PATRIOT DRILLING, LLC

OPERATOR: COG Operating, LLC
WELL/LEASE: MYOX 29 State # 3 H
COUNTY: Eddy Co., New Mexico
Sec. 29, T25S, R28E

30-015-39404

STATE OF NEW MEXICO
DEVIATION REPORT

Depth	Deviation	Depth	Deviation
260	1	3,806	3/4
547	3/4	3,965	1/2
825	1	4,218	2 1/2
1,207	1	4,691	3 3/4
1,464	3/4	5,024	2 1/4
1,335	3/4	5,435	1 1/2
1,590	3/4	5,909	1
1,812	1	6,699	3/4
2,033	3/4	7,182	1/2
2,268	1/4	7,660	1
2,477	1/2	8,168	3/4
2,698	1	8,720	3/4
2,934	1	8,993	1 1/2

RECEIVED
NOV 14 2012
NMOCD ARTESIA

Patriot Drilling, LLC

Daniel Campbell for Leroy Peterson

M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 11th day of September, 2012 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling,

My Commission Expires: 02/01/2015

Lori T Rowan

Lori T. Rowan
Notary Public for Ector Co., Texas

NOTARY PUBLIC STATE OF TEXAS
Lori T Rowan
My Commission Expires
02/01/2015

303 W. Wall St. Ste. 2201 • P.O. Box 1610 • Midland, Texas 79702 • 432-686-2780 • Fax 432-686-8800

VES
VAUGHN ENERGY SERVICES
A GYRO TECHNOLOGIES INC. COMPANY

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

September 4, 2012

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

Attn: Kanica Castillo

RE: **MYOX 29 State Com No. 003H**

Please find enclosed a copy of the survey from 0.00' to 7190.00' 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

Company: COG Operating, LLC (Concho)
Lease/Well: MYOX 29 State Com / No. 003H
Location: SEC29 T25s R28e
Rig Name: Patriot 2
State/County: New Mexico / Eddy
Latitude: 32.09
GRID North is 0.12 Degrees East of True North
VS-Azi: 359.58 Degrees

Depth Reference : RKB = 17'

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 9/4/2012 / 11:17

Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Colby Ware
MYOX 29 State Com No. 003H / API 30-015-39404

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	0.36	207.58	100.00	-0.28	-0.14	0.31	207.58	0.36
200.00	0.31	209.05	200.00	-0.79	-0.42	0.89	208.02	0.05
300.00	0.17	211.31	300.00	-1.15	-0.63	1.31	208.61	0.14
400.00	0.08	214.57	400.00	-1.34	-0.75	1.53	209.14	0.10
500.00	0.22	215.24	500.00	-1.55	-0.89	1.79	209.99	0.14
600.00	0.32	216.92	600.00	-1.93	-1.17	2.25	211.28	0.10
700.00	0.20	216.72	699.99	-2.29	-1.44	2.71	212.21	0.12
800.00	0.12	236.53	799.99	-2.49	-1.63	2.97	213.28	0.10
900.00	0.11	244.28	899.99	-2.58	-1.80	3.15	214.91	0.02
1000.00	0.14	272.03	999.99	-2.62	-2.01	3.30	217.47	0.06
1100.00	0.15	291.34	1099.99	-2.57	-2.25	3.42	221.26	0.05
1200.00	0.17	300.65	1199.99	-2.44	-2.51	3.50	225.75	0.03
1300.00	0.45	295.70	1299.99	-2.20	-2.99	3.71	233.71	0.28
1400.00	0.73	283.76	1399.99	-1.87	-3.96	4.38	244.68	0.30
1500.00	0.71	276.48	1499.98	-1.65	-5.20	5.45	252.35	0.09
1600.00	0.69	270.21	1599.97	-1.58	-6.42	6.61	256.16	0.08
1700.00	0.42	256.68	1699.97	-1.66	-7.38	7.57	257.30	0.30
1800.00	0.15	201.16	1799.96	-1.87	-7.79	8.01	256.48	0.36

VES Survey Date: 08/30/2012

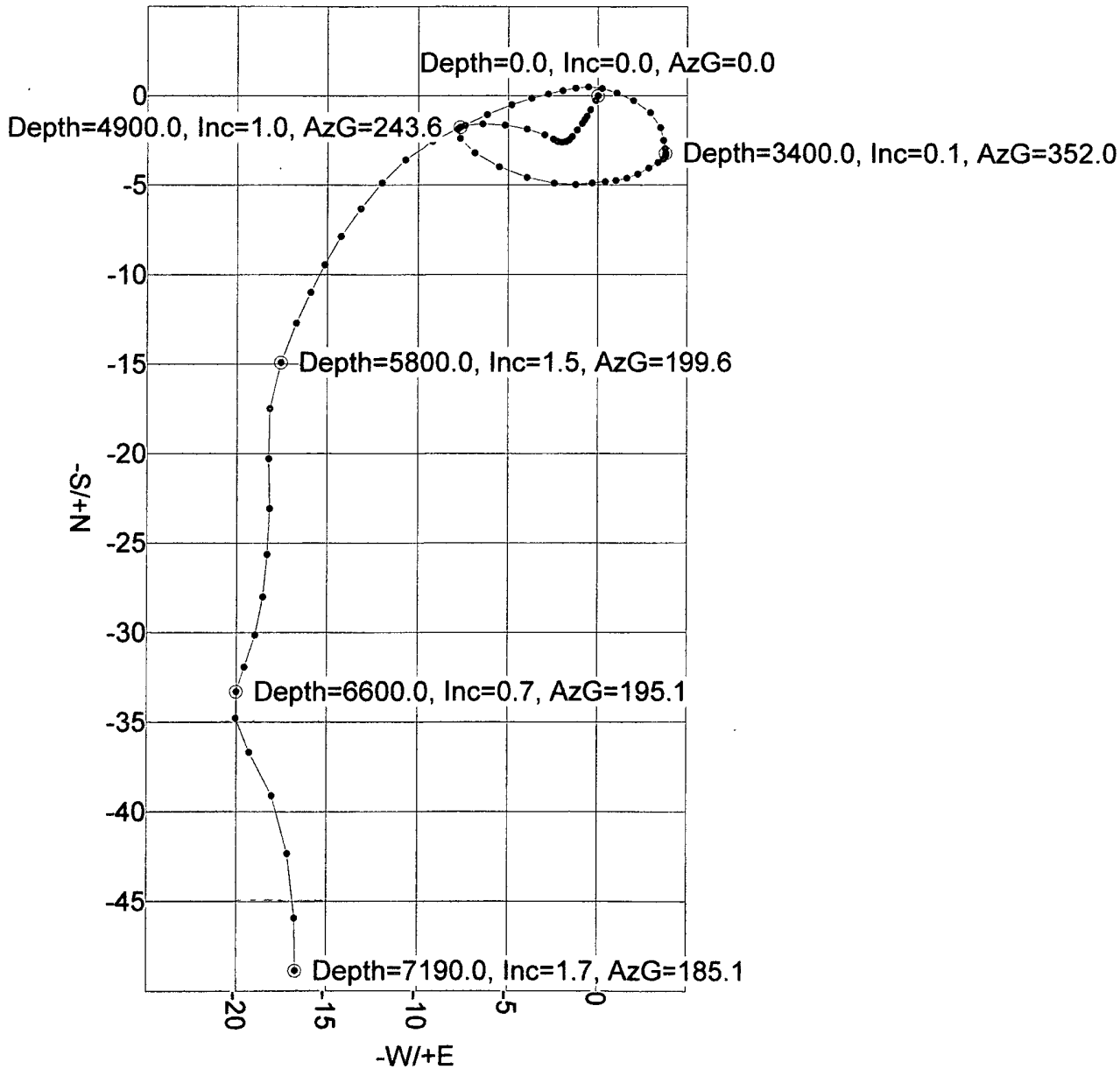
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.51	156.69	1899.96	-2.40	-7.67	8.03	252.58	0.41
2000.00	0.86	122.21	1999.96	-3.21	-6.86	7.57	244.90	0.53
2100.00	0.92	118.21	2099.94	-3.99	-5.51	6.80	234.06	0.09
2200.00	0.99	104.20	2199.93	-4.59	-3.96	6.06	220.82	0.24
2300.00	0.79	99.46	2299.92	-4.91	-2.45	5.49	206.48	0.21
2400.00	0.59	84.72	2399.91	-4.98	-1.25	5.13	194.15	0.26
2500.00	0.47	84.82	2499.91	-4.89	-0.33	4.90	183.87	0.12
2600.00	0.36	84.92	2599.90	-4.83	0.40	4.84	175.31	0.11
2700.00	0.35	80.12	2699.90	-4.75	1.01	4.85	167.98	0.03
2800.00	0.36	75.32	2799.90	-4.62	1.61	4.89	160.75	0.03
2900.00	0.38	63.86	2899.90	-4.39	2.21	4.92	153.24	0.08
3000.00	0.42	59.39	2999.89	-4.05	2.83	4.95	145.08	0.05
3100.00	0.26	55.95	3099.89	-3.74	3.34	5.01	138.22	0.16
3200.00	0.14	49.50	3199.89	-3.53	3.62	5.06	134.29	0.13
3300.00	0.10	20.73	3299.89	-3.38	3.74	5.04	132.06	0.07
3400.00	0.09	351.95	3399.89	-3.22	3.76	4.95	130.55	0.05
3500.00	0.21	350.29	3499.89	-2.96	3.72	4.75	128.52	0.12
3600.00	0.33	348.62	3599.89	-2.50	3.63	4.41	124.55	0.12
3700.00	0.52	346.84	3699.89	-1.78	3.47	3.90	117.18	0.19
3800.00	0.70	311.06	3799.88	-0.94	2.91	3.06	107.95	0.42
3900.00	0.62	300.24	3899.88	-0.26	1.97	1.99	97.62	0.15
4000.00	0.55	289.42	3999.87	0.17	1.05	1.07	80.92	0.14
4100.00	0.46	280.63	4099.87	0.40	0.21	0.45	28.08	0.12
4200.00	0.42	271.85	4199.86	0.49	-0.54	0.73	311.84	0.08
4300.00	0.41	258.78	4299.86	0.43	-1.26	1.33	288.79	0.09
4400.00	0.43	257.72	4399.86	0.28	-1.98	1.99	278.01	0.02
4500.00	0.52	255.63	4499.86	0.09	-2.78	2.78	271.76	0.09
4600.00	0.59	255.55	4599.85	-0.15	-3.72	3.72	267.62	0.07
4700.00	0.75	249.06	4699.84	-0.52	-4.82	4.85	263.89	0.18
4800.00	0.91	246.56	4799.83	-1.07	-6.17	6.26	260.18	0.17
4900.00	0.97	243.62	4899.82	-1.76	-7.65	7.85	257.06	0.07
5000.00	1.04	240.67	4999.80	-2.58	-9.20	9.55	254.35	0.09
5100.00	1.06	231.61	5099.79	-3.59	-10.71	11.29	251.46	0.17
5200.00	1.05	218.55	5199.77	-4.88	-12.00	12.96	247.86	0.24
5300.00	1.07	218.30	5299.75	-6.33	-13.15	14.60	244.29	0.02
5400.00	1.08	212.06	5399.74	-7.87	-14.23	16.26	241.07	0.12
5500.00	1.01	207.26	5499.72	-9.45	-15.14	17.85	238.02	0.11
5600.00	0.96	206.46	5599.70	-10.99	-15.92	19.34	235.38	0.06
5700.00	1.22	203.04	5699.69	-12.71	-16.71	20.99	232.73	0.27

VES Survey Date: 08/30/2012

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	1.48	199.63	5799.66	-14.91	-17.56	23.04	229.66	0.28
5900.00	1.57	187.45	5899.62	-17.49	-18.17	25.22	226.09	0.34
6000.00	1.66	175.28	5999.58	-20.29	-18.23	27.28	221.93	0.35
6100.00	1.54	182.86	6099.55	-23.07	-18.18	29.37	218.23	0.24
6200.00	1.41	183.44	6199.51	-25.64	-18.32	31.51	215.54	0.12
6300.00	1.30	187.32	6299.48	-28.00	-18.54	33.58	213.50	0.14
6400.00	1.20	196.20	6399.46	-30.13	-18.97	35.61	212.20	0.22
6500.00	0.96	200.63	6499.44	-31.92	-19.56	37.44	211.50	0.25
6600.00	0.70	195.06	6599.43	-33.29	-20.01	38.84	211.01	0.27
6700.00	1.04	171.79	6699.42	-34.78	-20.04	40.14	209.96	0.48
6800.00	1.37	148.52	6799.40	-36.69	-19.29	41.45	207.73	0.59
6900.00	1.75	155.59	6899.36	-39.10	-18.03	43.06	204.76	0.42
7000.00	2.12	172.65	6999.31	-42.32	-17.17	45.67	202.08	0.68
7100.00	2.03	174.27	7099.24	-45.92	-16.75	48.88	200.04	0.11
7190.00	1.73	185.14	7189.19	-48.87	-16.72	51.65	198.88	0.52

VES Survey Date: 08/30/2012

Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Colby Ware
MYOX 29 State Com No. 003H / API 30-015-39404



VES Survey Date: 08/30/2012

End of Well Recap
FOR

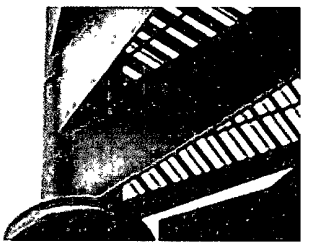
COG Operating LLC
Myox 29 State 3H
Eddy County, NM

Proposal No. 03864-433-22

Presented By:

Russ England
Account Manager

Lando Hiler
Well Planner



Archer
The well company

Archer

The well company

Overlay Well
&
Survey Report

CONCHO

COG Operating LLC

Eddy County(NM27E)
Sec 29-T25S-R28E
Myox 29 State 3H

Wellbore #1

Design: Wellbore #1

Standard Survey Report

12 September, 2012

Archer
The well company

CONCHO

Archer
The well company

Project	Eddy County(NM27E)
Site	Sec 29-T25S-R28E
Well	Myox 29 State 3H
Wellbore	Wellbore #1
Design	Plan 3
Lat	32° 5' 38 112 N
Long	103° 58' 41 928 W
GL	2977 5
KB	KB @ 2994 5usft

T G M

Azimuths to Grid North	
True North	-0 19°
Magnetic North	7 43°
Magnetic Field	
Strength	48377 6snT
Dip Angle	59 97°
Date	08/21/2012
Model	IGRF2010

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
7190 0	1 73	185 14	7189 2	-48 9	-16 7	0 00	0 00	-48 7	Tie-In Hold to KOP
7409 1	1 73	185 14	7408 2	-55 5	-17 3	0 00	0 00	-55 3	KOP-Build 12°/100
8170 1	89 60	359 81	7900 0	418 4	-20 2	12 00	174 67	418 6	EOC-Hold to TD
12437 9	89 60	359 81	7930 0	4686 1	-34 2	0 00	0 00	4686 2	TD at 12437 9

PROJECT DETAILS Eddy County(NM27E)

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

WELL DETAILS Myox 29 State 3H

+N/-S	+E/-W	Northing	Easting	Ground Level 2977 5 Latitude	Longitude	Slot
0 0	0 0	398072 61	609942 28	32° 5' 38 112 N	103° 58' 41 928 W	

SITE DETAILS Sec 29-T25S-R28E

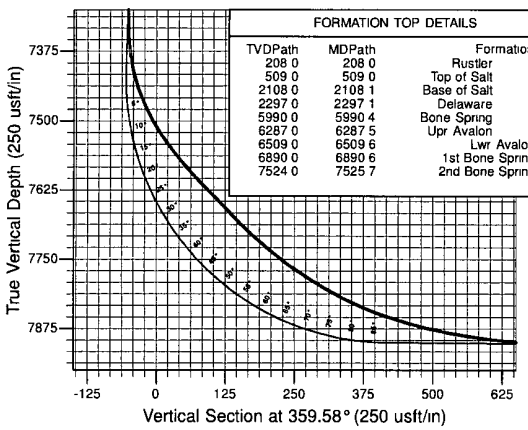
Site Centre Latitude	32° 5' 38 112 N
Longitude	103° 58' 41 928 W
Positional Uncertainty	0 0
Convergence	0 19
Local North	Grid

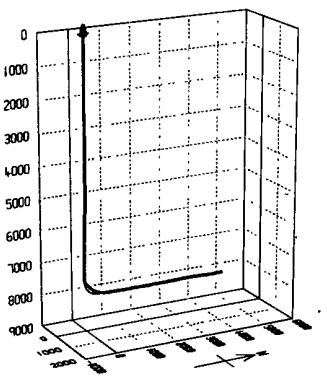
WELLBORE TARGET DETAILS (LAT/LONG)

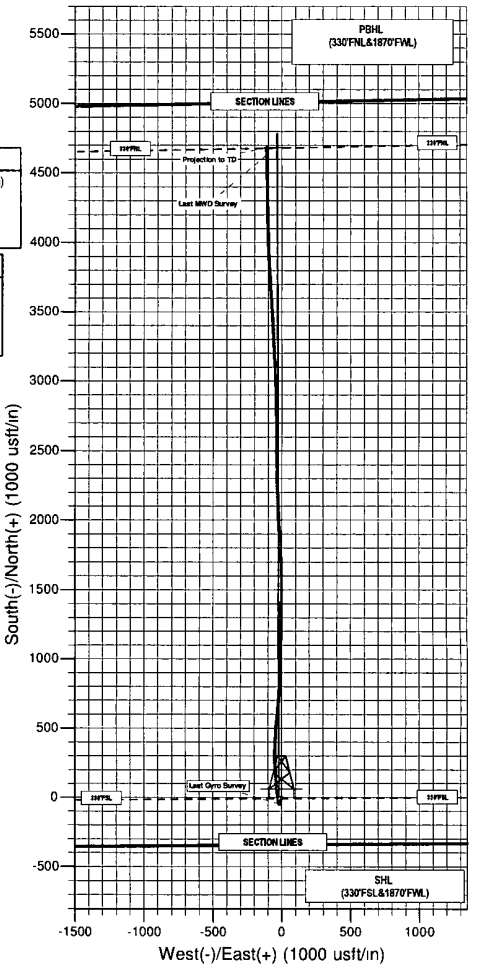
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Myox 29 3H PBHL	7930 0	4686 1	-34 2	32° 6' 24 489 N	103° 58' 42 146 W	Point

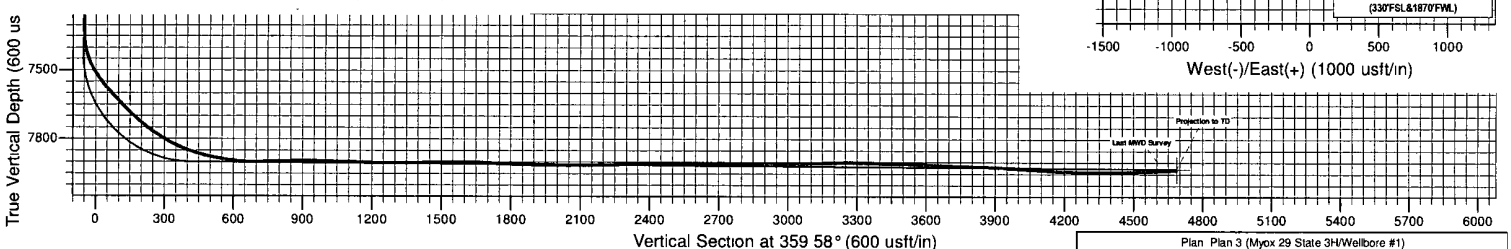
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
208 0	208 0	Rustler
509 0	509 0	Top of Salt
2108 0	2108 1	Base of Salt
2297 0	2297 1	Delaware
5990 0	5990 4	Bone Spring
6287 0	6287 5	Upr Avalon
6509 0	6509 6	Lwr Avalon
6890 0	6890 6	1st Bone Spring
7524 0	7525 7	2nd Bone Spring









Plan	Plan 3 (Myox 29 State 3H/Wellbore #1)
Created By	Lando Hiler Date 16 01, September 12 2012

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well Myox 29 State 3H
Project:	Eddy County(NM27E)	**TVD Reference:**	KB @ 2994.5usft
Site:	Sec 29-T25S-R28E	**MD Reference:**	KB @ 2994.5usft
Well:	Myox 29 State 3H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Project Eddy County(NM27E), Surface Location 915'FSL & 400'FWL, Top of Paddock 4000'TVD

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 Sec 29-T25S-R28E

Site Position:		**Northing:**	398,072.61 usft	**Latitude:**	32° 5' 38.112 N
From:	Map	**Easting:**	609,942 28 usft	**Longitude:**	103° 58' 41.928 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.19 °

Well Myox 29 State 3H

Well Position	**+N/-S**	0.0 usft	**Northing:**	398,072.61 usft	**Latitude:**	32° 5' 38.112 N
	+E/-W	0.0 usft	**Easting:**	609,942.28 usft	**Longitude:**	103° 58' 41.928 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	2,977 5 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/08/21	7.62	59.97	48,378

Design Wellbore #1

Audit Notes:

Version:	1 0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.00

Survey Program **Date** 2012/09/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,190.0	Gyro Survey (Wellbore #1)	MWD	MWD - Standard
7,257 0	12,348.0	MWD Survey (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0 0	0.00	0.00	0 0	0 0	0.0	0.0	0.00	0.00	0.00
100.0	0.36	207.58	100.0	-0.3	-0.1	-0.3	0.36	0.36	0.00
200.0	0.31	209.05	200.0	-0.8	-0.4	-0.8	0.05	-0 05	1.47
300.0	0 17	211.31	300.0	-1.2	-0.6	-1.2	0.14	-0.14	2.26
400.0	0.08	214.57	400 0	-1.3	-0.7	-1 3	0.09	-0 09	3.26
500.0	0 22	215.24	500.0	-1.6	-0.9	-1 6	0.14	0 14	0 67
600.0	0.32	216.92	600.0	-1.9	-1.2	-1 9	0.10	0 10	1 68
700.0	0 20	216.72	700.0	-2.3	-1.4	-2.3	0.12	-0.12	-0.20
800.0	0 12	236.53	800.0	-2.5	-1.6	-2.5	0.10	-0.08	19.81
900.0	0.11	244.28	900.0	-2.6	-1 8	-2.6	0.02	-0.01	7 75

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well Myox 29 State 3H
Project:	Eddy County(NM27E)	**TVD Reference:**	KB @ 2994 5usft
Site:	Sec 29-T25S-R28E	**MD Reference:**	KB @ 2994.5usft
Well:	Myox 29 State 3H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.14	272.03	1,000.0	-2.6	-2.0	-2.6	0.07	0.03	27.75
1,100.0	0.15	291.34	1,100.0	-2.6	-2.3	-2.6	0 05	0.01	19.31
1,200 0	0 17	300 65	1,200.0	-2 5	-2.5	-2.5	0.03	0 02	9.31
1,300.0	0 45	295.70	1,300.0	-2 2	-3.0	-2.2	0 28	0.28	-4.95
1,400 0	0.73	283.76	1,400.0	-1.9	-4.0	-1 9	0.30	0.28	-11 94
1,500.0	0.71	276.48	1,500.0	-1 7	-5.2	-1 7	0.09	-0.02	-7.28
1,600.0	0.69	270.21	1,600.0	-1.6	-6.4	-1 6	0.08	-0.02	-6.27
1,700.0	0.42	256.68	1,700.0	-1.7	-7.4	-1.7	0 30	-0.27	-13.53
1,800.0	0.15	201.16	1,800.0	-1.9	-7.8	-1 9	0.36	-0.27	-55.52
1,900.0	0.51	156 69	1,900.0	-2 4	-7.7	-2 4	0.42	0.36	-44.47
2,000.0	0.86	122.21	2,000.0	-3 2	-6.8	-3 2	0.53	0 35	-34.48
2,100.0	0.92	118 21	2,099.9	-4 0	-5.5	-4 0	0.09	0.06	-4 00
2,200.0	0.99	104.20	2,199 9	-4 6	-4.0	-4.6	0.24	0.07	-14.01
2,300 0	0.79	99.46	2,299.9	-4.9	-2.4	-4.9	0.21	-0 20	-4 74
2,400.0	0.59	84.72	2,399.9	-5.0	-1.2	-5.0	0.27	-0.20	-14.74
2,500.0	0.47	84.82	2,499 9	-4.9	-0.3	-4 9	0.12	-0.12	0.10
2,600.0	0.36	84.92	2,599 9	-4 8	0.4	-4 8	0.11	-0 11	0.10
2,700.0	0.35	80.12	2,699 9	-4.8	1 0	-4.8	0.03	-0.01	-4.80
2,800.0	0.36	75.32	2,799 9	-4.6	1.6	-4.6	0.03	0.01	-4 80
2,900.0	0.38	63.86	2,899.9	-4.4	2.2	-4.4	0 08	0.02	-11.46
3,000.0	0 42	59.39	2,999.9	-4.1	2.8	-4.1	0.05	0.04	-4 47
3,100.0	0 26	55.95	3,099 9	-3.8	3.3	-3.8	0.16	-0.16	-3 44
3,200.0	0 14	49.50	3,199 9	-3.5	3.6	-3.5	0.12	-0.12	-6 45
3,300.0	0.10	20.73	3,299 9	-3.4	3.7	-3.4	0.07	-0.04	-28 77
3,400.0	0.09	351.95	3,399 9	-3.2	3 8	-3.2	0 05	-0.01	-28.78
3,500.0	0.21	350.29	3,499.9	-3.0	3.7	-3.0	0.12	0.12	-1.66
3,600.0	0.33	348.62	3,599.9	-2.5	3.6	-2.5	0 12	0.12	-1.67
3,700 0	0.52	346 84	3,699.9	-1.8	3 5	-1.8	0 19	0.19	-1 78
3,800 0	0.70	311 06	3,799.9	-0.9	2.9	-0.9	0.41	0.18	-35 78
3,900 0	0.62	300 24	3,899.9	-0.3	2.0	-0.3	0.15	-0.08	-10 82
4,000 0	0.55	289 42	3,999.9	0 2	1.1	0.2	0.13	-0.07	-10.82
4,100 0	0.46	280.63	4,099.9	0 4	0.2	0.4	0.12	-0.09	-8.79
4,200 0	0.42	271.85	4,199 9	0.5	-0.6	0.5	0.08	-0.04	-8.78
4,300.0	0 41	258.78	4,299 9	0.4	-1.3	0.4	0.09	-0.01	-13 07
4,400 0	0.43	257.72	4,399.9	0.3	-2.0	0.3	0.02	0.02	-1 06
4,500 0	0.52	255.63	4,499.9	0.1	-2.8	0.1	0.09	0 09	-2.09
4,600.0	0.59	255.55	4,599 9	-0.2	-3.7	-0.2	0.07	0.07	-0 08
4,700 0	0.75	249.06	4,699.8	-0.5	-4.8	-0.5	0.18	0 16	-6.49
4,800 0	0.91	246.56	4,799.8	-1 1	-6 2	-1.1	0.16	0.16	-2.50
4,900.0	0.97	243.62	4,899.8	-1.8	-7 7	-1.8	0.08	0.06	-2.94
5,000.0	1 04	240.67	4,999 8	-2.6	-9 2	-2.6	0.09	0 07	-2 95
5,100.0	1.06	231.61	5,099.8	-3.6	-10.7	-3.6	0.17	0.02	-9.06
5,200.0	1 05	218.55	5,199.8	-4.9	-12.0	-4.9	0.24	-0.01	-13 06

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well Myox 29 State 3H
Project:	Eddy County(NM27E)	**TVD Reference:**	KB @ 2994.5usft
Site:	Sec 29-T25S-R28E	**MD Reference:**	KB @ 2994.5usft
Well:	Myox 29 State 3H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000 1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	1.07	218.30	5,299.8	-6.3	-13.2	-6.3	0.02	0.02	-0.25
5,400.0	1 08	212.06	5,399.7	-7 9	-14.3	-7.9	0.12	0.01	-6.24
5,500.0	1.01	207 26	5,499.7	-9.5	-15.2	-9.5	0.11	-0.07	-4 80
5,600.0	0 96	206.46	5,599.7	-11 0	-15.9	-11.0	0.05	-0.05	-0 80
5,700.0	1 22	203.04	5,699.7	-12 7	-16.7	-12.7	0.27	0.26	-3.42
5,800.0	1.48	199.63	5,799 7	-14.9	-17.6	-14.9	0.27	0.26	-3.41
5,900.0	1 57	187.45	5,899 6	-17.5	-18 2	-17.5	0.34	0 09	-12.18
6,000.0	1.66	175.28	5,999.6	-20.3	-18 3	-20.3	0 35	0.09	-12.17
6,100.0	1.54	182.86	6,099.5	-23.1	-18.2	-23.1	0.24	-0 12	7.58
6,200.0	1.41	183.44	6,199.5	-25.6	-18 3	-25.6	0 13	-0.13	0.58
6,300.0	1 30	187.32	6,299.5	-28.0	-18.6	-28.0	0 14	-0 11	3.88
6,400.0	1.20	196.20	6,399.5	-30.1	-19.0	-30.1	0 22	-0.10	8 88
6,500.0	0.96	200.63	6,499.4	-31.9	-19.6	-31.9	0.25	-0 24	4 43
6,600.0	0 70	195.06	6,599.4	-33.3	-20 0	-33.3	0.27	-0.26	-5.57
6,700.0	1.04	171.79	6,699.4	-34.8	-20.1	-34.8	0.48	0.34	-23.27
6,800.0	1.37	148.52	6,799.4	-36.7	-19.3	-36.7	0.58	0.33	-23.27
6,900.0	1.75	155.59	6,899.4	-39.1	-18.1	-39.1	0.43	0.38	7.07
7,000.0	2.12	172 65	6,999.3	-42.3	-17.2	-42 3	0.68	0.37	17.06
7,100.0	2.03	174.27	7,099.2	-45.9	-16.8	-45.9	0.11	-0.09	1.62
7,190.0	1.73	185.14	7,189.2	-48 9	-16.7	-48 9	0.52	-0.33	12.08
Last Gyro Survey									
7,257.0	0.70	170.40	7,256.2	-50 3	-16.8	-50.3	1.59	-1.54	-22.00
7,287.0	0.50	209.80	7,286.2	-50 6	-16.8	-50.6	1.49	-0 67	131 33
7,318.0	0.40	230.00	7,317.2	-50.8	-16.9	-50.8	0.60	-0.32	65 16
7,350.0	4 00	308.50	7,349 1	-50.1	-17 9	-50.1	12.31	11.25	245 31
7,382 0	9.30	325.70	7,380.9	-47.3	-20.2	-47.3	17.51	16.56	53.75
7,413.0	13.70	338.00	7,411.3	-41.8	-23.0	-41.8	16.17	14.19	39.68
7,445.0	19.70	348.20	7,441.9	-33.0	-25 5	-33.0	20.80	18.75	31.88
7,476.0	24 90	354 70	7,470 6	-21.4	-27 2	-21.4	18.54	16.77	20.97
7,508.0	30.00	355.40	7,499 0	-6.7	-28.5	-6.7	15.97	15.94	2.19
7,539 0	34.30	354.30	7,525.2	9.7	-30.0	9.7	14 00	13.87	-3.55
7,571.0	37.70	352.80	7,551.1	28 4	-32.1	28.4	10.98	10.63	-4.69
7,603.0	40.60	354.30	7,575.9	48 5	-34.4	48 5	9.53	9 06	4.69
7,635.0	42.90	354.70	7,599.8	69 7	-36.4	69 7	7.24	7 19	1.25
7,666 0	43.90	355.70	7,622.3	90.9	-38.2	90 9	3.91	3 23	3.23
7,698 0	43.80	356.40	7,645.4	113.0	-39.7	113.0	1.55	-0.31	2.19
7,729 0	43.70	355.80	7,667 8	134.4	-41 2	134 4	1.38	-0.32	-1.94
7,761.0	45.80	355.10	7,690.5	156.9	-43 0	156.9	6.74	6.56	-2 19
7,793.0	48 70	356.10	7,712.3	180.3	-44.8	180.3	9 35	9.06	3 13
7,825.0	50.30	356.20	7,733.0	204.6	-46.4	204.6	5.01	5.00	0.31
7,856 0	53.20	356 80	7,752.2	228.9	-47.9	228.9	9.48	9.35	1.94
7,889.0	56.20	357.70	7,771.3	255.8	-49.2	255.8	9 36	9.09	2.73
7,920.0	57.80	358 60	7,788.2	281.7	-50.0	281.7	5.71	5.16	2.90

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well Myox 29 State 3H
Project:	Eddy County(NM27E)	**TVD Reference:**	KB @ 2994.5usft
Site:	Sec 29-T25S-R28E	**MD Reference:**	KB @ 2994.5usft
Well:	Myox 29 State 3H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,952.0	60.10	0.10	7,804.7	309.2	-50.3	309.2	8 23	7.19	4.69
7,983.0	62.90	1.80	7,819.5	336.4	-49.8	336.4	10.24	9.03	5.48
8,014.0	66.10	2.40	7,832.8	364.4	-48.8	364.4	10.47	10.32	1.94
8,046.0	69.10	3.70	7,845.0	393.9	-47.2	393.9	10.10	9.38	4.06
8,077.0	71 90	4.30	7,855.4	423.0	-45.2	423.0	9.21	9.03	1.94
8,109.0	73 90	3.20	7,864.8	453.6	-43.2	453.6	7.06	6.25	-3.44
8,141.0	75.90	3.90	7,873.1	484.4	-41.3	484.4	6.60	6.25	2.19
8,173.0	78 30	4.30	7,880.2	515.5	-39.1	515.5	7.60	7.50	1.25
8,204 0	80.40	4.80	7,886 0	545.9	-36.6	545.9	6.96	6 77	1.61
8,236 0	81.70	5.30	7,891.0	577.4	-33.9	577.4	4.35	4.06	1.56
8,268 0	83.00	5.50	7,895 2	608.9	-30.9	608.9	4.11	4.06	0.63
8,300.0	85 70	5.50	7,898.4	640.6	-27.8	640.6	8.44	8.44	0 00
8,332.0	89.10	4.80	7,899 8	672.5	-25.0	672.5	10.85	10.63	-2.19
8,363.0	91.60	4.70	7,899.6	703.3	-22.4	703.3	8.07	8 06	-0 32
8,395.0	92.20	4.40	7,898.6	735.2	-19.8	735.2	2.10	1.88	-0.94
8,458 0	91.80	3.10	7,896.4	798.1	-15.7	798.1	2.16	-0.63	-2.06
8,553.0	89.90	1.40	7,895.0	893.0	-12.0	893.0	2.68	-2.00	-1.79
8,648.0	88.90	1.60	7,896.0	987.9	-9.5	987.9	1.07	-1.05	0 21
8,743.0	88.00	0.80	7,898.5	1,082.9	-7.5	1,082.9	1.27	-0 95	-0 84
8,839.0	87.80	1.50	7,902.0	1,178.8	-5 6	1,178.8	0.76	-0 21	0 73
8,934 0	90.20	0.20	7,903.7	1,273.7	-4.2	1,273.7	2 87	2.53	-1.37
9,029.0	90.60	359.70	7,903.0	1,368.7	-4.3	1,368.7	0.67	0.42	-0.53
9,123.0	91.10	1 20	7,901.6	1,462.7	-3.5	1,462 7	1.68	0 53	1 60
9,218.0	90 70	359 50	7,900.1	1,557.7	-3 0	1,557.7	1 84	-0 42	-1.79
9,313.0	87 70	358.70	7,901.5	1,652.7	-4 5	1,652.7	3.27	-3.16	-0.84
9,409.0	87.10	356 40	7,905.8	1,748.5	-8 5	1,748.5	2 47	-0 63	-2.40
9,504.0	88.50	356.20	7,909.5	1,843.2	-14 7	1,843.2	1.49	1 47	-0.21
9,599.0	88.80	357 20	7,911.7	1,938.0	-20 1	1,938.0	1 10	0 32	1.05
9,694.0	89.50	357.40	7,913.1	2,032.9	-24.6	2,032.9	0 77	0 74	0.21
9,790.0	90.90	357.30	7,912.8	2,128 8	-29.1	2,128.8	1 46	1.46	-0.10
9,885.0	91.60	359.00	7,910.7	2,223 7	-32.1	2,223.7	1.93	0 74	1 79
9,980.0	90.00	358.10	7,909.4	2,318.7	-34.5	2,318 7	1.93	-1 68	-0.95
10,076 0	90.20	359.50	7,909.2	2,414.7	-36.5	2,414.7	1 47	0.21	1 46
10,170.0	91 10	359.80	7,908.2	2,508.7	-37.1	2,508.7	1 01	0 96	0.32
10,265.0	89 20	359 30	7,907 9	2,603.6	-37.9	2,603 6	2.07	-2 00	-0.53
10,360.0	89.40	359 70	7,909.1	2,698.6	-38.7	2,698 6	0.47	0 21	0.42
10,455.0	90.10	358 90	7,909.5	2,793.6	-39.8	2,793.6	1.12	0 74	-0.84
10,550 0	90.90	358 60	7,908.7	2,888.6	-41.9	2,888.6	0.90	0.84	-0.32
10,645 0	90.40	357 90	7,907.6	2,983.5	-44 8	2,983.5	0.91	-0.53	-0.74
10,739.0	91.50	358.20	7,906 0	3,077.5	-48.0	3,077.5	1.21	1.17	0.32
10,834.0	91.90	356.90	7,903.2	3,172.3	-52 1	3,172.3	1 43	0.42	-1.37
10,928.0	90.10	356.50	7,901.6	3,266.2	-57 5	3,266.2	1.96	-1.91	-0.43
11,022.0	88.20	357.70	7,903.0	3,360.0	-62.2	3,360 0	2.39	-2 02	1.28
11,116.0	88.90	356.50	7,905.3	3,453.9	-67.0	3,453.9	1.48	0.74	-1.28

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well Myox 29 State 3H
Project:	Eddy County(NM27E)	**TVD Reference:**	KB @ 2994.5usft
Site:	Sec 29-T25S-R28E	**MD Reference:**	KB @ 2994.5usft
Well:	Myox 29 State 3H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,210.0	87.40	356.40	7,908.4	3,547.7	-72.8	3,547.7	1.60	-1.60	-0.11
11,306.0	87.60	355.70	7,912.6	3,643.3	-79.4	3,643.3	0.76	0.21	-0.73
11,401 0	88 00	356 80	7,916.2	3,738.1	-85.6	3,738.1	1.23	0.42	1.16
11,495.0	88.80	355.70	7,918.8	3,831.8	-91.8	3,831.8	1.45	0.85	-1.17
11,590 0	86.40	358.90	7,922.8	3,926.6	-96 2	3,926 6	4.21	-2 53	3.37
11,684 0	86.10	358.30	7,929.0	4,020 4	-98.5	4,020.4	0.71	-0 32	-0 64
11,779 0	86 50	357 90	7,935.1	4,115 1	-101.7	4,115.1	0.59	0.42	-0.42
11,874 0	88 40	359.70	7,939.3	4,210.0	-103.7	4,210.0	2.75	2.00	1.89
11,969.0	89 30	359.50	7,941.2	4,305.0	-104.3	4,305.0	0.97	0.95	-0.21
12,064 0	90.40	358.60	7,941.5	4,400.0	-105.9	4,400.0	1.50	1.16	-0.95
12,159.0	91.40	359.50	7,940 0	4,494.9	-107.5	4,494 9	1.42	1.05	0 95
12,254.0	92.30	359.40	7,936 9	4,589.9	-108.4	4,589 9	0 95	0.95	-0.11
12,296 0	92.80	358.10	7,935.0	4,631.8	-109.3	4,631.8	3.31	1.19	-3.10
Last MWD Survey									
12,348.0	92.80	358.10	7,932.5	4,683.7	-111.0	4,683.7	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,190 0	7,189.2	-48.9	-16 7	Last Gyro Survey
12,296.0	7,935.0	4,631 8	-109.3	Last MWD Survey
12,348.0	7,932.5	4,683 7	-111.0	Projection to TD

Checked By. _____ Approved By: _____ Date. _____