



June 17, 2015

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 24 2015

RECEIVED

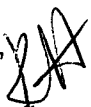
Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

15-42953

Attn: Kanicia Castillo

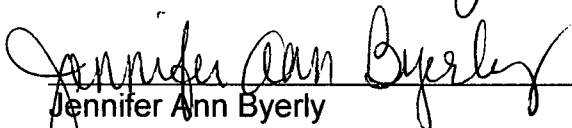
RE: **Stonewall 9 Fee 8H**

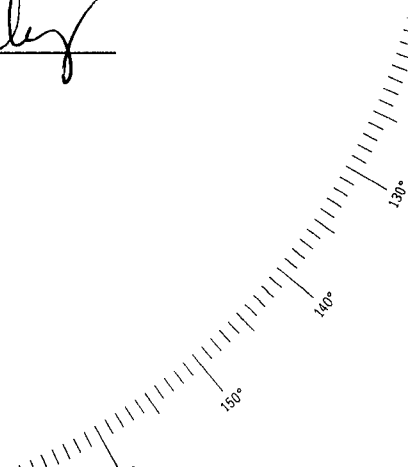
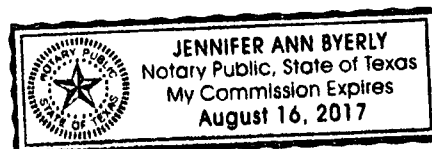
Please find enclosed a copy of the survey from 0' to 2491' ran on the above referenced well.

Sincerely, 
Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 17 day of June,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Concho
Lease/Well: Stonewall 9 Fee/8H

Rig Name: Silver Oak 3
State/County: New Mexico/Eddy
VS-Azi: 359.30 Degrees

Latitude: 32.66817, Longitude: -104.37892
Grid Convergence Applied = +0.02 degs (NAD 27)
Grid North = True North +0.02 degs



Depth Reference : RKB = 18 feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 6/17/2015 / 16:28

VES Survey International
Midland, Texas
432-563-5444

Surveyor: Adam Askew
Stonewall 9 Fee 8H / API 30-015-42953

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 24 2015

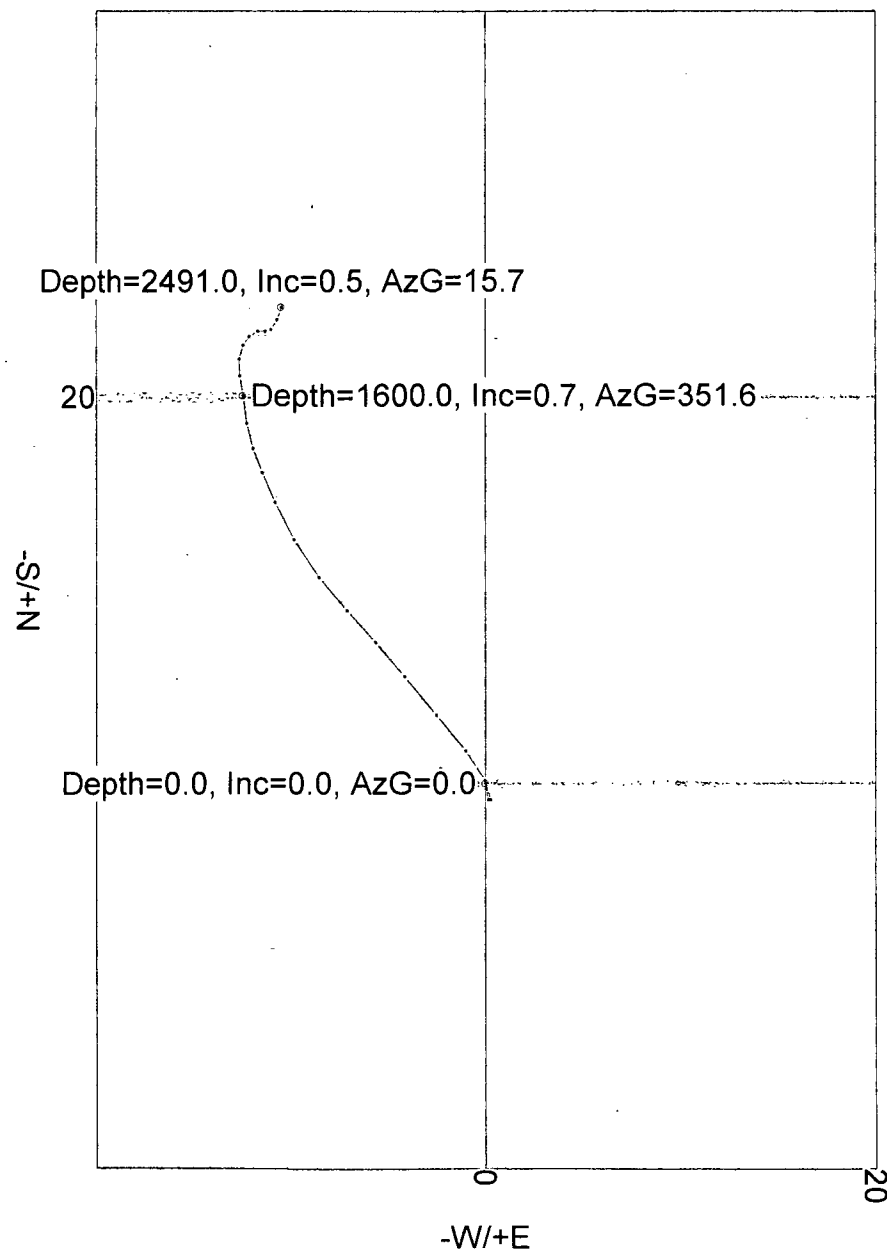
RECEIVED

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	0.31	174.26	100.00	-0.27	0.03	-0.27	0.27	174.26	0.31
200.00	0.38	166.00	200.00	-0.85	0.13	-0.85	0.86	171.10	0.09
300.00	0.38	9.40	300.00	-0.84	0.27	-0.85	0.89	162.37	0.75
400.00	0.87	332.05	399.99	0.16	-0.03	0.16	0.16	348.37	0.61
500.00	1.22	324.23	499.97	1.69	-1.01	1.70	1.97	329.12	0.38
600.00	1.52	318.09	599.95	3.54	-2.52	3.57	4.35	324.57	0.33
700.00	1.44	323.27	699.91	5.54	-4.16	5.59	6.92	323.10	0.16
800.00	1.22	316.28	799.89	7.31	-5.65	7.38	9.24	322.34	0.27
900.00	1.29	321.29	899.86	8.96	-7.09	9.05	11.42	321.67	0.13
1000.00	1.27	319.34	999.84	10.68	-8.51	10.79	13.66	321.45	0.05
1100.00	1.46	333.71	1099.81	12.67	-9.80	12.78	16.01	322.27	0.39
1200.00	0.99	332.02	1199.79	14.57	-10.77	14.70	18.12	323.53	0.46
1300.00	0.93	342.48	1299.77	16.11	-11.42	16.25	19.74	324.66	0.19
1400.00	0.61	333.72	1399.76	17.36	-11.90	17.50	21.04	325.56	0.33
1500.00	0.95	354.02	1499.75	18.66	-12.22	18.81	22.31	326.78	0.44
1600.00	0.70	351.63	1599.74	20.10	-12.40	20.25	23.61	328.33	0.25

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
1700.00	0.51	348.68	1699.74	21.13	-12.57	21.29	24.59	329.25	0.20
1800.00	0.50	8.31	1799.73	22.00	-12.60	22.15	25.35	330.20	0.17
1900.00	0.36	24.43	1899.73	22.71	-12.41	22.86	25.88	331.35	0.18
2000.00	0.28	48.51	1999.73	23.15	-12.10	23.30	26.12	332.42	0.15
2100.00	0.35	65.05	2099.73	23.44	-11.64	23.58	26.17	333.60	0.11
2200.00	0.20	145.08	2199.73	23.42	-11.26	23.56	25.99	334.32	0.37
2300.00	0.35	39.46	2299.73	23.51	-10.97	23.64	25.94	335.00	0.45
2400.00	0.34	22.90	2399.72	24.02	-10.66	24.15	26.28	336.08	0.10
2491.00	0.52	15.66	2490.72	24.67	-10.44	24.80	26.79	337.06	0.21



VES Survey International
Midland, Texas
432-563-5444
Surveyor: Adam Askew
Stonewall 9 Fee 8H / API 30-015-42953



VES Survey Date: 6/15/2015



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

June 27, 2015

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

RE: Stonewall 9 Fee #8H
156' FSL & 425' FEL
Sec. 9, T19S, R26E
Eddy County, New Mexico

Dear Sir,

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

Very truly yours,

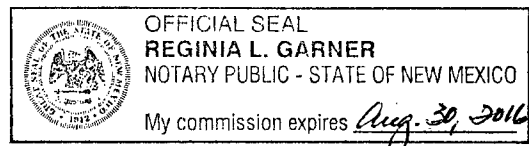
A handwritten signature in cursive script that reads "Chris Graham".

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 27th day of June, 2015.

A handwritten signature in cursive script that reads "Regina L. Garner".

Notary Public

STONEWALL 9 FEE #8H.

Date	Depth	Deviation	Direction	TVD
6/12/2015	257	0.60	0.00	0.00
6/12/2015	494	1.20	0.00	0.00
6/12/2015	585	1.80	0.00	0.00
6/12/2015	674	1.70	0.00	0.00
6/12/2015	832	1.70	0.00	0.00
6/12/2015	987	1.30	0.00	0.00
6/12/2015	1148	1.00	0.00	0.00
6/14/2015	1456	0.60	0.00	0.00
6/14/2015	1930	0.60	0.00	0.00
6/15/2015	2369	0.60	0.00	0.00
6/15/2015	2533	0.40	313.90	0.00
6/15/2015	2627	0.30	258.70	0.00
6/15/2015	2658	0.00	0.00	0.00
6/16/2015	2753	4.10	357.20	2752.00
6/16/2015	2816	9.60	1.80	2.40
6/16/2015	2848	11.60	2.40	2846.00
6/16/2015	2879	13.90	3.60	2876.00
6/16/2015	2911	16.80	5.20	2907.00
6/16/2015	2943	10.10	6.30	2938.00
6/16/2015	3037	28.40	4.10	0.00
6/16/2015	3069	31.50	3.90	0.00
6/16/2015	3099	34.70	4.00	0.00
6/16/2015	3130	38.20	4.60	0.00
6/16/2015	3162	41.90	4.90	0.00
6/16/2015	3194	45.50	5.60	0.00
6/16/2015	3288	56.00	7.00	0.00
6/16/2015	3320	59.30	6.70	0.00
6/16/2015	3352	62.60	6.60	0.00
6/16/2015	3384	66.00	6.80	0.00
6/16/2015	3415	70.20	7.10	0.00
6/17/2015	3479	77.30	7.00	0.00
6/17/2015	3510	80.40	6.50	0.00
6/17/2015	3528	82.20	6.80	0.00
6/17/2015	3560	86.00	5.60	0.00
6/17/2015	3591	88.40	3.90	0.00
6/17/2015	3686	92.40	0.80	0.00
6/17/2015	3781	90.40	359.90	0.00
6/17/2015	3876	90.60	358.70	0.00
6/17/2015	3970	90.40	358.90	0.00
6/18/2015	4065	91.10	357.10	0.00
6/18/2015	4159	91.30	357.60	0.00
6/18/2015	4254	91.20	357.60	0.00
6/18/2015	4350	90.90	358.10	0.00

Date	Depth	Deviation	Direction	TVD
6/18/2015	4444	90.90	358.10	0.00
6/18/2015	4538	91.30	359.10	0.00
6/18/2015	4632	91.30	359.10	0.00
6/18/2015	4727	91.60	359.10	0.00
6/18/2015	4822	91.40	359.00	0.00
6/19/2015	4916	91.30	359.10	0.00
6/19/2015	5010	91.20	358.80	0.00
6/19/2015	5105	91.20	359.20	0.00
6/20/2015	5196	91.40	358.90	0.00
6/20/2015	5290	91.90	359.00	0.00
6/20/2015	5385	91.50	358.10	0.00
6/20/2015	5480	90.90	357.90	0.00
6/21/2015	5575	90.90	357.50	3259.00
6/21/2015	5670	91.00	357.60	3257.00
6/21/2015	5765	91.60	357.60	3255.00
6/21/2015	5860	91.30	358.50	3253.00
6/21/2015	5955	89.90	358.20	0.00
6/21/2015	6051	90.10	358.10	0.00
6/21/2015	6145	89.90	358.10	0.00
6/21/2015	6239	90.70	359.20	0.00
6/21/2015	6333	90.40	359.10	0.00
6/21/2015	6428	90.70	359.40	0.00
6/21/2015	6524	91.10	358.50	0.00
6/21/2015	6619	90.70	358.30	0.00
6/22/2015	6714	92.10	358.00	3244.00
6/22/2015	6808	92.60	357.90	3240.00
6/22/2015	6902	91.50	358.30	3237.00
6/22/2015	6997	91.90	358.00	0.00
6/22/2015	7092	91.20	358.30	0.00
6/22/2015	7186	91.00	359.00	0.00
6/22/2015	7280	91.80	359.50	0.00
6/22/2015	7374	91.50	358.40	0.00
6/22/2015	7469	91.30	358.00	0.00
6/23/2015	7564	90.80	358.70	3220.00
6/23/2015	7659	91.90	358.60	3218.00
6/23/2015	7843	90.70	359.80	3214.00

EOF

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1513707

ENERGY COMPANY Concho

WELL NAME

Stonewall 9 Fee #8H

COUNTY & STATE

Eddy, NM

API WELL NUMBER

30-015-42953

PROPOSED DIRECTION

359.30

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
2,491.00 ft	2,490.72 ft	0.52	15.66	24.67 ft	10.44 ft	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
15-Jun-15	2,533.00 ft	0.40	313.90

SURVEY INSTRUMENT
TYPE
Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
23-Jun-15	7,843.00 ft	90.70	359.80

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
23-Jun-15	7,903.00 ft	90.70	359.80

William K. Gutierrez

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.62
DECLINATION OR GRID	GRID

23 JUN 2015

TODAY'S DATE

MWD SUPERVISOR 1

Lee Conoly

DIRECTIONAL DRILLER 1

Michael Crall

MWD SUPERVISOR 2

William Gutierrez

DIRECTIONAL DRILLER 2

James Thames

12329 Cutten Rd.,

Houston, Texas 777066

(713)337-0600 (Voice), (713)337-0599 (Fax)



NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 24 2015

RECEIVED

COG Operating LLC

Eddy County, NM (NAD27 NME)

Stonewall 9 Fee

#8H

OH / Job #1513707

Survey: Phoenix MWD Survey

Standard Survey Report

23 June, 2015





Survey Report



Company: COG Operating LLC
 Project: Eddy County, NM (NAD27 NME)
 Site: Stonewall 9 Fee
 Well: #8H
 Wellbore: OH / Job #1513707
 Design: Surveys (Silver Oak 3)

Local Co-ordinate Reference: Well #8H
 TVD Reference: KB @ 3356.00usft (Silver Oak 3)
 MD Reference: KB @ 3356.00usft (Silver Oak 3)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Compass 5000 GCR

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	Stonewall 9 Fee		
Site Position:		Northing:	611,835.50 usft
From:	Map	Easting:	482,702.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 55.28160 N
		Longitude:	104° 23' 22.39586 W
		Grid Convergence:	-0.03 °

Well	#8H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 40' 5.41012 N
		Longitude:	104° 22' 44.12149 W
		Ground Level:	3,338.00 usft

Wellbore	OH / Job #1513707				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/15/2015	7.60	60.55	48,400

Design	Surveys (Silver Oak 3)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.30	

Survey Program	Date 6/23/2015				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	2,491.00	VES Gyro Survey (OH / Job #1513707)	NS-GYRO-MS	North sensing gyrocompassing m/s	
2,533.00	7,903.00	Phoenix MWD Survey (OH / Job #1513707)	PHX+MWD+HDGM	PHX+MWD+HDGM	

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)	
2,491.00	0.52	15.66	2,490.72	24.67	-10.44	24.80	0.00	0.00	0.00	
Tie-on to VES Gyro Survey										
2,533.00	0.40	313.90	2,532.72	24.96	-10.49	25.08	1.15	-0.29	-147.05	
First Phoenix MWD Survey										
2,627.00	0.30	258.70	2,626.72	25.14	-10.97	25.27	0.36	-0.11	-58.72	
2,658.00	0.40	293.90	2,657.72	25.16	-11.15	25.30	0.75	0.32	113.55	
2,690.00	0.70	326.80	2,689.72	25.37	-11.36	25.51	1.33	0.94	102.81	
2,722.00	2.50	351.60	2,721.70	26.23	-11.57	26.37	5.90	5.63	77.50	
2,753.00	4.10	357.20	2,752.65	28.00	-11.72	28.14	5.26	5.16	18.06	



Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Stonewall 9 Fee
Well: #8H
Wellbore: OH / Job #1513707
Design: Surveys (Silver Oak 3)

Local Co-ordinate Reference: Well #8H
TVD Reference: KB @ 3356.00usft (Silver Oak 3)
MD Reference: KB @ 3356.00usft (Silver Oak 3)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

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)
2,784.00	6.70	359.70	2,783.51	30.92	-11.79	31.06	8.42	8.39	8.06
2,816.00	9.60	1.80	2,815.18	35.45	-11.71	35.59	9.11	9.06	6.56
2,848.00	11.60	2.40	2,846.64	41.33	-11.49	41.47	6.26	6.25	1.88
2,879.00	13.90	3.60	2,876.87	48.17	-11.13	48.30	7.47	7.42	3.87
2,911.00	16.80	5.20	2,907.73	56.61	-10.47	56.73	9.16	9.06	5.00
2,943.00	19.10	6.30	2,938.17	66.42	-9.47	66.53	7.26	7.19	3.44
2,974.00	21.50	6.60	2,967.24	77.11	-8.26	77.20	7.75	7.74	0.97
3,006.00	24.90	5.40	2,996.65	89.64	-6.96	89.72	10.73	10.63	-3.75
3,037.00	28.40	4.10	3,024.35	103.50	-5.81	103.56	11.45	11.29	-4.19
3,069.00	31.50	3.90	3,052.07	119.43	-4.70	119.48	9.69	9.69	-0.63
3,099.00	34.70	4.00	3,077.20	135.77	-3.57	135.81	10.67	10.67	0.33
3,130.00	38.20	4.60	3,102.13	154.14	-2.19	154.15	11.35	11.29	1.94
3,162.00	41.90	4.90	3,126.62	174.65	-0.48	174.64	11.58	11.56	0.94
3,194.00	45.50	5.60	3,149.76	196.66	1.55	196.63	11.35	11.25	2.19
3,225.00	48.90	6.20	3,170.81	219.28	3.89	219.22	11.06	10.97	1.94
3,257.00	52.50	6.70	3,191.08	243.89	6.67	243.79	11.31	11.25	1.56
3,288.00	56.00	7.00	3,209.19	268.86	9.67	268.72	11.32	11.29	0.97
3,320.00	59.30	6.70	3,226.31	295.70	12.90	295.52	10.34	10.31	-0.94
3,352.00	62.60	6.60	3,241.85	323.48	16.13	323.26	10.32	10.31	-0.31
3,384.00	66.00	6.80	3,255.72	352.11	19.50	351.85	10.64	10.63	0.63
3,415.00	70.20	7.10	3,267.28	380.66	22.98	380.35	13.58	13.55	0.97
3,447.00	74.10	7.50	3,277.09	410.87	26.85	410.51	12.25	12.19	1.25
3,479.00	77.30	7.00	3,284.99	441.62	30.76	441.21	10.11	10.00	-1.56
3,510.00	80.40	6.50	3,290.98	471.82	34.34	471.37	10.12	10.00	-1.61
3,528.00	82.20	6.80	3,293.71	489.49	36.40	489.01	10.13	10.00	1.67
3,560.00	86.00	5.60	3,297.00	521.13	39.83	520.61	12.45	11.88	-3.75
3,591.00	88.40	3.90	3,298.51	551.99	42.40	551.43	9.48	7.74	-5.48
3,686.00	92.40	0.80	3,297.85	646.87	46.29	646.26	5.33	4.21	-3.26
3,781.00	90.40	359.90	3,295.53	741.84	46.87	741.21	2.31	-2.11	-0.95
3,876.00	90.60	358.70	3,294.70	836.82	45.71	836.20	1.28	0.21	-1.26
3,970.00	90.40	358.90	3,293.88	930.80	43.74	930.20	0.30	-0.21	0.21
4,065.00	91.10	357.10	3,292.63	1,025.73	40.43	1,025.16	2.03	0.74	-1.89
4,159.00	91.30	357.60	3,290.66	1,119.61	36.08	1,119.08	0.57	0.21	0.53
4,254.00	91.20	357.60	3,288.59	1,214.50	32.10	1,214.02	0.11	-0.11	0.00
4,350.00	90.90	358.10	3,286.83	1,310.42	28.50	1,309.97	0.61	-0.31	0.52
4,444.00	90.90	358.10	3,285.36	1,404.35	25.39	1,403.94	0.00	0.00	0.00
4,538.00	91.30	359.10	3,283.55	1,498.31	23.09	1,497.91	1.15	0.43	1.06
4,632.00	91.30	359.10	3,281.42	1,592.27	21.61	1,591.89	0.00	0.00	0.00
4,727.00	91.60	359.10	3,279.02	1,687.23	20.12	1,686.86	0.32	0.32	0.00
4,822.00	91.40	359.00	3,276.53	1,782.18	18.55	1,781.82	0.24	-0.21	-0.11
4,916.00	91.30	359.10	3,274.31	1,876.15	16.99	1,875.80	0.15	-0.11	0.11
5,010.00	91.20	358.80	3,272.26	1,970.11	15.27	1,969.77	0.34	-0.11	-0.32
5,105.00	91.20	359.20	3,270.27	2,065.07	13.61	2,064.75	0.42	0.00	0.42



Survey Report



Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Stonewall 9 Fee
Well: #8H
Wellbore: OH / Job #1513707
Design: Surveys (Silver Oak 3)

Local Co-ordinate Reference: Well #8H
TVD Reference: KB @ 3356.00usft (Silver Oak 3)
MD Reference: KB @ 3356.00usft (Silver Oak 3)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

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)
5,196.00	91.40	358.90	3,268.21	2,156.04	12.10	2,155.73	0.40	0.22	-0.33
5,290.00	91.90	359.00	3,265.50	2,249.98	10.38	2,249.69	0.54	0.53	0.11
5,385.00	91.50	358.10	3,262.68	2,344.91	7.98	2,344.63	1.04	-0.42	-0.95
5,480.00	90.90	357.90	3,260.69	2,439.83	4.66	2,439.59	0.67	-0.63	-0.21
5,575.00	90.90	357.50	3,259.20	2,534.74	0.85	2,534.54	0.42	0.00	-0.42
5,670.00	91.00	357.60	3,257.63	2,629.64	-3.21	2,629.48	0.15	0.11	0.11
5,765.00	91.60	357.60	3,255.47	2,724.53	-7.19	2,724.42	0.63	0.63	0.00
5,860.00	91.30	358.50	3,253.07	2,819.45	-10.42	2,819.36	1.00	-0.32	0.95
5,955.00	89.90	358.20	3,252.07	2,914.40	-13.15	2,914.34	1.51	-1.47	-0.32
6,051.00	90.10	358.10	3,252.07	3,010.35	-16.25	3,010.32	0.23	0.21	-0.10
6,145.00	89.90	358.10	3,252.07	3,104.30	-19.37	3,104.30	0.21	-0.21	0.00
6,239.00	90.70	359.20	3,251.58	3,198.27	-21.58	3,198.29	1.45	0.85	1.17
6,333.00	90.40	359.10	3,250.68	3,292.25	-22.98	3,292.29	0.34	-0.32	-0.11
6,428.00	90.70	359.40	3,249.77	3,387.24	-24.22	3,387.28	0.45	0.32	0.32
6,524.00	91.10	358.50	3,248.26	3,483.21	-25.98	3,483.27	1.03	0.42	-0.94
6,619.00	90.70	358.30	3,246.77	3,578.16	-28.63	3,578.24	0.47	-0.42	-0.21
6,714.00	92.10	358.00	3,244.45	3,673.08	-31.70	3,673.19	1.51	1.47	-0.32
6,808.00	92.60	357.90	3,240.59	3,766.94	-35.06	3,767.09	0.54	0.53	-0.11
6,902.00	91.50	358.30	3,237.23	3,860.83	-38.17	3,861.01	1.25	-1.17	0.43
6,997.00	91.90	358.00	3,234.41	3,955.74	-41.24	3,955.94	0.53	0.42	-0.32
7,092.00	91.20	358.30	3,231.84	4,050.65	-44.30	4,050.89	0.80	-0.74	0.32
7,186.00	91.00	359.00	3,230.04	4,144.61	-46.52	4,144.87	0.77	-0.21	0.74
7,280.00	91.80	359.50	3,227.74	4,238.57	-47.75	4,238.84	1.00	0.85	0.53
7,374.00	91.50	358.40	3,225.03	4,332.51	-49.47	4,332.79	1.21	-0.32	-1.17
7,469.00	91.30	358.00	3,222.71	4,427.44	-52.45	4,427.75	0.47	-0.21	-0.42
7,564.00	90.80	358.70	3,220.97	4,522.38	-55.19	4,522.72	0.91	-0.53	0.74
7,659.00	91.90	358.60	3,218.73	4,617.33	-57.43	4,617.68	1.16	1.16	-0.11
7,753.00	91.10	359.40	3,216.27	4,711.28	-59.07	4,711.65	1.20	-0.85	0.85
7,843.00	90.70	359.80	3,214.86	4,801.27	-59.69	4,801.64	0.63	-0.44	0.44
Last Phoenix MWD Survey									
7,903.00	90.70	359.80	3,214.13	4,861.26	-59.90	4,861.63	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,491.00	2,490.72	24.67	-10.44	Tie-on to VES Gyro Survey
2,533.00	2,532.72	24.96	-10.49	First Phoenix MWD Survey
7,843.00	3,214.86	4,801.27	-59.69	Last Phoenix MWD Survey
7,903.00	3,214.13	4,861.26	-59.90	Projection to TD

Checked By: _____ Approved By: _____ Date: _____