



December 2, 2014

15-4-2757

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

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 6 2015

Attn: Kanicia Castillo

RECEIVED

RE: **Bradley 8 Fee 26H**

Please find enclosed a copy of the survey from 0.00' to 4628.00' ran on the above referenced well.

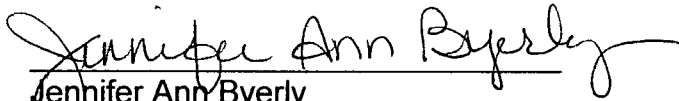
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

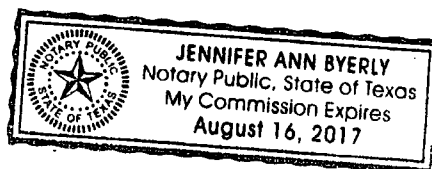
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 2 day of December, A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating
Lease/Well: Bradley 8 Fee/26H

Rig Name: Silver Oak 3
State/County: New Mexico/Eddy
Latitude: 32.67, Longitude: -104.40

GRID North is 0.04 Degrees West of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB=17 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 12/2/2014 / 14:02

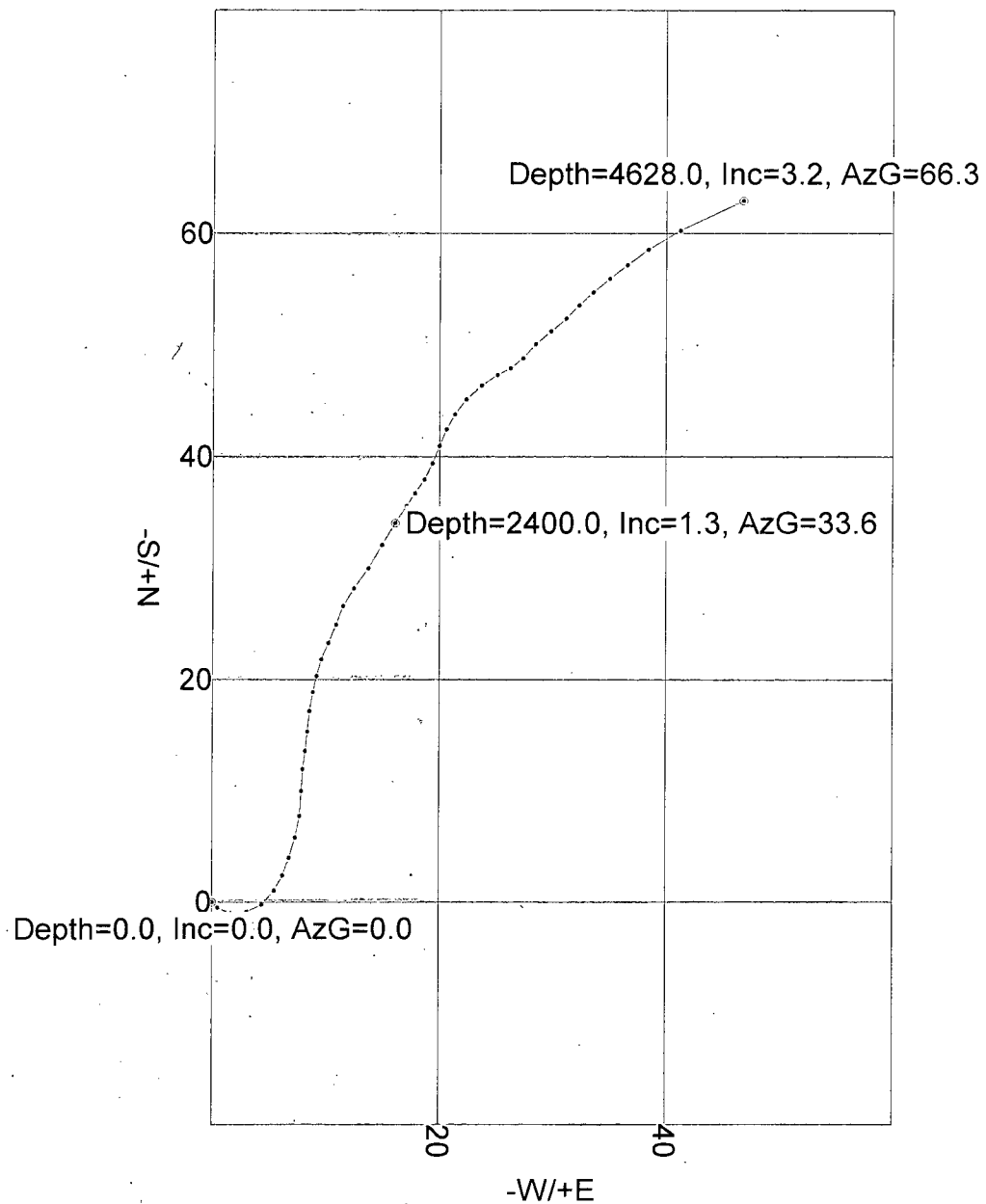
VES Survey International
West Texas
(432) 563-5444
Surveyor: Adam Gathright
Bradley 8 Fee 26H / API 30-015-42757

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	0.80	135.33	100.00	-0.50	0.49	-0.50	0.70	135.33	0.80
200.00	0.80	91.63	199.99	-1.01	1.68	-1.01	1.96	121.17	0.59
300.00	0.81	74.94	299.98	-0.85	3.05	-0.85	3.17	105.60	0.23
400.00	0.92	55.05	399.97	-0.21	4.39	-0.21	4.39	92.70	0.32
500.00	1.01	28.92	499.95	1.03	5.48	1.03	5.57	79.39	0.45
600.00	0.80	26.56	599.94	2.42	6.21	2.42	6.67	68.71	0.21
700.00	1.14	15.33	699.93	4.00	6.79	4.00	7.88	59.47	0.39
800.00	1.05	17.04	799.91	5.84	7.32	5.84	9.36	51.42	0.09
900.00	1.21	7.05	899.89	7.77	7.72	7.77	10.95	44.82	0.25
1000.00	1.38	1.23	999.86	10.02	7.87	10.02	12.74	38.16	0.21
1100.00	0.89	5.51	1099.84	12.00	7.98	12.00	14.41	33.62	0.49
1200.00	1.00	10.01	1199.83	13.63	8.20	13.63	15.91	31.04	0.13
1300.00	0.98	2.39	1299.81	15.35	8.39	15.35	17.49	28.66	0.13
1400.00	1.12	7.46	1399.80	17.17	8.55	17.17	19.18	26.48	0.16
1500.00	0.85	14.81	1499.78	18.86	8.87	18.86	20.84	25.19	0.29
1600.00	0.88	10.11	1599.77	20.33	9.19	20.33	22.31	24.33	0.08
1700.00	0.89	19.97	1699.76	21.82	9.59	21.82	23.84	23.74	0.15
1800.00	0.96	26.55	1799.75	23.30	10.23	23.30	25.45	23.71	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
1900.00	1.07	18.57	1899.73	24.93	10.90	24.93	27.21	23.63	0.18
2000.00	1.00	22.19	1999.71	26.62	11.53	26.62	29.01	23.42	0.09
2100.00	1.13	39.56	2099.70	28.19	12.49	28.19	30.83	23.89	0.35
2200.00	1.41	32.28	2199.67	29.99	13.77	29.99	33.00	24.67	0.32
2300.00	1.35	27.27	2299.64	32.08	14.97	32.08	35.40	25.02	0.14
2400.00	1.29	33.63	2399.62	34.06	16.13	34.06	37.69	25.35	0.16
2500.00	0.76	31.94	2499.60	35.57	17.11	35.57	39.47	25.69	0.53
2600.00	0.83	34.93	2599.59	36.73	17.88	36.73	40.85	25.96	0.08
2700.00	0.87	31.58	2699.58	37.97	18.69	37.97	42.32	26.21	0.06
2800.00	0.96	21.30	2799.57	39.39	19.39	39.39	43.90	26.21	0.19
2900.00	0.99	21.07	2899.55	40.97	20.00	40.97	45.59	26.02	0.03
3000.00	0.84	23.55	2999.54	42.45	20.61	42.45	47.18	25.89	0.15
3100.00	0.94	32.67	3099.53	43.81	21.34	43.81	48.74	25.97	0.17
3200.00	0.96	42.20	3199.52	45.13	22.35	45.13	50.36	26.35	0.16
3300.00	1.16	51.09	3299.50	46.39	23.71	46.39	52.09	27.07	0.26
3400.00	0.77	62.83	3399.48	47.33	25.09	47.33	53.57	27.93	0.44
3500.00	0.72	60.68	3499.48	47.94	26.23	47.94	54.65	28.69	0.06
3600.00	0.92	44.21	3599.47	48.83	27.34	48.83	55.96	29.25	0.31
3700.00	1.01	38.80	3699.45	50.09	28.46	50.09	57.61	29.60	0.13
3800.00	1.04	59.67	3799.44	51.24	29.80	51.24	59.28	30.18	0.37
3900.00	1.01	39.78	3899.42	52.38	31.15	52.38	60.94	30.74	0.36
4000.00	0.87	48.10	3999.41	53.57	32.28	53.57	62.54	31.07	0.19
4100.00	1.08	46.11	4099.39	54.73	33.52	54.73	64.18	31.49	0.21
4200.00	1.08	54.61	4199.37	55.93	34.97	55.93	65.97	32.02	0.16
4300.00	1.20	49.31	4299.35	57.16	36.54	57.16	67.84	32.59	0.16
4400.00	1.46	56.11	4399.33	58.55	38.39	58.55	70.02	33.25	0.31
4500.00	2.35	61.66	4499.27	60.24	41.25	60.24	73.01	34.41	0.91
4628.00	3.18	66.27	4627.12	62.91	46.82	62.91	78.42	36.65	0.67



VES Survey International
West Texas
(432) 563-5444
Surveyor: Adam Gathright
Bradley 8 Fee 26H / API 30-015-42757



VES Survey Date: 11/13/2014



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

December 8, 2014

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

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 6 2015

RECEIVED

RE: Bradley 8 Fee #26H
165' FNL & 2310' FWL
Sec. 17, T19S, R26E
Eddy County, New Mexico

Dear Sir,

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

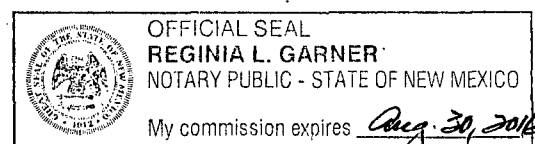
Very truly yours,

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 8th day of December, 2014.

Notary Public



BRADLEY 8 FEE 26H

Date	Depth	Deviation	Direction
11/5/2014	176	1.20	0.00
11/6/2014	294	0.60	0.00
11/6/2014	783	1.20	0.00
11/6/2014	1002	1.20	0.00
11/6/2014	1188	1.10	0.00
11/7/2014	1395	0.70	0.00
11/8/2014	1864	1.00	0.00
11/8/2014	2332	1.70	0.00
11/8/2014	2486	1.40	0.00
11/9/2014	2951	1.30	0.00
11/9/2014	3330	1.70	0.00
11/9/2014	3576	0.40	0.00
11/13/2014	3900	0.80	0.00
11/13/2014	4327	1.50	0.00
11/24/2014	2833	4.80	3.20
11/24/2014	2959	9.40	0.20
11/24/2014	2991	12.50	2.30
11/24/2014	3022	13.10	1.90
11/24/2014	3053	13.00	0.90
11/24/2014	3084	13.00	359.30
11/24/2014	3115	12.80	359.50
11/24/2014	3146	12.50	359.60
11/24/2014	3177	12.20	355.70
11/24/2014	3208	12.20	353.60
11/24/2014	3239	12.20	352.40
11/24/2014	3270	11.90	352.10
11/24/2014	3301	11.60	352.80
11/25/2014	3426	12.20	355.30
11/25/2014	3457	12.50	354.90
11/25/2014	3488	12.20	354.70
11/25/2014	3519	12.30	353.80
11/25/2014	3550	12.40	353.70
11/25/2014	3581	12.70	355.00
11/25/2014	3704	17.80	354.40
11/25/2014	3736	20.10	353.60
11/25/2014	3767	22.80	353.10
11/25/2014	3798	25.80	352.80
11/25/2014	3829	28.90	352.30
11/25/2014	3860	32.30	352.60
11/25/2014	3891	35.70	352.90
11/25/2014	3922	39.00	35.90
11/25/2014	3954	41.90	355.40
11/25/2014	3985	45.00	356.50

Date	Depth	Deviation	Direction
11/25/2014	4016	48.30	356.70
11/25/2014	4047	51.70	356.30
11/26/2014	4078	5.30	355.80
11/26/2014	4109	58.90	355.20
11/26/2014	4141	62.00	355.50
11/26/2014	4172	64.80	356.70
11/26/2014	4203	66.90	357.60
11/26/2014	4234	68.60	357.60
11/26/2014	4265	70.80	357.60
11/26/2014	4296	73.40	357.50
11/26/2014	4328	75.30	357.40
11/26/2014	4359	76.70	357.60
11/26/2014	4390	78.60	357.70
11/26/2014	4421	81.80	357.20
11/26/2014	4453	85.50	356.60
11/26/2014	4484	89.60	356.60
11/27/2014	4535	95.50	357.60
11/27/2014	4598	95.10	357.80
11/27/2014	4691	94.20	358.30
11/27/2014	4785	92.10	359.00
11/27/2014	4879	91.80	359.00
11/27/2014	4972	91.50	358.70
11/27/2014	5066	91.10	358.70
11/27/2014	5160	91.60	359.10
11/27/2014	5253	92.80	359.80
11/27/2014	5347	93.90	360.00
11/27/2014	5440	94.40	359.50
11/28/2014	5534	94.50	358.70
11/28/2014	5627	94.60	358.50
11/28/2014	5721	94.90	357.80
11/28/2014	5908	91.60	359.00
11/28/2014	6002	91.40	358.70
11/28/2014	6096	92.20	358.50
11/28/2014	6190	92.70	359.80
11/28/2014	6283	92.90	359.60
11/28/2014	6378	93.10	358.70
11/29/2014	6469	93.10	358.70
11/29/2014	6563	93.10	359.80
11/29/2014	6656	93.00	358.90
11/29/2014	6749	92.50	359.20
11/29/2014	6842	92.10	358.80
11/29/2014	6936	93.00	359.50
11/29/2014	7029	93.80	359.80
11/29/2014	7122	94.10	359.70
11/29/2014	7216	94.10	358.90

Date	Depth	Deviation	Direction
11/29/2014	7403	93.80	359.50
11/30/2014	7496	94.20	359.50
11/30/2014	7589	93.90	358.70
11/30/2014	7776	93.50	358.70
11/30/2014	7869	93.20	358.10
11/30/2014	7962	92.40	358.40

EOF



COG Operating LLC

Eddy County, NM (NAD27 NME)

Bradley 8 Fee

#26H

WB2 / Job #1412099

Design: Surveys (Silver Oak 3)

Standard Survey Report

03 December, 2014





Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #26H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3395.00usft (Silver Oak 3)
Site:	Bradley 8 Fee	MD Reference:	KB @ 3395.00usft (Silver Oak 3)
Well:	#26H	North Reference:	Grid
Wellbore:	WB2 / Job #1412099	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:	Bradley 8 Fee		
Site Position:	Northings:	606,797.50 usft	Latitude: 32° 40' 5.40482 N
From: Map	Easting:	478,847.80 usft	Longitude: 104° 24' 7.45386 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.04 °

Well:	#26H		
Well Position	+N-S	0.00 usft	Northings: 606,486.70 usft
	+E-W	0.00 usft	Easting: 478,128.90 usft
Position Uncertainty	0.00 usft	Wellhead Elevation: 0.00 usft	Ground Level: 3,377.00 usft

Wellbore:	WB2 / Job #1412099		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010_14	11/19/2014	7.58
			Dip Angle (°)
			60.37
			Field Strength (nT)
			48,449

Design:	Surveys (Silver Oak 3)		
Audit Notes:			
Version:	1.0	Phase: ACTUAL	Tie On Depth: 2,900.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)
	0.00	0.00	0.00
			Direction (°)
			358.91

Survey Program	Date 12/3/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.00	2,900.00	VES Gyro Survey (WB1 / Job #1412099)	NS-GYRO-MS
2,900.00	8,815.00	Phoenix MWD Survey (WB2 / Job #14120)	PHX+MWD+IGRF
			Description
			North sensing gyrocompassing m/s
			PHX+MWD+IGRF v3: standard declination

Survey:	RESULTS									
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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.80	135.33	100.00	-0.50	0.49	-0.51	0.80	0.80	0.00	
200.00	0.80	91.63	199.99	-1.01	1.68	-1.04	0.60	0.00	-43.70	
300.00	0.81	74.94	299.98	-0.85	3.06	-0.91	0.23	0.01	-16.69	
400.00	0.92	55.05	399.97	-0.21	4.40	-0.29	0.32	0.11	-19.89	
500.00	1.01	28.92	499.95	1.03	5.48	0.92	0.44	0.09	-26.13	
600.00	0.80	26.56	599.94	2.42	6.22	2.30	0.21	-0.21	-2.36	
700.00	1.14	15.33	699.93	4.01	6.80	3.88	0.39	0.34	-11.23	
800.00	1.05	17.04	799.91	5.84	7.33	5.70	0.10	-0.09	1.71	
900.00	1.21	7.05	899.89	7.76	7.73	7.62	0.25	0.16	-9.99	



Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #26H
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3395.00usft (Silver Oak 3)
Site:	Bradley 8 Fee	MD Reference:	KB @ 3395.00usft (Silver Oak 3)
Well:	#26H	North Reference:	Grid
Wellbore:	WB2 / Job #1412099	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)
1,000.00	1.38	1.23	999.86	10.02	7.88	9.86	0.21	0.17	-5.82
1,100.00	0.89	5.51	1,099.84	11.99	7.98	11.84	0.50	-0.49	4.28
1,200.00	1.00	10.01	1,199.83	13.63	8.21	13.47	0.13	0.11	4.50
1,300.00	0.98	2.39	1,299.81	15.34	8.40	15.18	0.13	-0.02	-7.62
1,400.00	1.12	7.46	1,399.80	17.16	8.56	17.00	0.17	0.14	5.07
1,500.00	0.85	14.81	1,499.78	18.85	8.88	18.68	0.30	-0.27	7.35
1,600.00	0.88	10.11	1,599.77	20.32	9.20	20.14	0.08	0.03	-4.70
1,700.00	0.89	19.97	1,699.76	21.81	9.60	21.62	0.15	0.01	9.86
1,800.00	0.96	26.55	1,799.75	23.29	10.24	23.09	0.13	0.07	6.58
1,900.00	1.07	18.57	1,899.73	24.92	10.91	24.71	0.18	0.11	-7.98
2,000.00	1.00	22.19	1,999.71	26.62	11.54	26.39	0.10	-0.07	3.62
2,100.00	1.13	39.56	2,099.70	28.18	12.50	27.94	0.35	0.13	17.37
2,200.00	1.41	32.28	2,199.67	29.98	13.78	29.72	0.32	0.28	-7.28
2,300.00	1.35	27.27	2,299.64	32.07	14.98	31.78	0.13	-0.06	-5.01
2,400.00	1.29	33.63	2,399.62	34.06	16.14	33.74	0.16	-0.06	6.36
2,500.00	0.76	31.94	2,499.60	35.56	17.12	35.22	0.53	-0.53	-1.69
2,600.00	0.83	34.93	2,599.59	36.71	17.88	36.36	0.08	0.07	2.99
2,700.00	0.87	31.58	2,699.58	37.95	18.69	37.59	0.06	0.04	-3.35
2,800.00	0.96	21.30	2,799.57	39.38	19.40	39.00	0.19	0.09	-10.28
2,900.00	0.99	21.07	2,899.55	40.97	20.01	40.58	0.03	0.03	-0.23
Tie-on to VES Gyro Survey									
2,929.00	4.80	3.20	2,928.51	42.41	20.17	42.02	13.34	13.14	-61.62
First Phoenix MWD Survey									
2,960.00	9.40	0.20	2,959.27	46.24	20.25	45.85	14.88	14.84	-9.68
2,991.00	12.50	2.30	2,989.70	52.13	20.39	51.73	10.08	10.00	6.77
3,022.00	13.10	1.90	3,019.93	58.99	20.64	58.58	1.96	1.94	-1.29
3,053.00	13.00	0.90	3,050.13	65.99	20.82	65.58	0.80	-0.32	-3.23
3,084.00	13.00	359.30	3,080.33	72.96	20.83	72.55	1.16	0.00	-5.16
3,115.00	12.80	359.50	3,110.55	79.88	20.76	79.47	0.66	-0.65	0.65
3,146.00	12.50	359.40	3,140.80	86.67	20.69	86.26	0.97	-0.97	-0.32
3,177.00	12.20	355.70	3,171.08	93.29	20.41	92.88	2.73	-0.97	-11.94
3,208.00	12.20	353.60	3,201.38	99.81	19.80	99.42	1.43	0.00	-6.77
3,239.00	12.20	352.40	3,231.68	106.31	19.00	105.93	0.82	0.00	-3.87
3,270.00	11.90	352.10	3,262.00	112.73	18.13	112.36	0.99	-0.97	-0.97
3,301.00	11.60	352.80	3,292.35	118.98	17.30	118.63	1.07	-0.97	2.26
3,333.00	11.40	354.80	3,323.71	125.32	16.61	124.99	1.39	-0.63	6.25
3,364.00	11.40	356.40	3,354.09	131.43	16.14	131.10	1.02	0.00	5.16
3,395.00	11.60	356.20	3,384.47	137.60	15.74	137.28	0.66	0.65	-0.65
3,426.00	12.20	355.30	3,414.81	143.98	15.26	143.66	2.03	1.94	-2.90
3,457.00	12.50	354.90	3,445.09	150.58	14.70	150.27	1.01	0.97	-1.29
3,488.00	12.40	354.70	3,475.36	157.24	14.09	156.94	0.35	-0.32	-0.65
3,519.00	12.30	353.80	3,505.64	163.83	13.43	163.55	0.70	-0.32	-2.90
3,550.00	12.40	353.70	3,535.92	170.43	12.71	170.15	0.33	0.32	-0.32



Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #26H
Project:	Eddy County, NM (NAD27, NME)	TVD Reference:	KB @ 3395.00usft (Silver Oak 3)
Site:	Bradley 8 Fee	MD Reference:	KB @ 3395.00usft (Silver Oak 3)
Well:	#26H	North Reference:	Grid
Wellbore:	WB2 // Job #1412099	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)
3,581.00	12.70	355.00	3,566.18	177.13	12.04	176.87	1.33	0.97	4.19
3,612.00	12.70	356.50	3,596.43	183.92	11.54	183.67	1.06	0.00	4.84
3,642.00	13.40	356.10	3,625.65	190.68	11.10	190.44	2.35	2.33	-1.33
3,673.00	15.50	355.00	3,655.67	198.39	10.50	198.16	6.83	6.77	-3.55
3,704.00	17.80	354.40	3,685.37	207.24	9.67	207.02	7.44	7.42	-1.94
3,736.00	20.10	353.60	3,715.63	217.57	8.58	217.37	7.23	7.19	-2.50
3,767.00	22.80	353.10	3,744.48	228.83	7.27	228.65	8.73	8.71	-1.61
3,798.00	25.80	352.80	3,772.73	241.49	5.70	241.34	9.69	9.68	-0.97
3,829.00	28.90	352.30	3,800.26	255.61	3.85	255.49	10.03	10.00	-1.61
3,860.00	32.30	352.60	3,826.94	271.25	1.78	271.17	10.98	10.97	0.97
3,891.00	35.70	352.90	3,852.64	288.44	-0.41	288.40	10.98	10.97	0.97
3,922.00	39.00	354.10	3,877.28	307.13	-2.53	307.12	10.90	10.65	3.87
3,954.00	41.90	355.40	3,901.63	327.80	-4.42	327.82	9.44	9.06	4.06
3,985.00	45.00	356.50	3,924.13	349.06	-5.92	349.11	10.29	10.00	3.55
4,016.00	48.30	356.70	3,945.41	371.56	-7.26	371.63	10.66	10.65	0.65
4,047.00	51.70	356.30	3,965.33	395.26	-8.71	395.36	11.01	10.97	-1.29
4,078.00	55.30	355.80	3,983.77	420.12	-10.43	420.24	11.68	11.61	-1.61
4,109.00	58.90	355.20	4,000.60	446.06	-12.47	446.22	11.73	11.61	-1.94
4,141.00	62.00	355.50	4,016.38	473.80	-14.73	474.00	9.72	9.69	0.94
4,172.00	64.80	356.70	4,030.26	501.46	-16.61	501.68	9.67	9.03	3.87
4,203.00	66.90	357.60	4,042.94	529.71	-18.01	529.95	7.27	6.77	2.90
4,234.00	68.60	357.60	4,054.68	558.37	-19.21	558.64	5.48	5.48	0.00
4,265.00	70.80	357.60	4,065.44	587.42	-20.43	587.70	7.10	7.10	0.00
4,296.00	73.40	357.50	4,074.96	616.89	-21.69	617.19	8.39	8.39	-0.32
4,328.00	75.30	357.40	4,083.60	647.67	-23.06	647.99	5.95	5.94	-0.31
4,359.00	76.70	357.60	4,091.09	677.72	-24.38	678.06	4.56	4.52	0.65
4,390.00	78.60	357.70	4,097.72	707.98	-25.62	708.33	6.14	6.13	0.32
4,421.00	81.80	357.20	4,103.00	738.49	-26.98	738.87	10.44	10.32	-1.61
4,453.00	85.50	356.60	4,106.54	770.24	-28.70	770.65	11.71	11.56	-1.88
4,484.00	89.60	356.60	4,107.86	801.15	-30.53	801.59	13.23	13.23	0.00
4,535.00	95.50	357.60	4,105.60	852.01	-33.11	852.49	11.73	11.57	1.96
4,598.00	95.10	357.80	4,099.78	914.69	-35.63	915.20	0.71	-0.63	0.32
4,691.00	94.20	358.30	4,092.24	1,007.33	-38.78	1,007.89	1.11	-0.97	0.54
4,785.00	92.10	359.00	4,087.07	1,101.16	-40.99	1,101.74	2.35	-2.23	0.74
4,879.00	91.80	359.00	4,083.87	1,195.09	-42.63	1,195.68	0.32	-0.32	0.00
4,972.00	91.50	358.70	4,081.20	1,288.03	-44.50	1,288.64	0.46	-0.32	-0.32
5,066.00	91.10	358.70	4,079.06	1,381.98	-46.63	1,382.62	0.43	-0.43	0.00
5,160.00	91.60	359.10	4,076.85	1,475.94	-48.43	1,476.59	0.68	0.53	0.43
5,253.00	92.80	359.80	4,073.28	1,568.86	-49.33	1,569.52	1.49	1.29	0.75
5,347.00	93.90	0.00	4,067.79	1,662.70	-49.49	1,663.34	1.19	1.17	0.21
5,440.00	94.40	359.50	4,061.06	1,755.45	-49.90	1,756.09	0.76	0.54	-0.54
5,534.00	94.50	358.70	4,053.76	1,849.16	-51.37	1,849.80	0.86	0.11	-0.85
5,627.00	94.60	358.50	4,046.38	1,941.84	-53.63	1,942.51	0.24	0.11	-0.22
5,721.00	94.90	357.80	4,038.60	2,035.47	-56.66	2,036.18	0.81	0.32	-0.74



Phoenix Technology Services

Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #26H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3395.00usft (Silver Oak 3)
Site:	Bradley 8 Fee	MD Reference:	KB @ 3395.00usft (Silver Oak 3)
Well:	#26H	North Reference:	Grid
Wellbore:	WB2 / Job #1412099	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)
5,815.00	91.50	359.20	4,033.35	2,129.27	-59.11	2,130.01	3.91	-3.62	1.49
5,908.00	91.60	359.00	4,030.84	2,222.23	-60.57	2,222.98	0.24	0.11	-0.22
6,002.00	91.40	358.70	4,028.38	2,316.17	-62.46	2,316.94	0.38	-0.21	-0.32
6,096.00	92.20	358.50	4,025.42	2,410.10	-64.75	2,410.90	0.88	0.85	-0.21
6,190.00	92.70	359.80	4,021.41	2,504.00	-66.15	2,504.81	1.48	0.53	1.38
6,283.00	92.90	359.60	4,016.86	2,596.89	-66.63	2,597.69	0.30	0.22	-0.22
6,376.00	93.10	358.90	4,012.00	2,689.75	-67.85	2,690.56	0.78	0.22	-0.75
6,469.00	93.10	358.70	4,006.97	2,782.60	-69.79	2,783.42	0.21	0.00	-0.22
6,563.00	93.10	359.80	4,001.88	2,876.45	-71.02	2,877.28	1.17	0.00	1.17
6,656.00	93.00	358.90	3,996.93	2,969.31	-72.07	2,970.14	0.97	-0.11	-0.97
6,749.00	92.50	359.20	3,992.47	3,062.19	-73.61	3,063.04	0.63	-0.54	0.32
6,842.00	92.10	358.80	3,988.74	3,155.10	-75.24	3,155.96	0.61	-0.43	-0.43
6,936.00	93.00	359.50	3,984.56	3,249.00	-76.63	3,249.87	1.21	0.96	0.74
7,029.00	93.80	359.80	3,979.04	3,341.83	-77.20	3,342.69	0.92	0.86	0.32
7,122.00	94.10	359.70	3,972.64	3,434.61	-77.60	3,435.46	0.34	0.32	-0.11
7,216.00	94.10	358.90	3,965.92	3,528.36	-78.75	3,529.22	0.85	0.00	-0.85
7,309.00	93.40	358.70	3,959.83	3,621.14	-80.69	3,622.02	0.78	-0.75	-0.22
7,403.00	93.80	359.50	3,953.93	3,714.94	-82.16	3,715.83	0.95	0.43	0.85
7,496.00	94.20	359.50	3,947.44	3,807.71	-82.97	3,808.60	0.43	0.43	0.00
7,589.00	93.90	358.70	3,940.88	3,900.47	-84.43	3,901.37	0.92	-0.32	-0.86
7,683.00	93.70	359.30	3,934.65	3,994.24	-86.07	3,995.16	0.67	-0.21	0.64
7,776.00	93.50	358.70	3,928.81	4,087.05	-87.69	4,087.98	0.68	-0.22	-0.65
7,869.00	93.20	358.10	3,923.37	4,179.85	-90.28	4,180.81	0.72	-0.32	-0.65
7,962.00	92.40	358.40	3,918.83	4,272.70	-93.12	4,273.69	0.92	-0.86	0.32
8,080.00	91.90	359.40	3,914.40	4,390.59	-95.38	4,391.61	0.95	-0.42	0.85
8,173.00	92.00	358.90	3,911.24	4,483.52	-96.76	4,484.55	0.55	0.11	-0.54
8,266.00	92.30	359.20	3,907.75	4,576.45	-98.30	4,577.49	0.46	0.32	0.32
8,359.00	92.40	359.70	3,903.93	4,669.36	-99.19	4,670.41	0.55	0.11	0.54
8,452.00	92.50	0.20	3,899.96	4,762.28	-99.27	4,763.30	0.55	0.11	0.54
8,545.00	93.40	0.90	3,895.17	4,855.15	-98.38	4,856.14	1.23	0.97	0.75
8,639.00	93.60	0.40	3,889.43	4,948.97	-97.32	4,949.92	0.57	0.21	-0.53
8,732.00	93.60	359.90	3,883.59	5,041.78	-97.07	5,042.72	0.54	0.00	-0.54
8,754.00	93.60	359.50	3,882.21	5,063.74	-97.19	5,064.67	1.81	0.00	-1.82
Last Phoenix MWD Survey									
8,815.00	93.60	359.50	3,878.38	5,124.62	-97.72	5,125.55	0.00	0.00	0.00
Projection to TD									



Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #26H
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3395.00usft (Silver Oak 3)
Site:	Bradley 3 Fee	MD Reference:	KB @ 3395.00usft (Silver Oak 3)
Well:	#26H	North Reference:	Grid
Wellbore:	WB27 / Job #1412099	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Silver Oak 3)	Database:	Compass 5000 GCR

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,900.00	2,899.55	40.97	20.01	Tie-on to VES Gyro Survey
2,929.00	2,928.51	42.41	20.17	First Phoenix MWD Survey
8,754.00	3,882.21	5,063.74	-97.19	Last Phoenix MWD Survey
8,815.00	3,878.38	5,124.62	-97.72	Projection to TD

Checked By: _____ Approved By: _____ Date: _____