

Gyroscopic Survey Report for:

ANADARKO

API: 05-123-20513

Well Location: WELD COUNTY, CO

Well Name: HSR BALLINGER 4-18

Rig Number: CORETECH 2

Survey Date: 3/6/2014

Coordinates: 40.2324400°N -104.93823°W

North Reference: True North

Grid Correction: None

Depth Reference: GROUND LEVEL (4867.00 ft)

Calculation Method: Minimum Curvature

Section (VS) Ref: 0.00N (ft), 0.00E (ft), 231.54Azim (deg)

Definitive Survey: HSR BALLINGER 4-18

Operator(s): C JAKUES

Measured Depth ft	Inclination deg	Azimuth deg	True Vertical Depth ft	Vertical Section ft	+N/-S ft	+E/-W ft	Dogleg Severity °/100ft	Closure Distance ft	Closure Direction deg
0		0	0	0	0	0	Invalid	0	0
100	0.68	95.37	100	-0.43	-0.06	0.59	0.68	0.59	95.37
200	0.8	90.61	199.99	-1.39	-0.12	1.87	0.14	1.88	93.59
300	0.72	73.87	299.98	-2.52	0.05	3.18	0.24	3.18	89.12
400	0.45	331.22	399.98	-3.16	0.57	3.59	0.93	3.63	80.96
500	2.95	287.52	499.93	-1.79	1.69	0.94	2.64	1.94	29.16
600	6.43	281.85	599.58	3.22	3.62	-6.99	3.51	7.87	297.36
700	6.96	281.21	698.9	10.72	5.94	-18.41	0.53	19.34	287.89
800	6.77	282.3	798.18	18.36	8.38	-30.11	0.23	31.25	285.55
900	6.51	281.61	897.51	25.73	10.77	-41.41	0.27	42.79	284.58
1000	6.07	280.88	996.91	32.81	12.91	-52.16	0.44	53.73	283.9
1100	5.63	280.87	1096.39	39.46	14.83	-62.17	0.44	63.92	283.42
1200	4.92	279.68	1195.96	45.52	16.48	-71.22	0.73	73.1	283.03
1300	4.3	279.33	1295.64	50.9	17.81	-79.14	0.61	81.12	282.68
1400	3.8	276.09	1395.39	55.78	18.77	-86.14	0.55	88.16	282.29
1500	3.63	274.81	1495.18	60.45	19.39	-92.59	0.19	94.6	281.83
1600	3.4	273.8	1594.99	64.95	19.85	-98.7	0.24	100.68	281.37
1700	3	272.8	1694.83	69.11	20.17	-104.28	0.4	106.21	280.95
1800	2.52	269	1794.72	72.82	20.26	-109.09	0.52	110.96	280.52
1900	2.42	272.01	1894.62	76.17	20.3	-113.39	0.16	115.2	280.15
2000	2.17	272.44	1994.54	79.21	20.45	-117.39	0.25	119.16	279.88
2100	2.08	274.88	2094.48	81.96	20.69	-121.09	0.13	122.84	279.7
2200	2.15	276.88	2194.41	84.59	21.07	-124.76	0.1	126.52	279.58
2300	2.15	277.45	2294.34	87.21	21.53	-128.48	0.02	130.27	279.52
2400	2.09	279.89	2394.27	89.73	22.09	-132.13	0.11	133.97	279.49
2500	1.84	277.53	2494.21	92.06	22.61	-135.52	0.26	137.39	279.47
2600	1.46	276.62	2594.17	94.07	22.97	-138.37	0.38	140.27	279.43
2700	1.21	272.67	2694.14	95.76	23.17	-140.69	0.27	142.59	279.35
2800	1.15	273.85	2794.12	97.3	23.28	-142.74	0.06	144.63	279.26
2900	1.09	276.5	2894.1	98.71	23.46	-144.69	0.08	146.58	279.21
3000	0.88	275.68	2994.09	99.93	23.64	-146.39	0.2	148.29	279.17
3100	0.91	248.4	3094.07	101.25	23.43	-147.9	0.42	149.74	279
3200	1.2	227.24	3194.06	103.05	22.42	-149.41	0.48	151.08	278.53
3300	1.61	224.73	3294.03	105.5	20.71	-151.17	0.42	152.58	277.8
3400	1.72	225.85	3393.98	108.39	18.66	-153.24	0.11	154.37	276.94
3500	4.16	212.53	3493.85	113.32	14.56	-156.27	2.52	156.94	275.32
3600	5.57	203.57	3593.48	121.04	7.04	-160.16	1.6	160.32	272.52
3700	6.32	205.77	3692.95	130.28	-2.37	-164.5	0.78	164.51	269.18
3800	6.35	204.56	3792.33	140.17	-12.35	-169.19	0.14	169.64	265.82
3900	5.79	205.71	3891.77	149.64	-21.93	-173.68	0.57	175.06	262.8
4000	5.22	206.99	3991.31	158.32	-30.53	-177.93	0.58	180.53	260.26
4100	5.45	205.62	4090.88	166.73	-38.87	-182.05	0.26	186.15	257.95
4200	5.72	206.7	4190.4	175.52	-47.6	-186.34	0.29	192.33	255.67
4300	5.24	208.18	4289.95	184.23	-56.07	-190.74	0.5	198.81	253.62
4400	4.95	207.27	4389.55	192.36	-63.93	-194.87	0.3	205.09	251.84
4500	5.01	207.92	4489.17	200.3	-71.63	-198.89	0.08	211.4	250.19
4600	5.15	204.95	4588.78	208.31	-79.56	-202.83	0.3	217.88	248.58
4700	6.27	211.74	4688.28	217.47	-88.28	-207.6	1.31	225.59	246.96
4800	6.14	210.5	4787.7	227.6	-97.53	-213.19	0.19	234.44	245.42
4900	5.22	212.11	4887.21	236.88	-106	-218.32	0.93	242.69	244.1
5000	4.86	209.83	4986.82	245.11	-113.52	-222.85	0.42	250.1	243
5100	5.91	210.35	5086.38	253.84	-121.63	-227.55	1.05	258.02	241.87
5200	5.87	213.38	5185.85	263.49	-130.34	-232.96	0.31	266.95	240.77
5300	5.89	215.7	5285.32	273.29	-138.78	-238.77	0.24	276.17	239.83
5400	5.62	217.7	5384.82	282.98	-146.82	-244.76	0.34	285.42	239.04
5500	6.12	216.75	5484.29	292.89	-154.97	-250.94	0.51	294.94	238.3
5600	6.31	220.72	5583.71	303.43	-163.4	-257.72	0.47	305.15	237.62
5700	5.34	218.31	5683.19	313.36	-171.21	-264.18	1	314.81	237.05
5800	6.62	217.11	5782.65	323.46	-179.46	-270.54	1.29	324.65	236.44
5900	6.27	213.88	5882.01	334.25	-188.59	-277.06	0.5	335.15	235.76
6000	6.48	212.82	5981.4	344.8	-197.86	-283.17	0.24	345.45	235.06
6100	6.65	212.16	6080.74	355.61	-207.51	-289.31	0.19	356.03	234.35
6200	5.69	213.01	6180.16	365.78	-216.57	-295.1	0.96	366.04	233.72
6300	5.8	212.73	6279.66	375.26	-224.98	-300.53	0.11	375.41	233.18
6400	5.27	217.21	6379.19	384.49	-232.89	-306.04	0.68	384.58	232.73
6500	3.83	219.41	6478.87	392.21	-239.13	-310.94	1.46	392.26	232.44
6600	2.69	219.36	6578.71	397.77	-243.52	-314.55	1.14	397.8	232.25
6700	1.7	212.98	6678.63	401.47	-246.58	-316.85	1.02	401.49	232.11
6800	0.61	171.72	6778.61	403.15	-248.36	-317.58	1.31	403.16	231.97

6900	0.86	101.62	6878.61	402.93	-249.03	-316.77	0.87	402.94	231.83
7000	0.88	107.66	6978.59	402.03	-249.42	-315.3	0.1	402.03	231.65
7100	0.24	186.4	7078.59	401.74	-249.86	-314.59	0.87	401.74	231.54