



30015 40887

October 31, 2014

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

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 15 2014

Attn: Kanicia Castillo

RECEIVED

RE: Burch Keely Unit No. 906

Please find enclosed a copy of the survey from 0.00' to 990.00' ran on the above referenced well.

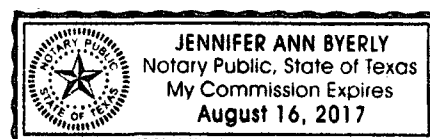
Sincerely,

Deb Salge
Deb Salge
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 31 day of October, A.D., 2014, by Keith Havelka.

Jennifer Ann Byerly
Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating, LLC (Concho)

Lease/Well: Burch Keely Unit/No. 906

Location: Sec13 T17S R29E

Rig Name: Basic 38

State/County: New Mexico/Eddy

Latitude: 32.83, Longitude: -104.02

GRID North is 0.17 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB = 13 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 10/31/2014 / 10:32

VES Survey International

West Texas

(432) 563-5444

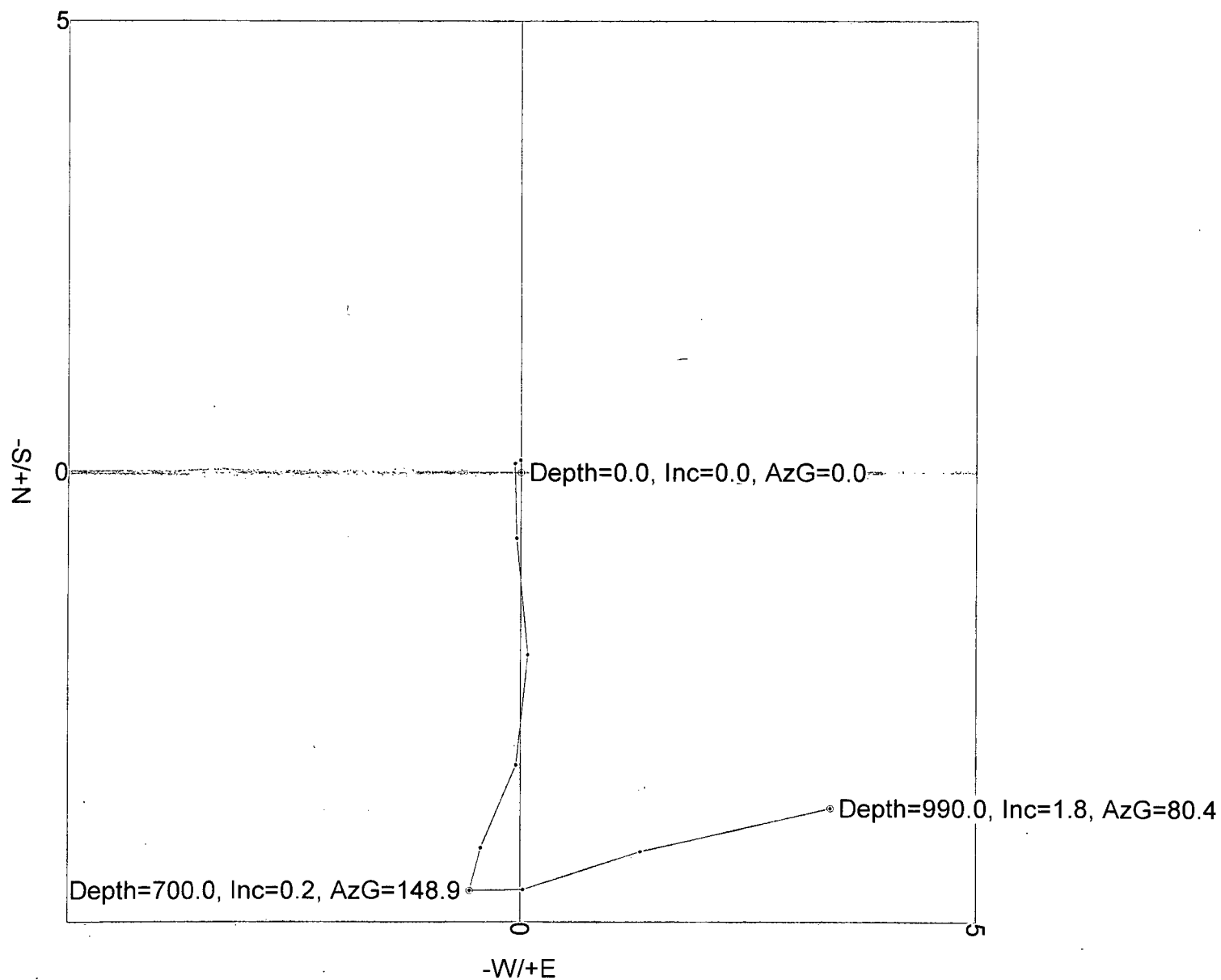
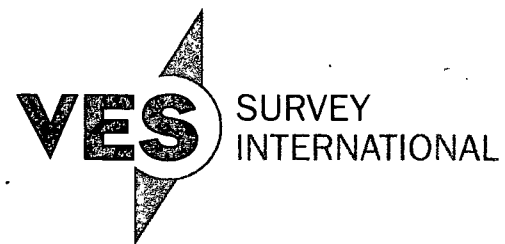
Surveyor: Noe Garza

Burch Keely Unit No. 906 / API 30-015-40887

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	0.16	358.28	100.00	0.14	0.00	0.14	0.14	358.28	0.16
200.00	0.21	197.70	200.00	0.10	-0.07	0.10	0.12	327.16	0.37
300.00	0.75	173.28	300.00	-0.73	-0.05	-0.73	0.73	183.54	0.56
400.00	0.74	175.55	399.99	-2.02	0.08	-2.02	2.02	177.69	0.03
500.00	0.70	197.06	499.98	-3.25	-0.05	-3.25	3.25	180.85	0.27
600.00	0.45	211.35	599.97	-4.18	-0.43	-4.18	4.20	185.93	0.29
700.00	0.18	148.94	699.97	-4.65	-0.56	-4.65	4.68	186.82	0.40
800.00	0.60	73.63	799.97	-4.64	0.03	-4.64	4.64	179.63	0.58
900.00	0.96	70.69	899.96	-4.22	1.32	-4.22	4.42	162.61	0.36
990.00	1.77	80.44	989.94	-3.74	3.40	-3.74	5.05	137.72	0.94



VES Survey International
West Texas
(432) 563-5444
Surveyor: Noe Garza
Burch Keely Unit No. 906 / API 30-015-40887



VES Survey Date: 10/16/2014

NM OIL CONSERVATION
ARTESIA DISTRICT

1 0 2014

RECEIVED

OPERATOR COG Operating
WELL/LEASE Burch Keely Unit #906
COUNTY Eddy Co., NM

STATE OF NEW MEXICO
DEVIATION REPORT

224	1.00
414	0.75
624	1.00
839	1.50
1002	0.75
1082	1.10
1209	1.80
1367	1.50
1462	2.70
1652	3.80
1842	4.40
2032	4.70
2222	4.10
2411	4.00
2601	3.80
2791	4.70
3032	4.70
3170	4.40
3360	4.50
3550	5.50
3740	5.10
3929	5.00
4119	5.90
4310	5.80
4499	5.90
4714	5.60

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 15 2014

RECEIVED

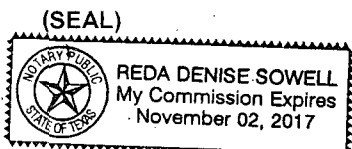
SIGNED BY:

Ron Scandolari

RON SCANDOLARI, VP-CONTRACT DRILLING

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 23 DAY OF October, 2014, BEFORE ME, R SOWELL, A NOTARY
PUBLIC, PERSONALLY APPEARED RON SCANDOLARI, WHO ACKNOWLEDGED AND EXECUTED
THIS DOCUMENT. WITNESS MY HAND AND OFFICIAL SEAL.



Reda Denise Sowell
NOTARY PUBLIC



COG Operating LLC

Eddy County, NM (NAD27 NME)

Burch Keely Unit

#906

WB1 / Job #1411979

Design: Surveys (Basic 38)

Standard Survey Report

20 October, 2014





Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #906
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3639.00usft (Basic 38)
Site:	Burch Keely Unit	MD Reference:	KB @ 3639.00usft (Basic 38)
Well:	#906	North Reference:	Grid
Wellbore:	WB1 / Job #1411979	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass 5000 GCR DB

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:	Burch Keely Unit		
Site Position:		Northing:	666,591.10 usft
From:	Map	Easting:	596,305.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 49' 55.74916 N
		Longitude:	104° 1' 11.28420 W
		Grid Convergence:	0.17 °

Well	#906					
Well Position	+N/-S	0.00 usft	Northing:	665,371.00 usft	Latitude:	32° 49' 43.67974 N
	+E/-W	0.00 usft	Easting:	596,176.10 usft	Longitude:	104° 1' 12.84313 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,627.00 usft

Wellbore:	WB1 / Job #1411979				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	10/17/2014	7.43	60.58	48,595

Design:	Surveys (Basic 38)				
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	179.91	

Survey Program	Date 10/20/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	990.00	VES Gyro Survey (WB1 / Job #1411979)	VES-ISCWSA-GYRO-3	Biaxial Semi-Cont. Gyro	
990.00	4,765.00	Phoenix MWD Survey (WB1 / Job #14119)	PHX+MWD+IGRF	PHX+MWD+IGRF v3: standard declination	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.16	358.28	100.00	0.14	0.00	-0.14	0.16	0.16	0.00	
200.00	0.21	197.70	200.00	0.10	-0.06	-0.10	0.36	0.05	-160.58	
300.00	0.75	173.28	300.00	-0.72	-0.04	0.72	0.57	0.54	-24.42	
400.00	0.74	175.55	399.99	-2.01	0.08	2.01	0.03	-0.01	2.27	
500.00	0.70	197.06	499.98	-3.24	-0.05	3.24	0.27	-0.04	21.51	
600.00	0.45	211.35	599.97	-4.16	-0.43	4.16	0.29	-0.25	14.29	
700.00	0.18	148.94	699.97	-4.63	-0.55	4.63	0.40	-0.27	-62.41	
800.00	0.60	73.63	799.97	-4.62	0.03	4.62	0.58	0.42	-75.31	
900.00	0.96	70.69	899.96	-4.19	1.32	4.20	0.36	0.36	-2.94	



Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #906
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3639.00usft (Basic 38)
Site:	Burch Keely Unit	MD Reference:	KB @ 3639.00usft (Basic 38)
Well:	#906	North Reference:	Grid
Wellbore:	WB1 / Job #1411979	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass 5000 GCR DB

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)
990.00	1.77	80.44	989.94	-3.71	3.41	3.72	0.93	0.90	10.83
Tie-on to VES Gyro Survey									
1,082.00	1.10	68.80	1,081.91	-3.16	5.63	3.17	0.79	-0.73	-12.65
First Phoenix MWD Survey									
1,145.00	1.20	70.70	1,144.89	-2.72	6.82	2.73	0.17	0.16	3.02
1,209.00	1.80	10.80	1,208.87	-1.51	7.64	1.52	2.48	0.94	-93.59
1,272.00	1.50	288.40	1,271.86	-0.28	7.04	0.29	3.47	-0.48	-130.79
1,367.00	1.50	246.70	1,366.83	-0.38	4.72	0.39	1.12	0.00	-43.89
1,462.00	2.70	236.90	1,461.76	-2.09	1.70	2.10	1.31	1.26	-10.32
1,557.00	4.10	229.70	1,556.59	-5.51	-2.76	5.51	1.54	1.47	-7.58
1,652.00	3.80	215.00	1,651.37	-10.29	-7.16	10.28	1.11	-0.32	-15.47
1,747.00	4.30	204.70	1,746.13	-16.10	-10.45	16.09	0.93	0.53	-10.84
1,842.00	4.40	200.20	1,840.86	-22.76	-13.20	22.74	0.37	0.11	-4.74
1,937.00	4.00	202.00	1,935.60	-29.25	-15.70	29.22	0.44	-0.42	1.89
2,032.00	4.70	193.10	2,030.33	-36.11	-17.82	36.08	1.02	0.74	-9.37
2,127.00	4.30	192.40	2,125.04	-43.38	-19.47	43.35	0.42	-0.42	-0.74
2,222.00	4.10	185.20	2,219.78	-50.24	-20.54	50.21	0.59	-0.21	-7.58
2,317.00	3.60	180.20	2,314.57	-56.61	-20.86	56.57	0.63	-0.53	-5.26
2,411.00	4.00	166.50	2,408.36	-62.75	-20.10	62.71	1.05	0.43	-14.57
2,506.00	4.00	166.10	2,503.13	-69.18	-18.53	69.16	0.03	0.00	-0.42
2,601.00	3.80	166.30	2,597.91	-75.46	-16.99	75.43	0.21	-0.21	0.21
2,696.00	4.90	162.80	2,692.64	-82.39	-15.05	82.37	1.19	1.16	-3.68
2,791.00	4.70	161.80	2,787.30	-89.97	-12.63	89.95	0.23	-0.21	-1.05
2,886.00	4.50	158.80	2,882.00	-97.14	-10.07	97.12	0.33	-0.21	-3.16
2,981.00	4.70	157.40	2,976.69	-104.21	-7.23	104.20	0.24	0.21	-1.47
3,076.00	4.40	171.00	3,071.40	-111.40	-5.16	111.39	1.18	-0.32	14.32
3,170.00	4.40	171.20	3,165.12	-118.52	-4.04	118.52	0.02	0.00	0.21
3,265.00	4.50	171.50	3,259.83	-125.81	-2.94	125.81	0.11	0.11	0.32
3,360.00	4.50	172.50	3,354.54	-133.19	-1.90	133.19	0.08	0.00	1.05
3,455.00	4.40	170.50	3,449.25	-140.48	-0.81	140.48	0.19	-0.11	-2.11
3,550.00	5.50	165.80	3,543.90	-148.49	0.91	148.49	1.23	1.16	-4.95
3,645.00	5.60	165.20	3,638.45	-157.38	3.21	157.39	0.12	0.11	-0.63
3,740.00	5.10	174.10	3,733.04	-166.07	4.83	166.07	1.02	-0.53	9.37
3,835.00	5.10	178.40	3,827.66	-174.49	5.38	174.50	0.40	0.00	4.53
3,929.00	5.00	177.90	3,921.30	-182.76	5.65	182.77	0.12	-0.11	-0.53
4,024.00	5.70	184.00	4,015.89	-191.60	5.47	191.61	0.95	0.74	6.42
4,119.00	5.90	186.60	4,110.40	-201.16	4.58	201.16	0.35	0.21	2.74
4,215.00	5.80	187.40	4,205.90	-210.87	3.39	210.87	0.13	-0.10	0.83
4,310.00	5.80	187.10	4,300.41	-220.39	2.17	220.40	0.03	0.00	-0.32
4,404.00	5.80	187.20	4,393.93	-229.82	0.99	229.82	0.01	0.00	0.11
4,499.00	5.90	186.10	4,488.44	-239.44	-0.13	239.43	0.16	0.11	-1.16
4,595.00	5.80	185.90	4,583.94	-249.17	-1.15	249.16	0.11	-0.10	-0.21
4,714.00	5.60	186.70	4,702.35	-260.91	-2.45	260.91	0.18	-0.17	0.67



Phoenix Technology Services
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #906
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3639.00usft (Basic 38)
Site:	Burch Keely Unit	MD Reference:	KB @ 3639.00usft (Basic 38)
Well:	#906	North Reference:	Grid
Wellbore:	WVB1 // Job #1411979	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass:5000,GCR,DB

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)
Last Phoenix MWD Survey									
4,765.00	5.50	186.70	4,753.11	-265.81	-3.02	265.81	0.20	-0.20	0.00
Projection to TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
990.00	989.94	-3.71	3.41	Tie-on to VES Gyro Survey
1,082.00	1,081.91	-3.16	5.63	First Phoenix MWD Survey
4,714.00	4,702.35	-260.91	-2.45	Last Phoenix MWD Survey
4,765.00	4,753.11	-265.81	-3.02	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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