



Gyroscopic Survey Report
for
K.P. Kauffman

Well Location	Weld County, Colorado
Well Name	Carl A. Miller B #1
Rig Number	KPK 7
Survey Date	5/6/2014
Latitude	40.0746600°N
Longitude	104.9121600°W
North Reference	True North
Grid Correction	None
Depth Reference	Ground Level (5028.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 66.24Azim (deg)
Definitive Survey	CARL A MILLER B-1
Operator(s)	Jon Valenzuela

Well Notes

Survey Report

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	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
49.70	0.67	91.90	49.70	0.26	-0.01	0.29	1.36	0.29	91.90
98.25	0.68	117.31	98.24	0.70	-0.15	0.84	0.62	0.85	100.32
148.84	0.79	101.85	148.84	1.18	-0.36	1.45	0.45	1.49	104.07
198.99	1.20	72.81	198.98	1.98	-0.28	2.29	1.27	2.30	96.93
249.10	1.33	71.07	249.08	3.08	0.07	3.34	0.26	3.34	88.88
299.14	1.40	70.70	299.10	4.27	0.46	4.46	0.15	4.49	84.18
349.20	1.71	62.59	349.14	5.62	1.00	5.70	0.76	5.79	80.04
399.12	1.78	58.98	399.04	7.14	1.74	7.03	0.26	7.24	76.07
449.07	2.12	50.01	448.96	8.79	2.74	8.40	0.92	8.84	71.96
499.37	2.52	47.39	499.22	10.73	4.08	9.93	0.83	10.74	67.64
549.23	2.90	46.00	549.02	12.96	5.70	11.64	0.77	12.97	63.90
599.10	3.67	46.64	598.81	15.64	7.68	13.71	1.54	15.71	60.76
648.89	3.98	48.31	648.48	18.79	9.92	16.16	0.66	18.96	58.46
699.92	4.10	47.63	699.39	22.20	12.33	18.83	0.25	22.51	56.79
749.60	4.15	47.17	748.94	25.58	14.75	21.46	0.12	26.04	55.51
799.75	3.82	46.17	798.97	28.87	17.13	24.00	0.68	29.49	54.47
849.84	3.63	45.29	848.96	31.91	19.41	26.33	0.38	32.71	53.61
899.61	3.31	45.74	898.63	34.73	21.52	28.48	0.65	35.69	52.93
949.52	2.92	48.63	948.47	37.29	23.36	30.46	0.85	38.39	52.51
999.30	3.10	47.46	998.18	39.78	25.11	32.41	0.38	41.00	52.23
1049.04	3.01	47.50	1047.84	42.28	26.90	34.36	0.18	43.63	51.94
1099.80	2.91	49.03	1098.54	44.77	28.64	36.31	0.25	46.25	51.73
1149.96	2.79	50.13	1148.64	47.16	30.26	38.21	0.25	48.74	51.62
1199.68	2.80	50.62	1198.30	49.49	31.81	40.08	0.05	51.16	51.56
1249.22	2.65	54.82	1247.79	51.78	33.23	41.95	0.49	53.52	51.61
1298.90	2.64	56.87	1297.42	54.04	34.52	43.84	0.19	55.80	51.78
1349.73	2.62	58.62	1348.19	56.34	35.77	45.82	0.16	58.12	52.02
1399.28	2.60	63.43	1397.69	58.59	36.86	47.79	0.44	60.35	52.36
1449.23	2.72	64.25	1447.59	60.90	37.88	49.87	0.25	62.62	52.78
1499.24	2.59	65.99	1497.54	63.22	38.85	51.97	0.30	64.89	53.22
1549.98	2.49	71.16	1548.23	65.47	39.68	54.06	0.49	67.06	53.72
1599.06	2.23	74.84	1597.27	67.47	40.27	55.99	0.62	68.97	54.27
1649.09	2.21	78.45	1647.26	69.37	40.72	57.87	0.28	70.76	54.87
1698.34	1.94	80.92	1696.48	71.11	41.04	59.63	0.58	72.38	55.46
1749.22	1.81	84.43	1747.33	72.70	41.25	61.27	0.34	73.87	56.05

Survey Report

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Closure Distance ft	Closure Direction deg
1799.70	1.65	84.34	1797.79	74.15	41.40	62.79	0.31	75.21	56.60
1849.33	1.59	85.16	1847.40	75.48	41.53	64.19	0.13	76.45	57.10
1899.91	1.57	88.77	1897.96	76.79	41.61	65.58	0.20	77.67	57.61
1949.97	1.53	89.34	1948.00	78.04	41.63	66.94	0.09	78.83	58.12
1999.42	1.46	87.04	1997.43	79.23	41.67	68.23	0.18	79.95	58.59
2049.67	1.40	86.19	2047.67	80.41	41.74	69.48	0.13	81.06	59.00
2099.12	1.09	87.89	2097.11	81.42	41.80	70.56	0.63	82.01	59.36
2149.95	0.79	90.91	2147.93	82.19	41.81	71.39	0.60	82.73	59.64
2198.90	0.81	97.43	2196.87	82.79	41.76	72.07	0.19	83.30	59.91
2249.45	0.56	95.16	2247.42	83.31	41.69	72.67	0.50	83.78	60.16
2298.83	0.43	78.92	2296.80	83.70	41.71	73.10	0.39	84.16	60.29
2349.47	0.20	105.08	2347.44	83.96	41.72	73.36	0.53	84.40	60.37
2399.76	0.18	93.29	2397.73	84.09	41.69	73.53	0.08	84.53	60.44
2448.84	0.30	105.72	2446.80	84.26	41.65	73.73	0.26	84.68	60.53
2499.14	0.37	82.14	2497.11	84.52	41.64	74.01	0.30	84.92	60.64
2549.20	0.20	2.86	2547.17	84.71	41.75	74.18	0.77	85.12	60.63
2599.74	0.29	82.17	2597.71	84.87	41.85	74.31	0.63	85.28	60.61
2648.70	0.29	131.24	2646.67	85.04	41.79	74.52	0.49	85.44	60.72
2699.31	0.08	220.65	2697.27	85.07	41.68	74.60	0.59	85.45	60.81
2749.63	0.25	234.93	2747.59	84.93	41.59	74.49	0.34	85.31	60.82
2799.61	0.24	207.91	2797.58	84.74	41.43	74.35	0.23	85.11	60.87
2849.18	0.38	205.95	2847.15	84.53	41.19	74.23	0.28	84.89	60.97
2899.27	0.58	201.27	2897.24	84.22	40.80	74.06	0.40	84.56	61.15
2949.33	0.48	189.20	2947.29	83.93	40.36	73.93	0.30	84.23	61.37
2998.95	0.44	193.38	2996.90	83.70	39.97	73.86	0.10	83.98	61.58
3049.74	0.51	173.63	3047.69	83.51	39.55	73.84	0.35	83.76	61.82
3099.60	0.55	174.10	3097.56	83.37	39.09	73.89	0.07	83.59	62.12
3149.67	0.48	152.69	3147.62	83.31	38.67	74.01	0.40	83.50	62.41
3199.84	0.61	160.32	3197.79	83.31	38.23	74.19	0.30	83.46	62.74
3249.03	0.65	169.26	3246.97	83.23	37.71	74.33	0.22	83.35	63.10
3299.06	0.20	204.66	3297.01	83.10	37.35	74.35	1.01	83.20	63.32
3348.80	0.31	207.93	3346.75	82.92	37.15	74.25	0.23	83.03	63.42
3399.01	0.34	187.58	3396.95	82.74	36.89	74.16	0.23	82.83	63.56
3449.21	0.21	216.05	3447.15	82.58	36.67	74.09	0.36	82.67	63.67
3499.39	0.31	14.19	3497.33	82.59	36.72	74.07	1.02	82.67	63.63
3549.48	0.54	55.52	3547.43	82.90	36.99	74.30	0.74	83.00	63.54

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Closure Distance ft	Closure Direction deg
3599.56	0.80	58.46	3597.50	83.48	37.30	74.79	0.52	83.58	63.49
3649.45	0.51	60.58	3647.39	84.05	37.60	75.28	0.58	84.15	63.46
3699.55	0.60	68.90	3697.49	84.54	37.80	75.73	0.24	84.64	63.47
3749.47	0.69	65.01	3747.40	85.10	38.02	76.24	0.19	85.20	63.49
3798.89	0.29	64.17	3796.82	85.52	38.20	76.62	0.80	85.62	63.50
3849.48	0.37	84.28	3847.41	85.81	38.27	76.90	0.28	85.90	63.54
3899.49	0.66	76.78	3897.41	86.24	38.36	77.35	0.60	86.33	63.62
3948.50	0.54	126.46	3946.42	86.64	38.28	77.81	1.06	86.72	63.80
3999.35	0.55	137.94	3997.27	86.83	37.96	78.17	0.22	86.90	64.10
4049.34	0.54	172.31	4047.26	86.85	37.55	78.36	0.64	86.89	64.40
4098.83	0.30	162.86	4096.75	86.77	37.20	78.43	0.50	86.80	64.63
4148.57	0.21	128.63	4146.48	86.79	37.02	78.54	0.34	86.82	64.76
4199.24	0.44	188.05	4197.16	86.74	36.76	78.58	0.75	86.76	64.93
4249.87	0.41	203.22	4247.78	86.50	36.41	78.49	0.23	86.52	65.12
4299.07	0.29	218.80	4296.99	86.26	36.15	78.34	0.31	86.28	65.23
4349.55	0.45	181.58	4347.46	86.07	35.85	78.25	0.55	86.08	65.38
4399.87	0.27	232.98	4397.78	85.87	35.59	78.16	0.69	85.88	65.52
4448.74	0.32	188.97	4446.65	85.69	35.38	78.04	0.46	85.69	65.61
4499.37	0.29	222.80	4497.28	85.49	35.15	77.94	0.35	85.50	65.72
4548.98	0.29	165.55	4546.89	85.36	34.94	77.88	0.55	85.36	65.84
4599.50	0.59	220.75	4597.40	85.11	34.62	77.74	0.96	85.11	65.99
4649.78	0.43	221.08	4647.68	84.70	34.28	77.45	0.31	84.70	66.12
4671.64	0.79	177.10	4669.55	84.57	34.07	77.40	2.58	84.57	66.24