



PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

January 3, 2013

15-40328

COG, LLC
One Concho Center
600 W. Illinois Ave.
Midland, TX 79701

RE: Burch Keely Unit #640
909' FNL & 149' FEL
Sec. 24, T17S, R29E
Eddy County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

Very truly yours,

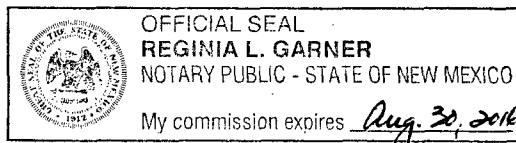
A handwritten signature in cursive script, appearing to read "Chris Graham".

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 4th day of January, 2013.

A handwritten signature in cursive script, appearing to read "Regina L. Garner".

Notary Public

Burch Keely Unit #640

Date	Depth	Dev/Inc	Dir/AZ
12/23/2012	145	0.70	
12/26/2012	384	1.00	
12/27/2012	814	0.60	
12/27/2012	1005	0.40	
12/28/2012	1114	0.60	100.60
12/28/2012	1210	0.40	138.70
12/29/2012	1401	3.30	48.30
12/29/2012	1496	5.30	14.00
12/29/2012	1592	4.90	33.20
12/29/2012	1687	4.50	30.30
12/29/2012	1782	4.10	25.70
12/29/2012	1878	3.60	24.00
12/29/2012	2069	4.70	29.90
12/29/2012	2133	5.70	23.80
12/29/2012	2260	4.80	20.10
12/30/2012	2452	5.00	22.60
12/30/2012	2547	4.80	19.60
12/30/2012	2643	4.90	18.40
12/30/2012	2834	4.70	17.90
12/30/2012	2930	4.80	17.80
12/30/2012	3025	4.60	15.10
12/30/2012	3312	4.80	25.30
12/30/2012	3407	5.00	25.40
12/30/2012	3503	5.30	25.80
12/31/2012	3694	5.30	24.10
12/31/2012	3790	5.00	29.80
12/31/2012	3886	4.90	30.50
12/31/2012	3981	4.60	39.10
12/31/2012	4077	4.70	41.10
12/31/2012	4172	4.70	40.10
1/1/2013	4267	4.80	40.50
1/1/2013	4363	4.70	40.30
1/1/2013	4459	4.80	41.40
1/1/2013	4554	4.80	43.20
1/1/2013	4650	4.70	44.20
1/1/2013	4746	4.60	45.40

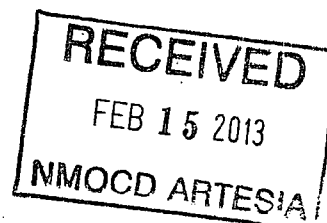


A GYRO TECHNOLOGIES INC. COMPANY

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

January 3, 2013

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701



Attn: Kanicia Castillo

RE: **Burch Keely Unit No. 640**

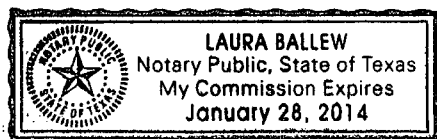
Please find enclosed a copy of the survey from 0.00' to 965.00' ran on the above referenced well.

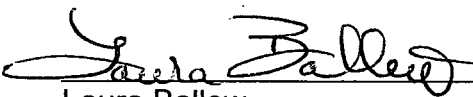
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 3rd day of January, A.D., 2013, by Keith Havelka.





Laura Ballew
Notary Public, State of Texas



Company: COG Operating LLC (Concho)
 Lease/Well: Burch Keely Unit / No. 640
 Location: 2 miles from Loco Hills
 Rig Name: Rig # 5
 State/County: New Mexico / Eddy
 Latitude: 32.82, Longitude: -104.02
 GRID North is 0.17 Degrees East of True North
 VS-Azi: 0.00 Degrees



Depth Reference : RKB = 17'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: final survey.ut
 Minimum Curvature Method
 Report Date/Time: 1/3/2013 / 09:17

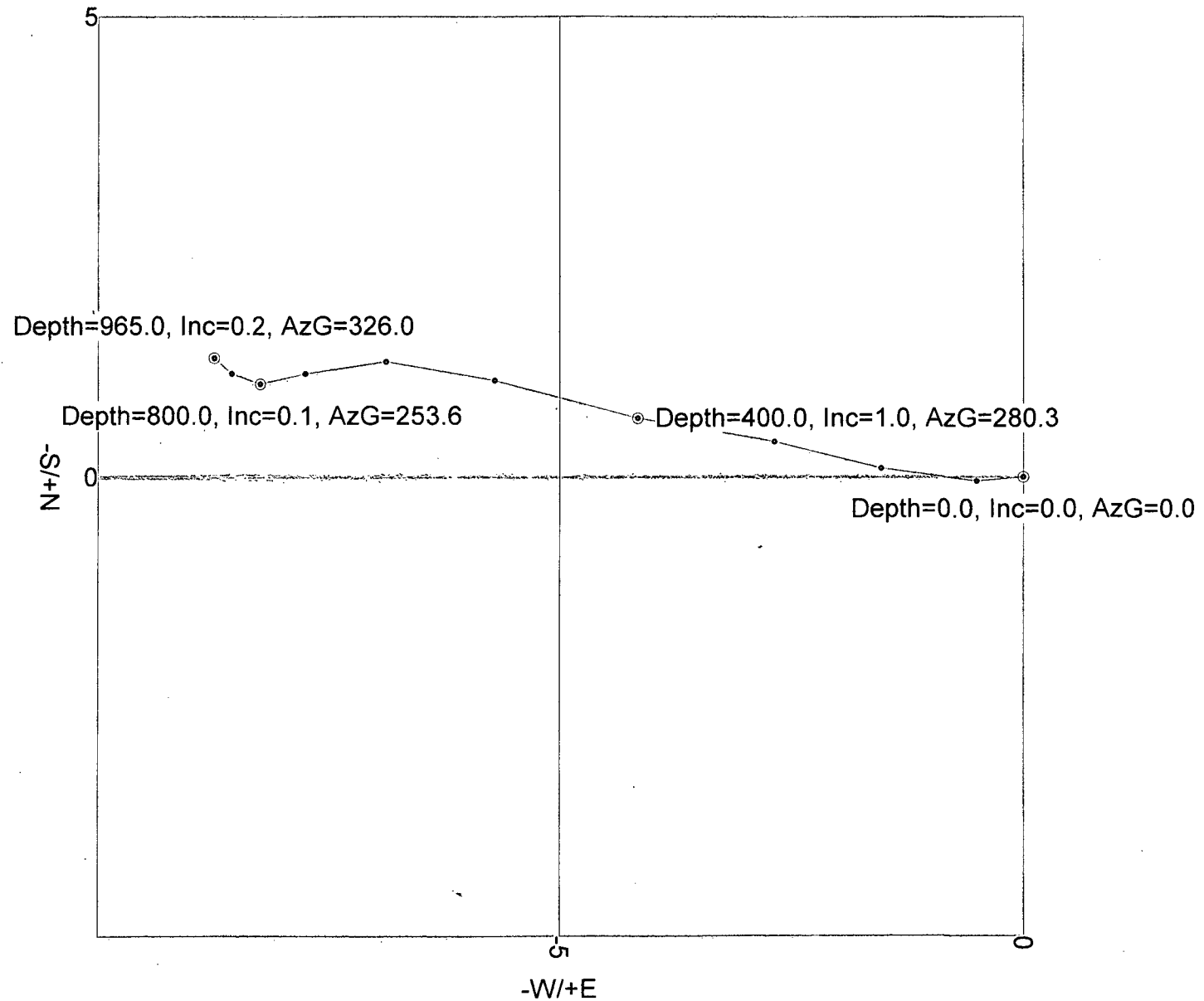
Vaughn Energy Services
 Fort Worth, Texas
 817-741-3610

Surveyor: Tim Kaczor
 Burch Keely Unit No. 640 / API 30-015-40328

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	0.58	264.71	100.00	-0.05	-0.50	-0.05	0.50	264.71	0.58
200.00	0.65	289.48	199.99	0.10	-1.53	0.10	1.54	273.55	0.27
300.00	0.71	279.28	299.99	0.38	-2.68	0.38	2.71	278.15	0.14
400.00	1.00	280.33	399.97	0.64	-4.15	0.64	4.20	278.77	0.29
500.00	0.84	290.27	499.96	1.05	-5.70	1.05	5.80	280.45	0.23
600.00	0.55	264.24	599.95	1.26	-6.87	1.26	6.98	280.37	0.42
700.00	0.46	258.05	699.95	1.13	-7.74	1.13	7.82	278.27	0.11
800.00	0.12	253.55	799.95	1.01	-8.23	1.01	8.29	277.03	0.34
900.00	0.30	302.64	899.95	1.13	-8.54	1.13	8.62	277.52	0.24
965.00	0.16	325.98	964.95	1.30	-8.74	1.30	8.83	278.43	0.26



Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Tim Kaczor
Burch Keely Unit No. 640 / API 30-015-40328



VES Survey Date: 12/27/2012

Professional Directional, Ltd

Company: COG Operating LLC
Well: Burch Keely Unit #640
Location: Eddy County, New Mexico Sect 24-17S-29E

Date: 2-Jan-2013
Surveys
Page 1

Job#: 6939
NAD27 NM East gr elev=3613

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 27.09° Az (feet)	Grid Y	Grid X	Comments
Surface Location								663867.50	596362.80	909 FNL 149 FEL Sect24
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	663867.50	596362.80	Gyro
100.00	0.58	264.71	100.00	-0.05	-0.50	0.58	-0.27	663867.45	596362.30	
200.00	0.65	289.48	199.99	0.10	-1.54	0.27	-0.62	663867.60	596361.26	
300.00	0.71	279.28	299.99	0.38	-2.69	0.13	-0.88	663867.88	596360.11	
400.00	1.00	280.33	399.97	0.64	-4.16	0.29	-1.32	663868.14	596358.64	
500.00	0.84	290.27	499.96	1.05	-5.70	0.23	-1.66	663868.55	596357.10	
600.00	0.55	264.24	599.95	1.26	-6.87	0.42	-2.01	663868.76	596355.93	
700.00	0.46	258.05	699.95	1.13	-7.74	0.11	-2.52	663868.63	596355.06	
800.00	0.12	253.55	799.95	1.01	-8.23	0.34	-2.85	663868.51	596354.57	
900.00	0.30	302.64	899.95	1.12	-8.55	0.24	-2.89	663868.62	596354.25	
965.00	0.16	325.98	964.95	1.29	-8.75	0.25	-2.83	663868.79	596354.05	
1114.00	0.60	100.60	1113.95	1.32	-8.10	0.48	-2.51	663868.82	596354.70	MWD surveys
1210.00	0.40	138.70	1209.94	0.98	-7.38	0.39	-2.49	663868.48	596355.42	
1305.00	2.50	81.10	1304.91	1.05	-5.12	2.43	-1.40	663868.55	596357.68	
1401.00	3.30	48.30	1400.79	3.21	-0.98	1.88	2.41	663870.71	596361.82	
1496.00	5.30	14.00	1495.53	9.29	2.12	3.34	9.23	663876.79	596364.92	
1592.00	4.90	33.20	1591.16	17.02	5.44	1.82	17.63	663884.52	596368.24	
1687.00	4.50	30.30	1685.84	23.63	9.54	0.49	25.39	663891.13	596372.34	
1783.00	4.10	25.70	1781.57	29.98	12.93	0.55	32.58	663897.48	596375.73	
1878.00	3.60	24.00	1876.36	35.76	15.61	0.54	38.95	663903.26	596378.41	
1974.00	4.90	33.00	1972.09	41.96	19.07	1.52	46.04	663909.46	596381.87	
2070.00	4.70	29.90	2067.75	48.80	23.27	0.34	54.04	663916.30	596386.07	
2165.00	5.70	23.80	2162.36	56.49	27.11	1.20	62.64	663923.99	596389.91	
2261.00	4.80	20.10	2257.96	64.63	30.41	1.00	71.39	663932.13	596393.21	
2357.00	3.70	15.20	2353.69	71.39	32.61	1.21	78.41	663938.89	596395.41	
2452.00	5.00	22.60	2448.42	78.17	35.00	1.49	85.53	663945.67	596397.80	
2548.00	4.80	19.60	2544.07	85.82	37.96	0.34	93.69	663953.32	596400.76	
2643.00	4.90	18.40	2638.73	93.41	40.57	0.15	101.64	663960.91	596403.37	
2739.00	4.60	16.90	2734.40	100.98	42.98	0.34	109.48	663968.48	596405.78	
2835.00	4.70	17.90	2830.08	108.41	45.31	0.13	117.15	663975.91	596408.11	

Professional Directional, Ltd

Company: COG Operating LLC
Well: Burch Keely Unit #640
Location: Eddy County, New Mexico Sect 24-17S-29E

Date: 2-Jan-2013

Surveys

Page 2

Job#: 6939

NAD27 NM East gr elev=3613

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 27.09° Az (feet)	Grid Y	Grid X	Comments
2930.00	4.80	17.80	2924.76	115.90	47.72	0.11	124.92	663983.40	596410.52	
3026.00	4.60	15.10	3020.43	123.44	49.95	0.31	132.65	663990.94	596412.75	
3121.00	4.80	11.60	3115.12	131.01	51.75	0.37	140.20	663998.51	596414.55	
3217.00	4.60	8.60	3210.79	138.75	53.13	0.33	147.72	664006.25	596415.93	
3312.00	4.80	25.30	3305.48	146.11	55.40	1.45	155.31	664013.61	596418.20	
3408.00	5.00	25.40	3401.13	153.52	58.91	0.21	163.51	664021.02	596421.71	
3503.00	5.30	25.80	3495.74	161.21	62.59	0.32	172.03	664028.71	596425.39	
3599.00	5.10	23.70	3591.35	169.11	66.24	0.29	180.72	664036.61	596429.04	
3695.00	5.30	24.10	3686.95	177.07	69.76	0.21	189.41	664044.57	596432.56	
3790.00	5.00	29.80	3781.57	184.66	73.61	0.62	197.93	664052.16	596436.41	
3886.00	4.90	30.50	3877.21	191.83	77.77	0.12	206.20	664059.33	596440.57	
3981.00	4.60	39.10	3971.89	198.28	82.23	0.81	213.97	664065.78	596445.03	
4077.00	4.70	41.10	4067.57	204.23	87.25	0.20	221.56	664071.73	596450.05	
4172.00	4.70	40.10	4162.25	210.14	92.31	0.09	229.12	664077.64	596455.11	
4268.00	4.80	40.50	4257.92	216.20	97.46	0.11	236.86	664083.70	596460.26	
4364.00	4.70	40.30	4353.59	222.26	102.61	0.11	244.60	664089.76	596465.41	
4459.00	4.80	41.40	4448.27	228.21	107.75	0.14	252.24	664095.71	596470.55	
4555.00	4.80	43.20	4543.93	234.15	113.16	0.16	259.99	664101.65	596475.96	
4651.00	4.70	44.20	4639.60	239.89	118.65	0.14	267.61	664107.39	596481.45	
4746.00	4.60	45.40	4734.29	245.36	124.08	0.15	274.94	664112.86	596486.88	
4799.00	4.50	46.40	4787.12	248.29	127.10	0.24	278.92	664115.79	596489.90	
4847.00	4.50	46.40	4834.97	250.88	129.82	0.00	282.48	664118.38	596492.62	Survey projected