



Gyroscopic Survey Report
for
K.P. Kauffman

Well Location	Weld County, Colorado
Well Name	Pete Montoya #1
Rig Number	KPK 7
Survey Date	10/30/2014
Latitude	40.1003520°N
Longitude	104.8606720°W
North Reference	True North
Grid Correction	None
Depth Reference	Ground Level (4978.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 238.73Azim (deg)
Definitive Survey	PETE MONTOYA #1 (05-123-07667)
Operator(s)	Jon Valenzuela

Well Notes

API-05-123-07667

Survey Report

Well Name:		Pete Montoya #1							
Survey:		PETE MONTOYA #1 (05-123-07667)							
Survey Date:		10/30/2014							
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
50.17	0.75	109.32	50.17	-0.21	-0.11	0.31	1.50	0.33	109.32
73.36	0.76	102.17	73.36	-0.42	-0.19	0.61	0.41	0.64	107.58
99.59	0.74	112.68	99.59	-0.64	-0.29	0.93	0.53	0.98	107.50
122.32	0.79	119.59	122.31	-0.81	-0.43	1.20	0.47	1.28	109.57
149.38	0.79	112.34	149.37	-1.01	-0.59	1.54	0.37	1.65	111.01
172.59	0.82	100.48	172.58	-1.23	-0.68	1.85	0.73	1.97	110.24
199.65	0.80	89.26	199.63	-1.54	-0.72	2.23	0.59	2.34	107.79
222.18	0.69	91.80	222.17	-1.78	-0.72	2.52	0.51	2.62	105.88
249.25	0.60	90.20	249.23	-2.04	-0.72	2.83	0.34	2.92	104.35
272.22	0.46	98.44	272.20	-2.22	-0.74	3.04	0.68	3.13	103.64
298.12	0.48	107.90	298.10	-2.37	-0.79	3.25	0.31	3.34	103.62
324.57	0.53	118.08	324.55	-2.50	-0.88	3.46	0.38	3.57	104.24
347.40	0.54	128.27	347.38	-2.59	-1.00	3.64	0.42	3.77	105.29
373.93	0.60	129.46	373.90	-2.68	-1.16	3.84	0.25	4.02	106.79
396.07	0.58	121.30	396.04	-2.77	-1.29	4.03	0.39	4.23	107.78
422.55	0.58	125.29	422.52	-2.89	-1.44	4.26	0.15	4.49	108.71
448.98	0.58	131.70	448.95	-2.98	-1.61	4.47	0.25	4.75	109.80
471.78	0.62	143.63	471.75	-3.03	-1.78	4.63	0.57	4.96	111.09
497.57	0.68	152.77	497.54	-3.03	-2.03	4.78	0.47	5.19	113.04
523.76	0.79	154.29	523.73	-3.00	-2.33	4.93	0.42	5.45	115.34
546.44	0.84	152.67	546.40	-2.97	-2.62	5.07	0.25	5.71	117.34
573.00	0.93	155.36	572.96	-2.94	-2.99	5.25	0.35	6.04	119.67
598.73	1.01	148.91	598.68	-2.91	-3.37	5.46	0.53	6.41	121.74
624.91	1.04	142.62	624.86	-2.94	-3.76	5.72	0.45	6.84	123.33
646.61	1.00	139.39	646.56	-2.99	-4.06	5.96	0.33	7.21	124.26
671.77	1.01	142.17	671.72	-3.05	-4.40	6.24	0.20	7.64	125.20
699.63	0.93	140.93	699.58	-3.11	-4.77	6.53	0.29	8.09	126.14
724.95	0.93	144.49	724.89	-3.15	-5.10	6.78	0.23	8.48	126.93
746.63	0.91	146.34	746.57	-3.17	-5.38	6.98	0.15	8.81	127.64
771.78	1.04	155.50	771.72	-3.15	-5.76	7.18	0.82	9.21	128.71
796.67	1.07	157.11	796.60	-3.09	-6.18	7.37	0.16	9.61	129.98
824.79	1.11	157.59	824.72	-3.01	-6.67	7.57	0.13	10.09	131.37
849.81	1.19	161.12	849.73	-2.92	-7.14	7.75	0.44	10.54	132.65
874.83	1.29	166.08	874.74	-2.78	-7.66	7.90	0.59	11.00	134.11
898.71	1.48	175.36	898.62	-2.56	-8.23	7.99	1.21	11.47	135.83

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Survey Date: 10/30/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Closure Distance ft	Closure Direction deg
921.73	1.29	159.87	921.63	-2.38	-8.77	8.10	1.80	11.94	137.25
948.89	1.32	157.15	948.78	-2.27	-9.34	8.33	0.25	12.52	138.27
971.50	1.37	166.52	971.39	-2.15	-9.85	8.50	1.00	13.00	139.21
998.51	0.97	155.62	998.39	-2.03	-10.37	8.67	1.69	13.51	140.11
1021.82	1.08	166.40	1021.69	-1.94	-10.76	8.80	0.96	13.90	140.73
1048.83	0.96	161.84	1048.70	-1.81	-11.23	8.93	0.55	14.34	141.50
1071.37	0.95	163.88	1071.24	-1.72	-11.58	9.04	0.16	14.69	142.03
1098.34	0.96	164.15	1098.21	-1.60	-12.01	9.16	0.04	15.11	142.67
1121.51	0.94	170.72	1121.37	-1.47	-12.39	9.25	0.47	15.46	143.26
1148.01	0.91	173.26	1147.87	-1.31	-12.81	9.31	0.19	15.84	144.01
1173.95	0.92	175.61	1173.81	-1.13	-13.23	9.35	0.15	16.20	144.75
1196.80	1.05	176.00	1196.65	-0.95	-13.62	9.38	0.57	16.53	145.45
1223.31	1.00	175.13	1223.15	-0.73	-14.09	9.41	0.21	16.94	146.26
1249.07	0.98	176.66	1248.91	-0.53	-14.53	9.44	0.13	17.33	146.98
1271.93	1.04	178.63	1271.77	-0.34	-14.93	9.46	0.32	17.68	147.65
1298.44	0.91	180.23	1298.28	-0.11	-15.38	9.47	0.49	18.06	148.40
1324.91	0.83	188.18	1324.74	0.13	-15.78	9.44	0.54	18.39	149.13
1347.15	0.76	184.10	1346.98	0.31	-16.09	9.40	0.43	18.64	149.70
1373.63	0.67	190.64	1373.46	0.52	-16.42	9.36	0.45	18.90	150.31
1396.34	0.67	189.71	1396.16	0.69	-16.68	9.32	0.05	19.10	150.82
1422.77	0.61	191.26	1422.60	0.89	-16.97	9.26	0.25	19.33	151.38
1448.46	0.59	196.83	1448.28	1.08	-17.23	9.20	0.25	19.53	151.91
1471.44	0.60	205.43	1471.26	1.27	-17.45	9.11	0.40	19.69	152.44
1496.97	0.45	205.62	1496.80	1.47	-17.66	9.01	0.62	19.83	152.98
1524.93	0.49	216.17	1524.76	1.67	-17.86	8.89	0.35	19.95	153.53
1549.11	0.45	218.00	1548.93	1.85	-18.02	8.77	0.19	20.04	154.04
1573.19	0.49	215.44	1573.01	2.04	-18.18	8.65	0.21	20.13	154.54
1597.24	0.51	215.72	1597.06	2.23	-18.35	8.53	0.07	20.24	155.07
1621.34	0.56	209.46	1621.16	2.43	-18.54	8.41	0.30	20.36	155.60
1649.16	0.61	211.99	1648.98	2.68	-18.78	8.27	0.21	20.52	156.25
1673.95	0.55	203.37	1673.76	2.90	-19.00	8.15	0.43	20.68	156.79
1699.13	0.52	199.72	1698.94	3.08	-19.22	8.06	0.18	20.84	157.24
1723.07	0.60	201.26	1722.88	3.27	-19.44	7.98	0.36	21.01	157.67
1747.17	0.54	200.37	1746.98	3.46	-19.66	7.90	0.25	21.19	158.12
1771.70	0.48	197.92	1771.51	3.62	-19.87	7.82	0.28	21.35	158.50
1799.30	0.33	193.64	1799.11	3.77	-20.06	7.77	0.54	21.51	158.82

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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
1823.50	0.28	206.60	1823.31	3.87	-20.18	7.73	0.36	21.61	159.04
1847.70	0.10	190.79	1847.51	3.93	-20.25	7.70	0.76	21.66	159.19
1871.43	0.05	202.60	1871.24	3.95	-20.28	7.69	0.22	21.69	159.24
1898.93	0.15	312.67	1898.74	3.97	-20.27	7.66	0.63	21.67	159.30
1923.10	0.07	81.09	1922.91	3.97	-20.25	7.65	0.82	21.64	159.30
1948.32	0.12	334.55	1948.13	3.95	-20.22	7.65	0.60	21.62	159.27
1974.66	0.13	21.72	1974.47	3.93	-20.17	7.65	0.38	21.57	159.22
1996.29	0.12	343.18	1996.10	3.90	-20.12	7.66	0.38	21.53	159.17
2022.76	0.12	286.42	2022.57	3.91	-20.09	7.62	0.42	21.49	159.22
2048.05	0.19	291.27	2047.86	3.96	-20.07	7.56	0.31	21.44	159.36
2073.95	0.10	351.78	2073.76	3.97	-20.03	7.51	0.66	21.39	159.44
2099.27	0.18	243.29	2099.08	4.01	-20.03	7.47	0.91	21.38	159.53
2121.58	0.31	266.18	2121.39	4.09	-20.05	7.38	0.70	21.36	159.78
2147.49	0.40	268.38	2147.30	4.23	-20.05	7.22	0.38	21.32	160.19
2173.37	0.37	285.59	2173.17	4.37	-20.03	7.05	0.46	21.24	160.61
2199.25	0.42	274.80	2199.06	4.51	-20.00	6.87	0.35	21.15	161.04
2224.42	0.52	286.19	2224.23	4.66	-19.96	6.67	0.52	21.05	161.52
2246.71	0.40	285.05	2246.51	4.78	-19.92	6.50	0.52	20.95	161.92
2271.40	0.45	308.82	2271.21	4.87	-19.83	6.34	0.74	20.82	162.27
2297.27	0.36	297.42	2297.07	4.95	-19.73	6.19	0.48	20.68	162.58
2323.14	0.35	299.67	2322.94	5.03	-19.66	6.05	0.06	20.57	162.89
2348.99	0.48	314.43	2348.79	5.09	-19.54	5.91	0.66	20.41	163.19
2374.60	0.30	280.06	2374.41	5.17	-19.45	5.76	1.14	20.29	163.50
2396.36	0.36	310.50	2396.16	5.23	-19.40	5.66	0.85	20.21	163.75
2422.17	0.44	313.49	2421.98	5.29	-19.28	5.52	0.31	20.05	164.02
2447.97	0.47	313.20	2447.77	5.34	-19.14	5.37	0.10	19.88	164.32
2473.78	0.40	315.32	2473.58	5.39	-19.00	5.23	0.26	19.71	164.60
2499.09	0.46	327.97	2498.89	5.41	-18.85	5.12	0.44	19.53	164.82
2524.06	0.49	327.75	2523.85	5.41	-18.68	5.01	0.14	19.34	165.00
2549.94	0.41	312.31	2549.74	5.44	-18.52	4.88	0.56	19.15	165.24
2571.58	0.63	316.28	2571.38	5.49	-18.38	4.74	1.02	18.98	165.54
2597.35	0.47	324.65	2597.15	5.53	-18.19	4.58	0.67	18.76	165.87
2623.13	0.60	311.92	2622.93	5.58	-18.02	4.42	0.69	18.55	166.22
2648.91	0.62	316.89	2648.70	5.64	-17.82	4.22	0.22	18.32	166.68
2674.65	0.43	319.99	2674.44	5.69	-17.65	4.06	0.77	18.11	167.03
2699.62	0.77	324.09	2699.41	5.71	-17.44	3.91	1.40	17.87	167.38

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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
2721.93	0.64	321.02	2721.72	5.74	-17.22	3.74	0.63	17.62	167.75
2747.68	0.71	327.34	2747.47	5.77	-16.98	3.56	0.41	17.35	168.15
2774.01	0.81	316.47	2773.79	5.81	-16.70	3.35	0.67	17.04	168.67
2798.23	0.82	328.05	2798.01	5.85	-16.43	3.14	0.68	16.73	169.19
2823.54	0.85	334.76	2823.32	5.83	-16.11	2.96	0.41	16.38	169.59
2848.84	0.93	343.09	2848.61	5.76	-15.74	2.82	0.58	15.99	169.84
2874.13	0.76	340.29	2873.90	5.68	-15.39	2.70	0.69	15.62	170.03
2898.82	0.91	340.14	2898.59	5.60	-15.05	2.58	0.60	15.27	170.26
2924.08	1.10	328.97	2923.84	5.56	-14.66	2.39	1.10	14.85	170.74
2949.23	0.71	307.05	2948.99	5.62	-14.36	2.14	2.07	14.51	171.52
2974.56	1.25	341.69	2974.32	5.62	-14.00	1.93	3.09	14.13	172.15
2999.81	0.91	345.85	2999.56	5.49	-13.54	1.79	1.37	13.66	172.45
3024.44	1.00	349.33	3024.19	5.36	-13.14	1.71	0.42	13.25	172.60
3049.61	0.91	305.43	3049.35	5.36	-12.81	1.50	2.85	12.90	173.31
3074.80	1.03	333.53	3074.54	5.42	-12.49	1.24	1.93	12.55	174.33
3099.97	1.00	326.78	3099.71	5.41	-12.10	1.02	0.49	12.15	175.19
3124.58	0.97	336.40	3124.32	5.39	-11.73	0.82	0.68	11.76	176.02
3149.74	0.96	324.48	3149.48	5.38	-11.37	0.61	0.80	11.38	176.93
3174.90	0.84	311.09	3174.63	5.45	-11.07	0.35	0.96	11.08	178.20
3196.47	1.00	327.74	3196.20	5.50	-10.81	0.13	1.43	10.81	179.32
3224.59	0.84	323.05	3224.31	5.53	-10.44	-0.13	0.62	10.44	180.69
3249.69	0.98	322.90	3249.41	5.57	-10.12	-0.36	0.55	10.13	182.06
3274.60	0.82	313.33	3274.32	5.63	-9.83	-0.62	0.87	9.85	183.62
3299.89	1.10	322.66	3299.61	5.71	-9.51	-0.90	1.26	9.56	185.40
3324.99	0.81	315.32	3324.70	5.77	-9.20	-1.17	1.26	9.27	187.25
3349.50	1.16	311.03	3349.21	5.89	-8.91	-1.48	1.48	9.03	189.42
3374.00	0.95	323.68	3373.70	5.98	-8.59	-1.79	1.28	8.77	191.75
3399.04	1.46	333.86	3398.74	5.97	-8.13	-2.05	2.19	8.39	194.14
3423.91	1.38	300.42	3423.60	6.09	-7.70	-2.45	3.29	8.08	197.63
3448.56	0.52	326.48	3448.25	6.23	-7.45	-2.76	3.80	7.95	200.34
3473.62	1.22	317.16	3473.30	6.29	-7.16	-3.01	2.85	7.77	202.79
3498.63	1.09	309.34	3498.31	6.42	-6.82	-3.38	0.83	7.61	206.34
3523.65	0.61	321.98	3523.33	6.52	-6.56	-3.64	2.06	7.50	209.03
3547.97	1.43	318.74	3547.64	6.58	-6.23	-3.92	3.38	7.36	212.18
3572.73	0.53	292.35	3572.40	6.71	-5.96	-4.23	3.96	7.30	215.38
3597.80	0.80	318.79	3597.46	6.81	-5.78	-4.45	1.61	7.30	217.62

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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
3621.21	0.90	315.95	3620.88	6.87	-5.52	-4.69	0.44	7.25	220.33
3648.15	1.36	312.55	3647.81	7.01	-5.16	-5.07	1.73	7.23	224.53
3673.44	1.44	264.16	3673.09	7.38	-4.98	-5.61	4.54	7.50	228.37
3699.91	1.35	284.45	3699.55	7.90	-4.94	-6.24	1.89	7.96	231.63
3723.18	0.99	303.70	3722.82	8.18	-4.76	-6.67	2.28	8.20	234.50
3749.51	1.20	289.77	3749.14	8.45	-4.54	-7.12	1.29	8.45	237.48
3759.93	1.32	295.46	3759.56	8.58	-4.45	-7.33	1.65	8.58	238.73