



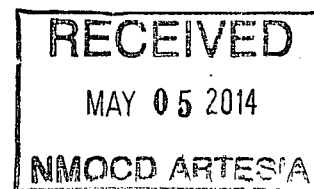
A GYRO TECHNOLOGIES INC. COMPANY

P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

February 20, 2014

30-015-41451

COG Operating LLC (Concho)
One Concho Center
600 W. Illinois Avenue
Midland, TX 79701



Attn: Kanicia Castillo

Re: **Cadillac State No 004**

Please find enclosed a copy of the survey from 0' to 3,735' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

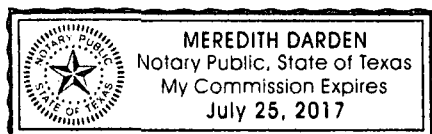
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 20th day of February A.D., 2014, by Keith Havelka.

Meredith Darden
Notary Public, State of Texas





Company: COG Operating-Concho
Lease/Well: Cadillac State/No 004
Location: S15 T17S R29E
Rig Name: UDI 43
State/County: New Mexico/Eddy
Latitude: 32.83, Longitude: -104.07
GRID North is 0.15 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 14 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: cadillac state #4.ut

Minimum Curvature Method

Report Date/Time: 2/20/2014 / 10:13

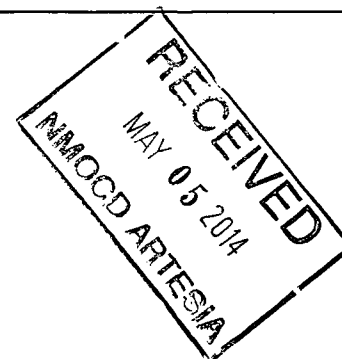
Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Chris Ellis

Cadillac State No 004 / API 30-015-41451



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section 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	0.00	****
100.00	0.22	277.63	100.00	0.03	-0.19	0.03	0.20	277.63	0.22
200.00	0.41	264.04	200.00	0.02	-0.74	0.02	0.74	271.16	0.20
300.00	0.84	233.34	299.99	-0.46	-1.68	-0.46	1.74	254.71	0.53
400.00	1.43	266.88	399.97	-0.97	-3.52	-0.97	3.65	254.65	0.87
500.00	2.15	251.81	499.92	-1.62	-6.55	-1.62	6.74	256.12	0.85
600.00	2.99	255.82	599.82	-2.84	-10.85	-2.84	11.22	255.33	0.86
700.00	4.39	237.99	699.62	-5.51	-16.63	-5.51	17.52	251.67	1.80
800.00	5.38	238.15	799.25	-10.01	-23.86	-10.01	25.87	247.23	0.99
900.00	5.19	232.80	898.83	-15.22	-31.44	-15.22	34.93	244.17	0.53
1000.00	4.46	250.37	998.48	-19.26	-38.71	-19.26	43.23	243.54	1.64
1100.00	3.69	243.78	1098.22	-21.99	-45.26	-21.99	50.32	244.09	0.90
1200.00	3.03	241.61	1198.05	-24.67	-50.47	-24.67	56.18	243.95	0.68
1300.00	2.88	240.23	1297.92	-27.17	-54.98	-27.17	61.32	243.70	0.17
1400.00	2.86	240.56	1397.79	-29.64	-59.32	-29.64	66.32	243.45	0.02
1500.00	2.84	247.15	1497.67	-31.83	-63.78	-31.83	71.28	243.48	0.33
1600.00	2.78	243.90	1597.55	-33.86	-68.24	-33.86	76.18	243.61	0.17
1700.00	2.66	242.01	1697.44	-36.02	-72.47	-36.02	80.93	243.57	0.15
1800.00	2.58	243.21	1797.33	-38.12	-76.53	-38.12	85.50	243.52	0.10

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	2.63	238.15	1897.23	-40.35	-80.49	-40.35	90.03	243.38	0.24
2000.00	2.62	240.32	1997.12	-42.69	-84.42	-42.69	94.60	243.18	0.10
2100.00	2.62	236.29	2097.02	-45.09	-88.31	-45.09	99.15	242.95	0.18
2200.00	2.61	239.94	2196.92	-47.50	-92.18	-47.50	103.70	242.74	0.17
2300.00	2.82	241.49	2296.80	-49.81	-96.31	-49.81	108.43	242.65	0.23
2400.00	2.88	240.15	2396.68	-52.24	-100.65	-52.24	113.40	242.57	0.09
2500.00	3.22	235.63	2496.54	-55.07	-105.15	-55.07	118.70	242.36	0.42
2600.00	4.00	237.25	2596.34	-58.55	-110.40	-58.55	124.96	242.06	0.78
2700.00	4.05	235.43	2696.09	-62.44	-116.24	-62.44	131.95	241.76	0.14
2800.00	3.71	236.67	2795.86	-66.22	-121.86	-66.22	138.69	241.48	0.35
2900.00	3.55	233.92	2895.66	-69.82	-127.06	-69.82	144.98	241.21	0.23
3000.00	3.21	234.46	2995.49	-73.27	-131.85	-73.27	150.84	240.94	0.34
3100.00	2.84	237.66	3095.35	-76.23	-136.22	-76.23	156.10	240.77	0.41
3200.00	2.65	236.82	3195.23	-78.82	-140.25	-78.82	160.88	240.66	0.19
3300.00	2.40	238.25	3295.14	-81.19	-143.97	-81.19	165.28	240.58	0.26
3400.00	2.22	239.57	3395.06	-83.27	-147.42	-83.27	169.31	240.54	0.19
3500.00	2.15	241.81	3494.98	-85.13	-150.74	-85.13	173.12	240.54	0.11
3600.00	2.13	239.48	3594.91	-86.97	-153.99	-86.97	176.85	240.54	0.09
3700.00	1.99	240.18	3694.85	-88.78	-157.11	-88.78	180.45	240.53	0.14
3735.00	2.18	240.85	3729.83	-89.40	-158.21	-89.40	181.73	240.53	0.52



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