

Gyroscopic Survey Report for:

ANADARKO

API: 05-123-15686

Well Location: WELD COUNTY, CO

Well Name: HSR-RAND 11-14A

Rig Number: CORETECH 2

Survey Date: 3/26/2014

Coordinates 40.2228030°N -104.746172°W

North Reference: True North

Grid Correction: None

Depth Reference: GROUND LEVEL (4925.00 ft)

Calculation Method: Minimum Curvature

Section (VS) Ref: 0.00N (ft), 0.00E (ft), 324.15Azim (deg)

Definitive Survey: HSR-RAND 11-14A

Operator(s): C JAKUES

Measured			True					Dogleg	Closure	Closure
Depth	Inclination	Azimuth	Depth	Vertical	Section	+N/-S	+E/-W	Severity	Distance	Direction
ft	deg	deg	ft	ft	ft	ft	ft	°/100ft	ft	deg
0	0	0	0	0	0	0	0	Invalid	0	0
100	0.27	281.36	100	0.17	0.05	-0.23	0.27	0.24	281.36	
200	0.34	322.42	200	0.64	0.33	-0.64	0.22	0.72	297	
300	0.29	307.34	300	1.18	0.72	-1.03	0.1	1.25	304.93	
400	0.56	306.37	399.99	1.89	1.16	-1.62	0.27	1.99	305.59	
500	0.66	306.37	499.99	2.91	1.79	-2.48	0.11	3.06	305.86	
600	0.8	326.54	599.98	4.16	2.72	-3.33	0.29	4.3	309.22	
700	1.09	326.4	699.97	5.8	4.1	-4.24	0.29	5.9	313.98	
800	1.17	335.94	799.95	7.76	5.82	-5.19	0.2	7.8	318.29	
900	1.26	336.05	899.92	9.83	7.76	-6.05	0.09	9.84	322.06	
1000	1.49	333.82	999.9	12.19	9.93	-7.07	0.23	12.19	324.55	
1100	1.76	334.49	1099.9	14.98	12.48	-8.3	0.27	14.99	326.37	
1200	2.25	338.79	1199.8	18.39	15.7	-9.68	0.51	18.44	328.35	
1300	2.81	337.28	1299.7	22.68	19.79	-11.33	0.57	22.8	330.2	
1400	3.22	338.6	1399.6	27.78	24.66	-13.3	0.41	28.02	331.66	
1500	3.46	341.11	1499.4	33.38	30.13	-15.3	0.28	33.79	333.07	
1600	3.76	341.66	1599.2	39.4	36.09	-17.31	0.3	40.03	334.38	
1700	4.2	339.92	1699	46.05	42.65	-19.6	0.46	46.93	335.32	
1800	4.54	338.33	1798.7	53.4	49.76	-22.32	0.36	54.53	335.84	
1900	4.76	339.18	1898.3	61.24	57.31	-25.25	0.24	62.63	336.22	
2000	5.13	334.3	1998	69.65	65.22	-28.66	0.56	71.24	336.27	
2100	5.01	336.81	2097.6	78.31	73.26	-32.32	0.25	80.07	336.19	
2200	3.76	336.96	2197.3	85.77	80.29	-35.33	1.25	87.72	336.25	
2300	3.23	337.43	2297.1	91.71	85.91	-37.69	0.53	93.82	336.31	
2400	1.66	337.96	2397	95.86	89.86	-39.32	1.57	98.08	336.37	
2500	0.08	213.59	2497	97.24	91.14	-39.9	1.7	99.49	336.36	
2600	0.3	177.93	2597	97	90.82	-39.93	0.24	99.21	336.27	

2700	0.41	142.32	2697	96.42	90.27	-39.7	0.24	98.62	336.26
2800	0.45	158.96	2797	95.68	89.62	-39.34	0.13	97.87	336.3
2900	0.44	177.7	2897	94.98	88.87	-39.18	0.15	97.13	336.21
3000	0.39	184.75	2997	94.41	88.15	-39.19	0.07	96.47	336.03
3100	0.63	185.98	3097	93.73	87.26	-39.28	0.24	95.69	335.77
3200	0.72	189.12	3197	92.88	86.09	-39.43	0.09	94.69	335.39
3300	0.78	177.78	3297	91.87	84.79	-39.51	0.16	93.55	335.02
3400	0.98	191.71	3396.9	90.72	83.27	-39.66	0.29	92.23	334.54
3500	1.49	175.6	3496.9	89.04	81.14	-39.73	0.61	90.34	333.91
3600	1.44	172.38	3596.9	86.82	78.6	-39.46	0.1	87.95	333.34
3700	1	196.96	3696.9	85.19	76.53	-39.55	0.67	86.14	332.67
3800	0.63	233.37	3796.9	84.66	75.37	-40.25	0.61	85.44	331.9
3900	0.59	256.71	3896.8	84.85	74.92	-41.19	0.25	85.5	331.2
4000	0.54	246.87	3996.8	85.15	74.61	-42.13	0.11	85.69	330.55
4100	0.55	244.15	4096.8	85.34	74.22	-43	0.03	85.77	329.92
4200	0.64	243.36	4196.8	85.51	73.76	-43.93	0.09	85.85	329.22
4300	0.76	215.45	4296.8	85.39	72.97	-44.82	0.35	85.63	328.44
4400	0.8	219.37	4396.8	85	71.89	-45.64	0.07	85.16	327.59
4500	0.67	224.92	4496.8	84.73	70.94	-46.49	0.15	84.82	326.76
4600	0.66	260.04	4596.8	84.89	70.43	-47.47	0.4	84.93	326.02
4700	0.61	242.29	4696.8	85.22	70.08	-48.51	0.2	85.23	325.31
4800	0.59	253.37	4796.8	85.46	69.69	-49.47	0.12	85.46	324.63
4900	0.75	241.11	4896.8	85.71	69.22	-50.54	0.22	85.71	323.87
5000	0.64	242.04	4996.8	85.87	68.65	-51.61	0.12	85.88	323.07
5100	0.6	240.82	5096.8	86	68.13	-52.55	0.04	86.04	322.36
5200	0.44	258.9	5196.8	86.22	67.8	-53.38	0.23	86.3	321.79
5300	0.59	274.13	5296.8	86.72	67.77	-54.27	0.21	86.82	321.31
5400	0.71	290.65	5396.8	87.56	68.02	-55.37	0.22	87.71	320.86
5500	0.78	305.54	5496.7	88.72	68.64	-56.5	0.21	88.9	320.54
5600	1.16	313.08	5596.7	90.36	69.72	-57.79	0.4	90.56	320.35
5700	1.47	330.86	5696.7	92.63	71.54	-59.16	0.51	92.83	320.41
5800	1.73	331.91	5796.7	95.4	73.99	-60.49	0.26	95.57	320.73
5900	1.76	342.44	5896.6	98.36	76.79	-61.67	0.32	98.48	321.23
6000	1.9	342.08	5996.6	101.39	79.82	-62.64	0.14	101.47	321.88
6100	1.94	343.73	6096.5	104.55	83.02	-63.62	0.07	104.59	322.54
6200	1.8	340.56	6196.5	107.65	86.12	-64.62	0.17	107.67	323.12
6300	1.57	340.56	6296.4	110.48	88.9	-65.6	0.23	110.48	323.58
6400	1.3	343.58	6396.4	112.87	91.29	-66.38	0.28	112.87	323.98
6500	1.09	336.14	6496.4	114.87	93.25	-67.08	0.26	114.87	324.27
6600	0.91	335.45	6596.3	116.58	94.84	-67.8	0.18	116.58	324.44
6700	0.81	335.07	6696.3	118.05	96.2	-68.43	0.1	118.06	324.58
6800	0.59	321.54	6796.3	119.26	97.25	-69.04	0.28	119.26	324.63
6900	0.14	319.19	6896.3	119.89	97.74	-69.44	0.44	119.9	324.61
7000	0.23	63.61	6996.3	119.98	97.92	-69.34	0.3	119.99	324.7
7100	0.33	139.11	7096.3	119.66	97.79	-68.97	0.35	119.67	324.8
7200	0.21	200.25	7196.3	119.27	97.4	-68.85	0.29	119.28	324.75
7300	0.46	240.83	7296.3	119.22	97.03	-69.26	0.33	119.22	324.48

7400	0.33	245.92	7396.3	119.32	96.72	-69.88	0.14	119.32	324.15
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