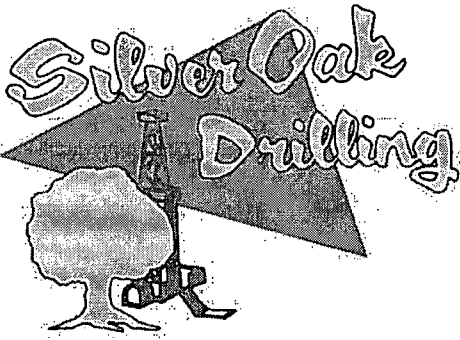




PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

July 5, 2013

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

30-015-40972

RE: Burch Keely Unit #635
100' FSL & 2266' FWL
Sec. 23, T17S, R29E
Eddy County, New Mexico

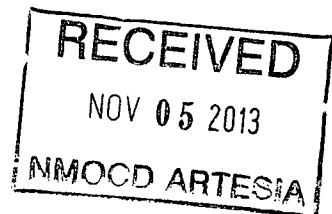
Dear Sir,

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

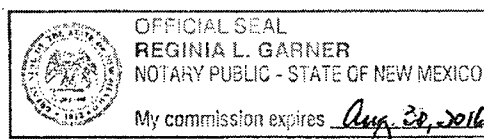
Very truly yours,

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }



The foregoing was acknowledged before me this 5th day of July, 2013.

Notary Public

Burch Keely Unit #635

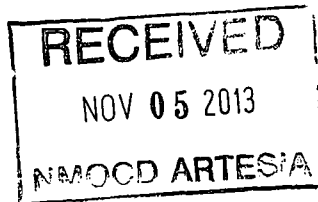
Date	Depth	Dev/Inc	Dir/AZ
6/25/2013	176	0.70	
6/26/2013	325	0.90	
6/27/2013	534	7.00	
6/29/2013	1109	0.60	62.40
6/29/2013	1172	1.80	85.60
6/29/2013	1265	3.40	97.80
6/29/2013	1391	5.80	109.30
6/29/2013	1422	5.80	109.50
6/29/2013	1515	5.40	106.20
6/30/2013	1609	5.10	108.70
6/30/2013	1703	5.90	111.50
6/30/2013	1797	5.70	110.00
6/30/2013	1890	6.10	109.00
6/30/2013	1984	6.10	107.60
6/30/2013	2072	5.40	105.40
7/1/2013	2171	5.00	108.50
7/1/2013	2233	5.00	108.40
7/1/2013	2295	6.00	109.80
7/1/2013	2389	7.90	118.50
7/1/2013	2452	7.90	114.10
7/1/2013	2596	6.60	106.50
7/1/2013	2639	6.60	106.80
7/1/2013	2921	6.60	107.80
7/1/2013	3015	6.40	108.40
7/1/2013	3109	6.40	107.60
7/2/2013	3485	5.50	109.10
7/2/2013	3579	6.20	110.60
7/2/2013	3672	6.10	112.30
7/2/2013	3766	5.90	110.10
7/2/2013	3860	5.80	109.40
7/2/2013	3953	6.50	113.90
7/2/2013	4047	5.90	113.60
7/2/2013	4110	6.30	114.00
7/2/2013	4172	7.20	110.20
7/2/2013	4266	7.30	107.90
7/2/2013	4360	7.20	107.10
7/2/2013	4454	7.10	108.30
7/3/2013	4629	7.10	108.10

Archer

Archer Directional Drilling Services.

12101 Cutten Road
Houston, Texas 77066
Tel: 281-301-2600
Fax: 281-301-2795

COG Operating, LLC
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701



July 3, 2013

Re: COG Operating, LLC
Burch Keely Unit #635
Field: Burch Keely
Rig: Silver Oak Drilling 5
Eddy County, New Mexico
API # 30-015-40972

Enclosed please find the original of the surveys performed on the referenced well by Archer Directional Drilling Services. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Wellhole Number</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
David Whaley Field Engineer	Original Hole	1109-4679	06/28/13-07/03/13	MWD

If additional information is required, please contact the undersigned at the letterhead address and phone number.

Amador Baggerly
MWD Coordinator



Archer Directional Drilling Services.
12101 Cutten Road
Houston, Texas 77068
Tel: 281-301-2800
Fax: 281-301-2795

MWD Survey Certification

State of New Mexico
County of Eddy

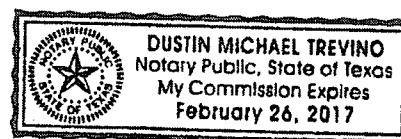
I, Amador Baggerly, certify that; I am employed by Archer Directional Drilling Services; that I did on the day(s) of 06/28/13 through 07/03/13, conduct or supervise the taking of MWD surveys from a depth of 1109 feet to a depth of 4679 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Archer Directional Drilling Services; that I am authorized and qualified to make this report; that these surveys were conducted at the request of COG Operating, LLC for the Burch Keely Unit #635 (API # 30-015-40972), Well located in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Archer Directional Drilling Services

Amador Baggerly
MWD Coordinator

State of Texas
County of Harris

Before me, a notary public, on this day personally appeared Amador Baggerly, on this 3rd day of July, 2013, known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statement therein contained are true and correct.

Notary Public's Signature





Company: COG Operating Inc.

Job Number: 04326-433-22

Calculation Method

Minimum Curvature

Well: Burch Keely Unit 635

Mag Decl.: 7.60

Proposed Azimuth

106.8

Location: Eddy County, New Mexico

Dir Driller: Joe Conner

Depth Reference

KRG

Rig: UDI 40

MWD Eng: David Whaley

Tie Into: Gyro Survey

Job Date: 06/28/13-07/03/13

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
Tie In	1025.00	0.95	63.93	0	1024.81	15.48	2.43 N	16.90 E					
1	1109	0.6	62.4	84	1108.80	16.30	2.94 N	17.92 E	18.15	80.68	0.42	-0.42	-1.82
2	1172	1.8	85.6	63	1171.79	17.46	3.17 N	19.19 E	19.45	80.63	2.02	1.90	36.83
3	1265	3.4	97.8	93	1264.69	21.54	2.91 N	23.38 E	23.56	82.91	1.81	1.72	13.12
4	1328	4.4	110.3	63	1327.54	25.80	1.81 N	27.50 E	27.56	86.23	2.07	1.59	19.84
5	1422	5.8	109.5	94	1421.17	34.14	1.02 S	35.36 E	35.37	91.66	1.49	1.49	-0.85
6	1515	5.4	106.2	93	1513.73	43.21	3.81 S	43.99 E	44.16	94.95	0.55	-0.43	-3.55
7	1609	5.1	108.7	94	1607.33	51.81	6.39 S	52.20 E	52.59	96.97	0.40	-0.32	2.66
8	1703	5.9	111.5	94	1700.90	60.80	9.50 S	60.65 E	61.39	98.90	0.90	0.85	2.98
9	1797	5.7	110.0	94	1794.42	70.28	12.86 S	69.53 E	70.71	100.48	0.27	-0.21	-1.60
10	1890	6.1	109.0	93	1886.92	79.83	16.05 S	78.54 E	80.17	101.55	0.44	0.43	-1.08
11	1984	6.1	107.6	94	1980.39	89.81	19.19 S	88.03 E	90.09	102.30	0.16	0.00	-1.49
12	2070	5.4	105.4	86	2065.96	98.43	21.64 S	96.28 E	98.69	102.67	0.85	-0.81	-2.56
13	2171	5.4	106.1	101	2166.51	107.93	24.22 S	105.43 E	108.18	102.94	0.07	0.00	0.69
14	2233	5.0	108.4	62	2228.26	113.55	25.89 S	110.80 E	113.78	103.15	0.73	-0.65	3.71
15	2295	6.0	109.8	62	2289.97	119.49	27.84 S	116.41 E	119.69	103.45	1.63	1.61	2.26
16	2389	7.9	119.5	94	2383.28	130.70	32.68 S	126.66 E	130.80	104.47	2.37	2.02	10.32
17	2452	7.9	114.1	63	2445.68	139.21	36.58 S	134.38 E	139.27	105.23	1.18	0.00	-8.57
18	2546	6.6	106.5	94	2538.93	151.02	40.75 S	145.45 E	151.06	105.65	1.72	-1.38	-8.09
19	2639	6.6	106.8	93	2631.31	161.71	43.82 S	155.69 E	161.74	105.72	0.04	0.00	0.32
20	2733	6.3	109.0	94	2724.72	172.27	47.06 S	165.74 E	172.29	105.85	0.41	-0.32	2.34
21	2827	6.5	106.9	94	2818.13	182.74	50.28 S	175.71 E	182.76	105.97	0.33	0.21	-2.23
22	2921	6.6	107.8	94	2911.52	193.47	53.48 S	185.94 E	193.48	106.05	0.15	0.11	0.96
23	3015	6.4	108.4	94	3004.91	204.10	56.79 S	196.06 E	204.12	106.15	0.22	-0.21	0.64
24	3109	6.4	107.6	94	3098.33	214.58	60.02 S	206.02 E	214.59	106.24	0.09	0.00	-0.85
25	3203	6.0	106.0	94	3191.78	224.73	62.96 S	215.74 E	224.74	106.27	0.46	-0.43	-1.70
26	3297	5.9	105.3	94	3285.27	234.47	65.59 S	225.12 E	234.48	106.24	0.13	-0.11	-0.74
27	3391	5.8	106.1	94	3378.78	244.05	68.18 S	234.35 E	244.06	106.22	0.14	-0.11	0.85
28	3485	5.5	107.1	94	3472.33	253.31	70.82 S	243.22 E	253.32	106.24	0.34	-0.32	1.06
29	3579	6.2	110.6	94	3565.84	262.87	73.94 S	252.27 E	262.88	106.33	0.84	0.74	3.72
30	3672	6.1	112.3	93	3658.30	272.80	77.58 S	261.55 E	272.81	106.52	0.22	-0.11	1.83
31	3766	5.9	110.1	94	3751.79	282.60	81.13 S	270.70 E	282.60	106.68	0.32	-0.21	-2.34
32	3860	5.8	109.4	94	3845.30	292.17	84.37 S	279.72 E	292.17	106.78	0.13	-0.11	-0.74
33	3953	6.5	113.9	93	3937.76	302.09	88.06 S	288.97 E	302.09	106.95	0.91	0.75	4.84
34	4047	5.9	113.6	94	4031.21	312.16	92.15 S	298.26 E	312.17	107.17	0.64	-0.64	-0.32
35	4110	6.3	114.0	63	4093.85	318.81	94.86 S	304.38 E	318.82	107.31	0.64	0.63	0.63
36	4172	7.2	110.2	62	4155.42	326.06	97.58 S	311.14 E	326.08	107.41	1.62	1.45	-6.13

Archer

Company: COG Operating Inc.

Job Number: 04326-433-22

Calculation Method

Minimum Curvature

Well: Burch Keely Unit 635

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Location: Eddy County, New Mexico

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Depth Reference

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Rig: UDI 40

MWD Eng: David Whaley

Tie Into: Gyro Survey

Job Date: 06/28/13-07/03/13

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
37	4266	7.3	107.9	94	4248.67	337.91	101.45 S	322.35 E	337.94	107.47	0.33	0.11	-2.45
38	4360	7.2	107.1	94	4341.92	349.77	105.02 S	333.66 E	349.80	107.47	0.15	-0.11	-0.85
39	4454	7.1	108.3	94	4435.19	361.47	108.58 S	344.81 E	361.50	107.48	0.19	-0.11	1.28
40	4548	7.0	107.3	94	4528.48	373.01	112.10 S	355.79 E	373.03	107.49	0.17	-0.11	-1.06
41	4629	7.1	108.1	81	4608.87	382.95	115.13 S	365.26 E	382.97	107.49	0.17	0.12	0.99
Proj.	4679	7.1	108.1	50	4658.48	389.13	117.05 S	371.14 E	389.15	107.50	0.00	0.00	0.00