Results of Directional Survey

API number:	30-025-40977				
OGRID:		Operator:	COG OPERATING LLC		
		Property:	TRES PRIMOS 3 STATE		# 1H

surface	ULSTR:	C	03	T	19S	R	34E
				190	FNL	1980	FWL

BH Loc	ULSTR:	N	03	T	19S	R	34E
15560	MD	10791.3	TVD	192	FSL	2022	FWL
				5088	FNL		

Top Perf/OH	ULSTR:	C	03	T	19S	R	34E
10966	MD	10759.7	TVD	498	FNL	1916	FWL

Bot Perf/OH	ULSTR:	N	03	T	19S	R	34E
15380	MD	10792.2	TVD	372	FSL	2012	FWL
				4908	FNL		

	MD	N/S	E/W	VD
	10934	-276.90	-66.40	10753.4
TOP PERFS/OH	**10966**	-308.20	-64.10	10759.70
	10966	-308.20	-64.10	10759.70
	15359	-4697.30	31.20	10792.10
BOT PERFS/OH	**15380**	-4718.25	32.33	10792.17
	15452	-4790.10	36.20	10792.40

NEXT TO LAST	15518	-4856.00	39.70	10791.90
LAST READING	15560	-4898.00	41.50	10791.30
TD	**15560**	-4898.00	41.50	10791.30

Surface Location	190	FN	1980	FW
Projected BHL	5088	FN	2022	FW
Location of				
Top Perfs/OH	498	FN	1916	FW
Bottom Perfs/OH	4908	FN	2012	FW

SUMMARY of Subsurface Locations

Surface Location	C-03-19S-34E	190	FN	1980	FW	Vert. Depth
Top Perfs/OH	C-03-19S-34E	498	FN	1916	FW	10759.70
Bottom Perfs/OH	N-03-19S-34E	4908	FN	2012	FW	10792.17
Projected TD	N-03-19S-34E	5088	FN	2022	FW	10791.30

McVAY DRILLING COMPANY
P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

COG OPERATING, LLC
RECEIVED
AUG 01 2013
ARTESIA WEST

Well Name and Num: Tres Primos 3 State #1H
Location: Sec 3, T19S, R34E
Operator: COG
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @	Depth	Degrees @	Depth	Degrees @	Depth	Degrees @	Depth
1.40	210	2.20	7811	26.10	10526		
1.60	521	1.50	7970	34.60	10623		
0.90	804	1.00	8256	42.80	10681		
1.70	1780	5.00	8764	57.60	10745		
0.80	2375	2.30	8922	63.10	10777		
2.00	2896	2.20	8986	69.90	10901		
2.30	3244	2.16	9048	75.50	10934		
1.80	6522	2.10	9145	93.50	11252		
2.20	3816	2.50	9399	92.30	11442		
0.40	4482	1.80	9590	91.30	12858		
0.00	4956	1.40	9749	89.10	13690		
1.20	5431	2.00	10163	87.90	14432		
1.00	5907	2.50	10579	90.80	15515		
1.00	6383	1.60	11003				
1.90	6890	1.10	10181				
0.60	7016	3.00	10208				
2.20	7494	24.00	10491				

HOBBS OCD
OCT 03 2013
RECEIVED

By: Linda Cross

Subscribed and sworn to before me this 30th day of July, 2013

Tina Flemens
Notary Public, Lea County, New Mexico

OFFICIAL SEAL
TINA FLEMENS
Notary Public
State of New Mexico
My Comm. Expires 8-16-13

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

July 18, 2013

HOBBS OCD

OCT 03 2013

RECEIVED

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

Attn: Kanicia Castillo

RE: **Tres Primos 3 State No 001H**

Please find enclosed a copy of the survey from 0.00' to 10,300.00' ran on the above referenced well.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the 18th day of July, A.D., 2013, by Keith Havelka.

Laura Ballew
Notary Public, State of Texas

LAURA BALLEW
Notary Public, State of Texas
My Commission Expires
January 28, 2014

Company: COG Operating LLC (Concho)
Lease/Well: Tres Primos 3 State/No. 001H

Rig Name: McVay #7
State/County: New Mexico/Lea
Latitude: 32.70, Longitude: -103.55
GRID North is 0.42 Degrees East of True North
VS-Azi: 0.00 Degrees

RKB : 17 Feet

HOBBS OCD

OCT 03 2013

RECEIVED

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 7/18/2013 / 11:08

Vaughn Energy Services
Fort Worth ,TX
817- 741-3610
Surveyor: Jason Wilson
Tres Primos 3 State No. 001H / API 30-025-40977

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	0.48	336.77	100.00	0.38	-0.16	0.38	0.42	336.77	0.48
200.00	0.24	341.03	200.00	0.97	-0.40	0.97	1.05	337.64	0.23
300.00	0.47	345.88	299.99	1.57	-0.57	1.57	1.67	340.10	0.23
400.00	0.51	350.43	399.99	2.41	-0.74	2.41	2.52	342.87	0.06
500.00	0.55	338.15	499.99	3.30	-1.00	3.30	3.45	343.20	0.12
600.00	0.47	322.61	599.98	4.07	-1.42	4.07	4.31	340.73	0.16
700.00	0.33	329.96	699.98	4.64	-1.81	4.64	4.98	338.66	0.15
800.00	0.24	338.34	799.98	5.08	-2.03	5.08	5.47	338.19	0.10
900.00	0.29	341.67	899.98	5.52	-2.19	5.52	5.94	338.35	0.05
1000.00	0.26	298.41	999.98	5.87	-2.47	5.87	6.37	337.16	0.21
1100.00	0.24	271.46	1099.98	5.98	-2.88	5.98	6.64	334.26	0.12
1200.00	0.49	236.01	1199.97	5.75	-3.45	5.75	6.70	329.06	0.32
1300.00	0.68	235.11	1299.97	5.17	-4.28	5.17	6.72	320.36	0.20
1400.00	0.87	251.73	1399.96	4.60	-5.49	4.60	7.16	309.92	0.29
1500.00	1.04	238.77	1499.95	3.88	-6.99	3.88	8.00	299.06	0.28
1600.00	1.31	233.72	1599.92	2.74	-8.69	2.74	9.11	287.48	0.28
1700.00	1.51	248.09	1699.89	1.57	-10.84	1.57	10.95	278.24	0.41
1800.00	1.51	228.93	1799.86	0.21	-13.05	0.21	13.05	270.93	0.50

VES Survey Date: 07/14/2013

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	1.32	220.29	1899.83	-1.53	-14.79	-1.53	14.87	264.10	0.28
2000.00	0.99	218.66	1999.81	-3.08	-16.07	-3.08	16.37	259.14	0.33
2100.00	0.85	209.36	2099.80	-4.41	-16.98	-4.41	17.54	255.44	0.21
2200.00	0.80	205.85	2199.79	-5.69	-17.65	-5.69	18.54	252.14	0.07
2300.00	0.87	207.03	2299.78	-7.00	-18.30	-7.00	19.59	249.08	0.07
2400.00	0.51	195.34	2399.77	-8.11	-18.77	-8.11	20.44	246.64	0.39
2500.00	0.14	156.14	2499.77	-8.65	-18.84	-8.65	20.72	245.34	0.41
2600.00	0.14	163.05	2599.77	-8.87	-18.75	-8.87	20.74	244.69	0.02
2700.00	0.46	58.99	2699.77	-8.78	-18.37	-8.78	20.36	244.47	0.51
2800.00	1.40	58.99	2799.75	-7.94	-16.99	-7.94	18.75	244.94	0.94
2900.00	2.06	60.64	2899.71	-6.43	-14.37	-6.43	15.75	245.89	0.66
3000.00	2.21	62.65	2999.64	-4.66	-11.09	-4.66	12.03	247.20	0.17
3100.00	2.18	62.05	3099.56	-2.89	-7.70	-2.89	8.23	249.45	0.04
3200.00	2.21	61.20	3199.49	-1.07	-4.33	-1.07	4.46	256.16	0.05
3300.00	1.93	59.12	3299.42	0.73	-1.20	0.73	1.40	301.25	0.29
3400.00	1.87	55.95	3399.37	2.51	1.60	2.51	2.98	32.62	0.12
3500.00	1.84	52.45	3499.32	4.40	4.23	4.40	6.10	43.87	0.12
3600.00	1.53	51.86	3599.27	6.20	6.55	6.20	9.02	46.57	0.31
3700.00	1.31	52.45	3699.24	7.72	8.50	7.72	11.49	47.77	0.22
3800.00	1.13	43.71	3799.22	9.13	10.09	9.13	13.61	47.87	0.26
3900.00	0.89	48.10	3899.20	10.36	11.35	10.36	15.37	47.61	0.25
4000.00	0.84	58.16	3999.19	11.27	12.55	11.27	16.87	48.09	0.16
4100.00	0.86	51.19	4099.18	12.12	13.76	12.12	18.34	48.62	0.11
4200.00	0.78	57.32	4199.17	12.96	14.91	12.96	19.76	49.01	0.12
4300.00	0.53	26.56	4299.17	13.74	15.69	13.74	20.85	48.79	0.42
4400.00	0.80	25.26	4399.16	14.78	16.19	14.78	21.92	47.61	0.27
4500.00	0.57	22.26	4499.15	15.86	16.68	15.86	23.02	46.43	0.23
4600.00	0.65	348.32	4599.15	16.88	16.75	16.88	23.78	44.78	0.36
4700.00	0.53	350.08	4699.14	17.89	16.55	17.89	24.37	42.78	0.13
4800.00	0.69	348.84	4799.13	18.94	16.36	18.94	25.02	40.82	0.17
4900.00	0.43	340.53	4899.13	19.89	16.11	19.89	25.60	39.02	0.27
5000.00	0.66	343.99	4999.13	20.80	15.83	20.80	26.14	37.26	0.23
5100.00	0.66	349.83	5099.12	21.92	15.57	21.92	26.89	35.37	0.07
5200.00	0.39	337.04	5199.11	22.80	15.33	22.80	27.48	33.92	0.29
5300.00	0.24	325.85	5299.11	23.29	15.08	23.29	27.75	32.92	0.16
5400.00	0.25	359.52	5399.11	23.69	14.96	23.69	28.01	32.28	0.14
5500.00	0.43	336.56	5499.11	24.25	14.81	24.25	28.42	31.40	0.22
5600.00	0.22	339.77	5599.11	24.78	14.59	24.78	28.75	30.49	0.22
5700.00	0.12	332.25	5699.11	25.05	14.48	25.05	28.93	30.03	0.10

VES Survey Date: 07/14/2013

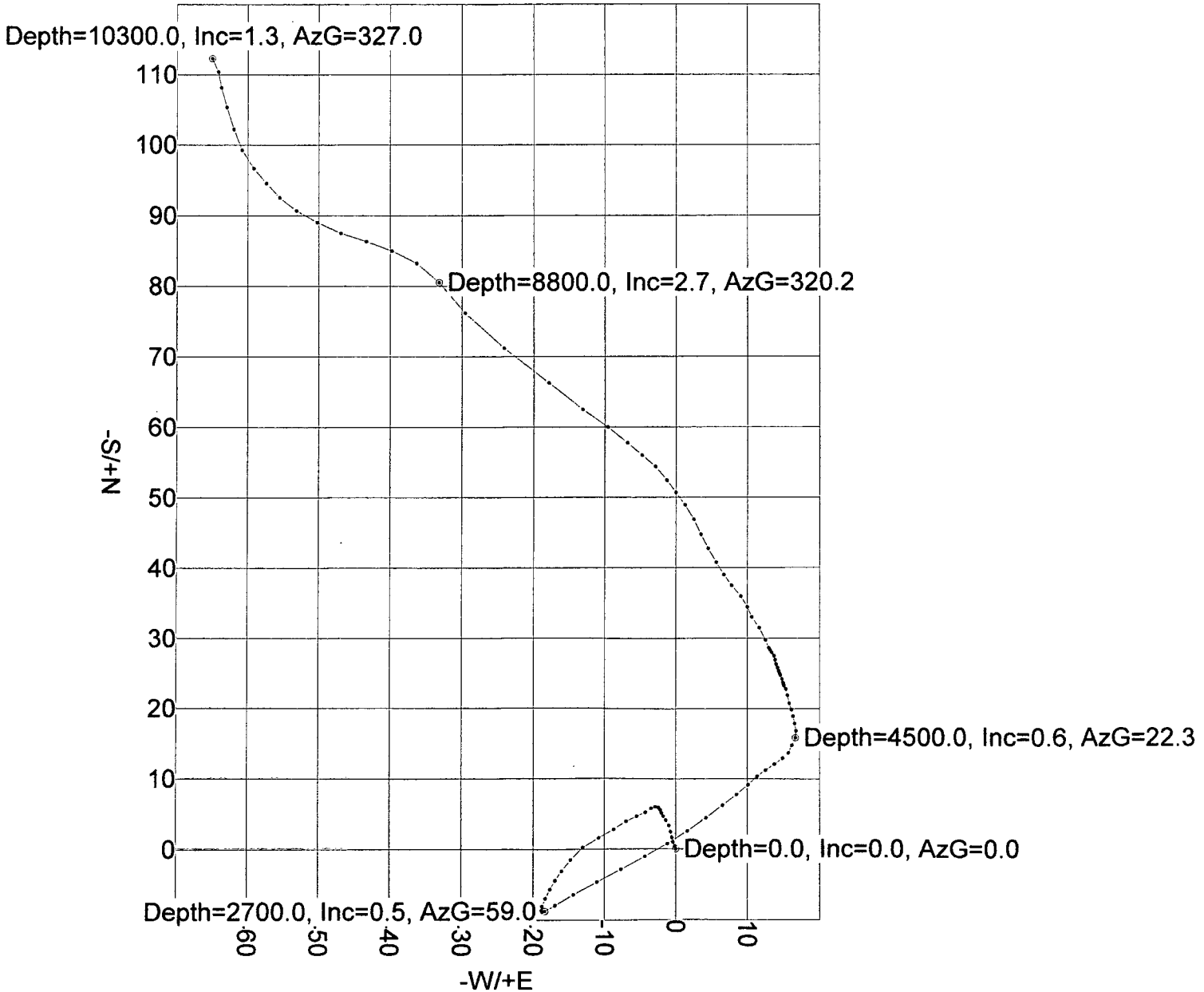
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.28	342.31	5799.11	25.38	14.35	25.38	29.16	29.49	0.17
5900.00	0.26	337.34	5899.11	25.83	14.19	25.83	29.47	28.78	0.03
6000.00	0.36	342.59	5999.10	26.34	14.01	26.34	29.83	28.00	0.11
6100.00	0.38	354.87	6099.10	26.98	13.88	26.98	30.34	27.23	0.08
6200.00	0.30	325.01	6199.10	27.53	13.70	27.53	30.75	26.46	0.19
6300.00	0.33	327.25	6299.10	27.99	13.39	27.99	31.03	25.57	0.03
6400.00	0.13	328.16	6399.10	28.32	13.18	28.32	31.24	24.95	0.20
6500.00	0.32	329.41	6499.10	28.66	12.97	28.66	31.46	24.35	0.19
6600.00	1.05	338.76	6599.09	29.76	12.50	29.76	32.28	22.78	0.74
6700.00	1.17	329.41	6699.07	31.49	11.65	31.49	33.58	20.30	0.21
6800.00	0.95	320.01	6799.05	33.00	10.60	33.00	34.66	17.80	0.28
6900.00	0.93	353.24	6899.04	34.44	9.97	34.44	35.85	16.15	0.54
7000.00	1.22	313.56	6999.03	35.97	9.11	35.97	37.11	14.21	0.78
7100.00	1.08	324.77	7099.01	37.48	7.79	37.48	38.28	11.74	0.26
7200.00	1.05	324.72	7198.99	39.00	6.72	39.00	39.57	9.77	0.03
7300.00	1.34	331.10	7298.97	40.77	5.62	40.77	41.16	7.85	0.31
7400.00	1.26	331.02	7398.94	42.75	4.53	42.75	42.99	6.04	0.08
7500.00	1.31	333.92	7498.92	44.73	3.49	44.73	44.87	4.46	0.08
7600.00	1.38	335.53	7598.89	46.86	2.49	46.86	46.92	3.05	0.08
7700.00	1.39	322.95	7698.86	48.92	1.26	48.92	48.93	1.48	0.30
7800.00	1.13	324.48	7798.83	50.69	-0.04	50.69	50.69	359.95	0.26
7900.00	1.34	323.35	7898.81	52.43	-1.31	52.43	52.45	358.57	0.21
8000.00	1.54	318.26	7998.78	54.37	-2.90	54.37	54.45	356.94	0.24
8100.00	1.35	301.26	8098.75	55.99	-4.81	55.99	56.19	355.09	0.47
8200.00	1.76	317.34	8198.71	57.73	-6.86	57.73	58.13	353.23	0.60
8300.00	2.35	303.64	8298.65	60.00	-9.61	60.00	60.76	350.90	0.76
8400.00	2.58	306.79	8398.55	62.48	-13.12	62.48	63.85	348.14	0.26
8500.00	4.38	309.33	8498.37	66.25	-17.87	66.25	68.62	344.90	1.80
8600.00	4.75	307.07	8598.05	71.16	-24.13	71.16	75.14	341.27	0.42
8700.00	3.82	320.04	8697.77	76.21	-29.57	76.21	81.75	338.79	1.34
8800.00	2.66	320.16	8797.61	80.55	-33.20	80.55	87.12	337.60	1.16
8900.00	2.16	299.80	8897.52	83.27	-36.32	83.27	90.84	336.43	0.98
9000.00	2.25	294.16	8997.45	85.01	-39.75	85.01	93.84	334.94	0.24
9100.00	2.14	286.58	9097.38	86.34	-43.33	86.34	96.60	333.35	0.31
9200.00	2.15	289.68	9197.31	87.51	-46.88	87.51	99.28	331.82	0.12
9300.00	2.09	299.66	9297.24	89.04	-50.24	89.04	102.24	330.57	0.37
9400.00	1.81	298.66	9397.18	90.71	-53.21	90.71	105.16	329.60	0.28
9500.00	1.66	318.39	9497.13	92.55	-55.56	92.55	107.94	329.02	0.61
9600.00	1.48	316.59	9597.10	94.56	-57.41	94.56	110.62	328.74	0.18

VES Survey Date: 07/14/2013

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
9700.00	1.74	322.55	9697.06	96.71	-59.22	96.71	113.40	328.52	0.31
9800.00	1.79	332.61	9797.01	99.30	-60.86	99.30	116.47	328.50	0.31
9900.00	1.86	345.23	9896.96	102.26	-61.99	102.26	119.59	328.77	0.41
10000.00	1.90	339.78	9996.91	105.39	-62.98	105.39	122.77	329.14	0.18
10100.00	1.44	351.14	10096.86	108.18	-63.75	108.18	125.57	329.49	0.56
10200.00	1.13	346.56	10196.84	110.38	-64.17	110.38	127.68	329.83	0.33
10300.00	1.33	326.98	10296.82	112.31	-65.03	112.31	129.78	329.93	0.46

VES Survey Date: 07/14/2013

Vaughn Energy Services
Fort Worth ,TX
817- 741-3610
Surveyor: Jason Wilson
Tres Primos 3 State No. 001H / API 30-025-40977



VES Survey Date: 07/14/2013

COG Operating LLC

Lea County, NM (NAD27 NME)
Tres Primos 3 State
#1H

OH

Survey: Nexus

Survey Report - Geographic

01 August, 2013

NEXUS
DIRECTIONAL SOLUTIONS, L.P.

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Site:	Tres Primos 3 State	**MD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project	Lea 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	Tres Primos 3 State				
Site Position:		**Northing:**	617,916.30 usft	**Latitude:**	32° 41' 46.689 N
From:	Map	**Easting:**	741,049.80 usft	**Longitude:**	103° 32' 59.176 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.42 °

Well	#1H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	617,916.30 usft	**Latitude:**	32° 41' 46.689 N
	+E/-W	0.0 usft	**Easting:**	741,049.80 usft	**Longitude:**	103° 32' 59.176 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,999.6 usft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	06/11/13	7.36	60.61	48,742

Design	OH				
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	179.64

Survey Program	**Date** 08/01/13		
From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
100.0	10,100.0	Gyro Survey (OH)	MWD	MWD - Standard
10,148.0	15,560.0	Nexus (OH)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.0	1.44	351.14	10,096.9	108.2	-63.7	618,024.45	740,986.11	32° 41' 47.764 N	103° 32' 59.912 W
10,148.0	1.90	341.20	10,144.8	109.5	-64.0	618,025.80	740,985.76	32° 41' 47.777 N	103° 32' 59.916 W
10,181.0	1.10	332.00	10,177.8	110.3	-64.4	618,026.60	740,985.43	32° 41' 47.785 N	103° 32' 59.920 W
10,208.0	3.00	198.80	10,204.8	109.9	-64.7	618,026.16	740,985.08	32° 41' 47.781 N	103° 32' 59.924 W
10,239.0	6.70	190.20	10,235.7	107.3	-65.3	618,023.61	740,984.50	32° 41' 47.756 N	103° 32' 59.931 W
10,271.0	7.20	197.50	10,267.5	103.6	-66.2	618,019.86	740,983.57	32° 41' 47.719 N	103° 32' 59.942 W
10,303.0	11.10	195.80	10,299.1	98.7	-67.7	618,014.98	740,982.12	32° 41' 47.671 N	103° 32' 59.959 W
10,335.0	12.40	191.70	10,330.4	92.4	-69.2	618,008.66	740,980.59	32° 41' 47.608 N	103° 32' 59.978 W
10,367.0	14.20	188.30	10,361.5	85.1	-70.5	618,001.41	740,979.33	32° 41' 47.536 N	103° 32' 59.993 W
10,397.0	16.40	192.50	10,390.5	77.3	-71.9	617,993.63	740,977.88	32° 41' 47.460 N	103° 33' 0.011 W
10,429.0	19.00	191.00	10,420.9	67.8	-73.9	617,984.10	740,975.91	32° 41' 47.366 N	103° 33' 0.035 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Site:	Tres Primos 3 State	**MD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,462.0	21.30	189.10	10,451.9	56.6	-75.9	617,972.91	740,973.93	32° 41' 47.255 N	103° 33' 0.059 W
10,491.0	24.10	188.30	10,478.7	45.5	-77.6	617,961.85	740,972.24	32° 41' 47.146 N	103° 33' 0.080 W
10,526.0	26.10	191.90	10,510.4	30.9	-80.2	617,947.24	740,969.62	32° 41' 47.001 N	103° 33' 0.111 W
10,558.0	29.40	188.50	10,538.7	16.3	-82.8	617,932.58	740,967.01	32° 41' 46.856 N	103° 33' 0.143 W
10,591.0	32.70	186.00	10,567.0	-0.6	-84.9	617,915.70	740,964.88	32° 41' 46.689 N	103° 33' 0.170 W
10,623.0	36.60	181.90	10,593.3	-18.7	-86.1	617,897.56	740,963.66	32° 41' 46.510 N	103° 33' 0.186 W
10,649.0	39.00	177.50	10,613.8	-34.7	-86.0	617,881.63	740,963.76	32° 41' 46.352 N	103° 33' 0.186 W
10,681.0	42.80	174.40	10,638.0	-55.6	-84.5	617,860.75	740,965.26	32° 41' 46.146 N	103° 33' 0.170 W
10,713.0	49.60	172.80	10,660.1	-78.5	-81.9	617,837.81	740,967.85	32° 41' 45.919 N	103° 33' 0.142 W
10,745.0	57.60	173.80	10,679.1	-104.1	-79.0	617,812.25	740,970.84	32° 41' 45.665 N	103° 33' 0.109 W
10,777.0	63.90	176.60	10,694.8	-131.9	-76.6	617,784.44	740,973.16	32° 41' 45.390 N	103° 33' 0.084 W
10,808.0	64.70	176.60	10,708.2	-159.7	-75.0	617,756.56	740,974.81	32° 41' 45.114 N	103° 33' 0.067 W
10,840.0	66.90	175.70	10,721.3	-188.9	-73.0	617,727.44	740,976.78	32° 41' 44.826 N	103° 33' 0.047 W
10,872.0	68.90	174.60	10,733.4	-218.4	-70.5	617,697.90	740,979.28	32° 41' 44.533 N	103° 33' 0.020 W
10,901.0	69.90	176.20	10,743.6	-245.5	-68.3	617,670.84	740,981.46	32° 41' 44.265 N	103° 32' 59.997 W
10,934.0	75.50	176.60	10,753.4	-276.9	-66.4	617,639.41	740,983.44	32° 41' 43.954 N	103° 32' 59.976 W
10,966.0	81.80	175.20	10,759.7	-308.2	-64.1	617,608.13	740,985.68	32° 41' 43.645 N	103° 32' 59.953 W
11,029.0	88.20	175.20	10,765.1	-370.7	-58.9	617,545.63	740,990.93	32° 41' 43.026 N	103° 32' 59.897 W
11,125.0	89.20	174.20	10,767.3	-466.2	-50.0	617,450.06	740,999.80	32° 41' 42.080 N	103° 32' 59.801 W
11,252.0	93.50	174.50	10,764.3	-592.6	-37.5	617,323.75	741,012.29	32° 41' 40.829 N	103° 32' 59.666 W
11,347.0	93.10	175.50	10,758.9	-687.0	-29.2	617,229.26	741,020.56	32° 41' 39.893 N	103° 32' 59.578 W
11,442.0	92.30	177.20	10,754.4	-781.7	-23.2	617,134.57	741,026.60	32° 41' 38.956 N	103° 32' 59.515 W
11,537.0	90.90	179.40	10,751.7	-876.6	-20.4	617,039.65	741,029.42	32° 41' 38.017 N	103° 32' 59.490 W
11,632.0	91.50	179.30	10,749.7	-971.6	-19.3	616,944.68	741,030.49	32° 41' 37.077 N	103° 32' 59.486 W
11,727.0	88.70	180.00	10,749.6	-1,066.6	-18.7	616,849.69	741,031.07	32° 41' 36.137 N	103° 32' 59.487 W
11,818.0	89.00	179.40	10,751.4	-1,157.6	-18.2	616,758.71	741,031.55	32° 41' 35.237 N	103° 32' 59.490 W
11,911.0	89.60	179.50	10,752.5	-1,250.6	-17.4	616,665.73	741,032.44	32° 41' 34.316 N	103° 32' 59.487 W
12,005.0	90.20	179.40	10,752.7	-1,344.6	-16.5	616,571.73	741,033.35	32° 41' 33.386 N	103° 32' 59.485 W
12,097.0	88.70	180.90	10,753.6	-1,436.6	-16.7	616,479.74	741,033.10	32° 41' 32.476 N	103° 32' 59.496 W
12,192.0	89.10	179.80	10,755.4	-1,531.5	-17.3	616,384.76	741,032.52	32° 41' 31.536 N	103° 32' 59.511 W
12,287.0	88.90	180.50	10,757.1	-1,626.5	-17.5	616,289.78	741,032.28	32° 41' 30.597 N	103° 32' 59.522 W
12,381.0	89.50	180.20	10,758.4	-1,720.5	-18.1	616,195.79	741,031.70	32° 41' 29.667 N	103° 32' 59.536 W
12,476.0	88.40	179.10	10,760.1	-1,815.5	-17.5	616,100.81	741,032.28	32° 41' 28.727 N	103° 32' 59.538 W
12,571.0	88.20	177.70	10,762.9	-1,910.4	-14.9	616,005.89	741,034.93	32° 41' 27.787 N	103° 32' 59.515 W
12,666.0	88.70	179.40	10,765.5	-2,005.3	-12.5	615,910.96	741,037.34	32° 41' 26.848 N	103° 32' 59.495 W
12,761.0	90.90	182.00	10,765.8	-2,100.3	-13.6	615,815.98	741,036.18	32° 41' 25.908 N	103° 32' 59.517 W
12,855.0	91.30	180.70	10,764.0	-2,194.3	-15.8	615,722.03	741,033.96	32° 41' 24.979 N	103° 32' 59.551 W
12,948.0	90.20	180.90	10,762.8	-2,287.3	-17.1	615,629.04	741,032.66	32° 41' 24.059 N	103° 32' 59.574 W
13,042.0	88.50	179.20	10,763.9	-2,381.2	-17.2	615,535.06	741,032.58	32° 41' 23.129 N	103° 32' 59.583 W
13,135.0	88.90	180.10	10,766.0	-2,474.2	-16.6	615,442.08	741,033.15	32° 41' 22.209 N	103° 32' 59.585 W
13,228.0	88.90	178.80	10,767.8	-2,567.2	-15.8	615,349.11	741,034.04	32° 41' 21.289 N	103° 32' 59.582 W
13,321.0	89.10	179.20	10,769.4	-2,660.2	-14.1	615,256.14	741,035.66	32° 41' 20.369 N	103° 32' 59.571 W
13,413.0	89.50	178.70	10,770.5	-2,752.1	-12.4	615,164.16	741,037.35	32° 41' 19.458 N	103° 32' 59.560 W
13,505.0	90.10	178.80	10,770.9	-2,844.1	-10.4	615,072.18	741,039.36	32° 41' 18.548 N	103° 32' 59.544 W
13,598.0	88.50	178.60	10,772.0	-2,937.1	-8.3	614,979.22	741,041.47	32° 41' 17.628 N	103° 32' 59.527 W
13,690.0	89.10	179.30	10,773.9	-3,029.1	-6.6	614,887.25	741,043.15	32° 41' 16.718 N	103° 32' 59.516 W
13,784.0	90.20	177.80	10,774.5	-3,123.0	-4.3	614,793.29	741,045.53	32° 41' 15.788 N	103° 32' 59.496 W
13,876.0	89.10	180.50	10,775.1	-3,215.0	-2.9	614,701.31	741,046.89	32° 41' 14.878 N	103° 32' 59.488 W
13,968.0	89.70	179.00	10,776.0	-3,307.0	-2.5	614,609.32	741,047.30	32° 41' 13.968 N	103° 32' 59.491 W
14,061.0	90.50	179.20	10,775.9	-3,400.0	-1.0	614,516.33	741,048.76	32° 41' 13.048 N	103° 32' 59.482 W
14,154.0	89.80	179.00	10,775.6	-3,493.0	0.4	614,423.34	741,050.22	32° 41' 12.127 N	103° 32' 59.473 W
14,247.0	87.50	179.10	10,777.8	-3,585.9	2.0	614,330.39	741,051.76	32° 41' 11.208 N	103° 32' 59.463 W
14,340.0	88.00	179.30	10,781.5	-3,678.8	3.3	614,237.47	741,053.06	32° 41' 10.288 N	103° 32' 59.456 W
14,432.0	87.90	177.80	10,784.7	-3,770.7	5.6	614,145.56	741,055.38	32° 41' 9.378 N	103° 32' 59.437 W
14,525.0	89.10	179.30	10,787.2	-3,863.7	7.9	614,052.63	741,057.74	32° 41' 8.459 N	103° 32' 59.417 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Site:	Tres Primos 3 State	**MD Reference:**	KB = 17' @ 4016.6usft (McVay 7)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,618.0	89.80	177.90	10,788.1	-3,956.6	10.2	613,959.66	741,060.01	32° 41' 7.539 N	103° 32' 59.399 W
14,710.0	90.50	177.70	10,787.8	-4,048.6	13.7	613,867.73	741,063.54	32° 41' 6.629 N	103° 32' 59.365 W
14,803.0	88.90	178.00	10,788.3	-4,141.5	17.2	613,774.80	741,067.03	32° 41' 5.709 N	103° 32' 59.332 W
14,895.0	89.50	177.70	10,789.6	-4,233.4	20.7	613,682.87	741,070.48	32° 41' 4.799 N	103° 32' 59.300 W
14,988.0	89.80	177.80	10,790.2	-4,326.4	24.3	613,589.95	741,074.13	32° 41' 3.879 N	103° 32' 59.265 W
15,080.0	88.80	180.10	10,791.3	-4,418.3	26.0	613,497.98	741,075.82	32° 41' 2.969 N	103° 32' 59.253 W
15,173.0	89.80	178.70	10,792.4	-4,511.3	27.0	613,404.99	741,076.79	32° 41' 2.049 N	103° 32' 59.250 W
15,267.0	90.60	179.40	10,792.1	-4,605.3	28.6	613,311.01	741,078.35	32° 41' 1.119 N	103° 32' 59.240 W
15,359.0	89.40	177.30	10,792.1	-4,697.3	31.2	613,219.05	741,081.00	32° 41' 0.209 N	103° 32' 59.217 W
15,452.0	90.20	176.50	10,792.4	-4,790.1	36.2	613,126.19	741,086.03	32° 40' 59.290 N	103° 32' 59.166 W
15,518.0	90.80	177.50	10,791.9	-4,856.0	39.7	613,060.29	741,089.48	32° 40' 58.637 N	103° 32' 59.131 W
15,560.0	90.80	177.50	10,791.3	-4,898.0	41.5	613,018.33	741,091.31	32° 40' 58.222 N	103° 32' 59.114 W
Latest Survey - PBHL(Tres Primos 3 State #1H)									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
15,560.0	10,791.3	-4,898.0	41.5	Latest Survey

Checked By: _____ Approved By: _____ Date: _____