



Gyroscopic Survey Report
for
KPK

Well Location	WELD
Well Name	UPRR 43 PAN AM I #11
Rig Number	
Survey Date	10/16/2014
Latitude	40.0643880°N
Longitude	104.9685520°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), 304.77Azim (deg)
Definitive Survey	UPRR 43 PAN AM I #11
Operator(s)	C KIRBY

Well Notes

API-05-123-09114

Survey Report

Well Name: UPRR 43 PAN AM I #11
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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
87.54	0.37	224.09	87.54	0.05	-0.20	-0.20	0.42	0.28	224.09
123.54	0.36	233.07	123.54	0.10	-0.35	-0.37	0.16	0.51	226.07
147.36	0.30	178.04	147.36	0.09	-0.46	-0.42	1.29	0.62	222.66
172.72	0.29	235.47	172.72	0.07	-0.56	-0.47	1.12	0.73	220.16
199.07	0.26	234.43	199.07	0.11	-0.63	-0.58	0.11	0.86	222.34
220.47	0.30	247.38	220.47	0.16	-0.68	-0.67	0.35	0.96	224.40
246.97	0.32	252.88	246.97	0.24	-0.73	-0.81	0.12	1.09	227.69
273.30	0.27	245.09	273.29	0.32	-0.78	-0.93	0.25	1.22	230.02
299.07	0.26	239.88	299.06	0.37	-0.84	-1.04	0.10	1.33	231.12
321.20	0.32	250.36	321.19	0.43	-0.88	-1.14	0.37	1.44	232.24
347.66	0.25	215.08	347.66	0.48	-0.95	-1.24	0.70	1.56	232.47
373.33	0.24	198.47	373.33	0.46	-1.05	-1.29	0.27	1.66	230.86
399.45	0.16	188.27	399.45	0.43	-1.14	-1.31	0.34	1.74	229.08
420.85	0.17	186.82	420.85	0.40	-1.20	-1.32	0.06	1.78	227.78
447.34	0.23	137.83	447.33	0.33	-1.28	-1.29	0.66	1.81	225.28
473.53	0.32	133.47	473.52	0.21	-1.37	-1.20	0.36	1.82	221.27
499.54	0.45	129.66	499.53	0.03	-1.48	-1.07	0.47	1.83	215.79
521.11	0.69	125.98	521.10	-0.18	-1.61	-0.90	1.17	1.84	209.11
546.74	1.08	117.66	546.73	-0.58	-1.81	-0.56	1.58	1.90	197.09
573.17	1.09	113.20	573.16	-1.07	-2.03	-0.11	0.32	2.03	183.00
599.48	1.07	111.39	599.46	-1.55	-2.22	0.35	0.15	2.24	170.98
620.85	1.27	110.39	620.83	-1.98	-2.37	0.76	0.96	2.49	162.23
647.28	1.57	107.33	647.25	-2.61	-2.58	1.38	1.15	2.93	151.86
673.69	1.79	106.04	673.65	-3.34	-2.80	2.12	0.87	3.52	142.86
699.04	1.81	112.23	698.98	-4.11	-3.07	2.88	0.77	4.20	136.82
721.34	1.78	111.60	721.28	-4.79	-3.33	3.53	0.16	4.85	133.34
747.77	1.88	114.97	747.69	-5.62	-3.66	4.30	0.54	5.65	130.41
773.33	2.07	112.21	773.23	-6.48	-4.01	5.11	0.84	6.49	128.15
799.75	2.11	111.56	799.64	-7.42	-4.37	6.00	0.17	7.42	126.07
821.54	2.11	108.92	821.42	-8.20	-4.65	6.75	0.45	8.20	124.54
846.91	2.12	110.42	846.77	-9.10	-4.96	7.64	0.22	9.11	123.03
872.88	2.10	111.00	872.72	-10.03	-5.30	8.53	0.11	10.04	121.87
898.92	2.18	111.27	898.74	-10.97	-5.65	9.44	0.34	11.00	120.92
924.17	2.20	109.55	923.97	-11.91	-5.99	10.34	0.26	11.95	120.08
949.51	2.18	109.61	949.29	-12.84	-6.31	11.25	0.05	12.90	119.29

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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
974.85	2.13	111.22	974.61	-13.77	-6.65	12.15	0.32	13.84	118.68
996.04	2.26	111.88	995.79	-14.56	-6.94	12.90	0.63	14.65	118.29
1021.27	2.18	112.21	1021.00	-15.51	-7.31	13.81	0.33	15.62	117.90
1047.34	2.01	113.12	1047.05	-16.44	-7.68	14.69	0.65	16.57	117.60
1073.24	1.89	112.92	1072.94	-17.31	-8.02	15.50	0.46	17.45	117.37
1098.57	1.96	115.16	1098.26	-18.14	-8.37	16.28	0.40	18.30	117.21
1124.47	1.75	119.43	1124.14	-18.97	-8.75	17.02	0.96	19.14	117.21
1146.21	1.71	118.67	1145.87	-19.63	-9.07	17.60	0.23	19.80	117.27
1171.55	1.61	119.98	1171.20	-20.36	-9.43	18.24	0.43	20.53	117.35
1197.54	1.54	122.74	1197.18	-21.07	-9.80	18.85	0.39	21.24	117.48
1223.42	1.39	124.92	1223.05	-21.73	-10.17	19.40	0.61	21.90	117.67
1248.54	1.46	128.40	1248.17	-22.36	-10.54	19.90	0.43	22.52	117.92
1274.43	1.44	130.21	1274.05	-23.01	-10.96	20.41	0.19	23.16	118.24
1299.08	1.39	130.95	1298.68	-23.62	-11.35	20.87	0.19	23.76	118.55
1324.91	1.10	134.95	1324.51	-24.17	-11.74	21.28	1.19	24.30	118.88
1346.28	1.14	138.97	1345.88	-24.58	-12.04	21.56	0.41	24.70	119.18
1371.33	1.05	142.56	1370.92	-25.04	-12.41	21.87	0.44	25.14	119.58
1398.55	1.19	141.28	1398.14	-25.55	-12.83	22.20	0.54	25.64	120.03
1422.80	1.13	139.23	1422.38	-26.02	-13.21	22.51	0.31	26.10	120.40
1448.99	0.86	143.79	1448.56	-26.46	-13.56	22.80	1.07	26.52	120.75
1474.88	0.88	145.37	1474.45	-26.83	-13.88	23.02	0.11	26.88	121.09
1495.99	0.83	150.47	1495.56	-27.12	-14.15	23.19	0.43	27.16	121.39
1521.69	0.86	154.25	1521.26	-27.45	-14.48	23.36	0.25	27.49	121.79
1549.92	0.74	156.53	1549.49	-27.79	-14.84	23.53	0.44	27.82	122.24
1571.53	0.73	154.98	1571.10	-28.03	-15.09	23.64	0.10	28.05	122.55
1597.04	0.51	157.30	1596.61	-28.26	-15.34	23.75	0.88	28.28	122.86
1621.97	0.53	163.11	1621.54	-28.44	-15.55	23.83	0.22	28.46	123.13
1647.54	0.46	184.32	1647.10	-28.59	-15.77	23.86	0.75	28.60	123.46
1673.09	0.56	171.99	1672.65	-28.73	-15.99	23.87	0.59	28.73	123.83
1697.88	0.48	168.48	1697.44	-28.88	-16.22	23.90	0.34	28.89	124.15
1723.50	0.48	164.37	1723.06	-29.05	-16.43	23.95	0.14	29.05	124.44
1749.07	0.33	182.83	1748.63	-29.17	-16.61	23.98	0.77	29.17	124.70
1773.87	0.36	188.09	1773.43	-29.24	-16.75	23.97	0.16	29.24	124.96
1799.46	0.40	209.00	1799.02	-29.29	-16.91	23.91	0.56	29.29	125.27
1824.84	0.40	202.11	1824.40	-29.31	-17.07	23.83	0.19	29.32	125.61
1849.71	0.41	204.58	1849.27	-29.35	-17.23	23.77	0.07	29.36	125.94

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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
1871.08	0.32	215.90	1870.63	-29.36	-17.35	23.70	0.53	29.37	126.20
1896.63	0.34	201.55	1896.19	-29.38	-17.48	23.63	0.34	29.39	126.48
1921.29	0.34	238.27	1920.84	-29.36	-17.58	23.54	0.87	29.38	126.75
1946.85	0.41	224.30	1946.40	-29.32	-17.69	23.41	0.46	29.34	127.07
1972.27	0.35	234.17	1971.82	-29.28	-17.80	23.29	0.36	29.31	127.39
1997.03	0.26	234.77	1996.58	-29.23	-17.87	23.18	0.36	29.27	127.64
2022.64	0.39	241.35	2022.19	-29.18	-17.95	23.06	0.53	29.22	127.90
2048.07	0.29	293.91	2047.62	-29.07	-17.96	22.92	1.24	29.12	128.09
2073.16	0.38	295.61	2072.72	-28.93	-17.90	22.79	0.36	28.98	128.15
2098.62	0.44	294.22	2098.17	-28.75	-17.83	22.62	0.21	28.80	128.24
2122.72	0.50	300.69	2122.27	-28.55	-17.73	22.45	0.36	28.61	128.31
2148.28	0.53	301.91	2147.83	-28.32	-17.61	22.25	0.11	28.38	128.37
2173.72	0.68	314.39	2173.27	-28.05	-17.45	22.04	0.80	28.11	128.36
2198.62	0.92	324.01	2198.17	-27.72	-17.18	21.82	1.09	27.77	128.22
2224.03	1.05	320.38	2223.57	-27.30	-16.84	21.55	0.55	27.35	128.00
2249.17	0.95	317.30	2248.71	-26.88	-16.51	21.26	0.45	26.92	127.82
2273.74	1.04	316.84	2273.28	-26.46	-16.19	20.97	0.39	26.50	127.67
2298.97	0.89	315.48	2298.50	-26.04	-15.89	20.68	0.63	26.07	127.53
2324.08	0.83	315.02	2323.61	-25.67	-15.62	20.41	0.23	25.70	127.42
2348.50	0.85	318.22	2348.02	-25.32	-15.36	20.17	0.21	25.35	127.29
2373.59	0.94	320.34	2373.11	-24.94	-15.06	19.91	0.40	24.97	127.10
2398.72	0.99	321.41	2398.23	-24.54	-14.73	19.64	0.21	24.55	126.87
2423.37	0.93	321.97	2422.89	-24.14	-14.41	19.39	0.26	24.15	126.62
2448.58	0.86	321.92	2448.09	-23.76	-14.10	19.14	0.27	23.77	126.37
2473.76	0.85	324.76	2473.27	-23.41	-13.80	18.92	0.18	23.41	126.10
2498.23	0.79	322.54	2497.74	-23.08	-13.51	18.71	0.27	23.08	125.84
2523.39	0.76	331.26	2522.90	-22.76	-13.23	18.53	0.48	22.76	125.53
2548.42	0.76	333.50	2547.93	-22.47	-12.93	18.37	0.12	22.47	125.15
2572.70	0.74	334.80	2572.20	-22.19	-12.65	18.23	0.10	22.19	124.75
2598.76	0.75	333.13	2598.26	-21.90	-12.35	18.09	0.09	21.90	124.32
2623.10	0.73	325.75	2622.59	-21.61	-12.08	17.93	0.40	21.61	123.97
2647.30	0.70	327.30	2646.79	-21.33	-11.82	17.76	0.16	21.34	123.66
2671.76	0.59	314.30	2671.26	-21.07	-11.61	17.59	0.72	21.08	123.43
2696.11	0.60	310.39	2695.60	-20.82	-11.44	17.40	0.17	20.82	123.32
2721.13	0.50	319.06	2720.62	-20.58	-11.27	17.23	0.53	20.59	123.19
2746.25	0.56	312.56	2745.74	-20.35	-11.11	17.07	0.35	20.36	123.05

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2770.95	0.50	310.33	2770.43	-20.13	-10.95	16.90	0.29	20.14	122.96
2796.01	0.51	307.91	2795.49	-19.91	-10.82	16.73	0.10	19.92	122.89
2821.02	0.50	314.54	2820.51	-19.69	-10.67	16.56	0.24	19.70	122.80
2849.49	0.50	321.39	2848.97	-19.45	-10.49	16.39	0.21	19.46	122.61
2874.50	0.51	298.57	2873.99	-19.23	-10.35	16.23	0.80	19.25	122.53
2899.46	0.54	309.77	2898.94	-19.01	-10.22	16.04	0.43	19.02	122.51
2923.70	0.54	308.06	2923.18	-18.78	-10.08	15.86	0.07	18.79	122.43
2948.48	0.47	307.28	2947.96	-18.56	-9.95	15.69	0.28	18.58	122.37
2973.17	0.41	300.10	2972.65	-18.37	-9.84	15.53	0.32	18.39	122.35
2997.39	0.54	301.30	2996.87	-18.17	-9.74	15.36	0.52	18.19	122.37
3022.09	0.46	301.87	3021.56	-17.96	-9.62	15.18	0.29	17.97	122.38
3046.93	0.56	301.28	3046.41	-17.74	-9.51	14.99	0.38	17.75	122.39
3074.33	0.43	295.28	3073.80	-17.50	-9.40	14.78	0.52	17.52	122.44
3099.01	0.49	305.57	3098.49	-17.31	-9.29	14.62	0.42	17.32	122.46
3123.80	0.53	299.38	3123.27	-17.09	-9.18	14.43	0.27	17.10	122.46
3147.94	0.42	303.87	3147.41	-16.89	-9.07	14.26	0.46	16.90	122.47
3172.59	0.41	313.49	3172.07	-16.71	-8.96	14.12	0.29	16.72	122.40
3197.27	0.54	316.46	3196.74	-16.51	-8.82	13.97	0.53	16.52	122.25
3221.39	0.55	320.03	3220.86	-16.28	-8.65	13.82	0.15	16.30	122.03
3246.15	0.53	320.20	3245.62	-16.06	-8.47	13.67	0.08	16.08	121.77
3274.85	0.55	319.08	3274.32	-15.80	-8.26	13.50	0.09	15.83	121.47
3299.49	0.53	313.05	3298.96	-15.57	-8.09	13.34	0.24	15.60	121.25
3323.52	0.58	323.78	3322.99	-15.35	-7.92	13.18	0.47	15.38	120.99
3348.09	0.64	316.94	3347.56	-15.09	-7.72	13.02	0.38	15.13	120.67
3372.66	0.66	317.16	3372.13	-14.82	-7.52	12.83	0.09	14.87	120.37
3396.82	0.58	317.07	3396.28	-14.57	-7.32	12.65	0.34	14.62	120.07
3421.39	0.71	311.39	3420.85	-14.29	-7.13	12.45	0.61	14.35	119.81
3446.27	0.63	311.75	3445.73	-14.00	-6.94	12.23	0.33	14.06	119.57
3474.29	0.64	311.43	3473.74	-13.70	-6.73	12.00	0.03	13.76	119.30
3498.89	0.69	311.98	3498.35	-13.41	-6.54	11.79	0.19	13.48	119.04
3523.52	0.67	308.66	3522.98	-13.12	-6.35	11.56	0.17	13.19	118.79
3547.60	0.69	315.47	3547.06	-12.84	-6.16	11.35	0.34	12.92	118.50
3572.31	0.61	315.90	3571.77	-12.57	-5.96	11.16	0.30	12.65	118.12
3596.93	0.76	315.37	3596.38	-12.28	-5.75	10.95	0.59	12.37	117.71
3624.50	0.60	313.32	3623.94	-11.96	-5.52	10.72	0.58	12.06	117.27
3648.89	0.70	316.85	3648.33	-11.68	-5.33	10.52	0.43	11.80	116.85

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3673.19	0.63	303.46	3672.64	-11.41	-5.15	10.31	0.69	11.53	116.53
3696.95	0.62	303.69	3696.40	-11.15	-5.00	10.10	0.03	11.27	116.36
3721.35	0.52	299.03	3720.79	-10.90	-4.88	9.89	0.45	11.03	116.25
3749.63	0.64	280.45	3749.07	-10.63	-4.79	9.62	0.77	10.75	116.44
3773.26	0.66	285.12	3772.70	-10.39	-4.73	9.36	0.25	10.49	116.79
3797.63	0.62	284.05	3797.06	-10.13	-4.66	9.10	0.18	10.22	117.11
3821.91	0.63	281.84	3821.35	-9.88	-4.60	8.84	0.11	9.97	117.48
3845.64	0.70	281.51	3845.07	-9.63	-4.54	8.57	0.30	9.70	117.92
3873.90	0.76	283.37	3873.33	-9.30	-4.47	8.22	0.23	9.36	118.51
3898.29	0.82	284.81	3897.72	-8.99	-4.38	7.89	0.26	9.03	119.04
3922.56	0.85	280.59	3921.98	-8.66	-4.31	7.55	0.29	8.69	119.70
3946.28	0.82	279.89	3945.70	-8.34	-4.24	7.21	0.16	8.37	120.49
3974.51	0.83	284.85	3973.93	-7.97	-4.16	6.82	0.25	7.98	121.39
3998.78	0.86	287.07	3998.20	-7.63	-4.06	6.47	0.20	7.64	122.10
4022.48	0.90	285.25	4021.89	-7.29	-3.96	6.12	0.22	7.29	122.89
4046.86	0.88	284.66	4046.27	-6.93	-3.86	5.75	0.11	6.93	123.85
4075.00	0.98	288.02	4074.41	-6.50	-3.73	5.32	0.41	6.50	125.06
4099.09	1.00	288.56	4098.50	-6.10	-3.60	4.92	0.11	6.10	126.19
4122.76	0.93	294.38	4122.16	-5.71	-3.45	4.55	0.51	5.71	127.21
4146.91	1.01	295.52	4146.31	-5.30	-3.28	4.18	0.34	5.31	128.15
4171.42	0.98	298.52	4170.81	-4.88	-3.09	3.80	0.25	4.89	129.12
4198.18	1.03	297.01	4197.57	-4.42	-2.87	3.38	0.20	4.44	130.31
4222.50	1.07	298.89	4221.89	-3.98	-2.66	2.99	0.22	4.00	131.66
4249.39	1.02	298.13	4248.78	-3.49	-2.43	2.56	0.17	3.53	133.47
4273.44	1.13	301.14	4272.82	-3.04	-2.20	2.17	0.50	3.09	135.46
4297.28	1.07	304.05	4296.65	-2.58	-1.96	1.78	0.35	2.65	137.67
4324.50	1.17	296.74	4323.87	-2.06	-1.69	1.33	0.63	2.15	141.90
4348.47	1.21	302.57	4347.83	-1.56	-1.45	0.90	0.53	1.70	148.20
4372.29	1.21	299.12	4371.64	-1.06	-1.19	0.47	0.31	1.28	158.63
4395.62	1.31	300.87	4394.97	-0.55	-0.93	0.02	0.45	0.93	178.74
4423.39	1.39	302.26	4422.74	0.10	-0.59	-0.54	0.30	0.80	222.31
4447.20	1.41	300.08	4446.54	0.69	-0.29	-1.03	0.25	1.07	254.42
4474.94	1.45	300.12	4474.27	1.38	0.06	-1.63	0.12	1.64	272.07
4498.25	1.51	297.73	4497.57	1.97	0.35	-2.16	0.36	2.19	279.19
4522.17	1.53	300.84	4521.48	2.60	0.66	-2.71	0.36	2.79	283.66
4548.64	1.56	300.13	4547.94	3.31	1.02	-3.33	0.13	3.48	287.06



Well Name: UPRR 43 PAN AM I #11

Survey: UPRR 43 PAN AM I #11

Survey Date: 10/16/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Closure Distance ft	Closure Direction deg
4572.44	1.44	300.17	4571.73	3.93	1.33	-3.86	0.47	4.09	289.03
4596.44	1.61	299.54	4595.72	4.57	1.65	-4.42	0.68	4.72	290.49
4624.41	1.60	305.11	4623.68	5.35	2.07	-5.08	0.56	5.48	292.16
4647.52	1.64	302.39	4646.78	6.01	2.43	-5.62	0.37	6.13	293.39
4671.39	1.58	302.44	4670.65	6.68	2.79	-6.19	0.27	6.79	294.27
4699.05	1.55	301.28	4698.30	7.43	3.19	-6.83	0.14	7.54	295.03
4722.35	1.55	304.32	4721.59	8.06	3.53	-7.36	0.35	8.16	295.63
4746.25	1.53	305.11	4745.48	8.70	3.90	-7.89	0.14	8.80	296.29
4773.83	1.54	296.36	4773.05	9.44	4.27	-8.52	0.85	9.53	296.63
4797.65	1.44	297.93	4796.86	10.05	4.56	-9.07	0.47	10.15	296.66
4824.70	1.50	306.79	4823.90	10.74	4.93	-9.66	0.87	10.84	297.03
4848.65	1.45	308.58	4847.85	11.36	5.31	-10.15	0.29	11.45	297.60
4872.74	1.14	309.13	4871.93	11.90	5.65	-10.57	1.28	11.99	298.11
4899.82	1.29	306.61	4899.01	12.48	6.00	-11.03	0.59	12.55	298.55
4923.62	1.27	303.94	4922.80	13.01	6.31	-11.46	0.27	13.08	298.82
4947.25	1.33	308.38	4946.42	13.55	6.62	-11.89	0.49	13.61	299.11
4973.97	1.41	307.15	4973.14	14.19	7.02	-12.40	0.33	14.25	299.50
4997.49	1.33	309.79	4996.64	14.75	7.37	-12.84	0.44	14.80	299.84
5024.84	1.46	311.22	5023.98	15.41	7.80	-13.35	0.49	15.46	300.30
5048.44	1.36	309.67	5047.58	15.99	8.18	-13.79	0.46	16.03	300.66
5074.93	1.31	318.95	5074.06	16.60	8.61	-14.23	0.83	16.63	301.16
5098.63	1.38	318.16	5097.75	17.14	9.02	-14.60	0.29	17.16	301.72
5122.18	1.23	327.61	5121.30	17.65	9.45	-14.92	1.12	17.66	302.34
5149.51	1.06	331.69	5148.63	18.14	9.92	-15.20	0.66	18.15	303.12
5172.46	1.20	318.83	5171.57	18.57	10.29	-15.46	1.26	18.57	303.64
5199.58	1.01	297.54	5198.69	19.08	10.61	-15.86	1.66	19.08	303.79
5222.92	1.20	317.98	5222.02	19.52	10.89	-16.21	1.85	19.52	303.89
5247.89	0.97	329.85	5246.99	19.97	11.26	-16.49	1.28	19.97	304.34
5268.34	0.98	329.94	5267.44	20.28	11.57	-16.66	0.05	20.28	304.77