



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

Well Location	WELD COUNTY, CO
Well Name	JOHN HENRY STOLTZ JR B-1
Rig Number	FMC 255
Survey Date	6/24/2014
Latitude	40.0388400°N
Longitude	104.8461100°W
North Reference	True North
Grid Correction	None
Depth Reference	GROUND LEVEL (4941.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 322.31Azim (deg)
Definitive Survey	JOHN HENRY STOLTZ JR B-1
Operator(s)	C JAQUES

Well Notes

Survey Report

Well Name: JOHN HENRY STOLTZ JR B-1
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Survey Date: 6/24/2014

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
100.03	0.78	232.08	100.02	0.00	-0.42	-0.54	0.78	0.68	232.08
123.99	0.70	242.94	123.98	0.02	-0.58	-0.80	0.66	0.99	233.69
149.77	0.73	247.47	149.77	0.10	-0.72	-1.09	0.24	1.30	236.53
174.24	0.75	251.81	174.23	0.19	-0.83	-1.38	0.25	1.61	239.08
198.84	0.91	255.48	198.83	0.32	-0.93	-1.73	0.67	1.96	241.73
224.32	1.06	263.19	224.31	0.52	-1.01	-2.16	0.77	2.38	244.96
249.56	1.13	264.60	249.54	0.77	-1.06	-2.63	0.30	2.84	248.11
274.36	1.26	270.88	274.33	1.07	-1.08	-3.15	0.74	3.33	251.12
299.21	1.55	280.39	299.18	1.49	-1.01	-3.75	1.51	3.89	254.91
324.34	1.81	282.82	324.30	2.05	-0.86	-4.47	1.07	4.56	259.09
349.53	2.10	284.50	349.47	2.72	-0.66	-5.31	1.18	5.35	262.93
373.89	2.51	288.95	373.81	3.52	-0.37	-6.25	1.84	6.26	266.59
399.04	2.67	291.28	398.94	4.49	0.02	-7.32	0.76	7.32	270.15
424.95	2.89	294.37	424.82	5.58	0.51	-8.47	1.00	8.49	273.43
448.81	2.98	297.14	448.65	6.67	1.04	-9.57	0.70	9.63	276.19
474.09	3.02	299.16	473.89	7.88	1.66	-10.74	0.44	10.86	278.80
498.88	3.13	303.33	498.64	9.12	2.35	-11.87	1.02	12.10	281.20
523.68	3.07	304.94	523.41	10.39	3.10	-12.98	0.44	13.35	283.45
548.67	2.97	308.95	548.36	11.66	3.89	-14.03	0.94	14.56	285.51
574.42	2.91	309.33	574.08	12.95	4.73	-15.06	0.23	15.78	287.43
598.88	2.82	310.75	598.51	14.14	5.51	-15.99	0.45	16.92	289.02
624.55	2.74	311.12	624.15	15.36	6.33	-16.94	0.35	18.08	290.49
649.10	2.66	312.01	648.67	16.50	7.10	-17.80	0.35	19.16	291.74
674.85	2.71	312.22	674.39	17.69	7.91	-18.70	0.21	20.30	292.92
698.80	2.73	309.80	698.31	18.80	8.65	-19.55	0.48	21.38	293.87
724.49	2.82	308.89	723.97	20.01	9.44	-20.52	0.41	22.58	294.71
748.53	2.82	307.51	747.99	21.16	10.17	-21.45	0.28	23.74	295.38
773.72	3.13	305.53	773.14	22.42	10.95	-22.50	1.29	25.02	295.95
799.04	3.38	304.22	798.43	23.79	11.77	-23.68	1.03	26.45	296.44
824.78	3.54	303.72	824.12	25.27	12.64	-24.97	0.61	27.99	296.85
849.50	3.67	304.57	848.79	26.74	13.51	-26.25	0.57	29.53	297.24
874.36	3.84	308.16	873.59	28.31	14.48	-27.56	1.18	31.13	297.71
899.13	3.93	309.29	898.31	29.94	15.53	-28.87	0.48	32.78	298.27
924.76	4.13	312.03	923.87	31.71	16.70	-30.24	1.09	34.55	298.92
949.56	4.54	316.12	948.60	33.56	18.01	-31.58	2.05	36.36	299.69

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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
973.86	4.61	316.79	972.82	35.49	19.42	-32.92	0.37	38.22	300.53
998.99	4.71	318.46	997.87	37.52	20.92	-34.29	0.67	40.17	301.39
1024.54	4.79	319.47	1023.33	39.64	22.52	-35.68	0.44	42.20	302.26
1048.86	4.79	318.62	1047.57	41.66	24.05	-37.01	0.29	44.14	303.02
1073.94	4.80	318.30	1072.56	43.75	25.62	-38.40	0.13	46.17	303.71
1099.00	4.84	318.53	1097.53	45.86	27.20	-39.80	0.18	48.21	304.35
1124.01	4.83	322.36	1122.45	47.96	28.82	-41.15	1.29	50.24	305.01
1149.38	4.82	321.97	1147.73	50.10	30.51	-42.46	0.14	52.28	305.70
1173.87	4.81	322.84	1172.13	52.16	32.14	-43.71	0.30	54.25	306.33
1199.15	4.69	321.73	1197.33	54.25	33.80	-44.99	0.59	56.27	306.91
1224.42	4.79	323.27	1222.51	56.34	35.45	-46.26	0.62	58.29	307.47
1249.69	4.75	324.01	1247.69	58.44	37.15	-47.51	0.28	60.31	308.02
1274.26	4.53	323.17	1272.19	60.43	38.75	-48.69	0.93	62.22	308.51
1299.73	4.68	324.94	1297.57	62.47	40.40	-49.89	0.80	64.20	309.00
1323.62	4.69	326.25	1321.38	64.42	42.01	-50.99	0.45	66.07	309.49
1349.61	4.79	326.59	1347.28	66.56	43.80	-52.18	0.38	68.13	310.01
1374.21	4.64	328.14	1371.80	68.58	45.50	-53.27	0.80	70.06	310.51
1399.67	4.60	328.53	1397.18	70.61	47.25	-54.34	0.21	72.01	311.00
1424.38	4.64	328.21	1421.81	72.59	48.94	-55.39	0.20	73.91	311.47
1449.00	4.51	327.94	1446.35	74.55	50.61	-56.43	0.51	75.80	311.89
1474.20	4.45	329.05	1471.48	76.51	52.29	-57.46	0.42	77.69	312.30
1499.66	4.33	329.32	1496.86	78.44	53.96	-58.45	0.49	79.56	312.71
1524.40	4.27	330.41	1521.53	80.28	55.57	-59.39	0.41	81.33	313.10
1549.91	4.12	331.13	1546.97	82.13	57.20	-60.30	0.62	83.11	313.49
1574.59	4.10	332.09	1571.58	83.87	58.75	-61.14	0.29	84.79	313.86
1599.20	3.98	332.52	1596.13	85.58	60.29	-61.94	0.50	86.44	314.22
1623.81	3.82	332.97	1620.68	87.22	61.77	-62.71	0.67	88.02	314.57
1648.85	3.80	333.31	1645.67	88.85	63.26	-63.46	0.11	89.60	314.91
1674.10	3.71	332.96	1670.87	90.48	64.73	-64.21	0.38	91.17	315.23
1699.98	3.62	333.19	1696.69	92.10	66.20	-64.96	0.35	92.75	315.55
1724.21	3.57	333.62	1720.88	93.59	67.56	-65.64	0.21	94.20	315.83
1748.88	3.48	333.94	1745.50	95.08	68.92	-66.31	0.40	95.64	316.11
1774.75	3.41	334.84	1771.33	96.60	70.33	-66.98	0.34	97.12	316.40
1798.98	3.14	333.97	1795.52	97.95	71.58	-67.58	1.12	98.44	316.65
1824.51	3.08	335.94	1821.01	99.31	72.83	-68.16	0.50	99.75	316.90
1849.53	3.04	337.35	1845.99	100.60	74.05	-68.69	0.33	101.01	317.15

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS ft/100ft	Closure Distance ft	Closure Direction deg
1874.60	2.88	338.98	1871.03	101.84	75.25	-69.17	0.72	102.22	317.41
1899.25	2.78	341.30	1895.64	103.00	76.40	-69.59	0.60	103.34	317.67
1923.87	2.70	343.27	1920.24	104.11	77.52	-69.95	0.52	104.41	317.94
1949.35	2.60	345.30	1945.69	105.20	78.65	-70.26	0.52	105.47	318.22
1974.40	2.53	347.40	1970.71	106.22	79.74	-70.53	0.46	106.46	318.51
1999.79	2.42	348.11	1996.08	107.22	80.82	-70.76	0.47	107.42	318.79
2023.89	2.45	348.23	2020.16	108.14	81.82	-70.97	0.15	108.31	319.06
2049.41	2.39	347.98	2045.66	109.11	82.87	-71.19	0.26	109.26	319.33
2074.43	2.35	347.62	2070.66	110.04	83.89	-71.41	0.15	110.17	319.59
2099.71	2.30	347.43	2095.92	110.97	84.89	-71.64	0.20	111.08	319.84
2123.94	2.22	347.48	2120.13	111.84	85.82	-71.84	0.35	111.92	320.07
2148.96	2.11	347.38	2145.13	112.69	86.74	-72.05	0.45	112.76	320.29
2174.74	2.05	348.63	2170.89	113.53	87.66	-72.24	0.29	113.59	320.51
2198.87	2.07	347.90	2195.00	114.31	88.51	-72.42	0.16	114.36	320.71
2224.69	2.05	347.67	2220.81	115.15	89.42	-72.62	0.08	115.19	320.92
2248.77	2.03	353.34	2244.88	115.91	90.26	-72.76	0.84	115.94	321.13
2273.82	2.02	352.04	2269.91	116.68	91.14	-72.87	0.19	116.69	321.36
2298.29	1.97	354.11	2294.37	117.41	91.99	-72.97	0.36	117.42	321.58
2324.61	2.14	353.04	2320.67	118.21	92.93	-73.08	0.64	118.22	321.82
2349.52	2.10	354.60	2345.56	119.00	93.84	-73.18	0.26	119.00	322.05
2374.51	2.10	355.74	2370.53	119.77	94.75	-73.26	0.17	119.77	322.29
2399.08	2.08	354.22	2395.09	120.52	95.65	-73.33	0.23	120.52	322.52
2423.99	1.99	355.44	2419.99	121.27	96.53	-73.41	0.42	121.27	322.74
2448.98	2.02	355.08	2444.96	122.00	97.40	-73.49	0.13	122.01	322.97
2473.96	1.85	355.12	2469.92	122.71	98.24	-73.56	0.68	122.72	323.17
2499.69	1.68	355.38	2495.64	123.37	99.02	-73.62	0.67	123.39	323.37
2524.95	1.47	349.54	2520.89	123.97	99.71	-73.71	1.04	124.00	323.53
2549.86	1.30	342.23	2545.79	124.52	100.29	-73.86	0.98	124.55	323.63
2573.71	1.20	337.06	2569.64	125.01	100.78	-74.04	0.62	125.05	323.70
2599.98	1.10	331.70	2595.91	125.53	101.25	-74.26	0.56	125.57	323.74
2624.11	0.99	316.67	2620.03	125.96	101.61	-74.52	1.22	126.00	323.75
2648.53	0.98	307.03	2644.45	126.37	101.89	-74.83	0.68	126.41	323.71
2674.00	1.01	296.11	2669.91	126.79	102.12	-75.20	0.75	126.82	323.63
2699.35	1.08	288.45	2695.26	127.19	102.29	-75.63	0.61	127.21	323.52
2724.43	1.15	283.02	2720.33	127.58	102.42	-76.10	0.52	127.60	323.39
2749.28	1.23	280.11	2745.18	127.97	102.53	-76.61	0.39	127.99	323.23

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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
2774.85	1.34	276.86	2770.74	128.38	102.61	-77.17	0.50	128.39	323.05
2799.12	1.42	279.32	2795.00	128.80	102.69	-77.75	0.44	128.81	322.87
2824.11	1.34	284.36	2819.99	129.26	102.82	-78.34	0.59	129.26	322.69
2849.67	1.32	280.82	2845.54	129.72	102.95	-78.92	0.33	129.72	322.52
2874.78	1.41	281.93	2870.64	130.17	103.06	-79.51	0.35	130.17	322.35
2899.81	1.37	282.91	2895.66	130.64	103.20	-80.10	0.16	130.64	322.18
2924.80	1.49	282.26	2920.64	131.12	103.33	-80.71	0.45	131.12	322.01
2949.58	1.34	279.13	2945.42	131.57	103.44	-81.31	0.68	131.58	321.83
2974.56	1.37	280.13	2970.40	132.00	103.54	-81.89	0.15	132.01	321.66
2999.61	1.33	275.93	2995.44	132.43	103.63	-82.47	0.42	132.44	321.48
3024.65	1.30	277.23	3020.47	132.83	103.69	-83.05	0.18	132.85	321.31
3049.23	1.26	287.35	3045.05	133.24	103.81	-83.58	0.93	133.27	321.16
3074.25	1.08	283.64	3070.06	133.65	103.94	-84.07	0.78	133.69	321.03
3099.30	0.99	284.23	3095.11	134.01	104.05	-84.51	0.33	134.05	320.92
3123.93	0.88	288.99	3119.73	134.33	104.17	-84.89	0.55	134.38	320.82
3148.48	0.83	295.74	3144.28	134.65	104.31	-85.23	0.47	134.70	320.75
3173.96	0.69	302.20	3169.75	134.96	104.47	-85.53	0.64	135.01	320.69
3199.00	0.40	306.21	3194.79	135.19	104.60	-85.73	1.16	135.24	320.66
3224.81	0.12	349.24	3220.60	135.30	104.68	-85.81	1.25	135.35	320.66
3249.85	0.16	32.34	3245.65	135.33	104.74	-85.79	0.43	135.39	320.68
3274.89	0.19	11.24	3270.69	135.37	104.81	-85.77	0.29	135.43	320.71
3299.94	0.10	52.32	3295.74	135.40	104.86	-85.74	0.55	135.45	320.73
3324.50	0.07	53.60	3320.29	135.40	104.88	-85.71	0.11	135.45	320.74
3349.54	0.09	36.05	3345.34	135.41	104.91	-85.69	0.12	135.46	320.76
3374.57	0.13	354.90	3370.37	135.43	104.95	-85.68	0.35	135.48	320.77
3399.19	0.13	6.95	3394.98	135.48	105.01	-85.68	0.11	135.53	320.79
3424.14	0.12	354.54	3419.93	135.52	105.06	-85.68	0.12	135.57	320.80
3449.16	0.11	325.03	3444.95	135.57	105.11	-85.69	0.24	135.61	320.81
3474.17	0.29	307.15	3469.96	135.65	105.17	-85.76	0.78	135.70	320.80
3499.89	0.24	299.56	3495.69	135.77	105.23	-85.86	0.24	135.81	320.79
3524.76	0.39	297.92	3520.56	135.89	105.30	-85.98	0.59	135.94	320.77
3549.77	0.41	294.11	3545.57	136.05	105.38	-86.14	0.13	136.10	320.74
3574.62	0.47	268.45	3570.42	136.19	105.41	-86.32	0.83	136.24	320.69
3599.05	0.52	274.84	3594.84	136.32	105.42	-86.53	0.29	136.38	320.62
3623.95	0.53	284.89	3619.74	136.49	105.45	-86.76	0.37	136.55	320.56
3648.84	0.66	280.38	3644.63	136.69	105.51	-87.01	0.55	136.76	320.49



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3674.98	0.70	270.18	3670.77	136.90	105.54	-87.32	0.49	136.98	320.40
3698.61	0.79	276.14	3694.39	137.10	105.56	-87.62	0.50	137.19	320.30
3724.28	0.82	274.01	3720.06	137.35	105.59	-87.98	0.17	137.44	320.20
3749.57	0.90	272.88	3745.35	137.59	105.61	-88.36	0.31	137.70	320.08
3774.12	0.83	281.55	3769.89	137.86	105.66	-88.73	0.59	137.97	319.98
3799.65	0.83	286.09	3795.42	138.14	105.74	-89.09	0.26	138.27	319.89
3824.28	0.91	284.69	3820.05	138.44	105.84	-89.45	0.35	138.58	319.80
3849.91	0.92	285.89	3845.68	138.77	105.95	-89.84	0.09	138.91	319.70
3874.49	1.06	286.72	3870.26	139.11	106.07	-90.25	0.56	139.27	319.61
3899.61	1.10	280.24	3895.37	139.48	106.18	-90.71	0.51	139.65	319.49
3923.79	1.09	287.18	3919.55	139.84	106.29	-91.16	0.55	140.03	319.38
3949.40	1.16	287.75	3945.15	140.26	106.44	-91.64	0.28	140.45	319.27
3974.81	1.23	288.65	3970.56	140.70	106.61	-92.14	0.29	140.91	319.16
3999.82	1.20	291.58	3995.55	141.14	106.79	-92.64	0.28	141.37	319.06
4024.08	1.12	297.12	4019.82	141.58	106.99	-93.09	0.57	141.82	318.97
4050.00	1.05	299.23	4045.73	142.03	107.22	-93.52	0.34	142.28	318.90
4074.19	1.09	302.07	4069.92	142.44	107.45	-93.91	0.28	142.71	318.85
4098.73	1.13	294.98	4094.45	142.88	107.68	-94.33	0.58	143.15	318.78
4124.61	1.03	307.16	4120.32	143.33	107.93	-94.74	0.96	143.61	318.72
4149.18	1.12	313.42	4144.89	143.78	108.22	-95.09	0.58	144.07	318.70
4174.51	1.21	323.46	4170.22	144.29	108.61	-95.43	0.89	144.58	318.70
4199.92	1.29	329.37	4195.62	144.85	109.07	-95.74	0.59	145.13	318.72
4223.59	1.57	339.40	4219.29	145.42	109.61	-95.99	1.59	145.70	318.79
4248.96	1.59	348.34	4244.64	146.07	110.28	-96.18	0.97	146.33	318.91
4274.32	1.70	347.85	4269.99	146.72	110.99	-96.33	0.45	146.96	319.04
4299.66	1.80	351.63	4295.32	147.41	111.75	-96.47	0.62	147.63	319.20
4324.47	1.88	355.61	4320.12	148.09	112.54	-96.56	0.60	148.29	319.37
4349.67	2.06	1.27	4345.30	148.79	113.41	-96.58	1.05	148.96	319.58
4374.70	1.98	1.47	4370.31	149.47	114.29	-96.56	0.33	149.62	319.81
4399.10	2.06	1.41	4394.70	150.14	115.15	-96.54	0.32	150.26	320.02
4424.08	1.96	1.91	4419.67	150.82	116.02	-96.51	0.39	150.92	320.25
4448.66	1.75	3.26	4444.23	151.43	116.82	-96.48	0.87	151.51	320.45
4474.43	1.87	359.99	4469.99	152.06	117.64	-96.45	0.61	152.12	320.65
4499.72	1.91	0.31	4495.27	152.72	118.47	-96.45	0.16	152.77	320.85
4524.06	1.93	5.71	4519.59	153.34	119.29	-96.41	0.75	153.37	321.05
4549.53	1.99	2.51	4545.05	153.99	120.16	-96.35	0.49	154.01	321.28

**Well Name:** JOHN HENRY STOLTZ JR B-1**Survey:** JOHN HENRY STOLTZ JR B-1**Survey Date:** 6/24/2014

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %100ft	Closure Distance ft	Closure Direction deg
4574.21	1.68	359.96	4569.72	154.60	120.95	-96.33	1.30	154.62	321.46
4599.09	1.41	358.63	4594.58	155.14	121.62	-96.34	1.09	155.15	321.62
4624.98	1.39	359.18	4620.47	155.65	122.25	-96.35	0.09	155.65	321.76
4649.57	1.33	6.28	4645.05	156.09	122.83	-96.32	0.73	156.09	321.90
4674.92	1.12	343.48	4670.40	156.53	123.36	-96.36	2.07	156.53	322.01
4699.29	1.05	356.88	4694.76	156.94	123.81	-96.44	1.07	156.94	322.08
4724.82	1.36	8.79	4720.28	157.34	124.34	-96.41	1.55	157.34	322.21
4743.38	1.13	2.40	4738.84	157.63	124.75	-96.36	1.44	157.63	322.31