



Gyroscopic Survey Report
for
K.P. KAUFFMAN
1675 BROADWAY SUITE 2800
DENVER, CO 80202

Well Location	WELD COUNTY, CO
Well Name	SIDNEY STREAR UNIT #2
Rig Number	NABORS 92-3376
Survey Date	7/15/2014
Latitude	40.1176670°N
Longitude	104.8604630°W
North Reference	True North
Grid Correction	None
Depth Reference	GROUND LEVEL (4950.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 187.27Azim (deg)
Definitive Survey	SIDNEY STREAR UNIT #2
Operator(s)	C JAQUES, C KIRBY

Well Notes

Well Name: SIDNEY STREAR UNIT #2
Survey: SIDNEY STREAR UNIT #2
Survey Date: 7/15/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	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
99.73	0.60	90.44	99.73	-0.06	0.00	0.52	0.60	0.52	90.44
124.59	0.92	78.48	124.59	-0.14	0.03	0.85	1.43	0.85	87.65
149.98	1.48	81.92	149.97	-0.29	0.12	1.38	2.20	1.38	84.94
173.76	1.74	84.14	173.74	-0.46	0.20	2.04	1.14	2.05	84.35
199.17	1.96	84.81	199.14	-0.64	0.28	2.86	0.88	2.87	84.39
224.57	1.99	85.72	224.52	-0.82	0.35	3.73	0.17	3.75	84.60
249.59	2.16	87.82	249.53	-0.99	0.40	4.64	0.74	4.65	85.03
274.07	2.14	88.38	273.99	-1.13	0.43	5.56	0.12	5.57	85.53
298.97	2.02	88.32	298.87	-1.27	0.46	6.46	0.49	6.48	85.93
323.93	1.79	85.65	323.81	-1.42	0.50	7.29	1.01	7.31	86.06
348.83	1.71	83.77	348.71	-1.59	0.57	8.04	0.40	8.06	85.93
374.52	1.54	87.58	374.39	-1.73	0.63	8.77	0.75	8.79	85.90
399.39	1.46	88.85	399.25	-1.84	0.65	9.42	0.36	9.44	86.06
424.18	1.40	91.11	424.03	-1.91	0.65	10.04	0.35	10.06	86.30
449.00	1.36	92.53	448.84	-1.97	0.63	10.64	0.19	10.66	86.61
474.62	1.28	95.21	474.45	-2.01	0.59	11.23	0.42	11.24	86.99
499.38	1.22	96.31	499.21	-2.02	0.54	11.76	0.24	11.77	87.39
524.13	1.20	95.56	523.95	-2.03	0.48	12.28	0.11	12.29	87.75
549.27	1.23	95.53	549.09	-2.05	0.43	12.81	0.14	12.82	88.07
573.87	1.19	97.39	573.68	-2.06	0.37	13.33	0.24	13.34	88.40
599.19	1.18	99.70	599.00	-2.05	0.29	13.85	0.19	13.85	88.78
624.83	1.17	101.53	624.63	-2.01	0.20	14.37	0.15	14.37	89.21
649.46	1.17	102.47	649.26	-1.97	0.09	14.86	0.08	14.86	89.64
673.56	1.26	119.93	673.35	-1.85	-0.09	15.33	1.57	15.33	90.34
699.44	1.20	125.08	699.22	-1.61	-0.39	15.79	0.49	15.80	91.41
724.38	1.15	122.52	724.16	-1.39	-0.67	16.22	0.28	16.23	92.37
748.89	1.13	124.92	748.67	-1.17	-0.94	16.62	0.22	16.65	93.25
774.55	1.16	128.98	774.32	-0.91	-1.25	17.03	0.34	17.08	94.20
798.93	1.20	139.24	798.69	-0.61	-1.60	17.39	0.88	17.46	95.25
824.18	1.08	135.47	823.94	-0.29	-1.97	17.73	0.57	17.84	96.33
849.75	1.11	145.30	849.51	0.04	-2.34	18.04	0.75	18.19	97.40
874.09	1.19	147.92	873.84	0.41	-2.75	18.31	0.38	18.51	98.55
899.57	1.16	157.97	899.32	0.84	-3.21	18.54	0.82	18.82	99.84
923.87	1.10	157.87	923.61	1.26	-3.66	18.72	0.25	19.08	101.06
948.88	1.08	161.01	948.62	1.68	-4.10	18.89	0.26	19.33	102.26

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
974.27	1.08	168.03	974.00	2.12	-4.56	19.02	0.52	19.56	103.49
999.72	1.19	167.86	999.45	2.59	-5.05	19.12	0.43	19.78	104.81
1024.78	1.14	174.69	1024.51	3.08	-5.56	19.20	0.59	19.99	106.14
1048.43	1.14	179.73	1048.15	3.54	-6.02	19.22	0.42	20.14	107.40
1074.82	0.96	185.15	1074.53	4.03	-6.51	19.20	0.78	20.28	108.72
1100.00	0.90	189.27	1099.71	4.43	-6.91	19.15	0.37	20.36	109.85
1124.65	1.22	195.75	1124.36	4.89	-7.36	19.05	1.41	20.42	111.11
1148.78	0.91	195.05	1148.49	5.33	-7.79	18.93	1.28	20.47	112.37
1174.75	0.81	193.92	1174.45	5.72	-8.17	18.83	0.41	20.53	113.45
1199.84	0.98	192.94	1199.54	6.11	-8.55	18.74	0.66	20.60	114.52
1223.91	0.96	207.92	1223.61	6.50	-8.93	18.60	1.05	20.63	115.64
1248.99	0.90	207.20	1248.68	6.88	-9.29	18.41	0.25	20.62	116.77
1274.71	0.87	203.86	1274.40	7.26	-9.65	18.24	0.23	20.64	117.88
1299.00	0.80	196.78	1298.68	7.61	-9.98	18.12	0.51	20.68	118.85
1324.13	0.72	198.95	1323.81	7.94	-10.30	18.02	0.36	20.75	119.75
1349.29	0.62	203.19	1348.97	8.22	-10.57	17.91	0.43	20.80	120.55
1374.40	0.68	203.43	1374.08	8.49	-10.83	17.80	0.24	20.84	121.33
1399.96	0.77	214.99	1399.64	8.79	-11.11	17.64	0.68	20.85	122.21
1424.23	0.78	215.96	1423.90	9.08	-11.38	17.45	0.05	20.83	123.11
1449.00	0.58	227.29	1448.67	9.32	-11.60	17.26	0.96	20.79	123.91
1474.14	0.61	226.36	1473.81	9.52	-11.78	17.07	0.11	20.74	124.61
1499.29	0.56	218.02	1498.95	9.73	-11.97	16.90	0.39	20.71	125.31
1524.37	0.62	212.70	1524.03	9.96	-12.18	16.75	0.33	20.71	126.02
1549.02	0.62	212.74	1548.68	10.20	-12.40	16.61	0.00	20.72	126.75
1574.12	0.55	220.14	1573.79	10.42	-12.61	16.45	0.41	20.73	127.46
1599.14	0.53	227.43	1598.81	10.61	-12.78	16.29	0.29	20.70	128.10
1624.64	0.45	235.35	1624.31	10.77	-12.91	16.12	0.42	20.66	128.69
1648.83	0.53	237.95	1648.49	10.90	-13.02	15.95	0.36	20.59	129.23
1674.70	0.52	276.30	1674.36	10.98	-13.08	15.73	1.33	20.46	129.73
1699.68	0.37	272.99	1699.34	10.99	-13.06	15.54	0.61	20.30	130.04
1724.66	0.51	261.31	1724.32	11.02	-13.07	15.35	0.67	20.16	130.41
1748.43	0.48	264.83	1748.09	11.07	-13.10	15.15	0.19	20.03	130.84
1773.83	0.60	260.26	1773.49	11.14	-13.13	14.91	0.50	19.87	131.36
1799.17	0.55	270.05	1798.83	11.19	-13.15	14.66	0.42	19.70	131.89
1824.74	0.66	282.03	1824.39	11.19	-13.12	14.39	0.63	19.48	132.35
1849.75	0.72	300.67	1849.40	11.12	-13.01	14.12	0.93	19.20	132.66

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
1874.27	0.75	309.71	1873.92	10.97	-12.83	13.86	0.48	18.89	132.78
1899.32	0.85	296.08	1898.97	10.82	-12.64	13.57	0.86	18.55	132.97
1924.30	0.95	318.72	1923.95	10.63	-12.41	13.27	1.46	18.16	133.08
1948.79	0.97	325.86	1948.43	10.34	-12.08	13.02	0.50	17.76	132.86
1974.25	0.87	326.06	1973.89	10.03	-11.74	12.79	0.39	17.36	132.56
1999.69	1.07	324.75	1999.32	9.71	-11.39	12.54	0.76	16.94	132.23
2024.60	1.14	330.31	2024.23	9.34	-10.98	12.29	0.53	16.48	131.79
2049.78	0.94	330.59	2049.41	8.97	-10.58	12.06	0.79	16.05	131.27
2074.79	0.83	331.98	2074.41	8.66	-10.24	11.87	0.45	15.68	130.79
2099.22	0.75	336.60	2098.84	8.38	-9.94	11.73	0.43	15.37	130.29
2123.80	0.63	339.95	2123.42	8.12	-9.67	11.62	0.50	15.11	129.76
2149.99	0.51	344.19	2149.61	7.88	-9.42	11.54	0.49	14.89	129.23
2174.45	0.41	356.65	2174.07	7.70	-9.23	11.50	0.57	14.74	128.74
2199.28	0.33	16.06	2198.90	7.54	-9.07	11.52	0.60	14.66	128.22
2224.27	0.25	30.89	2223.88	7.42	-8.95	11.56	0.45	14.62	127.74
2249.09	0.31	62.44	2248.70	7.33	-8.87	11.65	0.66	14.65	127.30
2274.80	0.28	71.90	2274.41	7.26	-8.82	11.77	0.23	14.71	126.85
2299.60	0.30	92.22	2299.21	7.23	-8.81	11.89	0.43	14.80	126.51
2324.38	0.28	104.13	2323.99	7.23	-8.82	12.02	0.26	14.91	126.28
2349.32	0.24	125.44	2348.94	7.26	-8.87	12.12	0.41	15.02	126.19
2374.93	0.22	102.07	2374.54	7.29	-8.91	12.21	0.37	15.12	126.11
2399.70	0.27	100.79	2399.32	7.30	-8.93	12.32	0.20	15.22	125.95
2424.46	0.46	114.07	2424.08	7.33	-8.98	12.47	0.81	15.36	125.78
2448.93	0.50	130.31	2448.55	7.42	-9.09	12.64	0.58	15.57	125.74
2474.75	0.51	123.66	2474.36	7.53	-9.23	12.82	0.23	15.79	125.75
2499.68	0.42	133.31	2499.29	7.64	-9.35	12.98	0.48	16.00	125.78
2524.48	0.40	113.01	2524.09	7.71	-9.45	13.12	0.59	16.17	125.76
2549.18	0.40	135.91	2548.79	7.79	-9.55	13.26	0.65	16.34	125.74
2574.72	0.48	132.33	2574.33	7.91	-9.68	13.41	0.35	16.54	125.84
2599.46	0.49	150.39	2599.06	8.05	-9.84	13.54	0.62	16.74	126.03
2624.22	0.44	164.44	2623.82	8.23	-10.03	13.61	0.50	16.91	126.38
2648.79	0.44	161.47	2648.40	8.40	-10.21	13.67	0.09	17.06	126.76
2674.40	0.58	156.82	2674.00	8.60	-10.42	13.75	0.55	17.26	127.16
2698.98	0.48	161.47	2698.58	8.80	-10.64	13.83	0.44	17.45	127.56
2723.85	0.50	163.78	2723.45	8.99	-10.84	13.90	0.11	17.62	127.95
2749.74	0.46	168.13	2749.35	9.19	-11.05	13.95	0.22	17.80	128.38

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
2773.93	0.43	145.31	2773.53	9.35	-11.22	14.02	0.73	17.96	128.66
2799.84	0.44	165.01	2799.44	9.52	-11.39	14.10	0.58	18.13	128.94
2824.43	0.37	171.01	2824.03	9.68	-11.57	14.14	0.35	18.27	129.28
2849.14	0.34	168.01	2848.74	9.83	-11.72	14.17	0.13	18.38	129.59
2873.41	0.41	177.24	2873.01	9.98	-11.87	14.19	0.37	18.50	129.93
2899.23	0.35	187.80	2898.82	10.15	-12.04	14.18	0.36	18.60	130.34
2924.95	0.40	185.90	2924.55	10.32	-12.21	14.16	0.21	18.70	130.77
2949.57	0.36	195.75	2949.17	10.48	-12.37	14.13	0.31	18.78	131.20
2974.96	0.33	195.00	2974.56	10.64	-12.52	14.09	0.13	18.85	131.62
2999.21	0.35	183.78	2998.81	10.78	-12.66	14.07	0.29	18.93	131.99
3024.93	0.33	190.98	3024.52	10.93	-12.81	14.05	0.19	19.01	132.37
3049.07	0.35	196.72	3048.67	11.08	-12.95	14.01	0.15	19.08	132.75
3074.54	0.37	206.09	3074.14	11.23	-13.10	13.95	0.24	19.14	133.19
3099.86	0.29	224.08	3099.46	11.36	-13.22	13.87	0.49	19.16	133.62
3124.01	0.30	209.91	3123.61	11.47	-13.32	13.80	0.31	19.18	133.99
3148.88	0.18	202.31	3148.47	11.57	-13.41	13.75	0.50	19.21	134.29
3174.25	0.26	160.74	3173.84	11.66	-13.51	13.75	0.67	19.28	134.48
3199.49	0.27	181.93	3199.08	11.77	-13.62	13.77	0.38	19.37	134.68
3224.89	0.35	201.32	3224.48	11.90	-13.75	13.74	0.51	19.44	135.01
3249.37	0.29	200.66	3248.96	12.03	-13.87	13.69	0.23	19.49	135.38
3274.62	0.25	207.87	3274.22	12.15	-13.98	13.64	0.20	19.54	135.71
3299.93	0.29	166.75	3299.52	12.26	-14.10	13.63	0.78	19.61	135.96
3323.49	0.32	208.44	3323.09	12.38	-14.21	13.61	0.93	19.68	136.23
3349.93	0.21	227.27	3349.53	12.48	-14.31	13.54	0.51	19.70	136.58
3373.94	0.28	265.84	3373.53	12.53	-14.35	13.45	0.73	19.67	136.84
3399.23	0.31	243.04	3398.83	12.58	-14.38	13.33	0.48	19.61	137.18
3424.45	0.36	263.02	3424.04	12.64	-14.42	13.19	0.51	19.54	137.56
3449.89	0.39	300.95	3449.48	12.62	-14.39	13.03	0.97	19.41	137.83
3474.20	0.43	287.32	3473.79	12.57	-14.32	12.88	0.43	19.26	138.04
3499.49	0.54	289.67	3499.08	12.53	-14.25	12.67	0.43	19.07	138.35
3524.70	0.44	302.86	3524.29	12.46	-14.16	12.48	0.59	18.87	138.60
3549.46	0.46	303.22	3549.05	12.38	-14.05	12.32	0.11	18.69	138.76
3573.81	0.48	308.00	3573.40	12.28	-13.93	12.16	0.18	18.49	138.90
3599.94	0.50	299.13	3599.52	12.19	-13.81	11.97	0.30	18.28	139.09
3624.67	0.39	294.56	3624.25	12.12	-13.72	11.80	0.46	18.10	139.32
3649.93	0.37	299.17	3649.52	12.06	-13.65	11.65	0.15	17.94	139.52

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
3673.93	0.36	293.34	3673.52	12.01	-13.58	11.51	0.16	17.80	139.72
3698.56	0.36	296.28	3698.14	11.97	-13.51	11.37	0.08	17.66	139.93
3724.16	0.40	276.51	3723.74	11.94	-13.47	11.21	0.54	17.52	140.24
3749.53	0.45	253.52	3749.12	11.98	-13.49	11.02	0.69	17.42	140.74
3774.68	0.57	251.55	3774.26	12.08	-13.55	10.81	0.48	17.34	141.42
3799.79	0.67	245.37	3799.37	12.21	-13.65	10.56	0.48	17.26	142.28
3824.03	0.78	248.85	3823.61	12.36	-13.77	10.28	0.52	17.19	143.26
3848.81	0.89	245.90	3848.38	12.54	-13.91	9.95	0.46	17.10	144.44
3874.83	1.01	244.92	3874.40	12.77	-14.09	9.55	0.47	17.02	145.86
3899.39	1.03	247.05	3898.96	13.00	-14.27	9.15	0.18	16.95	147.32
3924.97	1.07	246.80	3924.53	13.23	-14.45	8.72	0.15	16.88	148.89
3949.62	1.09	249.76	3949.18	13.46	-14.63	8.29	0.24	16.81	150.45
3974.41	1.07	247.24	3973.97	13.68	-14.80	7.86	0.22	16.75	152.04
3999.07	0.91	240.84	3998.62	13.91	-14.98	7.47	0.78	16.74	153.49
4024.48	0.81	240.95	4024.03	14.14	-15.17	7.14	0.37	16.76	154.79
4049.19	0.79	239.83	4048.74	14.35	-15.34	6.84	0.10	16.79	155.97
4073.82	0.81	231.35	4073.36	14.58	-15.53	6.55	0.49	16.86	157.12
4098.85	0.89	234.42	4098.39	14.84	-15.76	6.26	0.38	16.95	158.34
4124.68	1.10	228.48	4124.22	15.16	-16.04	5.91	0.91	17.09	159.78
4149.29	1.09	230.27	4148.82	15.51	-16.34	5.55	0.15	17.26	161.24
4173.95	1.17	232.00	4173.48	15.86	-16.65	5.17	0.37	17.43	162.74
4199.77	1.16	228.76	4199.29	16.24	-16.98	4.77	0.26	17.64	164.32
4223.92	1.20	237.46	4223.44	16.59	-17.28	4.37	0.76	17.82	165.80
4249.74	1.20	239.99	4249.25	16.93	-17.56	3.91	0.21	17.99	167.45
4274.30	1.21	242.05	4273.81	17.23	-17.81	3.46	0.18	18.14	169.02
4298.85	1.23	246.98	4298.35	17.51	-18.04	2.99	0.43	18.28	170.60
4324.27	1.28	248.83	4323.77	17.79	-18.24	2.47	0.26	18.41	172.29
4348.73	1.41	240.22	4348.22	18.10	-18.49	1.96	0.99	18.60	173.96
4374.54	1.17	254.52	4374.02	18.39	-18.72	1.43	1.56	18.78	175.64
4398.99	1.04	260.80	4398.47	18.55	-18.82	0.97	0.71	18.85	177.06
4424.73	1.06	254.52	4424.21	18.71	-18.92	0.51	0.45	18.93	178.47
4449.95	1.01	263.17	4449.42	18.85	-19.01	0.06	0.65	19.01	179.82
4474.39	0.88	265.45	4473.86	18.94	-19.05	-0.34	0.55	19.06	181.02
4499.73	0.85	263.53	4499.19	19.03	-19.09	-0.72	0.17	19.10	182.16
4524.59	0.67	268.44	4524.05	19.09	-19.11	-1.05	0.76	19.14	183.14
4548.62	0.67	265.66	4548.08	19.14	-19.13	-1.33	0.14	19.17	183.97

Well Name: SIDNEY STREAR UNIT #2
Survey: SIDNEY STREAR UNIT #2
Survey Date: 7/15/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft	Closure Distance ft	Closure Direction deg
4574.37	0.69	275.05	4573.82	19.18	-19.13	-1.63	0.44	19.20	184.88
4599.15	0.64	277.59	4598.60	19.18	-19.10	-1.92	0.23	19.19	185.73
4624.42	0.77	269.40	4623.87	19.21	-19.08	-2.23	0.65	19.21	186.66
4640.05	0.76	285.61	4639.50	19.21	-19.05	-2.43	1.38	19.21	187.27