



Gyroscopic Survey Report  
for  
K.P. Kauffman

Well Location	Weld County, Colorado
Well Name	Sidney Strear #5
Rig Number	KPK 8
Survey Date	10/30/2014
Latitude	40.1218910°N
Longitude	104.8745550°W
North Reference	True North
Grid Correction	None
Depth Reference	Ground Level (5026.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 261.07Azim (deg)
Definitive Survey	SIDNEY STREAR #5 (05-123-08935)
Operator(s)	Jon Valenzuela

**Well Notes**

API-05-123-08935

# Survey Report

**Well Name:** Sidney Strear #5  
**Survey:** SIDNEY STREAR #5 (05-123-08935)  
**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
35.31	0.23	259.08	35.31	0.07	-0.01	-0.07	0.65	0.07	259.08
50.26	0.22	258.89	50.26	0.13	-0.02	-0.13	0.02	0.13	259.04
75.52	0.23	224.61	75.52	0.22	-0.07	-0.21	0.53	0.22	251.72
100.77	0.15	220.16	100.76	0.28	-0.13	-0.27	0.31	0.30	244.03
126.83	0.08	268.07	126.83	0.33	-0.16	-0.31	0.42	0.35	243.07
151.48	0.04	4.64	151.48	0.34	-0.15	-0.33	0.40	0.36	245.59
177.68	0.31	245.99	177.68	0.41	-0.17	-0.39	1.29	0.42	246.83
201.02	0.13	207.80	201.02	0.49	-0.22	-0.46	0.97	0.51	244.82
226.34	0.18	223.75	226.34	0.54	-0.27	-0.50	0.26	0.57	241.62
251.66	0.14	267.58	251.66	0.60	-0.30	-0.56	0.50	0.64	241.71
277.28	0.23	265.20	277.28	0.68	-0.31	-0.64	0.35	0.71	244.43
302.83	0.30	238.77	302.83	0.79	-0.35	-0.75	0.55	0.83	245.21
328.29	0.17	231.88	328.29	0.89	-0.40	-0.84	0.52	0.93	244.20
353.26	0.08	219.19	353.26	0.94	-0.44	-0.88	0.38	0.98	243.28
375.27	0.19	255.04	375.27	0.99	-0.46	-0.92	0.61	1.03	243.34
401.02	0.33	253.60	401.01	1.10	-0.50	-1.04	0.54	1.15	244.44
426.25	0.29	227.59	426.25	1.23	-0.56	-1.15	0.58	1.28	244.14
451.19	0.16	214.11	451.19	1.30	-0.63	-1.22	0.52	1.37	242.66
476.83	0.08	180.93	476.83	1.33	-0.68	-1.24	0.42	1.41	241.32
502.35	0.17	222.53	502.35	1.36	-0.72	-1.27	0.48	1.46	240.26
527.83	0.26	227.54	527.82	1.44	-0.79	-1.33	0.35	1.55	239.37
552.77	0.18	197.95	552.76	1.50	-0.86	-1.39	0.54	1.63	238.09
578.40	0.06	148.01	578.40	1.52	-0.91	-1.39	0.57	1.66	236.79
600.39	0.07	48.31	600.39	1.50	-0.91	-1.38	0.44	1.65	236.48
625.73	0.17	9.26	625.73	1.48	-0.86	-1.36	0.50	1.61	237.56
650.87	0.20	301.71	650.87	1.50	-0.80	-1.39	0.83	1.61	239.97
676.44	0.10	1.58	676.43	1.53	-0.76	-1.43	0.68	1.62	242.06
702.00	0.12	291.80	702.00	1.55	-0.72	-1.45	0.50	1.62	243.49
725.66	0.45	289.05	725.66	1.65	-0.68	-1.56	1.41	1.71	246.34
750.32	0.28	17.43	750.31	1.71	-0.59	-1.64	2.14	1.74	250.02
776.99	0.38	321.70	776.98	1.72	-0.46	-1.67	1.21	1.73	254.55
800.57	0.39	291.17	800.57	1.83	-0.37	-1.80	0.86	1.83	258.32
827.37	0.23	2.49	827.36	1.90	-0.28	-1.88	1.44	1.90	261.41
850.33	0.37	337.27	850.32	1.91	-0.17	-1.91	0.82	1.91	264.95
877.15	0.35	325.40	877.14	1.96	-0.02	-1.99	0.29	1.99	269.41

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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
900.07	0.41	330.87	900.06	2.02	0.11	-2.07	0.30	2.07	273.02
927.48	0.46	0.20	927.47	2.04	0.30	-2.11	0.82	2.13	278.17
953.02	0.37	262.99	953.01	2.11	0.39	-2.19	2.44	2.23	280.20
975.03	0.22	277.73	975.02	2.22	0.39	-2.31	0.75	2.34	279.63
1000.61	0.27	310.96	1000.60	2.31	0.44	-2.40	0.59	2.44	280.34
1025.66	0.37	299.32	1025.65	2.41	0.52	-2.52	0.46	2.57	281.60
1051.11	0.36	285.52	1051.10	2.55	0.58	-2.67	0.35	2.73	282.24
1076.57	0.34	281.52	1076.56	2.69	0.62	-2.82	0.13	2.89	282.32
1101.72	0.31	268.46	1101.71	2.83	0.63	-2.96	0.32	3.03	281.99
1126.21	0.38	273.63	1126.20	2.97	0.63	-3.11	0.30	3.17	281.50
1151.39	0.39	277.83	1151.38	3.14	0.65	-3.28	0.13	3.34	281.21
1176.77	0.51	270.42	1176.76	3.33	0.66	-3.48	0.52	3.54	280.79
1201.75	0.60	256.46	1201.74	3.57	0.63	-3.71	0.65	3.77	279.66
1226.93	0.29	286.65	1226.91	3.76	0.62	-3.90	1.50	3.95	279.02
1251.52	0.37	267.07	1251.50	3.90	0.63	-4.04	0.57	4.09	278.90
1276.00	0.50	261.13	1275.99	4.08	0.61	-4.23	0.56	4.27	278.24
1301.16	0.62	265.07	1301.15	4.33	0.58	-4.47	0.49	4.51	277.44
1326.39	0.65	264.04	1326.38	4.61	0.56	-4.75	0.13	4.78	276.69
1350.97	0.61	258.12	1350.95	4.88	0.52	-5.02	0.30	5.05	275.87
1376.08	0.58	257.79	1376.05	5.14	0.46	-5.27	0.14	5.29	275.00
1401.24	0.51	268.00	1401.21	5.38	0.43	-5.51	0.46	5.53	274.47
1426.38	0.63	269.09	1426.36	5.63	0.42	-5.76	0.47	5.78	274.21
1450.97	0.70	265.74	1450.94	5.91	0.41	-6.05	0.30	6.06	273.89
1476.22	0.71	260.27	1476.20	6.22	0.37	-6.36	0.28	6.37	273.36
1501.28	0.77	259.79	1501.25	6.54	0.32	-6.67	0.21	6.68	272.72
1526.45	0.58	262.32	1526.42	6.84	0.27	-6.97	0.74	6.97	272.22
1550.94	0.70	268.18	1550.91	7.11	0.25	-7.24	0.53	7.24	271.97
1576.11	0.79	271.64	1576.07	7.43	0.25	-7.56	0.40	7.57	271.89
1601.38	0.83	269.48	1601.35	7.78	0.25	-7.92	0.21	7.92	271.82
1626.67	0.92	260.85	1626.63	8.17	0.22	-8.30	0.62	8.30	271.51
1651.65	0.85	261.76	1651.61	8.55	0.16	-8.68	0.26	8.68	271.06
1676.30	0.77	269.25	1676.26	8.90	0.13	-9.03	0.54	9.03	270.84
1701.40	0.89	271.59	1701.35	9.26	0.14	-9.39	0.49	9.40	270.82
1726.67	0.90	267.58	1726.62	9.65	0.13	-9.79	0.25	9.79	270.77
1751.85	0.93	265.49	1751.80	10.05	0.11	-10.19	0.18	10.19	270.61
1776.96	0.92	259.21	1776.90	10.45	0.05	-10.59	0.40	10.59	270.29

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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
1801.67	0.84	265.71	1801.61	10.83	0.00	-10.96	0.52	10.96	270.02
1826.78	0.92	272.57	1826.72	11.21	0.00	-11.35	0.54	11.35	269.99
1851.98	0.92	274.22	1851.92	11.61	0.02	-11.75	0.11	11.75	270.11
1877.16	0.94	278.81	1877.09	12.00	0.07	-12.16	0.30	12.16	270.33
1901.74	1.02	271.47	1901.67	12.41	0.11	-12.58	0.61	12.58	270.48
1926.64	0.93	270.82	1926.56	12.83	0.11	-13.00	0.36	13.00	270.50
1951.51	0.85	271.79	1951.43	13.21	0.12	-13.39	0.33	13.39	270.53
1976.20	0.94	277.48	1976.12	13.58	0.16	-13.77	0.50	13.77	270.65
2000.44	1.01	279.66	2000.35	13.97	0.22	-14.18	0.36	14.18	270.88
2028.67	1.07	275.67	2028.58	14.47	0.28	-14.69	0.32	14.69	271.11
2053.48	1.11	265.16	2053.38	14.93	0.29	-15.16	0.82	15.16	271.09
2078.37	0.86	283.08	2078.27	15.34	0.31	-15.58	1.59	15.58	271.14
2103.06	0.91	273.12	2102.95	15.71	0.36	-15.96	0.66	15.96	271.30
2126.11	1.01	268.64	2126.01	16.09	0.37	-16.34	0.52	16.35	271.29
2150.85	1.12	272.91	2150.74	16.54	0.37	-16.80	0.54	16.81	271.28
2176.01	1.04	279.18	2175.90	17.00	0.42	-17.27	0.56	17.28	271.40
2200.11	1.12	272.21	2199.99	17.43	0.47	-17.72	0.65	17.73	271.51
2225.96	1.04	268.39	2225.84	17.92	0.47	-18.21	0.42	18.22	271.48
2253.50	1.03	272.88	2253.37	18.41	0.48	-18.71	0.30	18.71	271.45
2278.41	1.26	277.36	2278.28	18.89	0.52	-19.20	0.99	19.21	271.56
2303.32	1.27	281.69	2303.18	19.41	0.61	-19.74	0.39	19.75	271.78
2328.22	1.31	276.65	2328.08	19.94	0.70	-20.30	0.49	20.31	271.98
2352.56	1.25	279.74	2352.40	20.46	0.78	-20.84	0.39	20.85	272.14
2377.48	1.33	277.12	2377.32	21.00	0.86	-21.39	0.40	21.41	272.30
2402.39	1.20	281.11	2402.23	21.52	0.95	-21.94	0.62	21.96	272.47
2427.32	1.28	281.71	2427.15	22.03	1.05	-22.46	0.32	22.49	272.69
2452.14	1.43	276.46	2451.96	22.59	1.14	-23.04	0.77	23.07	272.84
2476.48	1.45	279.99	2476.30	23.17	1.23	-23.65	0.37	23.68	272.98
2501.59	1.34	278.60	2501.40	23.75	1.33	-24.25	0.45	24.29	273.14
2526.32	1.36	279.81	2526.12	24.30	1.42	-24.83	0.13	24.87	273.28
2551.24	1.20	286.27	2551.03	24.82	1.55	-25.37	0.86	25.41	273.49
2576.16	1.32	296.22	2575.95	25.29	1.75	-25.87	1.01	25.93	273.86
2600.52	1.31	303.84	2600.30	25.72	2.03	-26.36	0.72	26.44	274.40
2625.44	1.40	299.67	2625.22	26.17	2.34	-26.86	0.53	26.96	274.97
2650.39	1.42	306.11	2650.16	26.63	2.67	-27.38	0.64	27.51	275.57
2675.42	1.35	309.14	2675.19	27.05	3.04	-27.86	0.41	28.02	276.23

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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
2703.80	1.38	308.26	2703.55	27.50	3.46	-28.38	0.14	28.59	276.95
2728.14	1.45	315.38	2727.89	27.88	3.86	-28.83	0.78	29.09	277.63
2752.76	1.42	313.67	2752.49	28.25	4.30	-29.27	0.22	29.58	278.35
2777.28	1.51	309.35	2777.01	28.65	4.71	-29.74	0.57	30.11	279.00
2801.80	1.52	306.32	2801.52	29.09	5.11	-30.25	0.33	30.68	279.58
2825.76	1.46	307.19	2825.48	29.53	5.48	-30.75	0.27	31.24	280.11
2850.29	1.39	309.76	2850.00	29.94	5.86	-31.23	0.40	31.77	280.63
2878.19	1.29	314.22	2877.89	30.35	6.29	-31.71	0.51	32.33	281.23
2902.71	1.37	307.25	2902.40	30.72	6.66	-32.14	0.74	32.82	281.71
2927.23	1.46	305.72	2926.92	31.14	7.02	-32.63	0.41	33.38	282.15
2951.28	1.47	300.84	2950.96	31.60	7.36	-33.14	0.52	33.95	282.52
2975.71	1.40	299.48	2975.37	32.07	7.67	-33.67	0.29	34.53	282.83
3000.23	1.54	301.20	2999.89	32.56	7.99	-34.21	0.57	35.13	283.14
3028.12	1.57	302.18	3027.77	33.13	8.38	-34.86	0.15	35.85	283.52
3052.64	1.63	309.33	3052.28	33.62	8.78	-35.41	0.86	36.48	283.93
3076.60	1.65	297.83	3076.23	34.12	9.16	-35.98	1.37	37.13	284.28
3101.22	1.58	294.65	3100.84	34.69	9.47	-36.60	0.45	37.81	284.50
3125.66	1.60	297.68	3125.28	35.24	9.77	-37.21	0.35	38.47	284.71
3150.19	1.48	293.05	3149.80	35.79	10.05	-37.81	0.73	39.12	284.89
3178.23	1.41	291.19	3177.83	36.39	10.32	-38.46	0.30	39.82	285.01
3202.26	1.60	285.67	3201.85	36.95	10.51	-39.06	1.01	40.45	285.06
3226.88	1.59	270.78	3226.45	37.60	10.61	-39.73	1.68	41.12	284.95
3251.50	1.42	268.69	3251.07	38.24	10.61	-40.38	0.74	41.75	284.72
3276.23	1.35	267.90	3275.79	38.83	10.59	-40.97	0.30	42.32	284.49
3304.56	1.31	262.94	3304.12	39.49	10.54	-41.63	0.42	42.94	284.21
3325.18	1.18	259.75	3324.73	39.94	10.47	-42.07	0.71	43.36	283.98
3353.38	1.33	250.51	3352.92	40.55	10.31	-42.67	0.89	43.90	283.58
3378.21	1.41	249.29	3377.74	41.13	10.11	-43.23	0.33	44.39	283.16
3403.07	1.27	241.02	3402.59	41.69	9.86	-43.75	0.95	44.85	282.70
3427.39	1.42	228.71	3426.91	42.20	9.53	-44.22	1.33	45.23	282.17
3452.48	1.30	223.01	3452.00	42.69	9.12	-44.65	0.70	45.57	281.55
3477.21	1.46	232.93	3476.72	43.19	8.72	-45.09	1.15	45.93	280.95
3502.13	1.37	231.90	3501.63	43.73	8.35	-45.58	0.37	46.34	280.38
3527.06	1.61	204.01	3526.55	44.18	7.84	-45.95	3.03	46.62	279.69
3551.27	1.71	203.69	3550.76	44.56	7.20	-46.24	0.39	46.80	278.85
3575.76	1.20	222.24	3575.23	44.96	6.68	-46.56	2.78	47.03	278.16

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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
3600.26	1.70	219.90	3599.72	45.43	6.21	-46.96	2.03	47.37	277.53
3628.13	1.61	211.60	3627.58	46.00	5.56	-47.43	0.92	47.76	276.69
3652.63	1.00	209.87	3652.08	46.35	5.08	-47.72	2.48	47.99	276.08
3676.58	1.29	216.77	3676.02	46.68	4.68	-47.99	1.34	48.21	275.58
3701.09	1.34	210.56	3700.52	47.06	4.22	-48.30	0.62	48.48	274.99
3725.58	1.54	192.14	3725.01	47.36	3.65	-48.51	2.05	48.65	274.30
3750.08	0.93	225.37	3749.51	47.64	3.18	-48.72	3.75	48.83	273.74
3778.05	1.27	225.14	3777.47	48.07	2.81	-49.10	1.20	49.18	273.27
3801.90	1.03	206.31	3801.31	48.41	2.43	-49.39	1.86	49.45	272.82
3826.49	1.18	195.23	3825.90	48.64	1.99	-49.55	1.08	49.59	272.30
3850.89	1.00	196.88	3850.29	48.84	1.54	-49.68	0.75	49.70	271.77
3875.41	0.88	199.17	3874.81	49.02	1.16	-49.80	0.55	49.82	271.33
3903.51	1.06	207.93	3902.90	49.28	0.72	-49.99	0.84	50.00	270.83
3927.36	1.03	202.79	3926.75	49.52	0.33	-50.18	0.41	50.18	270.38
3951.87	1.19	197.66	3951.26	49.75	-0.11	-50.34	0.77	50.34	269.87
3976.39	0.97	193.52	3975.77	49.94	-0.56	-50.47	0.98	50.47	269.37
4000.90	0.77	202.57	4000.28	50.11	-0.91	-50.58	0.97	50.59	268.97
4025.40	0.72	200.91	4024.78	50.27	-1.21	-50.70	0.23	50.71	268.64
4052.74	0.69	198.40	4052.12	50.43	-1.52	-50.81	0.16	50.83	268.28
4077.27	0.49	201.43	4076.65	50.55	-1.76	-50.90	0.82	50.93	268.02
4101.80	0.47	171.39	4101.18	50.61	-1.96	-50.92	1.02	50.96	267.80
4126.34	0.47	161.52	4125.71	50.59	-2.15	-50.87	0.33	50.92	267.58
4150.88	0.42	152.86	4150.25	50.54	-2.33	-50.80	0.35	50.85	267.37
4178.43	0.58	145.87	4177.80	50.45	-2.54	-50.67	0.63	50.74	267.13
4202.88	0.71	151.92	4202.25	50.35	-2.77	-50.53	0.60	50.61	266.86
4227.32	0.67	132.44	4226.69	50.21	-3.01	-50.35	0.97	50.44	266.58
4252.52	0.60	142.56	4251.89	50.06	-3.21	-50.17	0.54	50.27	266.34
4277.18	0.69	155.53	4276.54	49.95	-3.45	-50.03	0.71	50.14	266.06
4301.56	0.67	142.18	4300.92	49.85	-3.69	-49.88	0.66	50.01	265.76
4325.55	0.70	145.98	4324.91	49.72	-3.93	-49.71	0.25	49.86	265.48
4353.39	0.78	152.46	4352.75	49.58	-4.24	-49.53	0.40	49.71	265.11
4377.53	0.81	153.98	4376.88	49.48	-4.53	-49.38	0.17	49.58	264.75
4401.68	0.93	166.20	4401.03	49.41	-4.88	-49.25	0.90	49.50	264.34
4425.93	1.08	171.69	4425.28	49.40	-5.29	-49.17	0.74	49.46	263.86
4452.74	1.05	167.32	4452.09	49.39	-5.78	-49.08	0.32	49.42	263.28
4476.88	0.94	192.07	4476.23	49.44	-6.19	-49.08	1.82	49.47	262.81

**Well Name:** Sidney Strear #5  
**Survey:** SIDNEY STREAR #5 (05-123-08935)  
**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
4500.66	1.00	202.37	4500.00	49.62	-6.57	-49.20	0.77	49.63	262.39
4525.29	0.95	216.12	4524.62	49.88	-6.94	-49.40	0.97	49.88	262.01
4551.49	0.91	233.59	4550.82	50.22	-7.24	-49.69	1.09	50.22	261.72
4575.73	0.82	229.43	4575.06	50.53	-7.46	-49.98	0.46	50.54	261.51
4600.29	0.90	235.69	4599.61	50.86	-7.69	-50.27	0.52	50.86	261.31
4626.31	1.02	236.14	4625.63	51.25	-7.93	-50.64	0.46	51.25	261.10
4650.83	0.91	246.08	4650.15	51.64	-8.13	-51.00	0.81	51.64	260.94
4675.09	0.93	257.11	4674.40	52.03	-8.26	-51.37	0.73	52.03	260.87
4701.03	0.90	261.67	4700.35	52.44	-8.33	-51.77	0.30	52.44	260.86
4725.06	0.60	263.64	4724.37	52.75	-8.37	-52.09	1.26	52.75	260.87
4750.43	1.17	272.91	4749.74	53.14	-8.37	-52.48	2.32	53.14	260.93
4772.48	0.66	299.85	4771.79	53.46	-8.30	-52.81	2.97	53.46	261.07