-7.16	0.23	9.02	307.45
1674.05	0.64	280.05	1673.99	9.12	5.54	-7.43	0.08	9.26	306.71
1698.86	0.67	284.03	1698.81	9.39	5.60	-7.70	0.23	9.52	306.00
1724.47	0.68	285.74	1724.40	9.69	5.67	-7.99	0.09	9.80	305.36
1749.25	0.75	283.36	1749.19	9.99	5.75	-8.29	0.30	10.09	304.74
1774.01	0.77	277.75	1773.94	10.31	5.81	-8.62	0.31	10.39	303.99
1798.83	0.83	285.44	1798.76	10.64	5.88	-8.96	0.49	10.71	303.29
1824.46	0.86	282.88	1824.38	11.01	5.97	-9.32	0.19	11.07	302.65
1849.14	0.81	298.39	1849.07	11.36	6.10	-9.65	0.93	11.42	302.27
1873.98	0.79	305.50	1873.90	11.71	6.28	-9.95	0.40	11.76	302.26

# Survey Report

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<b>Survey:</b>		CARL R. DEEPE #2							
<b>Survey Date:</b>		7/11/2014							
MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
1898.80	0.80	302.81	1898.72	12.05	6.47	-10.23	0.15	12.11	302.32
1924.06	0.77	305.57	1923.98	12.39	6.67	-10.52	0.18	12.45	302.37
1949.27	0.82	306.37	1949.18	12.74	6.87	-10.80	0.20	12.80	302.47
1974.05	0.87	306.68	1973.96	13.10	7.09	-11.10	0.19	13.17	302.58
1999.77	0.86	309.97	1999.69	13.48	7.33	-11.40	0.20	13.55	302.74
2023.64	0.82	316.59	2023.55	13.81	7.57	-11.65	0.43	13.90	303.00
2049.37	0.69	300.71	2049.28	14.14	7.78	-11.91	0.95	14.23	303.15
2074.70	0.69	323.88	2074.61	14.42	7.98	-12.14	1.09	14.53	303.34
2098.93	0.70	329.28	2098.83	14.68	8.23	-12.30	0.27	14.80	303.79
2124.36	0.62	319.84	2124.26	14.93	8.46	-12.46	0.53	15.07	304.18
2149.16	0.72	325.70	2149.06	15.19	8.69	-12.64	0.49	15.34	304.53
2174.20	0.73	327.19	2174.10	15.46	8.96	-12.81	0.10	15.63	304.96
2198.77	0.73	327.24	2198.67	15.73	9.22	-12.98	0.01	15.92	305.39
2224.34	0.72	327.39	2224.23	16.01	9.49	-13.15	0.05	16.22	305.82
2249.25	0.90	322.67	2249.14	16.32	9.78	-13.36	0.78	16.55	306.21
2274.96	0.81	326.42	2274.85	16.66	10.09	-13.58	0.43	16.92	306.61
2298.82	0.75	319.70	2298.71	16.95	10.35	-13.77	0.44	17.23	306.92
2323.94	0.82	324.25	2323.82	17.26	10.62	-13.98	0.37	17.56	307.21
2349.88	0.64	322.50	2349.76	17.55	10.89	-14.18	0.71	17.88	307.51
2374.17	0.57	320.68	2374.05	17.78	11.09	-14.34	0.27	18.13	307.71
2398.98	0.75	315.37	2398.86	18.05	11.30	-14.53	0.77	18.41	307.86
2424.11	0.71	323.37	2423.99	18.35	11.54	-14.74	0.45	18.72	308.06
2449.24	0.69	327.44	2449.11	18.61	11.79	-14.91	0.21	19.01	308.33
2473.95	0.69	343.12	2473.82	18.84	12.06	-15.04	0.76	19.27	308.72
2498.98	0.73	322.35	2498.85	19.09	12.33	-15.18	1.04	19.55	309.08
2524.26	0.72	341.74	2524.13	19.35	12.61	-15.33	0.97	19.85	309.44
2549.46	0.77	349.51	2549.33	19.56	12.92	-15.41	0.45	20.11	309.99
2572.72	0.54	333.32	2572.59	19.74	13.18	-15.49	1.25	20.33	310.39
2599.24	0.58	339.21	2599.10	19.94	13.41	-15.59	0.25	20.57	310.71
2624.77	0.79	342.85	2624.64	20.16	13.70	-15.69	0.83	20.83	311.14
2648.74	0.87	348.07	2648.60	20.39	14.04	-15.77	0.46	21.12	311.67
2674.62	0.88	349.95	2674.48	20.63	14.43	-15.85	0.12	21.43	312.31
2699.79	0.98	1.42	2699.64	20.83	14.83	-15.88	0.84	21.73	313.05
2724.93	1.02	0.76	2724.78	21.02	15.27	-15.87	0.17	22.02	313.90
2748.36	0.94	355.78	2748.20	21.21	15.67	-15.88	0.49	22.31	314.62
2774.37	0.86	358.11	2774.21	21.41	16.08	-15.90	0.34	22.62	315.32

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**Survey Date:** 7/11/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
2799.45	0.86	358.78	2799.30	21.59	16.46	-15.91	0.04	22.89	315.96
2824.06	1.09	353.54	2823.90	21.81	16.87	-15.94	1.00	23.21	316.63
2849.22	1.08	358.60	2849.05	22.05	17.35	-15.98	0.38	23.59	317.36
2874.40	1.06	355.47	2874.23	22.28	17.82	-16.00	0.25	23.95	318.08
2899.49	0.89	359.29	2899.32	22.49	18.25	-16.02	0.72	24.28	318.72
2924.15	0.84	3.84	2923.98	22.65	18.62	-16.01	0.36	24.56	319.31
2949.22	0.77	1.72	2949.04	22.79	18.97	-15.99	0.28	24.82	319.87
2974.37	0.81	6.92	2974.19	22.92	19.32	-15.97	0.31	25.06	320.43
2999.06	0.86	3.48	2998.88	23.05	19.68	-15.94	0.31	25.32	321.00
3024.18	0.78	7.88	3023.99	23.18	20.04	-15.90	0.40	25.58	321.56
3049.24	0.74	16.23	3049.05	23.26	20.36	-15.83	0.48	25.79	322.13
3073.73	0.68	14.35	3073.53	23.32	20.65	-15.75	0.27	25.97	322.67
3099.20	0.67	23.75	3099.01	23.36	20.94	-15.65	0.44	26.14	323.22
3123.69	0.51	17.84	3123.50	23.39	21.17	-15.56	0.71	26.28	323.68
3149.64	0.52	29.35	3149.45	23.40	21.38	-15.47	0.40	26.39	324.11
3174.21	0.81	41.33	3174.01	23.35	21.61	-15.30	1.30	26.48	324.70
3198.40	0.63	22.20	3198.20	23.32	21.86	-15.14	1.23	26.59	325.30
3224.28	0.43	9.87	3224.08	23.35	22.09	-15.07	0.89	26.74	325.70
3248.80	0.22	84.91	3248.60	23.34	22.18	-15.00	1.74	26.78	325.92
3274.61	0.24	124.12	3274.41	23.24	22.16	-14.91	0.60	26.71	326.06
3299.27	0.22	76.80	3299.07	23.16	22.14	-14.82	0.75	26.64	326.20
3324.61	0.66	60.98	3324.40	23.04	22.22	-14.65	1.78	26.61	326.61
3349.31	0.66	7.02	3349.11	23.00	22.43	-14.50	2.42	26.71	327.11
3373.99	0.25	338.66	3373.78	23.09	22.62	-14.51	1.86	26.87	327.33
3399.68	0.39	170.15	3399.47	23.08	22.59	-14.51	2.48	26.85	327.28
3424.00	0.11	111.13	3423.80	23.01	22.49	-14.48	1.45	26.75	327.24
3449.71	0.06	298.78	3449.51	23.00	22.49	-14.47	0.64	26.74	327.25
3474.74	0.19	185.27	3474.54	22.99	22.46	-14.48	0.89	26.72	327.19
3499.59	0.29	180.88	3499.39	22.95	22.35	-14.49	0.38	26.64	327.06
3524.22	0.35	188.99	3524.01	22.90	22.22	-14.50	0.30	26.53	326.87
3548.37	0.23	169.09	3548.16	22.85	22.10	-14.50	0.62	26.43	326.73
3574.32	0.58	206.18	3574.11	22.82	21.93	-14.55	1.60	26.32	326.44
3599.76	0.79	191.01	3599.55	22.77	21.64	-14.64	1.08	26.13	325.93
3624.47	0.87	223.91	3624.26	22.78	21.34	-14.80	1.93	25.97	325.26
3649.91	0.68	213.38	3649.70	22.86	21.08	-15.02	0.94	25.88	324.53
3674.64	0.73	206.69	3674.43	22.87	20.81	-15.17	0.39	25.75	323.91

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3699.19	0.75	221.23	3698.97	22.91	20.55	-15.34	0.76	25.65	323.25
3723.95	1.15	222.50	3723.73	23.02	20.25	-15.62	1.63	25.57	322.36
3749.26	0.58	176.26	3749.04	23.03	19.93	-15.78	3.39	25.42	321.63
3774.00	0.53	202.46	3773.77	22.96	19.70	-15.82	1.04	25.27	321.24
3799.76	0.83	220.17	3799.54	22.99	19.45	-15.98	1.42	25.18	320.59
3823.95	0.74	214.81	3823.72	23.06	19.19	-16.18	0.48	25.10	319.85
3849.70	0.67	210.49	3849.47	23.09	18.92	-16.36	0.35	25.01	319.16
3874.22	0.67	213.70	3873.99	23.12	18.68	-16.51	0.15	24.93	318.53
3899.55	0.82	225.08	3899.31	23.19	18.43	-16.72	0.83	24.88	317.79
3924.82	0.84	231.02	3924.58	23.33	18.19	-16.99	0.35	24.89	316.95
3948.98	0.70	226.77	3948.74	23.45	17.97	-17.24	0.61	24.90	316.20
3974.32	0.84	232.98	3974.08	23.59	17.75	-17.50	0.64	24.93	315.42
3999.71	0.80	231.07	3999.47	23.75	17.53	-17.78	0.20	24.97	314.59
4024.62	0.81	238.66	4024.37	23.91	17.33	-18.07	0.43	25.04	313.80
4048.73	0.85	235.58	4048.48	24.09	17.14	-18.36	0.27	25.12	313.03
4074.14	0.82	238.66	4073.89	24.28	16.94	-18.67	0.22	25.21	312.21
4099.46	0.87	235.64	4099.21	24.47	16.74	-18.99	0.27	25.31	311.39
4124.66	0.85	232.18	4124.40	24.64	16.51	-19.29	0.23	25.40	310.56
4149.78	0.84	237.23	4149.52	24.82	16.30	-19.60	0.30	25.49	309.75
4173.85	0.86	240.20	4173.59	25.01	16.11	-19.90	0.20	25.61	308.99
4199.18	0.89	241.22	4198.91	25.22	15.92	-20.24	0.15	25.75	308.19
4224.50	0.98	238.76	4224.23	25.45	15.72	-20.60	0.39	25.91	307.34
4249.87	0.97	238.07	4249.59	25.68	15.49	-20.97	0.07	26.07	306.45
4274.37	1.06	242.54	4274.09	25.92	15.28	-21.34	0.47	26.25	305.59
4299.71	1.11	243.98	4299.43	26.21	15.06	-21.77	0.26	26.47	304.67
4323.37	1.08	249.05	4323.08	26.50	14.88	-22.19	0.43	26.72	303.84
4349.44	1.16	255.57	4349.14	26.87	14.72	-22.68	0.58	27.04	303.00
4374.59	1.15	270.64	4374.30	27.29	14.66	-23.18	1.21	27.42	302.32
4399.44	1.28	268.89	4399.14	27.76	14.66	-23.70	0.55	27.87	301.74
4424.38	1.41	275.90	4424.07	28.29	14.69	-24.29	0.83	28.38	301.16
4448.82	1.48	281.80	4448.50	28.87	14.78	-24.89	0.67	28.95	300.70
4474.99	1.60	274.82	4474.66	29.54	14.88	-25.59	0.85	29.60	300.18
4499.47	1.66	280.05	4499.14	30.20	14.97	-26.27	0.67	30.24	299.68
4524.67	1.69	281.76	4524.33	30.91	15.11	-27.00	0.22	30.94	299.24
4549.90	1.82	274.36	4549.54	31.64	15.22	-27.76	1.04	31.66	298.73
4574.14	1.80	270.37	4573.77	32.33	15.25	-28.53	0.53	32.35	298.13

**Well Name:** CARL R. DEEPE #2  
**Survey:** CARL R. DEEPE #2  
**Survey Date:** 7/11/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
4624.26	2.01	278.91	4623.86	33.88	15.39	-30.18	0.70	33.88	297.02
4650.32	1.73	276.63	4649.91	34.68	15.51	-31.02	1.11	34.68	296.56