



May 6, 2015

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

NM OIL CONSERVATION
ARTESIA DISTRICT

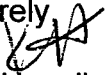
30 015 39586 JUL 06 2015

RECEIVED

Attn: Kanicia Castillo

RE: Lee 3 Fee 1H

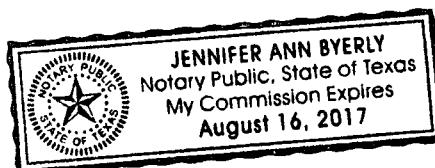
Please find enclosed a copy of the survey from 0' to 2524' ran on the above referenced well.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 6 day of May,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Concho
Lease/Well: Lee 3 Fee/1H

Rig Name: Silver Oak 3
State/County: New Mexico/Eddy

VS-Azi: 0.00 Degrees

Latitude: 32.68340, Longitude: -104.37678

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: lee 3 fee #1h gyro survey.ut

Minimum Curvature Method

Report Date/Time: 5/6/2015 / 16:19

VES Survey International

Midland, TX

432-563-5444

Surveyor: Logan Henry

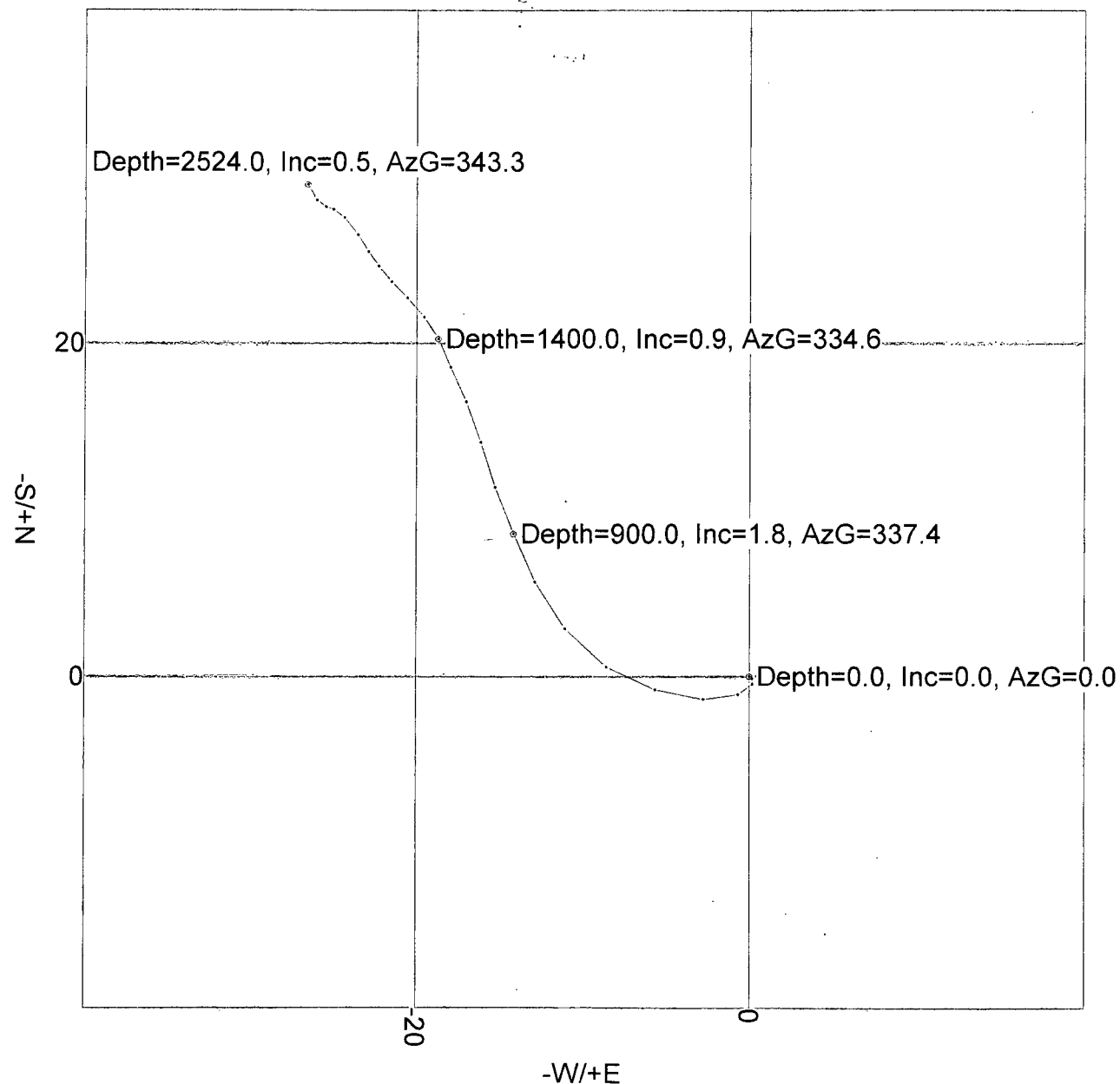
Lee 3 Fee 1H / API 30-015-39586

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	0.24	128.63	100.00	-0.13	0.16	-0.13	0.21	128.63	0.24
200.00	0.30	213.96	200.00	-0.48	0.18	-0.48	0.51	159.51	0.37
300.00	0.95	240.51	299.99	-1.10	-0.69	-1.10	1.30	212.05	0.70
400.00	1.58	275.55	399.97	-1.38	-2.78	-1.38	3.11	243.64	0.97
500.00	1.82	286.34	499.93	-0.80	-5.68	-0.80	5.73	261.97	0.40
600.00	1.94	303.92	599.87	0.59	-8.60	0.59	8.62	273.92	0.59
700.00	2.00	320.74	699.81	2.89	-11.11	2.89	11.48	284.56	0.58
800.00	1.81	334.70	799.76	5.67	-12.89	5.67	14.08	293.74	0.50
900.00	1.82	337.41	899.71	8.56	-14.18	8.56	16.56	301.13	0.09
1000.00	1.64	339.75	999.66	11.37	-15.28	11.37	19.05	306.65	0.19
1100.00	1.61	345.24	1099.62	14.07	-16.13	14.07	21.41	311.10	0.16
1200.00	1.34	334.19	1199.59	16.49	-17.00	16.49	23.69	314.12	0.39
1300.00	1.27	337.56	1299.56	18.57	-17.94	18.57	25.81	315.99	0.11
1400.00	0.87	334.62	1399.55	20.28	-18.68	20.28	27.57	317.34	0.40
1500.00	0.93	319.29	1499.53	21.58	-19.54	21.58	29.12	317.84	0.25
1600.00	0.82	316.57	1599.52	22.72	-20.57	22.72	30.65	317.85	0.12

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	0.73	314.80	1699.51	23.69	-21.51	23.69	32.00	317.76	0.10
1800.00	0.67	325.92	1799.51	24.63	-22.29	24.63	33.22	317.85	0.15
1900.00	0.55	324.26	1899.50	25.50	-22.90	25.50	34.28	318.08	0.12
2000.00	0.81	329.47	1999.49	26.51	-23.55	26.51	35.46	318.39	0.27
2100.00	0.71	312.42	2099.48	27.54	-24.37	27.54	36.77	318.50	0.25
2200.00	0.25	291.39	2199.48	28.04	-25.03	28.04	37.59	318.24	0.48
2300.00	0.27	283.04	2299.48	28.17	-25.47	28.17	37.98	317.89	0.04
2400.00	0.55	317.87	2399.48	28.59	-26.03	28.59	38.66	317.68	0.37
2524.00	0.47	343.31	2523.47	29.52	-26.58	29.52	39.72	318.00	0.19



VES Survey International
Midland, TX
432-563-5444
Surveyor: Logan Henry
Lee 3 Fee 1H / API 30-015-39586



V.E.S. Survey Date: 5/2/2015



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

May 11, 2015

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

RE: Lee 3 Fee #1H
630' FSL & 380' FWL
Sec. 3, T19S, R26E
Eddy County, New Mexico

Dear Sir,

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

Very truly yours,

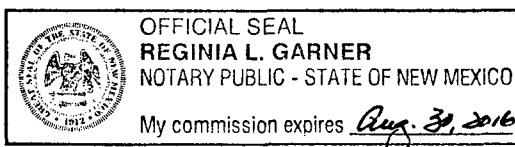
A handwritten signature in cursive script that reads "Graham".

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 11th day of May, 2015.

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

Notary Public

LEE 3 FEE #1 H

Date	Depth	Deviation	Direction	TVD
4/30/2015	201	0.90	0.00	0.00
4/30/2015	439	1.80	0.00	0.00
4/30/2015	496	1.80	0.00	0.00
4/30/2015	556	1.60	0.00	0.00
4/30/2015	707	2.30	0.00	0.00
4/30/2015	770	2.00	0.00	0.00
4/30/2015	833	2.00	0.00	0.00
4/30/2015	895	2.00	0.00	0.00
4/30/2015	957	1.90	0.00	0.00
4/30/2015	1147	1.70	0.00	0.00
5/2/2015	1300	1.20	0.00	0.00
5/2/2015	1773	0.70	0.00	0.00
5/2/2015	2216	0.50	0.00	0.00
5/3/2015	2568	0.20	320.80	0.00
5/4/2015	2599	0.90	344.00	2598.00
5/4/2015	2662	5.80	353.10	2661.00
5/4/2015	2724	11.40	0.10	2722.00
5/4/2015	2788	15.20	2.20	2784.00
5/4/2015	2851	21.60	357.60	2844.00
5/4/2015	2914	28.40	358.10	2901.00
5/4/2015	2977	34.60	1.00	0.00
5/4/2015	3008	38.20	2.00	0.00
5/4/2015	3040	41.40	2.80	0.00
5/4/2015	3072	44.20	3.80	0.00
5/4/2015	3103	47.80	0.00	0.00
5/4/2015	3134	50.90	4.30	0.00
5/4/2015	3260	62.80	3.80	0.00
5/4/2015	3291	65.30	3.50	0.00
5/4/2015	3354	70.90	2.00	0.00
5/4/2015	3385	73.60	2.30	0.00
5/4/2015	3448	79.00	2.60	0.00
5/5/2015	3500	84.90	2.50	3208.00
5/5/2015	3531	87.10	1.10	3210.00
5/5/2015	3594	88.30	1.70	3212.00
5/5/2015	3689	89.80	0.80	3214.00
5/5/2015	3783	89.90	359.80	0.00
5/5/2015	3878	89.90	0.10	0.00
5/5/2015	3973	89.90	0.10	0.00
5/5/2015	4068	91.10	359.80	0.00
5/5/2015	4162	91.00	360.00	0.00
5/5/2015	4257	91.10	259.90	0.00
5/5/2015	4352	91.00	0.10	0.00

Date	Depth	Deviation	Direction	TVD
5/5/2015	4447	91.20	360.00	0.00
5/5/2015	4542	91.30	0.60	0.00
5/5/2015	4636	91.30	0.30	0.00
5/6/2015	4732	91.00	0.30	3201.00
5/6/2015	4827	90.80	0.30	3199.00
5/6/2015	4921	90.90	0.30	3198.00
5/6/2015	5016	90.90	359.40	3196.00
5/6/2015	5110	90.90	359.40	3195.00
5/6/2015	5205	90.60	359.30	0.00
5/6/2015	5300	91.40	359.20	0.00
5/6/2015	5395	91.10	359.20	0.00
5/6/2015	5489	90.90	1.00	0.00
5/6/2015	5584	90.90	0.20	0.00
5/6/2015	5773	90.60	359.90	0.00
5/7/2015	5963	91.40	0.30	3180.00
5/7/2015	6058	91.30	359.90	3177.00
5/7/2015	6153	91.30	359.90	3175.00
5/7/2015	6247	91.20	359.60	3173.00
5/7/2015	6342	90.80	0.80	3172.00
5/7/2015	6436	90.80	0.70	0.00
5/7/2015	6532	90.70	0.50	0.00
5/7/2015	6623	90.50	0.30	0.00
5/7/2015	6720	90.90	0.40	0.00
5/7/2015	6815	91.70	359.90	0.00
5/8/2015	6910	91.70	359.70	3162.00
5/8/2015	7004	91.70	359.70	3159.00
5/8/2015	7099	92.00	359.60	0.00
5/8/2015	7194	90.90	358.40	0.00
5/8/2015	7288	91.70	358.10	0.00
5/8/2015	7440	91.60	358.90	0.00

EOF



COG Operating LLC

Eddy County, NM (NAD27 NME)

Lee 3 Fee

#1H

WB1 / Job #1513447

Design: Surveys (Silver Oak 3)

Standard Survey Report

09 May, 2015

NM OIL CONSERVATION

ARTESIA DISTRICT

JUL 06 2015

RECEIVED





Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3362.00usft (Silver Oak 3)
Site:	Lee 3 Fee	MD Reference:	KB @ 3362.00usft (Silver Oak 3)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1 / Job #1513447	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 3)	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:	Lee 3 Fee		
Site Position:		Northing:	612,139.80 usft
From:	Map	Easting:	488,590.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 58.31847 N
		Longitude:	104° 22' 13.49969 W
		Grid Convergence:	-0.02 °

Well:	#1H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 41' 0.24770 N
		Longitude:	104° 22' 36.40464 W
		Ground Level:	3,344.00 usft

Wellbore:	WB1 / Job #1513447		
Magnetics	Model Name	Sample Date	Declination
	HDGM	4/27/2015	7.62
			Dip Angle
			60.57
			Field Strength
			48,414

Design:	Surveys (Silver Oak 3)		
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
			(°)
			359.98

Survey Program	Date: 5/9/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.00	2,524.00	VES Gyro Survey (WB1 / Job #1513447)	NS-GYRO-MS
2,568.00	7,500.00	Phoenix MWD Survey (WB1 / Job #15134	PHX+MWD+HDGM
			Description
			North sensing gyrocompassing m/s
			PHX+MWD+HDGM

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.24	128.63	100.00	-0.13	0.16	-0.13	0.24	0.24	0.00	
200.00	0.30	213.96	200.00	-0.48	0.18	-0.48	0.37	0.06	85.33	
300.00	0.95	240.51	299.99	-1.10	-0.69	-1.10	0.69	0.65	26.55	
400.00	1.58	275.55	399.97	-1.38	-2.78	-1.38	0.97	0.63	35.04	
500.00	1.82	286.34	499.93	-0.80	-5.68	-0.80	0.40	0.24	10.79	
600.00	1.94	303.92	599.87	0.59	-8.61	0.60	0.59	0.12	17.58	
700.00	2.00	320.74	699.81	2.89	-11.11	2.89	0.58	0.06	16.82	
800.00	1.81	334.70	799.76	5.67	-12.89	5.67	0.50	-0.19	13.96	
900.00	1.82	337.41	899.71	8.56	-14.18	8.57	0.09	0.01	2.71	

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1H:
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3362.00usft (Silver Oak 3)
Site:	Lee 3 Fee	MD Reference:	KB @ 3362.00usft (Silver Oak 3)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1 / Job #1513447	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 3)	Database:	Compass 5000 GCR

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)
1,000.00	1.64	339.75	999.66	11.37	-15.28	11.38	0.19	-0.18	2.34
1,100.00	1.61	345.24	1,099.62	14.07	-16.14	14.08	0.16	-0.03	5.49
1,200.00	1.34	334.19	1,199.59	16.48	-17.00	16.49	0.39	-0.27	-11.05
1,300.00	1.27	337.56	1,299.56	18.56	-17.94	18.57	0.10	-0.07	3.37
1,400.00	0.87	334.62	1,399.55	20.27	-18.68	20.28	0.40	-0.40	-2.94
1,500.00	0.93	319.29	1,499.53	21.57	-19.54	21.58	0.25	0.06	-15.33
1,600.00	0.82	316.57	1,599.52	22.71	-20.56	22.71	0.12	-0.11	-2.72
1,700.00	0.73	314.80	1,699.51	23.67	-21.50	23.68	0.09	-0.09	-1.77
1,800.00	0.67	325.92	1,799.51	24.61	-22.28	24.61	0.15	-0.06	11.12
1,900.00	0.55	324.26	1,899.50	25.48	-22.89	25.49	0.12	-0.12	-1.66
2,000.00	0.81	329.47	1,999.49	26.48	-23.53	26.49	0.27	0.26	5.21
2,100.00	0.71	312.42	2,099.48	27.51	-24.35	27.51	0.25	-0.10	-17.05
2,200.00	0.25	291.39	2,199.48	28.00	-25.01	28.01	0.49	-0.46	-21.03
2,300.00	0.27	283.04	2,299.48	28.14	-25.44	28.14	0.04	0.02	-8.35
2,400.00	0.55	317.87	2,399.48	28.55	-25.99	28.55	0.36	0.28	34.83
2,524.00	0.47	343.31	2,523.47	29.47	-26.54	29.48	0.19	-0.06	20.52
Tie-on to VES Gyro Survey									
2,568.00	0.20	320.80	2,567.47	29.71	-26.64	29.72	0.67	-0.61	-51.16
First Phoenix MWD Survey									
2,599.00	0.90	344.00	2,598.47	29.98	-26.74	29.99	2.32	2.26	74.84
2,630.00	3.40	358.80	2,629.45	31.14	-26.83	31.14	8.19	8.06	47.74
2,662.00	5.80	353.10	2,661.34	33.69	-27.04	33.70	7.63	7.50	-17.81
2,693.00	8.30	358.90	2,692.10	37.48	-27.27	37.49	8.37	8.06	18.71
2,724.00	11.40	0.10	2,722.64	42.78	-27.31	42.79	10.02	10.00	3.87
2,756.00	13.40	3.10	2,753.90	49.65	-27.10	49.66	6.56	6.25	9.38
2,788.00	15.20	2.20	2,784.90	57.55	-26.74	57.55	5.67	5.63	-2.81
2,819.00	17.90	359.60	2,814.62	66.37	-26.62	66.38	9.03	8.71	-8.39
2,851.00	21.60	357.60	2,844.73	77.18	-26.90	77.19	11.75	11.56	-6.25
2,882.00	25.20	357.00	2,873.18	89.47	-27.48	89.48	11.64	11.61	-1.94
2,914.00	28.40	358.10	2,901.73	103.89	-28.09	103.90	10.12	10.00	3.44
2,945.00	31.50	359.50	2,928.59	119.36	-28.41	119.37	10.25	10.00	4.52
2,977.00	34.60	1.00	2,955.41	136.81	-28.32	136.82	10.02	9.69	4.69
3,008.00	38.20	2.00	2,980.36	155.19	-27.83	155.20	11.77	11.61	3.23
3,040.00	41.40	2.80	3,004.94	175.65	-26.97	175.66	10.13	10.00	2.50
3,072.00	44.20	3.80	3,028.42	197.36	-25.72	197.37	9.00	8.75	3.13
3,103.00	47.80	4.40	3,049.95	219.60	-24.12	219.60	11.70	11.61	1.94
3,134.00	50.90	4.30	3,070.14	243.04	-22.33	243.05	10.00	10.00	-0.32
3,166.00	53.60	4.30	3,089.73	268.27	-20.44	268.28	8.44	8.44	0.00
3,198.00	56.60	4.00	3,108.04	294.45	-18.54	294.45	9.41	9.38	-0.94
3,229.00	59.90	3.70	3,124.35	320.74	-16.77	320.75	10.68	10.65	-0.97
3,260.00	62.80	3.80	3,139.21	347.89	-14.99	347.89	9.36	9.35	0.32
3,291.00	65.30	3.50	3,152.77	375.70	-13.22	375.71	8.11	8.06	-0.97
3,322.00	68.10	2.80	3,165.03	404.13	-11.66	404.13	9.27	9.03	-2.26



Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3362.00usft (Silver Oak 3)
Site:	Lee 3 Fee	MD Reference:	KB @ 3362.00usft (Silver Oak 3)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/ Job #1513447	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 3)	Database:	Compass 5000 GCR

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)
3,354.00	70.90	2.00	3,176.24	434.07	-10.40	434.08	9.06	8.75	-2.50
3,385.00	73.60	2.30	3,185.69	463.57	-9.29	463.58	8.76	8.71	0.97
3,417.00	76.20	2.70	3,194.03	494.44	-7.95	494.44	8.21	8.13	1.25
3,448.00	79.00	2.60	3,200.68	524.68	-6.55	524.68	9.04	9.03	-0.32
3,480.00	82.20	2.50	3,205.91	556.21	-5.14	556.21	10.00	10.00	-0.31
3,500.00	84.90	2.50	3,208.15	576.07	-4.28	576.07	13.50	13.50	0.00
3,531.00	87.10	1.10	3,210.32	606.97	-3.30	606.97	8.41	7.10	-4.52
3,594.00	88.30	1.70	3,212.84	669.90	-1.77	669.90	2.13	1.90	0.95
3,689.00	89.80	0.80	3,214.42	764.86	0.31	764.86	1.84	1.58	-0.95
3,783.00	89.90	359.60	3,214.67	858.86	0.63	858.86	1.28	0.11	-1.28
3,878.00	89.90	0.10	3,214.83	953.86	0.38	953.86	0.53	0.00	0.53
3,973.00	89.90	0.10	3,215.00	1,048.86	0.55	1,048.86	0.00	0.00	0.00
4,068.00	91.10	359.80	3,214.17	1,143.85	0.47	1,143.85	1.30	1.26	-0.32
4,162.00	91.00	0.00	3,212.45	1,237.84	0.30	1,237.84	0.24	-0.11	0.21
4,257.00	91.10	359.90	3,210.70	1,332.82	0.22	1,332.82	0.15	0.11	-0.11
4,352.00	91.00	0.10	3,208.96	1,427.80	0.22	1,427.80	0.24	-0.11	0.21
4,447.00	91.20	0.00	3,207.14	1,522.79	0.30	1,522.79	0.24	0.21	-0.11
4,542.00	91.30	0.60	3,205.07	1,617.76	0.80	1,617.76	0.64	0.11	0.63
4,636.00	91.30	0.30	3,202.94	1,711.74	1.54	1,711.73	0.32	0.00	-0.32
4,732.00	91.00	0.30	3,201.01	1,807.71	2.04	1,807.71	0.31	-0.31	0.00
4,827.00	90.80	0.30	3,199.52	1,902.70	2.54	1,902.70	0.21	-0.21	0.00
4,921.00	90.90	0.30	3,198.12	1,996.69	3.03	1,996.69	0.11	0.11	0.00
5,016.00	90.90	359.40	3,196.63	2,091.68	2.78	2,091.68	0.95	0.00	-0.95
5,110.00	90.90	359.40	3,195.15	2,185.66	1.80	2,185.66	0.00	0.00	0.00
5,205.00	90.60	359.30	3,193.91	2,280.65	0.72	2,280.65	0.33	-0.32	-0.11
5,300.00	91.40	359.20	3,192.25	2,375.62	-0.52	2,375.62	0.85	0.84	-0.11
5,395.00	91.10	359.20	3,190.18	2,470.59	-1.85	2,470.59	0.32	-0.32	0.00
5,489.00	90.90	1.00	3,188.54	2,564.57	-1.68	2,564.57	1.93	-0.21	1.91
5,584.00	90.90	0.20	3,187.05	2,659.55	-0.69	2,659.55	0.84	0.00	-0.84
5,679.00	90.70	0.00	3,185.72	2,754.54	-0.52	2,754.54	0.30	-0.21	-0.21
5,773.00	90.60	359.90	3,184.65	2,848.54	-0.61	2,848.54	0.15	-0.11	-0.11
5,868.00	91.70	359.70	3,182.75	2,943.52	-0.94	2,943.52	1.18	1.16	-0.21
5,963.00	91.40	0.30	3,180.18	3,038.48	-0.94	3,038.48	0.71	-0.32	0.63
6,058.00	91.30	359.90	3,177.94	3,133.46	-0.77	3,133.46	0.43	-0.11	-0.42
6,153.00	91.30	359.90	3,175.78	3,228.43	-0.94	3,228.43	0.00	0.00	0.00
6,247.00	91.20	359.60	3,173.73	3,322.41	-1.35	3,322.41	0.34	-0.11	-0.32
6,342.00	90.80	0.80	3,172.08	3,417.39	-1.02	3,417.39	1.33	-0.42	1.26
6,436.00	90.80	0.70	3,170.76	3,511.37	0.21	3,511.37	0.11	0.00	-0.11
6,532.00	90.70	0.50	3,169.51	3,607.36	1.22	3,607.36	0.23	-0.10	-0.21
6,626.00	90.50	0.30	3,168.52	3,701.35	1.88	3,701.35	0.30	-0.21	-0.21
6,720.00	90.90	0.40	3,167.37	3,795.34	2.45	3,795.34	0.44	0.43	0.11
6,815.00	91.70	359.90	3,165.22	3,890.32	2.70	3,890.32	0.99	0.84	-0.53
6,910.00	91.70	359.70	3,162.40	3,985.27	2.37	3,985.27	0.21	0.00	-0.21
7,004.00	91.70	359.70	3,159.61	4,079.23	1.87	4,079.23	0.00	0.00	0.00



Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3362.00usft (Silver Oak 3)
Site:	Lee 3 Fee	MD Reference:	KB @ 3362.00usft (Silver Oak 3)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/ Job #1513447	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 3)	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)
7,099.00	92.00	359.60	3,156.54	4,174.18	1.29	4,174.18	0.33	0.32	-0.11
7,194.00	90.90	358.40	3,154.14	4,269.13	-0.36	4,269.13	1.71	-1.16	-1.26
7,288.00	91.70	358.10	3,152.01	4,363.06	-3.23	4,363.06	0.91	0.85	-0.32
7,384.00	91.20	358.90	3,149.58	4,459.00	-5.74	4,459.00	0.98	-0.52	0.83
7,440.00	91.60	358.90	3,148.21	4,514.97	-6.82	4,514.97	0.71	0.71	0.00
Last Phoenix MWD Survey									
7,500.00	91.60	358.90	3,146.53	4,574.94	-7.97	4,574.94	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,524.00	2,523.47	29.47	-26.54	Tie-on to VES Gyro Survey
2,568.00	2,567.47	29.71	-26.64	First Phoenix MWD Survey
7,440.00	3,148.21	4,514.97	-6.82	Last Phoenix MWD Survey
7,500.00	3,146.53	4,574.94	-7.97	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------