



Gyroscopic Survey Report
for
KPK

Well Location	WELD
Well Name	UPPR 43 PAN AM 1 #8
Rig Number	
Survey Date	10/6/2014
Latitude	40.0674800°N
Longitude	104.9776010°W
North Reference	True North
Grid Correction	None
Depth Reference	GL (0.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 253.99Azim (deg)
Definitive Survey	UPPR 43 PAN AM I #48
Operator(s)	C KIRBY

Well Notes

API-05-123-09019

Survey Report

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Survey Date: 10/6/2014

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
87.99	0.49	75.31	87.99	-0.37	0.09	0.36	0.55	0.37	75.31
97.42	0.48	80.85	97.42	-0.45	0.11	0.44	0.51	0.45	75.79
122.36	0.59	66.86	122.36	-0.68	0.18	0.66	0.70	0.68	74.87
149.11	0.70	54.42	149.10	-0.98	0.33	0.92	0.65	0.98	70.40
173.37	0.79	49.19	173.37	-1.27	0.52	1.17	0.46	1.28	65.86
199.49	0.70	54.92	199.48	-1.58	0.73	1.43	0.43	1.61	62.94
223.50	0.81	50.74	223.49	-1.88	0.92	1.69	0.49	1.92	61.26
249.66	0.84	46.36	249.64	-2.21	1.17	1.97	0.26	2.29	59.19
274.39	0.77	42.54	274.38	-2.52	1.42	2.21	0.36	2.63	57.28
295.77	0.74	44.37	295.76	-2.76	1.62	2.40	0.16	2.90	55.96
321.98	0.79	43.39	321.96	-3.06	1.88	2.65	0.21	3.24	54.66
348.20	0.76	44.18	348.18	-3.37	2.13	2.89	0.15	3.59	53.59
373.85	0.78	45.51	373.82	-3.67	2.38	3.13	0.11	3.93	52.83
395.85	0.78	44.27	395.82	-3.93	2.59	3.35	0.08	4.23	52.27
422.25	0.77	44.76	422.22	-4.24	2.84	3.60	0.05	4.58	51.67
447.89	0.71	43.86	447.85	-4.53	3.08	3.83	0.23	4.91	51.17
474.10	0.59	45.54	474.07	-4.79	3.29	4.04	0.47	5.21	50.80
495.53	0.37	55.84	495.50	-4.95	3.41	4.17	1.10	5.39	50.75
521.77	0.26	60.98	521.74	-5.09	3.49	4.30	0.44	5.53	50.94
548.12	0.27	61.80	548.09	-5.21	3.54	4.40	0.07	5.65	51.17
573.74	0.26	87.25	573.70	-5.33	3.58	4.51	0.46	5.76	51.61
599.94	0.32	78.97	599.90	-5.46	3.59	4.64	0.29	5.87	52.28
622.02	0.32	78.52	621.98	-5.58	3.62	4.77	0.01	5.98	52.80
647.52	0.23	89.49	647.48	-5.70	3.63	4.89	0.41	6.09	53.38
673.71	0.10	69.72	673.68	-5.77	3.64	4.96	0.54	6.15	53.73
699.99	0.11	39.46	699.96	-5.82	3.67	5.00	0.22	6.20	53.73
721.20	0.08	75.69	721.17	-5.85	3.69	5.03	0.32	6.23	53.73
747.47	0.03	159.41	747.43	-5.87	3.69	5.05	0.32	6.25	53.86
773.68	0.07	49.77	773.64	-5.88	3.69	5.06	0.32	6.26	53.91
797.47	0.08	78.76	797.43	-5.91	3.70	5.09	0.17	6.29	53.97
821.57	0.08	105.95	821.54	-5.94	3.70	5.12	0.15	6.32	54.15
848.20	0.11	94.89	848.16	-5.98	3.69	5.16	0.13	6.35	54.42
872.06	0.04	243.25	872.02	-5.99	3.69	5.18	0.59	6.36	54.53
896.19	0.09	190.22	896.15	-5.98	3.67	5.17	0.31	6.34	54.64
924.10	0.04	181.31	924.06	-5.97	3.64	5.16	0.19	6.31	54.85

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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
947.46	0.10	262.62	947.43	-5.94	3.62	5.14	0.45	6.29	54.82
971.38	0.15	263.16	971.35	-5.89	3.62	5.09	0.21	6.24	54.58
999.33	0.30	230.83	999.30	-5.78	3.57	4.99	0.68	6.14	54.46
1024.29	0.21	271.02	1024.26	-5.68	3.53	4.90	0.78	6.04	54.24
1047.71	0.20	269.68	1047.67	-5.60	3.53	4.81	0.06	5.97	53.78
1074.55	0.32	250.35	1074.51	-5.48	3.50	4.70	0.55	5.86	53.30
1079.35	0.32	253.01	1079.31	-5.46	3.49	4.67	0.31	5.83	53.22
1098.79	0.32	245.30	1098.75	-5.35	3.46	4.57	0.22	5.73	52.93
1124.74	0.33	242.28	1124.70	-5.20	3.39	4.44	0.09	5.59	52.65
1147.07	0.35	239.09	1147.04	-5.07	3.33	4.33	0.13	5.46	52.45
1172.98	0.44	239.15	1172.94	-4.90	3.23	4.17	0.33	5.28	52.23
1199.58	0.43	236.29	1199.54	-4.71	3.13	4.00	0.09	5.08	52.01
1222.20	0.41	243.71	1222.16	-4.55	3.04	3.86	0.25	4.91	51.74
1248.13	0.46	243.81	1248.09	-4.36	2.96	3.68	0.19	4.72	51.25
1274.18	0.46	238.59	1274.14	-4.15	2.86	3.50	0.16	4.52	50.79
1295.83	0.41	249.67	1295.79	-3.99	2.78	3.36	0.45	4.36	50.31
1322.62	0.58	241.54	1322.57	-3.77	2.69	3.15	0.69	4.14	49.51
1349.30	0.59	244.14	1349.25	-3.50	2.56	2.91	0.10	3.88	48.59
1374.58	0.59	247.64	1374.53	-3.24	2.46	2.67	0.14	3.63	47.37
1397.04	0.73	244.32	1396.99	-2.99	2.35	2.43	0.64	3.38	45.98
1422.83	0.73	246.07	1422.78	-2.66	2.21	2.14	0.09	3.08	43.98
1449.46	0.73	244.06	1449.40	-2.33	2.07	1.83	0.10	2.76	41.46
1471.08	0.69	254.49	1471.03	-2.07	1.98	1.58	0.62	2.53	38.65
1498.06	0.71	251.13	1498.01	-1.74	1.88	1.27	0.16	2.27	33.97
1524.62	0.73	248.85	1524.57	-1.40	1.77	0.95	0.14	2.01	28.37
1546.21	0.77	243.75	1546.15	-1.12	1.65	0.69	0.37	1.79	22.82
1572.96	0.87	242.10	1572.90	-0.75	1.48	0.35	0.36	1.52	13.50
1599.69	0.75	249.96	1599.62	-0.38	1.32	0.01	0.59	1.32	0.51
1621.31	0.70	249.41	1621.24	-0.10	1.23	-0.25	0.23	1.25	348.70
1647.90	0.72	254.76	1647.83	0.23	1.13	-0.56	0.26	1.26	333.59
1674.61	0.74	257.98	1674.54	0.57	1.05	-0.89	0.17	1.37	319.57
1696.21	0.77	248.85	1696.13	0.85	0.96	-1.16	0.57	1.51	309.64
1722.78	0.81	249.07	1722.71	1.22	0.83	-1.51	0.15	1.72	298.91
1749.63	0.88	247.30	1749.56	1.61	0.69	-1.87	0.26	2.00	290.07
1771.47	0.88	249.41	1771.39	1.95	0.56	-2.18	0.15	2.26	284.42
1798.46	0.92	247.02	1798.37	2.37	0.40	-2.58	0.22	2.61	278.92

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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
1824.56	0.84	247.28	1824.47	2.76	0.25	-2.95	0.30	2.96	274.82
1846.73	0.80	249.78	1846.64	3.08	0.13	-3.24	0.26	3.24	272.34
1873.28	0.63	259.91	1873.19	3.41	0.04	-3.56	0.79	3.56	270.70
1899.13	0.69	256.13	1899.04	3.70	-0.02	-3.85	0.28	3.85	269.73
1921.33	0.64	256.92	1921.23	3.96	-0.08	-4.10	0.20	4.10	268.90
1947.02	0.68	267.54	1946.93	4.25	-0.12	-4.39	0.49	4.39	268.47
1973.54	0.65	270.15	1973.44	4.55	-0.12	-4.70	0.15	4.70	268.49
1999.95	0.82	258.81	1999.85	4.88	-0.16	-5.03	0.84	5.04	268.18
2021.52	0.71	264.75	2021.42	5.17	-0.20	-5.32	0.64	5.32	267.82
2047.98	0.59	259.36	2047.88	5.46	-0.24	-5.61	0.49	5.62	267.53
2074.53	0.62	263.85	2074.43	5.74	-0.28	-5.89	0.20	5.90	267.25
2096.03	0.52	246.73	2095.93	5.95	-0.33	-6.09	0.91	6.10	266.86
2121.65	0.58	245.63	2121.54	6.19	-0.43	-6.32	0.24	6.33	266.08
2147.62	0.47	229.18	2147.52	6.42	-0.56	-6.52	0.71	6.54	265.12
2174.07	0.43	226.15	2173.96	6.61	-0.70	-6.67	0.16	6.71	264.04
2196.39	0.48	217.32	2196.28	6.75	-0.83	-6.79	0.37	6.84	263.04
2222.12	0.48	208.25	2222.01	6.92	-1.01	-6.91	0.30	6.98	261.68
2248.62	0.52	200.49	2248.51	7.07	-1.22	-7.00	0.30	7.11	260.10
2270.80	0.50	197.55	2270.69	7.18	-1.41	-7.07	0.16	7.21	258.72
2296.51	0.57	200.12	2296.40	7.32	-1.64	-7.14	0.27	7.33	257.10
2323.09	0.65	204.97	2322.97	7.49	-1.90	-7.25	0.37	7.50	255.36
2349.53	0.66	203.16	2349.41	7.69	-2.17	-7.38	0.10	7.69	253.59
2371.13	0.74	197.80	2371.01	7.84	-2.42	-7.47	0.45	7.85	252.05
2397.57	0.76	200.12	2397.45	8.04	-2.75	-7.58	0.16	8.06	250.09
2423.42	0.74	194.75	2423.30	8.23	-3.07	-7.68	0.29	8.27	248.22
2449.82	0.90	192.35	2449.70	8.42	-3.44	-7.77	0.61	8.50	246.14
2471.88	0.87	188.77	2471.76	8.57	-3.77	-7.83	0.29	8.69	244.29
2498.60	0.76	202.54	2498.47	8.76	-4.13	-7.93	0.84	8.94	242.47
2521.30	0.76	201.28	2521.16	8.95	-4.41	-8.04	0.07	9.17	241.25
2548.20	0.77	196.59	2548.06	9.15	-4.75	-8.16	0.23	9.44	239.79
2571.07	0.64	193.71	2570.93	9.30	-5.02	-8.23	0.57	9.64	238.62
2598.45	0.47	186.81	2598.32	9.42	-5.28	-8.28	0.65	9.82	237.47
2624.65	0.41	173.82	2624.51	9.47	-5.48	-8.28	0.45	9.93	236.50
2647.15	0.29	126.61	2647.01	9.45	-5.60	-8.23	1.34	9.95	235.78
2673.37	0.38	111.78	2673.23	9.34	-5.67	-8.10	0.45	9.88	235.00
2696.61	0.36	108.97	2696.47	9.22	-5.72	-7.96	0.10	9.80	234.28

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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
2724.28	0.47	102.58	2724.14	9.05	-5.77	-7.76	0.42	9.67	233.36
2746.07	0.41	89.80	2745.93	8.90	-5.79	-7.60	0.53	9.56	232.68
2772.30	0.50	118.80	2772.16	8.73	-5.85	-7.41	0.94	9.44	231.70
2799.11	0.45	118.84	2798.96	8.57	-5.96	-7.21	0.19	9.35	230.43
2820.90	0.48	118.15	2820.75	8.45	-6.04	-7.05	0.13	9.29	229.42
2847.85	0.41	116.68	2847.70	8.29	-6.14	-6.87	0.27	9.21	228.22
2870.33	0.37	120.46	2870.19	8.19	-6.21	-6.73	0.19	9.16	227.32
2896.38	0.38	122.17	2896.23	8.07	-6.30	-6.59	0.04	9.11	226.28
2923.19	0.29	108.48	2923.04	7.95	-6.37	-6.45	0.44	9.06	225.36
2949.99	0.25	108.49	2949.84	7.85	-6.41	-6.33	0.14	9.01	224.65
2971.76	0.27	101.79	2971.61	7.77	-6.43	-6.23	0.17	8.96	224.09
2998.91	0.20	126.95	2998.76	7.68	-6.48	-6.13	0.46	8.92	223.44
3021.39	0.26	116.31	3021.24	7.62	-6.52	-6.05	0.33	8.90	222.87
3047.46	0.28	99.17	3047.31	7.52	-6.56	-5.94	0.31	8.85	222.16
3074.36	0.33	119.70	3074.21	7.40	-6.61	-5.81	0.44	8.80	221.32
3096.11	0.27	101.48	3095.97	7.32	-6.65	-5.70	0.51	8.76	220.63
3122.89	0.30	117.42	3122.74	7.21	-6.69	-5.58	0.32	8.71	219.82
3149.78	0.31	130.76	3149.63	7.12	-6.77	-5.46	0.26	8.70	218.89
3171.53	0.32	129.92	3171.38	7.05	-6.85	-5.37	0.06	8.70	218.10
3198.38	0.25	149.74	3198.23	6.99	-6.95	-5.28	0.45	8.73	217.25
3220.08	0.22	116.97	3219.93	6.95	-7.01	-5.22	0.62	8.74	216.70
3246.81	0.18	148.52	3246.66	6.91	-7.07	-5.16	0.42	8.75	216.12
3273.66	0.15	145.86	3273.51	6.88	-7.13	-5.12	0.12	8.77	215.66
3299.56	0.12	125.71	3299.41	6.86	-7.17	-5.07	0.20	8.79	215.28
3322.22	0.08	91.01	3322.07	6.83	-7.19	-5.04	0.32	8.78	215.04
3348.88	0.16	146.09	3348.73	6.80	-7.22	-5.00	0.50	8.78	214.71
3374.95	0.22	183.74	3374.80	6.80	-7.30	-4.98	0.52	8.84	214.32
3396.99	0.43	232.44	3396.84	6.89	-7.39	-5.05	1.49	8.95	214.35
3423.34	0.57	234.98	3423.18	7.11	-7.53	-5.24	0.53	9.17	214.83
3448.87	0.63	250.25	3448.72	7.37	-7.65	-5.47	0.67	9.40	215.59
3470.86	0.75	248.50	3470.70	7.63	-7.74	-5.72	0.54	9.62	216.46
3497.15	0.71	241.67	3496.99	7.96	-7.88	-6.02	0.36	9.92	217.39
3522.66	0.67	231.46	3522.50	8.25	-8.05	-6.28	0.51	10.21	217.95
3548.98	0.69	242.00	3548.82	8.55	-8.22	-6.54	0.48	10.50	218.50
3570.29	0.71	238.68	3570.13	8.80	-8.35	-6.76	0.21	10.74	219.02
3596.62	0.60	226.93	3596.46	9.08	-8.52	-7.00	0.66	11.03	219.40

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3622.83	0.71	217.56	3622.67	9.33	-8.75	-7.20	0.58	11.33	219.46
3648.30	0.85	209.69	3648.13	9.59	-9.03	-7.39	0.69	11.67	219.28
3674.47	0.97	215.96	3674.30	9.91	-9.38	-7.62	0.61	12.09	219.07
3696.66	0.94	211.92	3696.49	10.19	-9.69	-7.82	0.34	12.45	218.92
3722.23	0.87	218.35	3722.05	10.51	-10.02	-8.05	0.47	12.86	218.79
3748.48	0.91	213.59	3748.30	10.83	-10.35	-8.29	0.31	13.26	218.70
3774.63	0.81	217.07	3774.44	11.13	-10.67	-8.52	0.42	13.66	218.61
3795.83	0.93	211.15	3795.65	11.38	-10.94	-8.70	0.72	13.98	218.50
3822.01	0.87	210.21	3821.82	11.68	-11.29	-8.91	0.24	14.39	218.27
3847.41	1.05	211.14	3847.22	11.99	-11.66	-9.13	0.70	14.81	218.06
3873.62	1.17	211.14	3873.42	12.36	-12.10	-9.39	0.44	15.31	217.83
3895.77	1.06	218.84	3895.57	12.70	-12.45	-9.64	0.83	15.74	217.75
3921.88	0.94	215.66	3921.67	13.06	-12.81	-9.91	0.51	16.20	217.73
3948.70	1.03	209.82	3948.49	13.41	-13.20	-10.16	0.51	16.65	217.59
3971.33	1.18	209.46	3971.11	13.72	-13.58	-10.38	0.67	17.09	217.39
3997.42	1.23	215.29	3997.20	14.13	-14.04	-10.67	0.51	17.64	217.23
4024.47	0.98	215.11	4024.25	14.54	-14.47	-10.97	0.92	18.16	217.18
4046.98	0.98	221.44	4046.75	14.85	-14.77	-11.21	0.48	18.55	217.20
4073.06	0.71	210.77	4072.83	15.16	-15.08	-11.44	1.20	18.93	217.19
4099.96	0.80	210.39	4099.72	15.42	-15.38	-11.62	0.33	19.28	217.07
4121.71	0.81	218.27	4121.48	15.65	-15.64	-11.80	0.51	19.59	217.03
4148.35	0.61	228.12	4148.12	15.93	-15.88	-12.02	0.89	19.91	217.12
4174.66	0.52	239.91	4174.42	16.17	-16.03	-12.22	0.55	20.16	217.33
4196.07	0.44	247.73	4195.83	16.35	-16.11	-12.38	0.46	20.32	217.55
4222.51	0.42	242.37	4222.27	16.54	-16.19	-12.56	0.18	20.49	217.80
4248.83	0.36	253.89	4248.59	16.72	-16.26	-12.73	0.37	20.65	218.05
4274.40	0.39	262.61	4274.15	16.88	-16.29	-12.89	0.26	20.77	218.35
4296.59	0.47	260.21	4296.34	17.05	-16.32	-13.05	0.35	20.90	218.66
4322.06	0.38	276.75	4321.82	17.23	-16.33	-13.24	0.58	21.02	219.04
4348.36	0.28	283.40	4348.12	17.36	-16.30	-13.39	0.42	21.09	219.40
4370.67	0.44	323.46	4370.43	17.44	-16.22	-13.49	1.31	21.10	219.76
4396.39	0.36	318.50	4396.14	17.51	-16.08	-13.61	0.35	21.06	220.24
4422.69	0.60	338.37	4422.44	17.56	-15.89	-13.71	1.09	20.99	220.80
4449.82	0.77	343.98	4449.57	17.57	-15.58	-13.81	0.67	20.82	221.56
4474.83	1.11	345.71	4474.58	17.57	-15.18	-13.92	1.36	20.60	222.51
4496.91	1.29	352.03	4496.65	17.53	-14.73	-14.01	1.00	20.33	223.55

Well Name: UPPR 43 PAN AM 1 #8
Survey: UPPR 43 PAN AM I #48
Survey Date: 10/6/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Closure Distance ft	Closure Direction deg
4523.23	1.34	357.50	4522.97	17.41	-14.13	-14.06	0.53	19.94	224.86
4548.87	1.31	354.67	4548.60	17.29	-13.54	-14.10	0.30	19.55	226.16
4570.97	1.24	352.87	4570.70	17.21	-13.05	-14.15	0.33	19.25	227.32
4597.38	1.44	351.62	4597.10	17.12	-12.44	-14.24	0.77	18.91	228.86
4622.88	1.65	0.71	4622.59	16.97	-11.75	-14.28	1.26	18.49	230.55
4647.54	0.96	334.59	4647.25	16.90	-11.21	-14.37	3.63	18.22	232.04
4674.48	1.32	345.57	4674.18	16.93	-10.70	-14.54	1.54	18.05	233.64
4696.22	1.40	341.75	4695.91	16.93	-10.21	-14.69	0.56	17.89	235.19
4722.79	1.35	343.60	4722.48	16.95	-9.60	-14.88	0.25	17.70	237.16
4748.66	1.12	347.81	4748.34	16.93	-9.06	-15.01	0.94	17.54	238.89
4770.86	1.26	332.08	4770.53	16.97	-8.63	-15.17	1.59	17.46	240.36
4797.30	1.15	326.89	4796.97	17.11	-8.15	-15.46	0.57	17.48	242.18
4823.16	1.13	325.49	4822.82	17.26	-7.73	-15.74	0.15	17.54	243.85
4849.62	1.07	322.26	4849.28	17.44	-7.32	-16.04	0.32	17.63	245.48
4871.22	0.93	318.40	4870.87	17.59	-7.03	-16.28	0.73	17.73	246.65
4897.33	0.96	318.31	4896.98	17.77	-6.71	-16.57	0.14	17.87	247.96
4923.32	0.86	321.38	4922.97	17.94	-6.39	-16.83	0.45	18.00	249.21
4948.73	0.69	332.85	4948.38	18.04	-6.11	-17.02	0.89	18.08	250.26
4974.84	0.55	332.62	4974.48	18.10	-5.86	-17.15	0.54	18.12	251.15
4996.43	0.58	331.48	4996.07	18.14	-5.67	-17.25	0.14	18.16	251.81
5021.92	0.44	325.34	5021.56	18.20	-5.47	-17.37	0.58	18.21	252.51
5047.27	0.36	329.18	5046.91	18.25	-5.33	-17.46	0.35	18.26	253.04
5074.27	0.32	23.25	5073.91	18.23	-5.19	-17.48	1.14	18.23	253.47
5098.13	0.28	36.99	5097.77	18.14	-5.08	-17.42	0.34	18.14	253.74
5124.19	0.18	272.20	5123.83	18.13	-5.03	-17.42	1.56	18.13	253.90
5148.60	0.07	26.93	5148.24	18.15	-5.01	-17.45	0.90	18.15	253.98
5173.92	0.15	243.55	5173.56	18.17	-5.01	-17.47	0.85	18.17	254.00
5196.05	0.13	260.63	5195.69	18.23	-5.03	-17.52	0.21	18.23	253.99