



Gyroscopic Survey Report
for
KPK

Well Location	WELD
Well Name	SIDNEY STREAR #3
Rig Number	FMC HD-0255
Survey Date	9/2/2014
Latitude	40.1207090°N
Longitude	104.8649380°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), 211.29Azim (deg)
Definitive Survey	SIDNEY STREAR #3
Operator(s)	C KIRBY, J MONICA

Well Notes

Survey Report

Well Name: SIDNEY STREAR #3
Survey: SIDNEY STREAR #3
Survey Date: 9/2/2014

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
88.64	0.77	116.04	88.64	-0.05	-0.26	0.54	0.60	116.04	0.87
110.66	0.68	115.85	110.65	-0.08	-0.38	0.79	0.88	116.02	0.43
138.84	0.67	116.58	138.83	-0.11	-0.53	1.09	1.21	116.07	0.03
162.78	0.54	116.15	162.78	-0.13	-0.64	1.31	1.46	116.13	0.56
186.92	0.41	121.40	186.92	-0.14	-0.74	1.49	1.66	116.41	0.55
210.24	0.38	122.66	210.23	-0.14	-0.82	1.63	1.82	116.90	0.17
237.91	0.38	119.08	237.90	-0.14	-0.92	1.78	2.01	117.26	0.09
261.70	0.32	130.61	261.69	-0.13	-1.00	1.90	2.15	117.74	0.40
285.77	0.26	129.62	285.76	-0.11	-1.08	2.00	2.27	118.41	0.25
309.58	0.25	130.53	309.57	-0.10	-1.15	2.08	2.38	118.92	0.07
338.12	0.28	135.11	338.11	-0.07	-1.24	2.18	2.50	119.65	0.14
361.80	0.25	133.64	361.79	-0.05	-1.32	2.25	2.61	120.27	0.12
386.84	0.30	136.01	386.82	-0.02	-1.40	2.34	2.73	120.91	0.19
411.60	0.28	139.28	411.59	0.02	-1.49	2.42	2.85	121.63	0.12
437.17	0.20	144.36	437.15	0.05	-1.58	2.49	2.95	122.33	0.30
462.61	0.21	190.44	462.60	0.11	-1.66	2.51	3.01	123.47	0.63
489.00	0.20	175.85	488.98	0.20	-1.75	2.50	3.05	124.96	0.20
513.53	0.33	149.44	513.52	0.26	-1.85	2.54	3.15	126.09	0.71
535.09	0.42	141.92	535.07	0.32	-1.97	2.62	3.28	126.89	0.49
559.55	0.42	149.53	559.54	0.39	-2.12	2.72	3.45	127.86	0.23
585.16	0.54	138.32	585.14	0.47	-2.29	2.85	3.65	128.75	0.57
610.45	0.60	144.30	610.43	0.56	-2.48	3.01	3.90	129.56	0.35
634.51	0.63	142.79	634.50	0.66	-2.69	3.16	4.15	130.42	0.13
663.45	0.66	143.20	663.43	0.78	-2.95	3.35	4.47	131.32	0.10
688.39	0.80	150.61	688.37	0.92	-3.22	3.53	4.77	132.37	0.69
713.12	0.86	157.20	713.09	1.11	-3.54	3.68	5.11	133.85	0.46
736.25	1.10	176.80	736.22	1.40	-3.92	3.76	5.43	136.18	1.76
760.40	1.25	176.54	760.37	1.80	-4.42	3.79	5.82	139.35	0.63
787.48	1.11	164.40	787.44	2.23	-4.96	3.88	6.30	141.98	1.07
813.24	1.37	175.35	813.20	2.64	-5.51	3.97	6.79	144.21	1.37
839.12	1.14	181.96	839.07	3.12	-6.07	3.99	7.27	146.71	1.04
860.86	1.13	181.78	860.81	3.49	-6.50	3.97	7.62	148.58	0.05
885.44	1.17	171.56	885.39	3.90	-6.99	4.00	8.06	150.22	0.85
913.32	1.17	191.30	913.25	4.38	-7.55	3.99	8.54	152.16	1.43
938.02	1.12	190.39	937.95	4.84	-8.04	3.90	8.93	154.13	0.21

Survey Report

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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
962.72	1.16	189.57	962.64	5.30	-8.52	3.81	9.33	155.90	0.18
986.81	1.17	189.12	986.73	5.75	-9.00	3.73	9.75	157.48	0.06
1011.53	1.18	191.89	1011.45	6.23	-9.50	3.64	10.17	159.04	0.23
1036.28	1.15	191.14	1036.19	6.70	-9.99	3.54	10.60	160.50	0.15
1060.36	1.20	190.59	1060.26	7.16	-10.48	3.45	11.03	161.79	0.22
1085.45	1.08	197.42	1085.35	7.64	-10.96	3.33	11.45	163.11	0.70
1111.03	1.14	195.89	1110.93	8.12	-11.44	3.19	11.87	164.44	0.26
1135.77	1.14	192.26	1135.67	8.59	-11.91	3.07	12.30	165.57	0.29
1159.52	1.32	194.96	1159.40	9.07	-12.41	2.94	12.75	166.65	0.81
1188.10	1.17	193.12	1187.97	9.67	-13.01	2.79	13.31	167.88	0.55
1212.86	1.10	194.66	1212.74	10.13	-13.48	2.68	13.75	168.77	0.31
1237.87	1.11	193.60	1237.74	10.59	-13.95	2.56	14.18	169.60	0.09
1262.44	1.18	195.98	1262.31	11.06	-14.42	2.43	14.63	170.42	0.34
1287.92	1.18	194.63	1287.78	11.56	-14.93	2.30	15.10	171.26	0.11
1312.91	1.15	195.89	1312.76	12.05	-15.42	2.16	15.57	172.02	0.14
1338.35	1.21	192.86	1338.19	12.55	-15.93	2.03	16.05	172.73	0.33
1363.10	1.10	194.71	1362.95	13.03	-16.41	1.91	16.52	173.35	0.45
1387.79	1.13	197.74	1387.63	13.49	-16.87	1.78	16.97	173.98	0.27
1412.69	1.13	195.33	1412.53	13.97	-17.34	1.64	17.42	174.60	0.19
1437.26	1.13	193.81	1437.09	14.43	-17.81	1.52	17.88	175.13	0.12
1461.29	1.07	195.76	1461.11	14.87	-18.26	1.40	18.31	175.61	0.28
1485.80	0.94	204.44	1485.62	15.29	-18.66	1.26	18.70	176.15	0.83
1510.20	0.95	202.70	1510.01	15.69	-19.03	1.10	19.06	176.71	0.13
1538.06	0.96	200.47	1537.88	16.15	-19.46	0.92	19.48	177.28	0.14
1562.75	0.88	209.50	1562.56	16.54	-19.82	0.76	19.83	177.81	0.67
1588.03	0.82	209.29	1587.84	16.92	-20.15	0.57	20.16	178.37	0.27
1609.69	0.73	212.41	1609.49	17.21	-20.40	0.42	20.40	178.81	0.46
1636.16	0.71	219.83	1635.96	17.54	-20.66	0.23	20.67	179.36	0.36
1660.32	0.67	222.88	1660.13	17.82	-20.88	0.04	20.88	179.89	0.23
1685.42	0.57	221.95	1685.22	18.09	-21.08	-0.14	21.08	180.39	0.39
1710.66	0.57	231.99	1710.46	18.33	-21.25	-0.33	21.25	180.88	0.39
1734.66	0.57	229.65	1734.46	18.55	-21.40	-0.51	21.41	181.37	0.10
1763.85	0.52	232.79	1763.64	18.81	-21.58	-0.73	21.59	181.93	0.18
1789.00	0.51	232.88	1788.79	19.03	-21.71	-0.91	21.73	182.39	0.04
1809.17	0.47	236.07	1808.97	19.19	-21.81	-1.05	21.84	182.75	0.26
1834.80	0.45	232.52	1834.60	19.38	-21.93	-1.22	21.97	183.17	0.14



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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
1860.57	0.43	232.40	1860.36	19.56	-22.06	-1.37	22.10	183.56	0.08
1885.50	0.48	236.91	1885.29	19.74	-22.17	-1.53	22.22	183.96	0.26
1910.35	0.45	235.85	1910.14	19.92	-22.28	-1.70	22.35	184.37	0.15
1938.72	0.37	233.64	1938.51	20.11	-22.40	-1.87	22.48	184.77	0.26
1963.75	0.45	225.71	1963.54	20.28	-22.51	-2.00	22.60	185.09	0.39
1988.59	0.39	236.95	1988.38	20.45	-22.63	-2.15	22.73	185.42	0.41
2012.87	0.56	228.65	2012.66	20.64	-22.75	-2.30	22.87	185.78	0.75
2037.57	0.47	231.52	2037.35	20.85	-22.90	-2.47	23.03	186.17	0.38
2061.73	0.21	248.94	2061.52	20.98	-22.97	-2.59	23.12	186.44	1.14
2085.94	0.30	224.54	2085.73	21.08	-23.04	-2.68	23.19	186.64	0.58
2110.81	0.25	219.45	2110.59	21.19	-23.12	-2.76	23.29	186.81	0.23
2136.11	0.29	231.25	2135.90	21.31	-23.21	-2.85	23.38	186.99	0.27
2163.67	0.28	243.04	2163.46	21.43	-23.28	-2.96	23.47	187.25	0.22
2188.68	0.29	214.51	2188.47	21.55	-23.36	-3.05	23.56	187.44	0.56
2213.78	0.27	201.58	2213.56	21.67	-23.47	-3.11	23.67	187.54	0.26
2237.29	0.26	254.67	2237.08	21.76	-23.53	-3.18	23.75	187.70	1.02
2262.72	0.29	264.09	2262.50	21.84	-23.56	-3.30	23.79	187.98	0.19
2287.41	0.28	266.34	2287.20	21.91	-23.57	-3.42	23.81	188.26	0.06
2311.78	0.20	262.03	2311.56	21.97	-23.58	-3.52	23.84	188.50	0.32
2335.67	0.30	269.88	2335.45	22.03	-23.58	-3.63	23.86	188.74	0.45
2360.24	0.42	267.85	2360.02	22.12	-23.58	-3.78	23.89	189.11	0.48
2388.84	0.36	265.74	2388.62	22.23	-23.60	-3.97	23.93	189.56	0.23
2413.86	0.68	281.08	2413.64	22.32	-23.57	-4.20	23.94	190.10	1.39
2437.58	0.87	276.51	2437.35	22.45	-23.53	-4.51	23.95	190.86	0.86
2462.43	0.91	284.30	2462.20	22.58	-23.45	-4.89	23.96	191.79	0.51
2487.21	1.19	281.90	2486.98	22.73	-23.35	-5.34	23.96	192.88	1.15
2511.43	1.17	280.72	2511.20	22.90	-23.25	-5.83	23.97	194.07	0.15
2536.36	0.73	272.57	2536.12	23.06	-23.20	-6.24	24.02	195.04	1.85
2561.08	0.59	277.34	2560.84	23.19	-23.18	-6.52	24.08	195.71	0.58
2585.12	0.51	277.12	2584.88	23.29	-23.15	-6.75	24.11	196.26	0.33
2613.97	0.76	241.18	2613.73	23.51	-23.22	-7.05	24.27	196.88	1.59
2638.79	0.60	235.46	2638.54	23.77	-23.38	-7.30	24.49	197.34	0.69
2662.59	0.49	224.08	2662.34	23.98	-23.52	-7.47	24.68	197.62	0.67
2687.40	0.80	219.46	2687.16	24.25	-23.73	-7.66	24.94	197.88	1.27
2712.62	0.96	230.88	2712.38	24.63	-24.00	-7.93	25.28	198.29	0.94
2738.06	0.54	239.70	2737.81	24.93	-24.19	-8.20	25.55	198.72	1.70

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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
2761.37	0.59	217.82	2761.12	25.15	-24.34	-8.37	25.74	198.97	0.95
2786.04	1.00	219.57	2785.78	25.49	-24.61	-8.58	26.07	199.23	1.66
2810.61	0.94	240.81	2810.36	25.88	-24.88	-8.90	26.42	199.68	1.48
2838.36	0.64	235.44	2838.10	26.22	-25.08	-9.22	26.72	200.19	1.10
2863.77	0.81	232.72	2863.50	26.51	-25.26	-9.48	26.99	200.57	0.68
2884.95	0.81	232.30	2884.69	26.79	-25.45	-9.72	27.24	200.91	0.03
2910.80	0.62	230.97	2910.53	27.10	-25.65	-9.97	27.52	201.25	0.72
2935.51	0.66	220.45	2935.24	27.36	-25.84	-10.17	27.77	201.48	0.50
2960.47	0.79	248.26	2960.20	27.64	-26.01	-10.42	28.02	201.83	1.48
2985.94	0.68	249.99	2985.67	27.90	-26.13	-10.73	28.25	202.32	0.42
3010.34	0.73	242.73	3010.06	28.15	-26.25	-11.00	28.46	202.74	0.40
3035.18	0.58	238.90	3034.91	28.39	-26.39	-11.25	28.68	203.09	0.62
3063.99	0.66	266.18	3063.72	28.62	-26.47	-11.54	28.88	203.55	1.05
3087.84	0.65	255.62	3087.56	28.79	-26.52	-11.81	29.03	204.00	0.51
3112.88	0.53	228.74	3112.60	29.00	-26.63	-12.03	29.22	204.32	1.19
3137.85	0.80	245.85	3137.57	29.26	-26.77	-12.28	29.46	204.64	1.35
3161.92	0.75	254.52	3161.64	29.51	-26.89	-12.58	29.69	205.08	0.53
3186.89	0.49	241.55	3186.61	29.72	-26.98	-12.84	29.88	205.44	1.17
3212.83	0.67	248.14	3212.54	29.94	-27.09	-13.08	30.08	205.77	0.74
3237.71	0.71	264.79	3237.42	30.15	-27.16	-13.36	30.27	206.20	0.81
3262.52	0.41	238.79	3262.23	30.32	-27.22	-13.59	30.42	206.54	1.54
3286.55	0.61	242.77	3286.26	30.50	-27.32	-13.78	30.60	206.77	0.84
3310.96	0.68	242.97	3310.67	30.74	-27.45	-14.03	30.82	207.07	0.30
3335.89	0.73	239.83	3335.60	31.01	-27.59	-14.30	31.08	207.39	0.26
3360.13	0.65	251.42	3359.83	31.25	-27.72	-14.56	31.31	207.71	0.67
3388.76	0.46	248.35	3388.46	31.46	-27.81	-14.82	31.51	208.05	0.66
3413.35	0.82	246.27	3413.05	31.69	-27.92	-15.07	31.73	208.37	1.46
3437.68	0.76	235.30	3437.38	31.98	-28.08	-15.37	32.01	208.69	0.67
3462.27	0.60	252.80	3461.97	32.22	-28.21	-15.62	32.25	208.98	1.05
3487.41	0.53	243.76	3487.11	32.42	-28.30	-15.85	32.44	209.26	0.47
3511.88	0.59	255.43	3511.58	32.60	-28.38	-16.08	32.62	209.53	0.53
3536.87	0.56	264.24	3536.56	32.77	-28.43	-16.32	32.78	209.86	0.38
3561.77	0.68	260.14	3561.46	32.94	-28.47	-16.59	32.95	210.23	0.54
3587.66	0.43	271.33	3587.35	33.09	-28.49	-16.84	33.09	210.58	1.07
3611.92	0.52	244.26	3611.61	33.23	-28.54	-17.03	33.23	210.83	0.99
3637.00	0.85	259.94	3636.69	33.45	-28.62	-17.31	33.45	211.17	1.49

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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
3662.12	0.69	275.71	3661.81	33.63	-28.63	-17.65	33.63	211.64	1.04
3686.42	0.37	279.24	3686.11	33.73	-28.61	-17.87	33.73	211.99	1.33
3711.19	0.60	250.01	3710.88	33.86	-28.64	-18.07	33.86	212.25	1.34
3736.42	0.65	253.47	3736.11	34.07	-28.72	-18.33	34.08	212.54	0.25
3761.49	0.84	250.79	3761.17	34.31	-28.83	-18.64	34.33	212.89	0.77
3786.08	0.83	241.32	3785.76	34.61	-28.97	-18.97	34.63	213.21	0.56
3810.92	0.84	243.39	3810.59	34.92	-29.14	-19.29	34.94	213.50	0.13
3834.84	0.93	239.38	3834.51	35.24	-29.32	-19.61	35.27	213.78	0.45
3863.75	0.80	230.01	3863.42	35.63	-29.56	-19.97	35.67	214.03	0.67
3887.84	0.98	223.16	3887.50	35.99	-29.82	-20.24	36.04	214.16	0.87
3912.73	0.96	211.05	3912.39	36.41	-30.15	-20.49	36.46	214.19	0.82
3937.08	0.92	226.22	3936.74	36.80	-30.46	-20.73	36.85	214.24	1.03
3962.20	0.96	227.83	3961.86	37.20	-30.74	-21.04	37.25	214.38	0.18
3988.06	0.98	215.01	3987.71	37.62	-31.07	-21.32	37.68	214.46	0.84
4009.03	1.01	218.52	4008.68	37.99	-31.36	-21.54	38.05	214.48	0.32
4038.15	0.93	216.66	4037.80	38.48	-31.75	-21.84	38.54	214.52	0.28
4063.39	0.92	212.65	4063.03	38.88	-32.09	-22.07	38.95	214.52	0.26
4088.62	0.90	213.26	4088.26	39.28	-32.42	-22.29	39.35	214.51	0.08
4112.61	0.77	222.96	4112.24	39.63	-32.70	-22.50	39.69	214.54	0.81
4138.46	0.76	215.74	4138.10	39.97	-32.96	-22.72	40.04	214.58	0.37
4163.46	0.69	213.39	4163.09	40.29	-33.23	-22.90	40.35	214.58	0.29
4184.76	0.81	207.67	4184.39	40.57	-33.47	-23.04	40.63	214.55	0.64
4213.22	0.80	212.97	4212.85	40.97	-33.81	-23.24	41.03	214.51	0.26
4238.92	0.70	216.30	4238.54	41.30	-34.09	-23.43	41.37	214.51	0.43
4263.17	0.97	207.25	4262.79	41.65	-34.39	-23.62	41.72	214.48	1.24
4287.74	1.09	197.95	4287.36	42.09	-34.79	-23.78	42.15	214.35	0.85
4311.65	1.06	199.78	4311.26	42.52	-35.22	-23.93	42.58	214.19	0.21
4335.84	1.20	188.12	4335.45	42.98	-35.68	-24.04	43.02	213.97	1.12
4360.41	1.31	185.92	4360.02	43.47	-36.22	-24.10	43.50	213.65	0.48
4387.35	1.45	174.58	4386.95	44.02	-36.86	-24.10	44.04	213.18	1.13
4413.61	1.37	181.63	4413.20	44.56	-37.50	-24.08	44.57	212.70	0.73
4437.36	1.82	179.08	4436.94	45.12	-38.17	-24.08	45.13	212.25	1.94
4462.05	1.70	186.18	4461.61	45.79	-38.92	-24.12	45.79	211.78	1.01
4487.97	1.48	188.64	4487.53	46.45	-39.64	-24.21	46.45	211.41	0.89
4500.69	1.26	197.30	4500.24	46.73	-39.94	-24.27	46.73	211.29	2.40