



Gyroscopic Survey Report  
for  
KPK

Well Location	WELD COUNTY
Well Name	UPRR 43 PAN AM I #4
Rig Number	
Survey Date	11/6/2014
Latitude	40.0643220°N
Longitude	104.9633500°W
North Reference	True North
Grid Correction	None
Depth Reference	GL (5038.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 309.71Azim (deg)
Definitive Survey	UPRR 43 PAN AM I #4 (05-123-08661)
Operator(s)	C KIRBY

**Well Notes**

API 05-123-08661



Well Name: UPRR 43 PAN AM I #4  
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 Survey Date: 11/6/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
86.88	0.25	68.52	86.87	-0.09	0.07	0.18	0.19	68.52	0.29
124.65	0.16	67.26	124.65	-0.16	0.12	0.31	0.33	68.31	0.24
147.40	0.11	102.70	147.40	-0.19	0.13	0.36	0.38	70.10	0.43
174.63	0.11	125.13	174.63	-0.24	0.11	0.41	0.42	74.95	0.16
196.85	0.07	115.06	196.85	-0.28	0.09	0.44	0.44	78.16	0.19
224.16	0.10	111.44	224.16	-0.31	0.08	0.47	0.48	80.89	0.10
246.32	0.10	88.96	246.32	-0.35	0.07	0.51	0.51	82.26	0.18
273.57	0.11	78.41	273.57	-0.38	0.07	0.56	0.56	82.38	0.07
295.63	0.14	31.25	295.63	-0.39	0.10	0.59	0.60	80.23	0.47
323.41	0.19	318.44	323.41	-0.34	0.17	0.58	0.60	74.12	0.71
346.01	0.18	346.65	346.01	-0.28	0.23	0.55	0.59	67.40	0.40
372.93	0.20	341.87	372.92	-0.20	0.31	0.52	0.61	59.07	0.07
396.41	0.19	355.89	396.41	-0.14	0.39	0.51	0.64	52.52	0.20
424.64	0.45	358.07	424.63	-0.04	0.55	0.50	0.74	42.60	0.92
447.34	0.77	4.32	447.34	0.11	0.79	0.51	0.94	33.01	1.44
470.92	0.80	6.98	470.92	0.29	1.11	0.54	1.23	26.12	0.20
498.39	0.78	6.62	498.38	0.50	1.48	0.59	1.59	21.61	0.04
521.20	0.75	7.02	521.19	0.66	1.78	0.62	1.89	19.24	0.16
548.57	0.74	9.37	548.56	0.85	2.14	0.67	2.24	17.50	0.12
572.13	0.68	9.20	572.12	0.99	2.42	0.72	2.53	16.55	0.25
595.08	0.65	15.55	595.07	1.12	2.69	0.78	2.80	16.15	0.35
623.20	0.62	7.74	623.19	1.26	2.99	0.84	3.11	15.70	0.32
646.47	0.59	20.15	646.45	1.37	3.23	0.90	3.35	15.56	0.58
673.63	0.49	7.25	673.62	1.48	3.48	0.96	3.61	15.48	0.58
695.96	0.40	359.13	695.94	1.58	3.65	0.97	3.78	14.93	0.47
722.51	0.53	13.09	722.49	1.70	3.86	1.00	3.99	14.51	0.63
745.65	0.48	354.39	745.62	1.81	4.06	1.01	4.18	14.02	0.73
773.31	0.54	9.00	773.29	1.96	4.30	1.02	4.42	13.36	0.50
795.73	0.61	17.45	795.71	2.06	4.52	1.07	4.65	13.37	0.49
822.59	0.47	2.53	822.56	2.18	4.77	1.12	4.90	13.24	0.72
848.75	0.36	345.29	848.73	2.32	4.95	1.11	5.08	12.58	0.63
871.95	0.33	335.53	871.93	2.44	5.09	1.06	5.20	11.76	0.29
898.91	0.33	332.27	898.88	2.58	5.23	0.99	5.32	10.73	0.07
922.09	0.33	296.11	922.06	2.71	5.32	0.90	5.39	9.60	0.89
949.83	0.24	312.98	949.80	2.84	5.39	0.78	5.45	8.27	0.45



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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
972.43	0.32	310.19	972.40	2.95	5.46	0.70	5.51	7.31	0.35
999.87	0.34	300.74	999.84	3.11	5.55	0.57	5.58	5.90	0.21
1022.36	0.32	313.92	1022.33	3.23	5.63	0.47	5.65	4.80	0.34
1049.93	0.32	308.78	1049.90	3.39	5.73	0.36	5.74	3.56	0.11
1072.44	0.33	304.04	1072.41	3.52	5.81	0.25	5.81	2.50	0.12
1095.82	0.38	305.86	1095.79	3.66	5.89	0.14	5.89	1.32	0.20
1122.07	0.37	304.12	1122.04	3.83	5.99	0.00	5.99	359.97	0.06
1149.74	0.40	302.98	1149.71	4.01	6.09	-0.16	6.09	358.51	0.13
1173.04	0.41	297.85	1173.00	4.18	6.18	-0.30	6.18	357.21	0.17
1199.91	0.36	299.55	1199.88	4.36	6.26	-0.46	6.28	355.79	0.21
1223.02	0.41	306.13	1222.98	4.51	6.35	-0.59	6.37	354.69	0.28
1246.12	0.47	297.24	1246.09	4.68	6.44	-0.74	6.48	353.45	0.39
1272.99	0.40	304.10	1272.95	4.88	6.54	-0.91	6.60	352.04	0.31
1296.03	0.35	311.12	1295.99	5.03	6.63	-1.03	6.71	351.14	0.31
1322.90	0.54	290.91	1322.87	5.23	6.73	-1.21	6.84	349.77	0.93
1346.01	0.57	283.99	1345.97	5.44	6.80	-1.43	6.95	348.13	0.32
1373.26	0.31	319.13	1373.22	5.64	6.89	-1.61	7.07	346.84	1.34
1399.51	0.64	283.13	1399.47	5.84	6.97	-1.80	7.20	345.54	1.63
1422.21	0.59	286.44	1422.17	6.06	7.04	-2.03	7.32	343.87	0.26
1448.58	0.41	294.90	1448.54	6.28	7.11	-2.25	7.46	342.44	0.76
1471.29	0.59	289.28	1471.25	6.46	7.19	-2.44	7.59	341.28	0.85
1498.35	0.49	296.60	1498.31	6.71	7.28	-2.67	7.76	339.86	0.46
1524.72	0.49	298.02	1524.67	6.93	7.39	-2.87	7.93	338.76	0.05
1547.32	0.55	303.08	1547.27	7.13	7.49	-3.05	8.09	337.86	0.34
1574.16	0.42	327.22	1574.11	7.36	7.65	-3.21	8.29	337.22	0.90
1596.11	0.49	316.20	1596.06	7.53	7.78	-3.32	8.46	336.90	0.50
1623.11	0.45	329.06	1623.06	7.74	7.96	-3.45	8.67	336.53	0.42
1645.08	0.46	337.12	1645.03	7.90	8.11	-3.53	8.85	336.46	0.29
1672.08	0.51	322.49	1672.03	8.11	8.30	-3.65	9.07	336.29	0.49
1699.41	0.53	340.31	1699.36	8.34	8.52	-3.76	9.31	336.17	0.59
1721.50	0.48	327.98	1721.45	8.51	8.69	-3.85	9.51	336.13	0.53
1748.49	0.47	343.04	1748.44	8.71	8.89	-3.94	9.73	336.12	0.46
1770.48	0.47	354.90	1770.43	8.85	9.07	-3.97	9.90	336.35	0.44
1797.65	0.45	345.89	1797.59	9.02	9.28	-4.01	10.11	336.65	0.28
1824.70	0.49	351.42	1824.65	9.19	9.50	-4.05	10.33	336.91	0.23
1846.61	0.54	352.12	1846.56	9.33	9.70	-4.08	10.52	337.18	0.21

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
1873.72	0.52	352.06	1873.66	9.52	9.95	-4.11	10.76	337.53	0.07
1896.30	0.50	330.32	1896.24	9.69	10.13	-4.18	10.96	337.60	0.85
1922.69	0.54	337.21	1922.64	9.90	10.35	-4.28	11.20	337.52	0.29
1949.67	0.54	332.89	1949.61	10.13	10.58	-4.39	11.45	337.46	0.15
1972.31	0.49	332.90	1972.25	10.32	10.76	-4.48	11.65	337.38	0.23
1998.69	0.50	349.73	1998.63	10.51	10.97	-4.55	11.88	337.46	0.55
2021.11	0.47	346.21	2021.05	10.66	11.16	-4.59	12.06	337.62	0.19
2047.20	0.57	325.46	2047.13	10.87	11.37	-4.69	12.30	337.57	0.82
2073.71	0.63	346.91	2073.64	11.12	11.62	-4.80	12.57	337.55	0.87
2095.82	0.70	326.82	2095.76	11.34	11.85	-4.90	12.82	337.53	1.09
2121.71	0.75	328.00	2121.64	11.65	12.12	-5.08	13.14	337.28	0.20
2148.20	0.74	326.08	2148.13	11.98	12.41	-5.26	13.48	337.02	0.10
2174.87	0.62	324.85	2174.80	12.28	12.67	-5.44	13.79	336.76	0.42
2196.43	0.59	319.10	2196.35	12.51	12.85	-5.58	14.01	336.52	0.31
2223.11	0.68	333.72	2223.03	12.79	13.10	-5.74	14.30	336.32	0.68
2248.98	0.81	336.10	2248.90	13.09	13.40	-5.89	14.64	336.29	0.53
2271.22	0.58	320.53	2271.14	13.34	13.63	-6.02	14.90	336.17	1.34
2299.08	0.86	314.85	2299.00	13.69	13.89	-6.26	15.23	335.75	1.04
2321.83	0.75	326.77	2321.75	14.00	14.14	-6.46	15.54	335.44	0.87
2349.92	0.78	326.21	2349.83	14.36	14.45	-6.67	15.91	335.23	0.10
2373.38	0.66	332.49	2373.29	14.64	14.70	-6.82	16.20	335.11	0.60
2396.11	0.76	334.63	2396.02	14.90	14.95	-6.94	16.49	335.09	0.46
2423.24	0.72	339.44	2423.15	15.21	15.28	-7.08	16.84	335.13	0.28
2446.03	0.75	340.10	2445.94	15.46	15.55	-7.18	17.13	335.21	0.15
2473.86	0.67	341.37	2473.76	15.76	15.88	-7.30	17.47	335.32	0.31
2496.49	0.61	350.48	2496.39	15.96	16.12	-7.36	17.72	335.46	0.51
2524.18	0.49	355.78	2524.08	16.16	16.39	-7.39	17.98	335.72	0.48
2546.73	0.49	18.55	2546.63	16.26	16.57	-7.37	18.14	336.03	0.86
2574.51	0.49	25.55	2574.41	16.33	16.79	-7.28	18.30	336.56	0.22
2596.74	0.53	37.85	2596.64	16.36	16.96	-7.18	18.42	337.07	0.52
2622.81	0.41	38.79	2622.71	16.36	17.13	-7.04	18.52	337.64	0.44
2646.30	0.58	29.59	2646.20	16.39	17.30	-6.93	18.63	338.16	0.77
2672.38	0.55	22.79	2672.27	16.44	17.53	-6.82	18.81	338.74	0.28
2700.00	0.70	13.00	2699.89	16.56	17.81	-6.73	19.04	339.30	0.68
2723.08	0.71	17.68	2722.97	16.68	18.09	-6.66	19.27	339.80	0.25
2749.38	0.65	28.64	2749.27	16.77	18.37	-6.53	19.50	340.42	0.55



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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS %/100ft
2772.18	0.77	51.56	2772.07	16.76	18.58	-6.35	19.64	341.13	1.34
2799.46	0.28	63.89	2799.35	16.69	18.73	-6.15	19.71	341.83	1.83
2821.51	0.08	65.78	2821.39	16.67	18.76	-6.08	19.72	342.03	0.91
2848.29	0.48	329.83	2848.18	16.76	18.86	-6.12	19.83	342.01	1.85
2874.04	0.31	340.34	2873.92	16.92	19.02	-6.20	20.01	341.94	0.73
2897.14	0.27	4.54	2897.02	17.01	19.13	-6.22	20.12	342.00	0.55
2919.73	0.37	315.25	2919.62	17.11	19.24	-6.27	20.23	341.96	1.25
2947.66	0.36	327.58	2947.54	17.29	19.38	-6.38	20.40	341.79	0.28
2970.96	0.40	326.35	2970.84	17.43	19.51	-6.46	20.55	341.68	0.17
2998.82	0.35	335.48	2998.70	17.60	19.66	-6.55	20.73	341.58	0.29
3021.34	0.49	342.35	3021.22	17.74	19.82	-6.61	20.89	341.57	0.66
3049.05	0.41	330.60	3048.93	17.93	20.02	-6.69	21.10	341.52	0.44
3071.56	0.46	330.20	3071.44	18.10	20.16	-6.77	21.27	341.43	0.26
3099.32	0.48	311.75	3099.20	18.32	20.34	-6.92	21.48	341.22	0.55
3121.87	0.43	327.30	3121.75	18.49	20.47	-7.03	21.65	341.04	0.59
3149.15	0.56	305.83	3149.03	18.72	20.64	-7.20	21.86	340.77	0.82
3171.69	0.53	301.77	3171.57	18.94	20.76	-7.37	22.03	340.44	0.22
3199.43	0.34	332.15	3199.31	19.14	20.90	-7.52	22.21	340.20	1.05
3221.28	1.06	327.59	3221.15	19.39	21.13	-7.66	22.47	340.07	3.27
3249.16	1.16	290.26	3249.04	19.90	21.44	-8.06	22.91	339.39	2.57
3272.51	0.87	264.37	3272.38	20.25	21.51	-8.46	23.11	338.52	2.30
3299.63	0.40	269.04	3299.49	20.47	21.48	-8.76	23.20	337.81	1.74
3322.92	0.48	323.18	3322.79	20.63	21.56	-8.90	23.33	337.56	1.75
3349.80	0.75	300.33	3349.66	20.91	21.74	-9.12	23.58	337.23	1.35
3372.82	0.78	286.79	3372.68	21.20	21.86	-9.41	23.80	336.72	0.79
3394.96	0.51	278.14	3394.82	21.43	21.92	-9.65	23.95	336.24	1.29
3422.18	0.41	293.53	3422.04	21.62	21.97	-9.86	24.08	335.84	0.59
3449.45	0.60	283.63	3449.31	21.84	22.05	-10.08	24.24	335.42	0.79
3474.95	0.76	289.58	3474.81	22.12	22.14	-10.37	24.45	334.89	0.66
3498.16	0.61	292.61	3498.01	22.38	22.23	-10.63	24.64	334.45	0.66
3520.93	0.75	288.79	3520.79	22.64	22.33	-10.88	24.84	334.01	0.65
3546.91	1.11	278.94	3546.76	23.01	22.42	-11.29	25.10	333.27	1.51
3574.11	0.70	292.97	3573.95	23.40	22.53	-11.70	25.39	332.55	1.69
3596.37	0.49	290.28	3596.21	23.62	22.61	-11.92	25.56	332.21	0.93
3623.58	0.71	281.09	3623.42	23.88	22.69	-12.19	25.76	331.74	0.85
3645.62	0.67	276.53	3645.47	24.10	22.73	-12.45	25.92	331.28	0.31



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3673.03	0.47	297.41	3672.87	24.35	22.80	-12.71	26.10	330.85	1.03
3695.87	0.92	285.43	3695.71	24.60	22.89	-12.97	26.31	330.46	2.04
3722.47	0.79	273.33	3722.30	24.94	22.96	-13.36	26.56	329.80	0.82
3749.66	0.90	310.83	3749.49	25.31	23.11	-13.71	26.87	329.32	2.04
3771.78	1.06	273.63	3771.61	25.65	23.23	-14.04	27.15	328.85	2.90
3799.11	0.79	295.95	3798.93	26.04	23.33	-14.47	27.45	328.20	1.62
3821.93	0.70	299.80	3821.76	26.33	23.47	-14.73	27.71	327.89	0.48
3848.47	0.75	321.42	3848.29	26.66	23.69	-14.98	28.03	327.69	1.05
3871.40	0.93	299.18	3871.22	26.99	23.90	-15.24	28.34	327.48	1.62
3898.60	0.93	301.66	3898.42	27.43	24.12	-15.62	28.74	327.08	0.15
3920.55	0.94	297.95	3920.37	27.78	24.30	-15.93	29.05	326.75	0.28
3947.86	1.04	293.06	3947.67	28.23	24.50	-16.35	29.46	326.28	0.49
3970.49	1.08	302.18	3970.30	28.64	24.69	-16.72	29.82	325.89	0.76
3998.56	1.09	306.22	3998.36	29.17	24.99	-17.16	30.32	325.53	0.27
4022.36	1.04	306.07	4022.16	29.61	25.25	-17.52	30.73	325.25	0.20
4049.38	1.10	304.45	4049.17	30.11	25.54	-17.93	31.21	324.94	0.24
4073.04	1.09	307.53	4072.83	30.56	25.81	-18.29	31.64	324.67	0.25
4095.60	1.18	298.05	4095.39	31.01	26.05	-18.67	32.05	324.37	0.93
4122.51	1.07	298.54	4122.29	31.53	26.30	-19.14	32.53	323.96	0.41
4148.61	1.03	294.61	4148.39	31.99	26.52	-19.57	32.95	323.58	0.31
4171.87	1.10	283.17	4171.64	32.40	26.65	-19.97	33.31	323.15	0.95
4197.95	1.03	278.74	4197.71	32.82	26.75	-20.45	33.67	322.60	0.40
4221.06	1.07	284.09	4220.82	33.19	26.83	-20.87	33.99	322.13	0.46
4247.77	1.15	285.71	4247.52	33.67	26.96	-21.37	34.40	321.61	0.33
4270.87	0.95	279.75	4270.62	34.04	27.06	-21.78	34.74	321.17	1.00
4298.53	1.04	279.27	4298.28	34.46	27.14	-22.25	35.10	320.65	0.34
4320.80	0.96	278.68	4320.55	34.79	27.20	-22.64	35.39	320.23	0.39
4348.49	1.06	278.47	4348.23	35.21	27.27	-23.12	35.75	319.71	0.38
4371.64	1.01	279.43	4371.38	35.57	27.34	-23.53	36.07	319.28	0.23
4398.56	0.94	289.44	4398.29	35.98	27.45	-23.98	36.45	318.86	0.69
4421.54	1.23	277.57	4421.26	36.37	27.55	-24.40	36.80	318.47	1.57
4448.51	1.16	274.69	4448.24	36.84	27.61	-24.96	37.21	317.89	0.34
4471.32	1.39	272.72	4471.03	37.24	27.64	-25.46	37.58	317.35	1.03
4498.80	1.40	277.50	4498.51	37.79	27.70	-26.13	38.08	316.67	0.43
4520.57	1.33	275.43	4520.27	38.23	27.76	-26.64	38.47	316.17	0.38
4548.14	1.11	266.06	4547.84	38.69	27.77	-27.23	38.89	315.56	1.09



**Well Name:** UPRR 43 PAN AM I #4  
**Survey:** UPRR 43 PAN AM I #4 (05-123-08661)  
**Survey Date:** 11/6/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	Closure Distance ft	Closure Direction deg	DLS °/100ft
4574.81	0.93	263.09	4574.51	39.02	27.72	-27.70	39.19	315.02	0.70
4597.76	0.86	250.65	4597.45	39.24	27.65	-28.05	39.38	314.59	0.90
4624.54	0.95	246.15	4624.22	39.44	27.49	-28.44	39.55	314.03	0.44
4647.45	0.82	244.84	4647.13	39.59	27.34	-28.76	39.68	313.55	0.59
4674.82	0.94	246.17	4674.50	39.78	27.17	-29.14	39.84	312.99	0.45
4696.80	0.85	248.97	4696.47	39.94	27.04	-29.46	39.99	312.55	0.45
4723.17	0.95	250.01	4722.84	40.14	26.89	-29.85	40.17	312.02	0.38
4749.26	1.43	256.88	4748.93	40.45	26.75	-30.37	40.47	311.37	1.93
4771.47	1.35	260.61	4771.13	40.79	26.64	-30.89	40.79	310.77	0.55
4799.18	1.39	264.44	4798.83	41.24	26.55	-31.55	41.24	310.08	0.36
4818.17	1.23	279.64	4817.82	41.58	26.57	-31.98	41.58	309.71	2.00