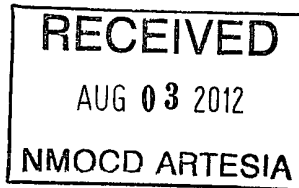


DRILLING INC. Oil Well Drilling Contractor

30-015-39477

Post Office Box 160 Artesia, New Mexico 88211-0160 Office (575) 748-8704 Fax (575) 748-8719

February 20, 2012



COG Operating LLC
550 W. Texas, Suite 1300
Midland, Texas 79701

Re: Loco Hills SWD "34" # 5
Sec. 34, T-17-S, R-30-E
Eddy County, New Mexico

Attn: John Coffman

The following is a Deviation Survey on the referenced well in Eddy County, New Mexico:

197' - 0.5°	2519' - 0.75°	4327' - 1°	6629' - 1.8°	9155' - 1.5°
408' - 0.25°	2882' - 1°	4735' - 0.25°	7098' - 0.9°	9324' - 4°
619' - 0.5°	3207' - 1.25°	5126' - 1°	7569' - 0.6°	
1084' - 0.5°	3455' - 0.75°	5450' - 1°	7758' - 0.4°	
1550' - 0.5°	3737' - 1°	5730' - 2°	8234' - 0.75°	
2019' - 0.75°	3923' - 1.25°	6161' - 3.1°	8656' - 0.5°	

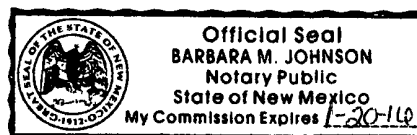
Sincerely,

Gary W. Chappell
Contracts Manager

STATE OF NEW MEXICO)
COUNTY OF EDDY)

The foregoing was acknowledged before me this 20th day of February, 2012 by Gary W. Chappell.

NOTARY PUBLIC





Company: COG Operating (Concho)
Lease/Well: Loco Hills SWD 34/5
Location: 4 Miles SE From Loco Hills
Rig Name: JW #2
State/County: New Mexico/Eddy
Latitude: 32.79, Longitude: -103.96
GRID North is 0.20 Degrees East of True North
VS-Azi: 0.00 Degrees



RKB : 18.5 Ft. Elevation=3551.8 Ft.

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: swd 34 #5_ed_int.ut

Minimum Curvature Method

Report Date/Time: 2/23/2012 / 12:04

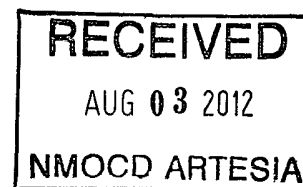
Vaughn Energy Services

Midland, TX

432-563-5444

Surveyor: Zach Garcia

Loco Hills SWD 34 5 / API 30-015-39477



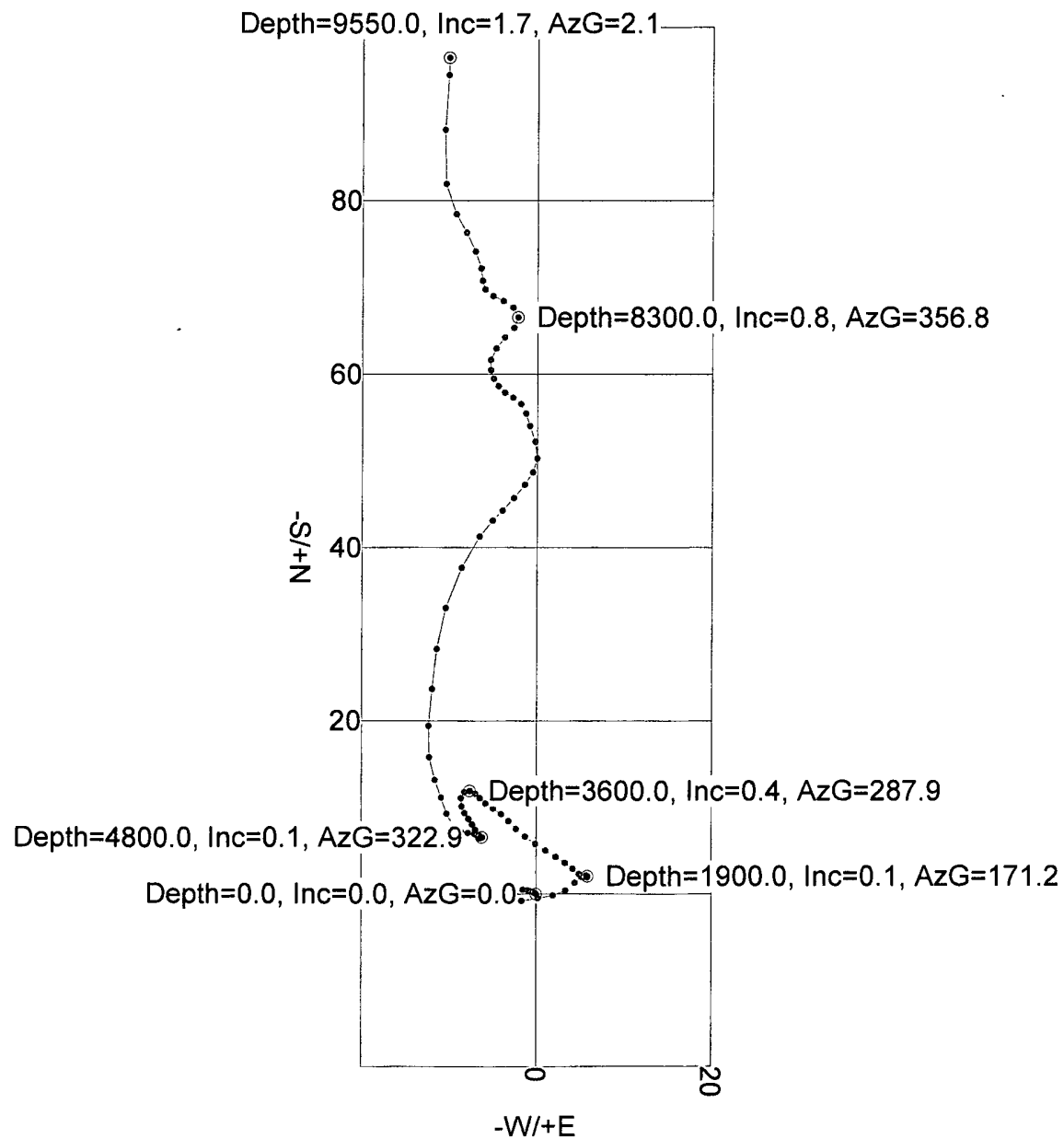
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.12	323.22	100.00	0.08	-0.06	0.10	323.22	0.12
200.00	0.24	286.44	200.00	0.22	-0.32	0.39	304.83	0.16
300.00	0.20	289.86	300.00	0.34	-0.68	0.76	296.53	0.04
400.00	0.17	293.28	400.00	0.46	-0.98	1.08	295.01	0.04
500.00	0.46	268.94	500.00	0.51	-1.51	1.60	288.51	0.32
600.00	0.75	244.59	599.99	0.22	-2.51	2.52	274.95	0.38
700.00	0.49	233.97	699.99	-0.32	-3.45	3.47	264.72	0.28
800.00	0.24	223.34	799.98	-0.72	-3.94	4.01	259.62	0.27
900.00	0.17	150.04	899.98	-1.00	-4.01	4.13	255.96	0.25
1000.00	0.11	76.75	999.98	-1.11	-3.84	4.00	253.87	0.18
1100.00	0.63	79.60	1099.98	-0.99	-3.21	3.36	252.86	0.52
1200.00	1.15	82.45	1199.97	-0.76	-1.68	1.84	245.67	0.52
1300.00	1.04	80.31	1299.95	-0.47	0.21	0.52	156.31	0.11
1400.00	0.94	78.16	1399.93	-0.15	1.91	1.92	94.58	0.11
1500.00	0.86	58.81	1499.92	0.40	3.35	3.38	83.16	0.31
1600.00	0.77	39.45	1599.91	1.31	4.42	4.61	73.53	0.29
1700.00	0.47	63.94	1699.91	2.00	5.21	5.58	68.97	0.39
1800.00	0.17	88.43	1799.90	2.19	5.73	6.13	69.10	0.32

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.13	171.16	1899.90	2.08	5.89	6.25	70.55	0.20
2000.00	0.09	253.89	1999.90	1.95	5.84	6.16	71.53	0.14
2100.00	0.30	282.34	2099.90	1.98	5.51	5.86	70.21	0.22
2200.00	0.50	310.78	2199.90	2.33	4.93	5.45	64.73	0.28
2300.00	0.59	308.09	2299.90	2.93	4.19	5.11	54.97	0.09
2400.00	0.68	305.40	2399.89	3.60	3.29	4.88	42.43	0.09
2500.00	0.75	303.02	2499.88	4.30	2.25	4.86	27.64	0.07
2600.00	0.82	300.65	2599.87	5.03	1.09	5.14	12.23	0.07
2700.00	0.82	303.64	2699.86	5.79	-0.12	5.79	358.83	0.04
2800.00	0.82	306.64	2799.85	6.61	-1.28	6.73	349.01	0.04
2900.00	0.75	313.14	2899.84	7.48	-2.33	7.83	342.69	0.11
3000.00	0.68	319.64	2999.84	8.38	-3.20	8.97	339.13	0.10
3100.00	0.67	309.41	3099.83	9.20	-4.03	10.05	336.35	0.12
3200.00	0.65	299.19	3199.82	9.85	-4.97	11.03	333.21	0.12
3300.00	0.55	310.51	3299.82	10.44	-5.83	11.96	330.80	0.15
3400.00	0.46	321.83	3399.81	11.06	-6.45	12.81	329.78	0.14
3500.00	0.41	304.89	3499.81	11.59	-6.99	13.53	328.90	0.14
3600.00	0.37	287.94	3599.81	11.89	-7.60	14.11	327.44	0.12
3700.00	0.47	235.98	3699.81	11.77	-8.24	14.36	324.99	0.38
3800.00	0.56	184.01	3799.80	11.05	-8.61	14.01	322.06	0.46
3900.00	0.52	165.52	3899.80	10.12	-8.53	13.24	319.86	0.18
4000.00	0.47	147.04	3999.79	9.34	-8.20	12.43	318.73	0.16
4100.00	0.45	146.70	4099.79	8.66	-7.76	11.63	318.16	0.02
4200.00	0.43	146.37	4199.79	8.02	-7.33	10.87	317.57	0.02
4300.00	0.41	154.99	4299.79	7.39	-6.97	10.16	316.65	0.07
4400.00	0.38	163.62	4399.78	6.75	-6.73	9.53	315.07	0.06
4500.00	0.24	85.77	4499.78	6.44	-6.43	9.10	315.07	0.41
4600.00	0.10	7.93	4599.78	6.54	-6.21	9.02	316.51	0.24
4700.00	0.12	165.41	4699.78	6.53	-6.17	8.98	316.61	0.21
4800.00	0.14	322.88	4799.78	6.52	-6.22	9.01	316.37	0.26
4900.00	0.28	300.18	4899.78	6.75	-6.51	9.38	316.04	0.16
5000.00	0.43	277.47	4999.78	6.92	-7.09	9.91	314.30	0.20
5100.00	0.46	283.18	5099.78	7.06	-7.85	10.56	311.97	0.06
5200.00	0.50	288.89	5199.77	7.30	-8.66	11.32	310.12	0.06
5300.00	0.77	315.82	5299.77	7.92	-9.54	12.40	309.71	0.40
5400.00	1.05	342.74	5399.75	9.28	-10.28	13.85	312.07	0.50
5500.00	1.18	340.84	5499.73	11.13	-10.89	15.57	315.62	0.13
5600.00	1.31	338.93	5599.71	13.17	-11.64	17.57	318.53	0.14
5700.00	1.83	351.64	5699.67	15.81	-12.28	20.02	322.17	0.62

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	2.35	4.35	5799.61	19.44	-12.36	23.03	327.55	0.69
5900.00	2.55	5.85	5899.52	23.69	-11.98	26.55	333.18	0.21
6000.00	2.75	7.36	5999.41	28.28	-11.44	30.51	337.97	0.21
6100.00	2.82	16.56	6099.29	33.02	-10.43	34.62	342.46	0.45
6200.00	2.90	25.75	6199.17	37.66	-8.63	38.63	347.09	0.47
6300.00	1.87	35.65	6299.08	41.26	-6.58	41.78	350.94	1.11
6400.00	0.84	45.55	6399.05	43.10	-5.10	43.41	353.25	1.05
6500.00	1.02	43.09	6499.04	44.27	-3.97	44.45	354.88	0.19
6600.00	1.21	40.63	6599.02	45.72	-2.67	45.80	356.65	0.19
6700.00	1.06	35.81	6699.00	47.27	-1.45	47.29	358.24	0.18
6800.00	0.91	30.98	6798.98	48.70	-0.50	48.70	359.41	0.17
6900.00	1.06	5.72	6898.97	50.30	0.00	50.30	0.00	0.45
7000.00	1.20	340.45	6998.95	52.21	-0.26	52.21	359.72	0.51
7100.00	0.98	342.12	7098.93	54.01	-0.87	54.02	359.07	0.22
7200.00	0.76	343.78	7198.92	55.46	-1.32	55.48	358.64	0.22
7300.00	0.70	319.60	7298.91	56.56	-1.90	56.60	358.07	0.31
7400.00	0.64	295.41	7398.91	57.27	-2.81	57.34	357.19	0.29
7500.00	0.62	308.78	7498.90	57.85	-3.74	57.97	356.30	0.15
7600.00	0.60	322.16	7598.89	58.60	-4.48	58.77	355.63	0.14
7700.00	0.60	334.37	7698.89	59.49	-5.03	59.70	355.17	0.13
7800.00	0.60	346.59	7798.88	60.47	-5.37	60.71	354.92	0.13
7900.00	0.78	11.33	7898.88	61.65	-5.36	61.88	355.03	0.34
8000.00	0.95	36.07	7998.87	62.98	-4.74	63.16	355.70	0.41
8100.00	0.89	40.98	8098.85	64.24	-3.74	64.35	356.67	0.10
8200.00	0.84	45.88	8198.84	65.34	-2.70	65.40	357.63	0.09
8300.00	0.81	356.76	8298.83	66.55	-2.22	66.59	358.09	0.69
8400.00	0.78	307.64	8398.82	67.68	-2.80	67.74	357.63	0.66
8500.00	0.76	299.99	8498.81	68.43	-3.92	68.54	356.72	0.11
8600.00	0.74	292.34	8598.81	69.01	-5.10	69.20	355.78	0.10
8700.00	0.68	326.69	8698.80	69.75	-6.02	70.01	355.07	0.42
8800.00	0.62	1.03	8798.79	70.79	-6.34	71.07	354.88	0.39
8900.00	0.99	348.81	8898.78	72.18	-6.50	72.47	354.86	0.41
9000.00	1.37	336.59	8998.76	74.13	-7.14	74.47	354.50	0.45
9100.00	1.38	332.81	9098.73	76.29	-8.16	76.73	353.89	0.09
9200.00	1.40	329.03	9198.70	78.41	-9.34	78.96	353.21	0.09
9300.00	2.88	347.73	9298.63	81.91	-10.50	82.58	352.69	1.62
9400.00	4.36	6.42	9398.43	88.13	-10.61	88.77	353.14	1.87
9500.00	2.94	0.13	9498.23	94.47	-10.18	95.01	353.85	1.47
9550.00	1.72	2.15	9548.19	96.50	-10.15	97.03	354.00	2.45



Vaughn Energy Services
Midland, TX
432-563-5444
Surveyor: Zach Garcia
Loco Hills SWD 34 5 / API 30-015-39477



VES Survey Date: 02/12/2012