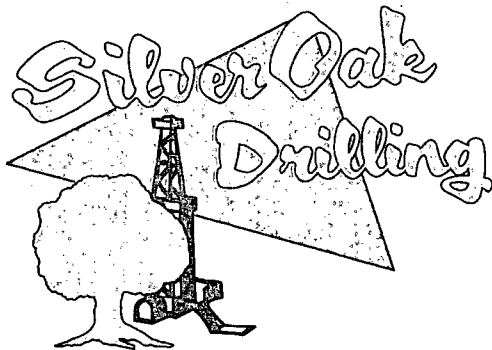
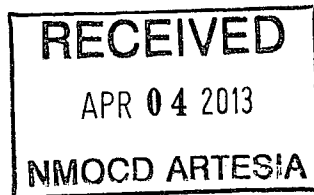




PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288



September 28, 2012

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

30-015-40382

RE: Burch Keely Unit #858
1395' FNL & 2338' FWL
Sec. 24, T17S, R29E
Eddy County, New Mexico

Dear Sir,

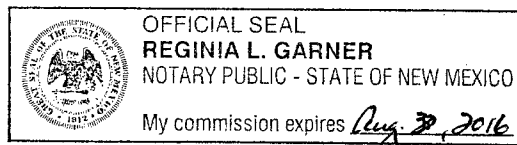
The attached is the Deviation Survey for the above captioned well.

Very truly yours,

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 28th day of September, 2012.



Burch Keely Unit #858

Date	Depth	Dev/Inc	Dir/AZ
9/21/2012	267	0.40	
9/22/2012	508	0.80	
9/24/2012	1025	1.25	68.25
9/24/2012	1089	1.14	67.11
9/24/2012	1153	0.79	42.67
9/24/2012	1216	0.62	339.30
9/24/2012	1280	1.32	294.70
9/25/2012	1694	5.72	251.80
9/25/2012	1758	6.28	253.80
9/25/2012	1821	6.80	257.30
9/25/2012	1885	6.95	265.56
9/25/2012	1949	7.56	269.08
9/25/2012	2012	7.56	275.32
9/25/2012	2076	7.21	282.40
9/25/2012	2140	8.18	282.10
9/25/2012	2267	8.59	279.60
9/26/2012	2841	8.79	278.40
9/26/2012	2937	8.90	277.50
9/26/2012	3032	9.23	278.80
9/27/2012	3510	8.34	283.10
9/27/2012	3606	8.36	283.60
9/27/2012	3702	8.35	283.70
9/27/2012	3797	8.18	283.70
9/27/2012	3892	9.32	279.71
9/27/2012	4071	8.79	279.90



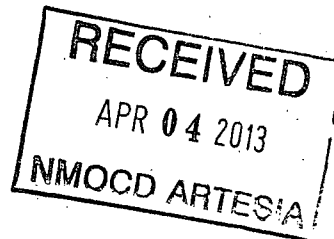
COG Operating LLC

Eddy County, NM (NAD27 NME)

Burch Keely Unit

#858

OH - Job #32D09121195



Design: OH

SDI Standard Survey Report

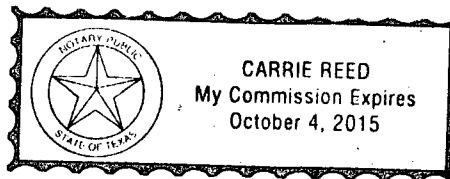
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 8th of October, 2012.

[Signature]

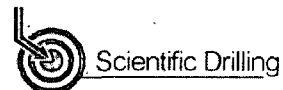
Notary Signature
County of Midland
State of Texas



Scientific Drilling



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #858
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RF @ 3607.00usft (SO #5)
Site:	Burch Keely Unit	MD Reference:	RF @ 3607.00usft (SO #5)
Well:	#858	North Reference:	Grid
Wellbore:	OH - Job #32D09121195	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-Regulatory

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Burch Keely Unit		
Site Position:	Map	Northing:	661,490.10 usft
From:		Easting:	589,648.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 49' 5.462 N
		Longitude:	104° 2' 29.475 W
		Grid Convergence:	0.16°

Well	#858		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 24.011 N
		Longitude:	104° 1' 43.460 W
		Ground Level:	3,595.00 usft

Wellbore	OH - Job #32D09121195		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	09/23/12	(°)
			7.69
			Dip Angle
			(°)
			60.63
			Field Strength
			(nT)
			48,798

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			280.15

Survey Program	Date 09/28/12		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.00	940.00	Gyro (OH - Job #32D09121195)	Keeper
1,025.00	4,126.00	MWD (OH - Job #32D09121195)	MWD
			Description
			Standard Wireline Keeper ver 1.0.2
			MWD --Standard

Survey			
Measured Depth	Inclination	Azimuth	True Vertical
(usft)	(°)	(°)	Depth
0.00	0.00	0.00	0.00
100.00	0.11	286.25	100.00
200.00	0.10	154.50	200.00
300.00	0.24	80.00	300.00
400.00	0.65	46.41	400.00
500.00	0.78	54.58	499.99
600.00	1.11	47.08	599.97
700.00	1.57	51.72	699.95
800.00	2.18	61.31	799.89
900.00	1.90	66.78	899.83
			North/South
			(usft)
			0.00
			0.03
			-0.03
			-0.07
			0.36
			1.15
			2.20
			3.71
			5.47
			7.04
			East/West
			(usft)
			0.00
			-0.09
			-0.15
			0.10
			0.71
			1.68
			2.94
			4.73
			7.47
			10.66
			Closure Azimuth
			(°)
			0.00
			286.25
			260.32
			124.79
			63.25
			55.70
			53.23
			51.90
			53.80
			56.58
			Closure Distance
			(usft)
			0.00
			0.10
			0.15
			0.12
			0.80
			2.03
			3.67
			6.01
			9.26
			12.78



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #858
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RF @ 3607.00usft (SO #5)
Site:	Burch Keely Unit	MD Reference:	RF @ 3607.00usft (SO #5)
Well:	#858	North Reference:	Grid
Wellbore:	OH - Job #32D09121195	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
940.00	1.73	66.90	939.81	7.53	11.83	57.50	14.02
Gyro Tie-in							
1,025.00	1.58	68.25	1,024.77	8.47	14.10	58.99	16.45
1,089.00	1.14	67.11	1,088.76	9.05	15.50	59.73	17.95
1,153.00	0.79	42.67	1,152.75	9.62	16.39	59.59	19.00
1,216.00	0.62	339.30	1,215.74	10.26	16.56	58.23	19.48
1,280.00	1.32	294.74	1,279.73	10.89	15.77	55.38	19.17
1,344.00	1.93	274.44	1,343.71	11.28	14.03	51.19	18.00
1,408.00	2.81	275.85	1,407.65	11.52	11.39	44.67	16.20
1,471.00	3.52	271.89	1,470.56	11.75	7.92	34.00	14.17
1,567.00	4.13	258.27	1,566.35	11.14	1.59	8.13	11.25
1,630.00	5.01	253.67	1,629.14	9.91	-3.27	341.74	10.43
1,694.00	5.71	251.80	1,692.86	8.13	-8.98	312.16	12.11
1,758.00	6.28	253.83	1,756.51	6.16	-15.36	291.84	16.55
1,821.00	6.80	257.34	1,819.10	4.38	-22.31	281.11	22.74
1,885.00	6.95	265.56	1,882.65	3.25	-29.87	276.21	30.04
1,949.00	7.56	269.08	1,946.13	2.88	-37.94	274.34	38.05
2,012.00	7.56	275.32	2,008.59	3.20	-46.21	273.96	46.32
2,076.00	7.21	282.44	2,072.06	4.45	-54.32	274.69	54.50
2,140.00	8.18	282.17	2,135.48	6.28	-62.70	275.72	63.01
2,203.00	8.27	279.54	2,197.83	7.98	-71.54	276.36	71.99
2,267.00	8.73	280.74	2,261.13	9.64	-80.86	276.80	81.43
2,331.00	9.06	283.16	2,324.36	11.70	-90.53	277.36	91.29
2,395.00	8.71	281.21	2,387.59	13.79	-100.19	277.83	101.14
2,459.00	8.88	279.01	2,450.84	15.50	-109.83	278.03	110.92
2,554.00	8.80	279.24	2,544.71	17.82	-124.24	278.16	125.51
2,650.00	8.54	280.14	2,639.61	20.25	-138.51	278.32	139.98
2,746.00	8.35	276.20	2,734.57	22.26	-152.45	278.31	154.07
2,841.00	8.79	278.46	2,828.51	24.07	-166.49	278.23	168.22
2,937.00	8.90	277.53	2,923.37	26.12	-181.11	278.21	182.98
3,032.00	9.23	278.83	3,017.18	28.26	-195.92	278.21	197.95
3,128.00	9.12	278.15	3,111.96	30.52	-211.06	278.23	213.25
3,223.00	8.98	287.26	3,205.78	33.78	-225.59	278.52	228.11
3,319.00	9.27	288.16	3,300.56	38.42	-240.10	279.09	243.15
3,415.00	8.08	281.99	3,395.47	42.23	-254.04	279.44	257.53
3,510.00	8.34	283.11	3,489.49	45.18	-267.28	279.59	271.08
3,606.00	8.36	283.63	3,584.47	48.40	-280.85	279.78	284.99
3,702.00	8.35	283.76	3,679.46	51.70	-294.40	279.96	298.91
3,797.00	8.18	283.76	3,773.47	54.95	-307.66	280.13	312.53
3,892.00	9.32	279.71	3,867.36	57.86	-321.81	280.19	326.97
3,988.00	9.06	278.57	3,962.13	60.29	-336.95	280.15	342.30
4,071.00	8.79	279.90	4,044.13	62.36	-349.66	280.11	355.17
Last MWD Survey							
4,126.00	8.79	279.90	4,098.48	63.80	-357.94	280.11	363.58
Projection to Bit - PBHL-BKU #858							



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #858
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RF @ 3607.00usft (SO #5)
Site:	Burch Keely Unit	MD Reference:	RF @ 3607.00usft (SO #5)
Well:	#858	North Reference:	Grid
Wellbore:	OH - Job #32D09121195	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)

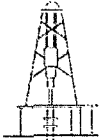
Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,071.00	4,044.13	62.36	-349.66	Last MWD Survey
4,126.00	4,098.48	63.80	-357.94	Projection to Bit



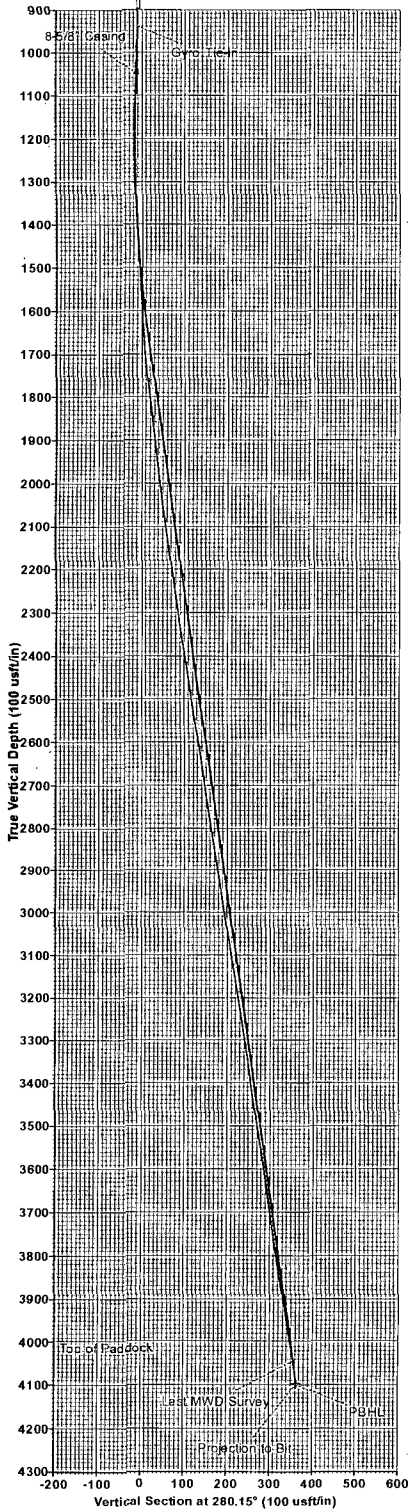
Azimuths to Grid North
True North: -0.17°
Magnetic North: 7.52°

Magnetic Field
Strength: 48797.6nT
Dip Angle: 60.63°
Date: 9/23/2012
Model: IGRF2010

Burch Keely Unit #858
Eddy County, NM (NAN27 NME)
Northing: 663375.70
Easting: 593569.40
Plan #3 - 7-7/8" Hole



RF @ 3607.00usft (SO #5)
Ground Level: 3595.00



WELL DETAILS:

Ground Level: 3595.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	663375.70	593569.40	32° 49' 24.011 N	104° 1' 43.460 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
940.00	1.73	66.90	939.81	7.53	11.83	0.00	0.00	-10.32	
1150.00	1.73	66.90	1149.71	10.02	17.66	0.00	0.00	-15.62	
1631.87	8.11	277.63	1630.20	17.40	-9.40	2.00	-154.50	12.32	
4126.62	8.11	277.63	4100.00	64.11	-358.23	0.00	0.00	363.92	PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL	4100.00	64.11	-358.23	663439.80	593211.20

SITE DETAILS: Burch Keely Unit
Site Centre Northing: 661490.10
Easting: 599648.00

Positional Uncertainty: 0.00
Convergence: 0.16
Local North: Grid

PROJECT DETAILS: Eddy County, NM (NAN27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
1050.00	1050.28	5/8" Casing	8-5/8

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4000.00	4025.61	Top of Paddock

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #858, Grid North

Latitude: 32° 49' 24.011 N
Longitude: 104° 1' 43.460 W

Grid East: 593569.40
Grid North: 663375.70
Scale Factor: 1.000

Geomagnetic Model: IGRF2010
Sample Date: 23-Sep-12
Magnetic Declination: 7.69°
Dip Angle from Horizontal: 60.63°
Magnetic Field Strength: 48798

To convert a Magnetic Direction to a Grid Direction, Add 7.52°
To convert a Magnetic Direction to a True Direction, Add 7.69° East
To convert a True Direction to a Grid Direction, Subtract 0.17°

