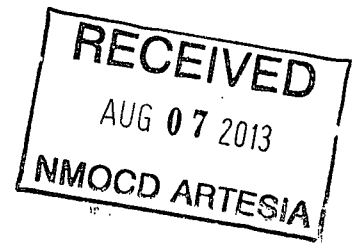


Mescal 22 Federal #3H

30-015-40929

Sec 22-T25S-R29E

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
11890-12097'	3035	339537	316841
11584-11816'	2990	339067	299625
11278-11510'	2980	338324	293430
10972-11204'	2996	341329	293369
10666-10898'	2970	342442	292329
10360-10592'	3048	341126	292963
10054-10286'	2990	340589	292956
9748-9980'	3053	339992	290437
9442-9674'	3007	339268	287453
9136-9368'	2970	337912	288374
8830-9062'	2964	342318	290347
8524-8756'	2983	340289	290389
8218-8450'	2927	339161	288819
7912-8144'	3025	335505	288083
Totals	41938	4756859	4105415





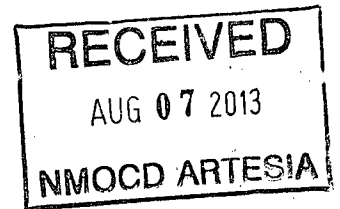
PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

COG OPERATING, LLC
RECEIVED
MAY 28 2013
ARTESIA WEST

May 19, 2013

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

RE: Mescal 22 Federal #3H
380' FNL & 190' FEL
Sec. 22, T25S, R29E
Eddy County, New Mexico



Dear Sir,

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

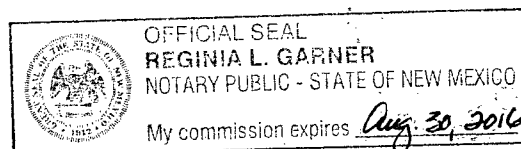
Very truly yours,


Eddie LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 19th day of May, 2013.


Regina L. Garner
Notary Public



MESCAL 22 FED 3 H

# Date	Depth	Deviation	Direction	TVD
4/28/2013	160	0.70	0.00	0.00
4/28/2013	400	0.60	0.00	0.00
4/28/2013	647	1.10	0.00	0.00
4/30/2013	793	1.80	118.40	792.87
5/2/2013	976	1.30	114.00	975.83
5/2/2013	1068	0.40	130.20	1067.82
5/3/2013	1159	1.10	125.30	1158.81
5/3/2013	1344	1.10	122.80	1343.77
5/3/2013	1436	1.30	199.50	1435.75
5/3/2013	1528	1.90	216.20	1527.72
5/3/2013	1620	1.60	252.70	1619.68
5/3/2013	1715	1.30	255.70	1714.65
5/4/2013	1811	1.20	242.70	1810.63
5/5/2013	1936	1.10	253.30	1935.60
5/5/2013	2031	1.20	259.60	2030.59
5/5/2013	2221	0.90	277.20	2220.00
5/5/2013	2317	1.00	294.60	2316.00
5/5/2013	2412	1.30	286.00	2411.00
5/5/2013	2507	0.40	262.80	2506.52
5/5/2013	2603	0.70	148.10	2602.51
5/5/2013	2793	1.80	140.90	2792.47
5/6/2013	2983	1.00	159.40	2982.38
5/6/2013	3078	0.60	247.30	3077.37
5/6/2013	3174	0.70	294.20	3173.00
5/9/2013	3282	1.00	0.00	0.00
5/9/2013	3582	1.10	0.00	0.00
5/10/2013	3997	0.60	0.00	0.00
5/10/2013	4408	1.00	0.00	0.00
5/10/2013	4885	0.90	0.00	0.00
5/10/2013	5359	0.70	0.00	0.00
5/10/2013	5838	1.30	0.00	0.00
5/11/2013	6283	0.40	0.00	0.00
5/11/2013	6726	0.80	0.00	0.00
5/12/2013	7150	5.30	282.40	7148.00
5/12/2013	7246	12.10	269.10	7243.00
5/12/2013	7309	17.10	264.20	7304.00
5/12/2013	7341	19.70	262.90	7334.95
5/12/2013	7468	27.30	260.10	745.34
5/12/2013	7536	32.40	259.20	7506.79
5/13/2013	7563	34.50	258.90	7532.65
5/13/2013	7595	36.70	259.20	7558.67
5/13/2013	7627	40.10	259.80	7583.00
5/13/2013	7722	49.60	263.60	7650.00

# Date	Depth	Deviation	Direction	TVD
5/14/2013	7785	56.20	263.80	7684.92
5/14/2013	7912	77.60	264.00	7740.65
5/14/2013	7932	81.70	265.40	7744.74
5/14/2013	7975	90.60	267.70	7747.13
5/14/2013	8229	93.00	270.10	7731.79
5/14/2013	8419	94.30	271.00	7719.78
5/15/2013	8515	92.30	272.90	7714.25
5/15/2013	8895	89.20	273.10	7708.54
5/15/2013	8990	90.00	271.70	7709.20
5/15/2013	9181	91.60	271.20	7706.00
5/15/2013	9467	91.10	271.00	7700.00
5/15/2013	9753	90.90	271.20	7695.00
5/15/2013	9847	91.00	270.00	7694.08
5/15/2013	10037	91.40	268.90	7690.44
5/16/2013	10513	90.70	270.00	7687.85
5/16/2013	10798	88.80	269.10	7681.30
5/16/2013	10894	88.10	268.90	7683.90
5/16/2013	10989	88.20	268.00	7686.00
5/16/2013	11179	91.00	267.70	7686.00
5/16/2013	11369	91.10	268.60	7681.00
5/16/2013	11464	91.10	267.50	7680.08
5/16/2013	11750	90.90	266.80	7673.26
5/17/2013	12035	89.20	265.40	7668.87
5/17/2013	12130	88.40	265.70	7670.86
5/17/2013	12181	87.70	265.60	7672.59

EOF



A GYRO TECHNOLOGIES, INC. COMPANY

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

May 16, 2013

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



Attn: Kanicia Castillo

Re: **Mescal 22 Federal No 003H**

Please find enclosed a copy of the survey from 0' to 7.115' ran on the above referenced well.

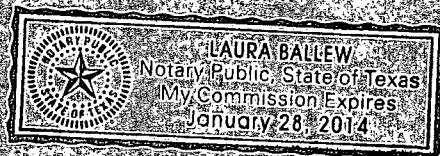
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 16th day of May, A.D., 2013, by Keith Havelka.




Laura Ballew
Notary Public, State of Texas



Company: COG Operating LLC (Concho)
 Lease/Well: Mescal 22 Federal/No 003H
 Location: S22 T25s R29e
 Rig Name: Silver Oak 7
 State/County: New Mexico/Eddy
 Latitude: 32.12, Longitude: -103.96
 GRID North is 0.20 Degrees East of True North
 VS-Azi: 0.00 Degrees



RKB : 19 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...22 federal #3h gyro survey.ut

Minimum Curvature Method

Report Date/Time: 5/16/2013 / 13:42

Vaughn Energy Services

(432) 563-5444

Gardendale, TX

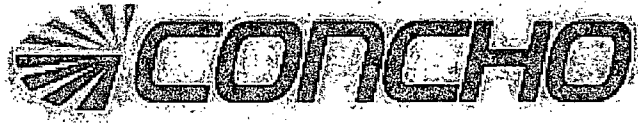
Surveyor: Dustin Wedel

Mescal 22 Federal No 003H / API 30-015-40929

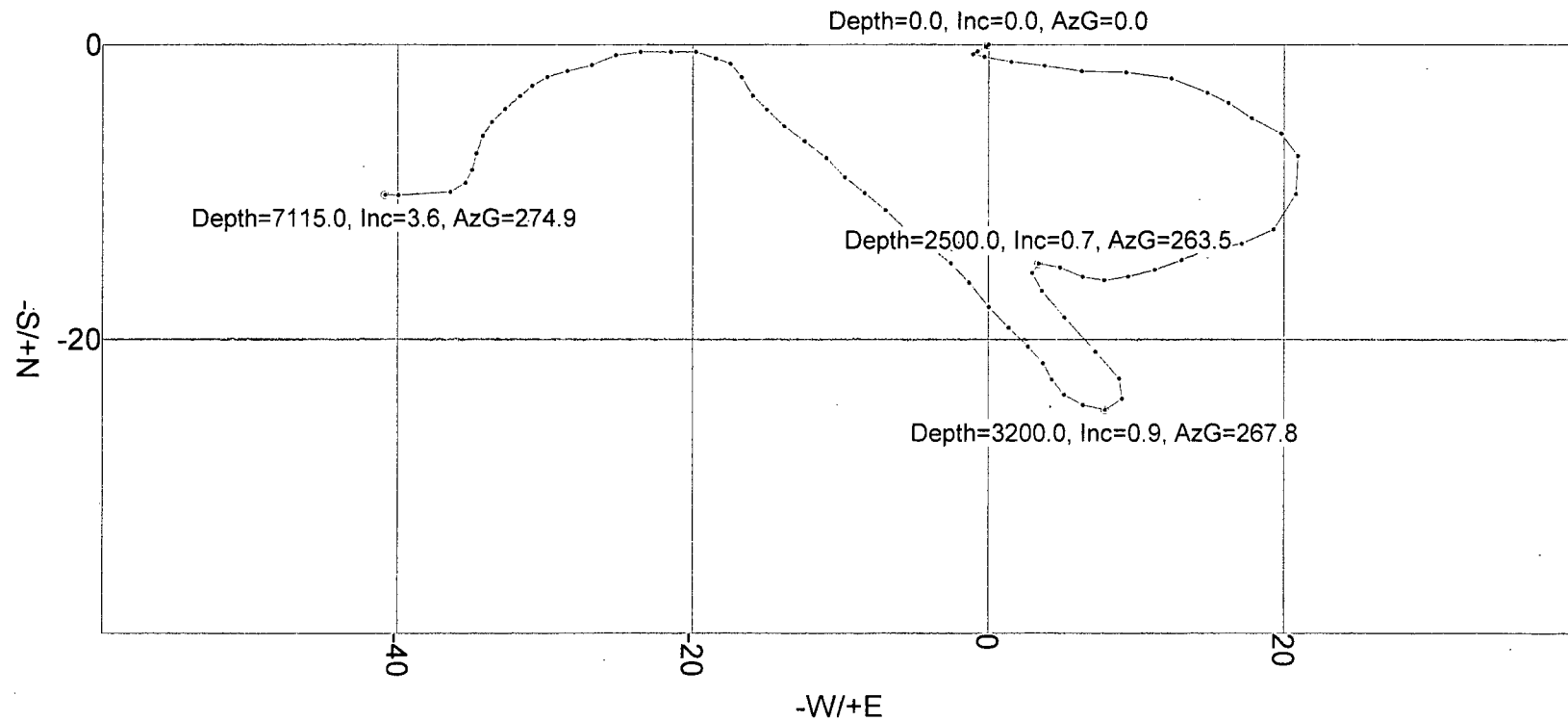
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.28	234.67	100.00	-0.14	-0.20	0.24	234.67	0.28
200.00	0.44	242.83	200.00	-0.46	-0.74	0.87	238.26	0.17
300.00	0.03	105.52	300.00	-0.64	-1.06	1.24	238.78	0.46
400.00	0.88	103.48	399.99	-0.83	-0.29	0.87	199.08	0.85
500.00	1.22	98.04	499.98	-1.15	1.51	1.90	127.37	0.35
600.00	1.37	95.50	599.95	-1.42	3.75	4.01	110.70	0.16
700.00	1.59	101.46	699.92	-1.81	6.29	6.55	106.01	0.27
800.00	1.88	82.96	799.87	-1.88	9.28	9.47	101.45	0.63
900.00	1.79	112.98	899.82	-2.29	12.35	12.56	100.50	0.95
1000.00	1.24	108.78	999.79	-3.25	14.81	15.16	102.37	0.57
1100.00	0.63	132.11	1099.77	-3.96	16.24	16.72	103.72	0.70
1200.00	1.52	118.51	1199.76	-4.97	17.82	18.50	105.58	0.92
1300.00	1.06	116.47	1299.73	-6.02	19.81	20.71	106.89	0.47
1400.00	1.29	164.33	1399.71	-7.51	20.95	22.25	109.74	0.98
1500.00	1.78	196.31	1499.68	-10.10	20.81	23.13	115.87	0.97
1600.00	1.61	229.42	1599.63	-12.50	19.31	23.00	122.92	0.98
1700.00	1.25	266.89	1699.61	-13.48	17.15	21.81	128.15	0.98
1800.00	1.30	254.04	1799.58	-13.85	14.98	20.40	132.76	0.29

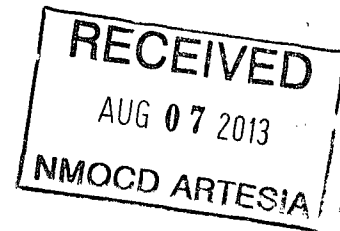
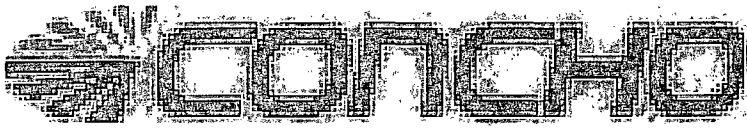
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.07	243.16	1899.56	-14.58	13.06	19.57	138.15	0.32
2000.00	1.18	254.79	1999.54	-15.27	11.24	18.96	143.64	0.25
2100.00	0.95	257.56	2099.52	-15.72	9.44	18.33	149.02	0.23
2200.00	0.90	264.48	2199.51	-15.97	7.84	17.79	153.84	0.12
2300.00	0.86	293.46	2299.50	-15.75	6.37	16.99	157.97	0.44
2400.00	1.04	292.01	2399.49	-15.10	4.84	15.86	162.24	0.18
2500.00	0.68	263.48	2499.47	-14.83	3.41	15.22	167.05	0.55
2600.00	0.68	168.84	2599.47	-15.48	2.94	15.75	169.25	0.99
2700.00	0.97	139.51	2699.46	-16.70	3.60	17.08	167.83	0.50
2800.00	1.77	139.23	2799.43	-18.50	5.15	19.21	164.44	0.80
2900.00	1.81	136.79	2899.38	-20.82	7.24	22.04	160.83	0.09
3000.00	0.99	142.54	2999.35	-22.66	8.85	24.32	158.67	0.83
3100.00	0.88	205.45	3099.34	-24.04	9.04	25.68	159.39	0.98
3200.00	0.92	267.81	3199.33	-24.77	7.91	26.00	162.29	0.93
3300.00	0.91	295.83	3299.32	-24.45	6.39	25.27	165.36	0.44
3400.00	0.73	301.51	3399.31	-23.77	5.13	24.32	167.83	0.20
3500.00	0.91	337.03	3499.30	-22.70	4.27	23.10	169.35	0.53
3600.00	0.51	320.67	3599.29	-21.63	3.68	21.94	170.35	0.44
3700.00	1.22	318.40	3699.28	-20.48	2.69	20.66	172.53	0.71
3800.00	0.90	308.13	3799.26	-19.20	1.36	19.25	175.95	0.37
3900.00	1.34	322.42	3899.24	-17.79	0.03	17.79	179.90	0.51
4000.00	1.11	320.29	3999.22	-16.13	-1.30	16.18	184.59	0.23
4100.00	0.94	313.81	4099.20	-14.81	-2.51	15.03	189.60	0.20
4200.00	1.05	302.54	4199.19	-13.75	-3.87	14.29	195.73	0.22
4300.00	1.25	309.36	4299.17	-12.57	-5.49	13.72	203.58	0.24
4400.00	1.04	317.65	4399.15	-11.21	-6.94	13.18	211.76	0.26
4500.00	1.08	300.25	4499.13	-10.06	-8.37	13.09	219.74	0.32
4600.00	0.93	318.43	4599.12	-8.98	-9.72	13.23	227.28	0.35
4700.00	1.12	314.85	4699.10	-7.68	-10.95	13.38	234.96	0.19
4800.00	1.05	299.28	4799.08	-6.55	-12.44	14.06	242.25	0.30
4900.00	0.91	315.86	4899.07	-5.53	-13.79	14.86	248.16	0.31
5000.00	0.95	309.98	4999.05	-4.43	-14.98	15.62	253.54	0.10
5100.00	0.63	322.08	5099.05	-3.46	-15.95	16.32	257.75	0.36
5200.00	1.06	333.05	5199.03	-2.21	-16.70	16.85	262.46	0.46
5300.00	0.40	286.13	5299.03	-1.29	-17.45	17.50	265.77	0.84
5400.00	0.83	292.86	5399.02	-0.92	-18.45	18.47	267.16	0.44
5500.00	0.81	282.51	5499.01	-0.48	-19.81	19.81	268.60	0.15
5600.00	1.13	261.06	5599.00	-0.48	-21.47	21.47	268.71	0.48
5700.00	1.24	277.23	5698.98	-0.50	-23.51	23.52	268.78	0.35

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	0.78	238.80	5798.96	-0.71	-25.16	25.17	268.38	0.79
5900.00	1.23	253.66	5898.95	-1.37	-26.77	26.81	267.08	0.52
6000.00	0.75	258.57	5998.93	-1.80	-28.44	28.50	266.38	0.48
6100.00	0.88	250.19	6098.92	-2.19	-29.81	29.89	265.80	0.17
6200.00	0.49	219.74	6198.91	-2.78	-30.80	30.93	264.85	0.52
6300.00	0.77	235.31	6298.91	-3.49	-31.63	31.82	263.70	0.32
6400.00	0.74	223.36	6398.90	-4.35	-32.63	32.92	262.41	0.16
6500.00	0.73	228.64	6498.89	-5.24	-33.55	33.96	261.13	0.07
6600.00	0.64	195.70	6598.88	-6.19	-34.18	34.73	259.73	0.40
6700.00	0.81	201.18	6698.88	-7.39	-34.58	35.36	257.94	0.18
6800.00	0.54	186.10	6798.87	-8.51	-34.89	35.91	256.29	0.32
6900.00	0.63	226.07	6898.86	-9.36	-35.33	36.55	255.17	0.41
7000.00	0.82	249.99	6998.86	-9.98	-36.39	37.74	254.67	0.35
7100.00	3.33	270.32	7098.78	-10.21	-39.97	41.26	255.68	2.58
7115.00	3.64	274.92	7113.76	-10.16	-40.88	42.13	256.04	2.76



Vaughn Energy Services
(432) 563-5444
Gardendale, TX
Surveyor: Dustin Wedel
Mescal 22 Federal No 003H / API 30-015-40929





COG PRODUCTION, L.L.C.

EDDY COUNTY(NAD83)

SECTION 22

Mescal 22 Federal #3H

Wellbore #1

Survey: Plan v. Actual

Survey Report - Geographic

20 May, 2013





Stryker Directional Survey Report - Geographic



Company:	COG PRODUCTION, L.L.C.	Local Co-ordinate Reference:	Well Mescal 22 Federal #3H
Project:	EDDY COUNTY (NAD83)	TVD Reference:	WELL @ 18.0usft (Original Well Elev)
Site:	SECTION 22	MD Reference:	WELL @ 18.0usft (Original Well Elev)
Well:	Mescal 22 Federal #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan v. Actual	Database:	EDM:5000.1;Single User-DB

Project:	EDDY COUNTY (NAD83) - NM-East		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	SECTION 22		
Site Position:	Map	Northings:	408,224.85 usft
From:	Map	Easting:	655,561.49 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 7' 18.306 N
		Longitude:	103° 57' 51.723 W
		Grid Convergence:	0.20 °

Well:	Mescal 22 Federal #3H		
Well Position	+N/-S	0.0 usft	Northings:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 7' 18.306 N
		Longitude:	103° 57' 51.723 W
		Ground Level:	0.0 usft

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	4/19/2013	7.53
			Dip Angle
			59.98
			Field Strength
			48,352

Design:	Plan v. Actual		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			269.62

Survey Program	Date 5/20/2013		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Description
100.0	7,115.0	Gyro Survey (Wellbore #1)	
7,150.0	12,242.0	Plan v. Actual (Wellbore #1)	

Survey:									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting	Latitude	Longitude
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
7,115.0	3.64	274.92	7,113.8	-10.2	-40.9	408,214.68	655,520.59	32° 7' 18.206 N	103° 57' 52.199 W
TI @ 7115 MD									
7,150.0	5.30	282.40	7,148.6	-9.7	-43.6	408,215.12	655,517.90	32° 7' 18.211 N	103° 57' 52.230 W
7,182.0	6.20	277.90	7,180.5	-9.2	-46.7	408,215.67	655,514.75	32° 7' 18.216 N	103° 57' 52.267 W
7,214.0	9.50	271.90	7,212.2	-8.9	-51.1	408,216.00	655,510.39	32° 7' 18.220 N	103° 57' 52.317 W
7,246.0	12.10	269.10	7,243.6	-8.8	-57.1	408,216.03	655,504.40	32° 7' 18.220 N	103° 57' 52.387 W
7,277.0	14.40	265.70	7,273.8	-9.2	-64.2	408,215.69	655,497.31	32° 7' 18.217 N	103° 57' 52.469 W
7,309.0	17.10	264.20	7,304.6	-9.9	-72.8	408,214.92	655,488.66	32° 7' 18.210 N	103° 57' 52.570 W
7,341.0	19.70	262.90	7,334.9	-11.1	-82.9	408,213.78	655,478.62	32° 7' 18.199 N	103° 57' 52.687 W
7,373.0	21.60	261.90	7,364.9	-12.6	-94.1	408,212.28	655,467.44	32° 7' 18.184 N	103° 57' 52.817 W
7,405.0	23.80	260.10	7,394.4	-14.5	-106.3	408,210.34	655,455.24	32° 7' 18.166 N	103° 57' 52.959 W



Stryker Directional
Survey Report - Geographic



Company:	COG PRODUCTION, L.L.C.	Local Co-ordinate Reference:	Well Mescal 22 Federal #3H
Project:	EDDY COUNTY (NAD83)	TVD Reference:	WELL @ 18.0usft (Original Well Elev)
Site:	SECTION 22	MD Reference:	WELL @ 18.0usft (Original Well Elev)
Well:	Mescal 22 Federal #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan v. Actual	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	
7,436.0	25.10	259.90	7,422.6	-16.7	-118.9	408,208.11	655,442.61	32° 7' 18.144 N	103° 57' 53.106 W	
7,468.0	27.30	260.10	7,451.3	-19.2	-132.8	408,205.66	655,428.70	32° 7' 18.120 N	103° 57' 53.268 W	
7,500.0	30.00	260.30	7,479.4	-21.8	-147.9	408,203.05	655,413.58	32° 7' 18.095 N	103° 57' 53.444 W	
7,532.0	32.40	259.20	7,506.8	-24.8	-164.2	408,200.09	655,397.27	32° 7' 18.066 N	103° 57' 53.633 W	
7,563.0	34.50	258.90	7,532.6	-28.0	-181.0	408,196.85	655,380.49	32° 7' 18.035 N	103° 57' 53.828 W	
7,595.0	36.70	259.20	7,558.7	-31.5	-199.3	408,193.31	655,362.21	32° 7' 18.000 N	103° 57' 54.041 W	
7,627.0	40.10	259.80	7,583.7	-35.2	-218.8	408,189.69	655,342.66	32° 7' 17.965 N	103° 57' 54.269 W	
7,658.0	43.40	261.00	7,606.9	-38.6	-239.2	408,186.26	655,322.31	32° 7' 17.932 N	103° 57' 54.505 W	
7,690.0	46.70	262.90	7,629.5	-41.8	-261.6	408,183.10	655,299.89	32° 7' 17.901 N	103° 57' 54.766 W	
7,722.0	49.60	263.60	7,650.8	-44.5	-285.3	408,180.30	655,276.22	32° 7' 17.874 N	103° 57' 55.042 W	
7,754.0	52.70	263.80	7,670.9	-47.3	-310.0	408,177.57	655,251.46	32° 7' 17.848 N	103° 57' 55.330 W	
7,785.0	56.20	263.80	7,688.9	-50.0	-335.1	408,174.84	655,226.39	32° 7' 17.822 N	103° 57' 55.621 W	
7,817.0	59.80	263.80	7,705.9	-52.9	-362.1	408,171.91	655,199.41	32° 7' 17.794 N	103° 57' 55.935 W	
7,849.0	65.50	263.30	7,720.6	-56.1	-390.3	408,168.72	655,171.18	32° 7' 17.763 N	103° 57' 56.264 W	
7,881.0	71.30	263.50	7,732.3	-59.5	-419.9	408,165.30	655,141.64	32° 7' 17.731 N	103° 57' 56.607 W	
7,912.0	77.60	264.00	7,740.6	-62.8	-449.5	408,162.05	655,111.96	32° 7' 17.699 N	103° 57' 56.952 W	
7,932.0	81.70	265.40	7,744.2	-64.6	-469.1	408,160.24	655,092.38	32° 7' 17.682 N	103° 57' 57.180 W	
7,937.2	82.64	265.89	7,744.9	-65.0	-474.3	408,159.84	655,087.21	32° 7' 17.678 N	103° 57' 57.240 W	
LP Mescal 22 Federal #3H										
7,992.0	92.50	271.00	7,747.3	-66.5	-528.9	408,158.37	655,032.60	32° 7' 17.666 N	103° 57' 57.876 W	
8,007.0	93.80	270.50	7,746.4	-66.3	-543.9	408,158.57	655,017.62	32° 7' 17.668 N	103° 57' 58.050 W	
8,038.0	94.60	270.70	7,744.2	-66.0	-574.8	408,158.89	654,986.71	32° 7' 17.672 N	103° 57' 58.409 W	
8,134.0	93.30	270.70	7,737.6	-64.8	-670.6	408,160.06	654,890.94	32° 7' 17.687 N	103° 57' 59.523 W	
8,229.0	93.00	270.10	7,732.3	-64.1	-765.4	408,160.72	654,796.09	32° 7' 17.697 N	103° 58' 0.626 W	
8,324.0	93.60	269.10	7,726.9	-64.8	-860.2	408,160.06	654,701.25	32° 7' 17.694 N	103° 58' 1.728 W	
8,419.0	94.30	271.00	7,720.3	-64.7	-955.0	408,160.15	654,606.48	32° 7' 17.698 N	103° 58' 2.831 W	
8,515.0	92.30	272.90	7,714.8	-61.4	-1,050.8	408,163.41	654,510.71	32° 7' 17.733 N	103° 58' 3.944 W	
8,610.0	92.20	272.60	7,711.1	-56.9	-1,145.6	408,167.96	654,415.89	32° 7' 17.781 N	103° 58' 5.047 W	
8,705.0	90.30	273.60	7,709.0	-51.8	-1,240.4	408,173.10	654,321.06	32° 7' 17.835 N	103° 58' 6.149 W	
8,800.0	90.20	273.60	7,708.6	-45.8	-1,335.3	408,179.06	654,226.24	32° 7' 17.898 N	103° 58' 7.251 W	
8,895.0	89.20	273.10	7,709.1	-40.2	-1,430.1	408,184.61	654,131.41	32° 7' 17.956 N	103° 58' 8.354 W	
8,990.0	90.00	271.70	7,709.7	-36.3	-1,525.0	408,188.59	654,036.50	32° 7' 17.998 N	103° 58' 9.457 W	
9,086.0	90.60	271.50	7,709.2	-33.6	-1,621.0	408,191.27	653,940.54	32° 7' 18.028 N	103° 58' 10.573 W	
9,181.0	91.60	271.20	7,707.4	-31.3	-1,715.9	408,193.51	653,845.58	32° 7' 18.053 N	103° 58' 11.677 W	
9,276.0	91.20	271.70	7,705.1	-28.9	-1,810.9	408,195.91	653,750.64	32° 7' 18.080 N	103° 58' 12.781 W	
9,371.0	91.30	271.50	7,703.0	-26.3	-1,905.8	408,198.57	653,655.70	32° 7' 18.110 N	103° 58' 13.885 W	
9,467.0	91.10	271.00	7,701.0	-24.2	-2,001.7	408,200.66	653,559.75	32° 7' 18.134 N	103° 58' 15.001 W	
9,562.0	90.90	271.40	7,699.4	-22.2	-2,096.7	408,202.65	653,464.78	32° 7' 18.156 N	103° 58' 16.105 W	
9,657.0	91.00	271.50	7,697.8	-19.8	-2,191.7	408,205.05	653,369.82	32° 7' 18.183 N	103° 58' 17.209 W	
9,753.0	90.90	271.20	7,696.2	-17.5	-2,287.6	408,207.31	653,273.86	32° 7' 18.209 N	103° 58' 18.325 W	
9,847.0	91.00	270.00	7,694.6	-16.6	-2,381.6	408,208.30	653,179.88	32° 7' 18.222 N	103° 58' 19.418 W	
9,942.0	91.00	269.30	7,693.0	-17.1	-2,476.6	408,207.72	653,084.90	32° 7' 18.219 N	103° 58' 20.522 W	
10,037.0	91.40	268.90	7,691.0	-18.6	-2,571.6	408,206.23	652,989.93	32° 7' 18.208 N	103° 58' 21.627 W	
10,133.0	90.20	269.80	7,689.6	-19.7	-2,667.5	408,205.14	652,893.95	32° 7' 18.200 N	103° 58' 22.743 W	
10,228.0	90.30	269.60	7,689.2	-20.2	-2,762.5	408,204.64	652,798.95	32° 7' 18.198 N	103° 58' 23.848 W	
10,323.0	90.20	270.30	7,688.8	-20.3	-2,857.5	408,204.56	652,703.96	32° 7' 18.200 N	103° 58' 24.952 W	
10,417.0	89.80	270.10	7,688.8	-20.0	-2,951.5	408,204.88	652,609.96	32° 7' 18.207 N	103° 58' 26.045 W	
10,513.0	90.70	270.00	7,688.4	-19.9	-3,047.5	408,204.97	652,513.96	32° 7' 18.211 N	103° 58' 27.162 W	
10,608.0	90.80	270.30	7,687.2	-19.6	-3,142.5	408,205.22	652,418.97	32° 7' 18.216 N	103° 58' 28.266 W	
10,703.0	93.40	270.70	7,683.7	-18.8	-3,237.5	408,206.05	652,324.04	32° 7' 18.228 N	103° 58' 29.370 W	
10,798.0	88.80	269.10	7,681.8	-19.0	-3,332.4	408,205.88	652,229.09	32° 7' 18.229 N	103° 58' 30.474 W	
10,894.0	88.10	268.90	7,684.4	-20.6	-3,428.4	408,204.20	652,133.14	32° 7' 18.216 N	103° 58' 31.590 W	
10,989.0	88.20	268.00	7,687.5	-23.2	-3,523.3	408,201.64	652,038.23	32° 7' 18.193 N	103° 58' 32.694 W	
11,084.0	90.90	267.50	7,688.3	-26.9	-3,618.2	408,197.91	651,943.31	32° 7' 18.160 N	103° 58' 33.798 W	
11,179.0	91.00	267.70	7,686.7	-30.9	-3,713.1	408,193.93	651,848.41	32° 7' 18.123 N	103° 58' 34.901 W	



Stryker Directional
Survey Report - Geographic



Company:	COG PRODUCTION, L.L.C.	Local Co-ordinate Reference:	Well: Mescal 22 Federal #3H
Project:	EDDY COUNTY(NAD83)	TVD Reference:	WELL @ 18.0usft (Original Well Elev)
Site:	SECTION 22	MD Reference:	WELL @ 18.0usft (Original Well Elev)
Well:	Mescal 22 Federal #3H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan v. Actual	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
11,274.0	91.50	268.60	7,684.6	-34.0	-3,808.0	408,190.86	651,753.48	32° 7' 18.096 N	103° 58' 36.005 W
11,369.0	91.10	268.60	7,682.5	-36.3	-3,903.0	408,188.54	651,658.53	32° 7' 18.076 N	103° 58' 37.110 W
11,464.0	91.10	267.50	7,680.6	-39.5	-3,997.9	408,185.31	651,563.61	32° 7' 18.047 N	103° 58' 38.214 W
11,560.0	91.60	267.30	7,678.4	-43.9	-4,093.8	408,180.96	651,467.73	32° 7' 18.008 N	103° 58' 39.329 W
11,655.0	91.50	267.50	7,675.8	-48.2	-4,188.6	408,176.65	651,372.87	32° 7' 17.968 N	103° 58' 40.432 W
11,750.0	90.90	266.80	7,673.8	-52.9	-4,283.5	408,171.93	651,278.00	32° 7' 17.924 N	103° 58' 41.535 W
11,845.0	91.10	266.30	7,672.2	-58.6	-4,378.3	408,166.21	651,183.19	32° 7' 17.871 N	103° 58' 42.638 W
11,940.0	91.50	266.30	7,670.0	-64.8	-4,473.1	408,160.08	651,088.41	32° 7' 17.813 N	103° 58' 43.740 W
12,035.0	89.20	265.40	7,669.4	-71.6	-4,567.8	408,153.21	650,993.67	32° 7' 17.748 N	103° 58' 44.842 W
12,130.0	88.40	265.70	7,671.4	-79.0	-4,662.5	408,145.84	650,898.98	32° 7' 17.679 N	103° 58' 45.944 W
12,181.0	87.70	265.60	7,673.1	-82.9	-4,713.3	408,141.97	650,848.16	32° 7' 17.642 N	103° 58' 46.535 W
12,242.0	87.70	265.60	7,675.6	-87.6	-4,774.1	408,137.30	650,787.39	32° 7' 17.598 N	103° 58' 47.242 W
BHL @ 12242 MD - PBHL Mescal 22 Federal #3H									

Survey Annotations:				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,115.0	7,113.8	-10.2	-40.9	TI @ 7115 MD
12,242.0	7,675.6	-87.6	-4,774.1	BHL @ 12242 MD

Checked By: _____ Approved By: _____ Date: _____

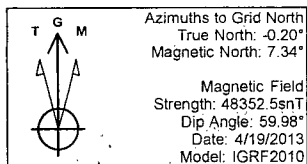


COMPANY: COG PRODUCTION, L.L.C.
WELL: Mescal 22 Federal #3H
COUNTY: EDDY COUNTY (NAD83)
DATUM: North American Datum 1983
RIG: Silver Oak #7
GRID CORRECTION: 7.34° E



OFFICE: 936.582.7296

PLANNING: 214.784.3778



GEODETTIC ZONE: New Mexico Eastern Zone
WELL @ 18.0usft (Original Well Elev)
GROUND ELEVATION: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	408224.85	655561.49	32° 7' 18.306 N	103° 57' 51.723 W

CRITICAL POINTS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
7113.8	7115.0	3.64	274.92	-10.2	-40.9	41.0	0.0	TI @ 7115 MD
7675.6	12242.0	87.70	265.60	-87.6	-4774.1	4774.6	4740.3	BHL @ 12242 MD

CREATED BY: BRANDON ESTES

DATE: 10:18, May 20 2013
PLAN: Plan v. Actual

