

15-41813

November 11, 2014

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

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 6 2015

RECEIVED

Attn: Kanicia Castillo

RE: Hobgoblin 7 Federal Com UBB 2H

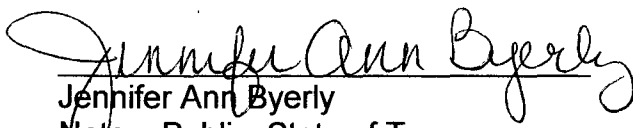
Please find enclosed a copy of the survey from 0.00' to 4391.00' ran on the
above referenced well.

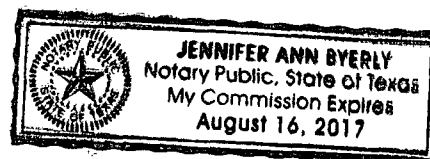
Sincerely,


Deb Salge
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 11 day of November,
A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating, LLC (Concho)
Lease/Well: Hobgoblin 7 Federal Com UBB/2H

Rig Name: United 43
State/County: New Mexico /Eddy
Latitude: 32.85, Longitude: -104.00
GRID North is 0.18 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB= 12.5 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 11/11/2014 / 14:31

VES Survey International
West Texas
(432) 563-5444

Surveyor: Bryan Massey
Hobgoblin 7 Federal Com UBB 2H / API 30-015-41813

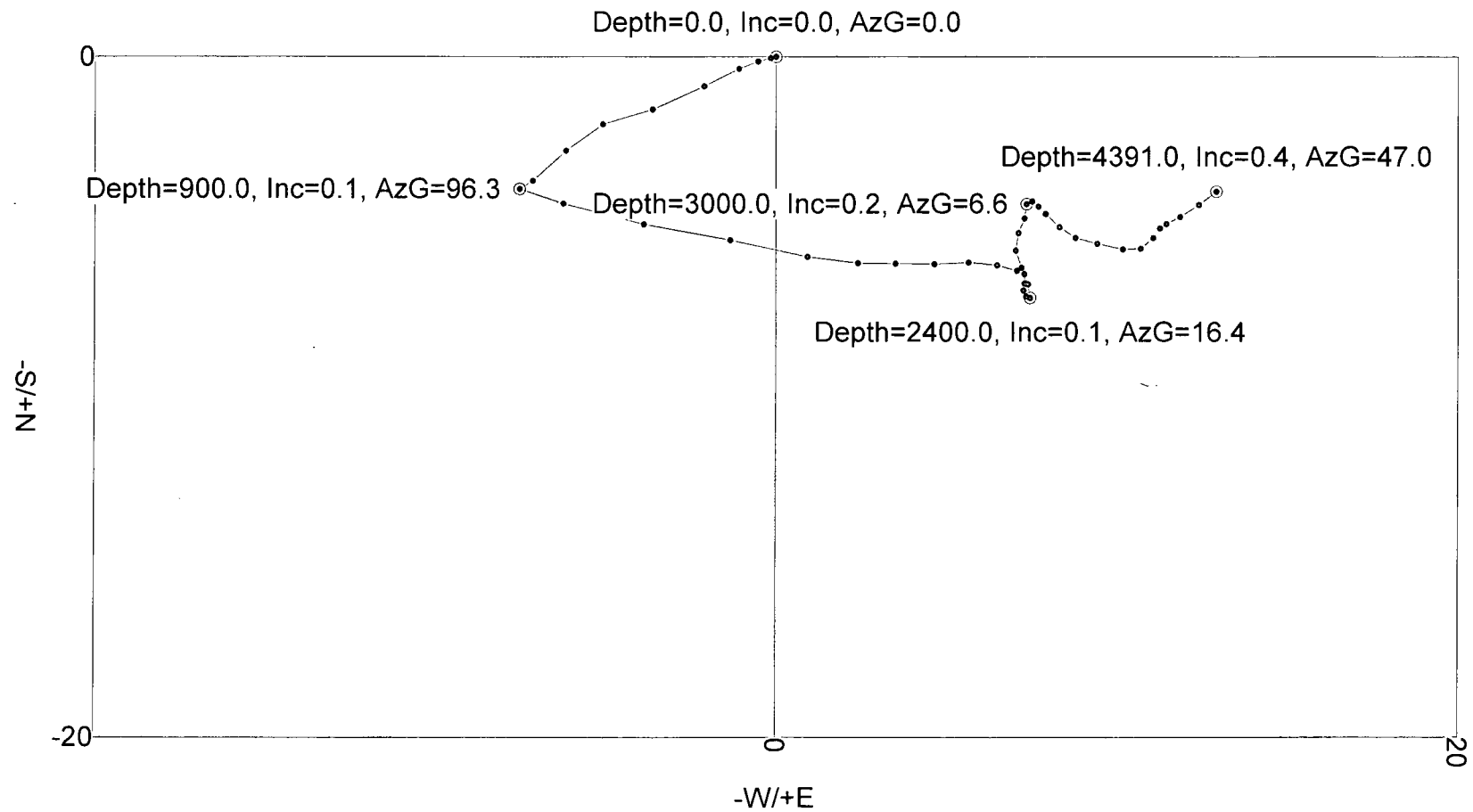
NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 6 2015
RECEIVED

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	0.19	256.67	100.00	-0.04	-0.16	-0.04	0.17	256.67	0.19
200.00	0.24	253.82	200.00	-0.14	-0.53	-0.14	0.54	255.55	0.06
300.00	0.44	246.62	300.00	-0.35	-1.09	-0.35	1.14	252.21	0.20
400.00	0.87	241.90	399.99	-0.86	-2.11	-0.86	2.28	247.84	0.43
500.00	1.02	248.83	499.98	-1.54	-3.62	-1.54	3.94	246.91	0.19
600.00	0.73	259.74	599.97	-1.98	-5.08	-1.98	5.45	248.71	0.34
700.00	0.92	215.05	699.96	-2.75	-6.16	-2.75	6.75	245.95	0.65
800.00	0.64	245.97	799.95	-3.64	-7.14	-3.64	8.01	243.00	0.50
900.00	0.14	96.29	899.94	-3.88	-7.53	-3.88	8.47	242.74	0.77
1000.00	1.41	110.02	999.93	-4.31	-6.24	-4.31	7.59	235.36	1.28
1100.00	1.40	98.52	1099.90	-4.92	-3.88	-4.92	6.26	218.25	0.28
1200.00	1.56	102.15	1199.87	-5.38	-1.34	-5.38	5.55	193.97	0.18
1300.00	1.10	102.00	1299.84	-5.87	0.93	-5.87	5.94	170.99	0.46
1400.00	0.60	88.88	1399.83	-6.06	2.40	-6.06	6.52	158.41	0.53
1500.00	0.66	92.11	1499.83	-6.07	3.50	-6.07	7.01	150.03	0.07
1600.00	0.64	89.54	1599.82	-6.09	4.63	-6.09	7.65	142.73	0.04
1700.00	0.51	84.06	1699.81	-6.04	5.63	-6.04	8.26	136.98	0.13
1800.00	0.47	108.19	1799.81	-6.12	6.47	-6.12	8.91	133.40	0.21

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	0.22	98.59	1899.81	-6.28	7.05	-6.28	9.44	131.66	0.26
2000.00	0.10	155.92	1999.81	-6.38	7.28	-6.38	9.68	131.25	0.19
2100.00	0.23	190.16	2099.81	-6.65	7.28	-6.65	9.86	132.43	0.16
2200.00	0.01	164.56	2199.81	-6.86	7.24	-6.86	9.97	133.42	0.22
2300.00	0.21	154.34	2299.81	-7.03	7.33	-7.03	10.16	133.82	0.20
2400.00	0.15	16.41	2399.81	-7.08	7.44	-7.08	10.27	133.54	0.34
2500.00	0.33	340.72	2499.81	-6.68	7.38	-6.68	9.96	132.11	0.23
2600.00	0.27	335.06	2599.81	-6.19	7.19	-6.19	9.49	130.72	0.07
2700.00	0.35	346.09	2699.80	-5.68	7.02	-5.68	9.03	128.99	0.10
2800.00	0.30	35.50	2799.80	-5.18	7.10	-5.18	8.78	126.10	0.28
2900.00	0.26	8.58	2899.80	-4.74	7.28	-4.74	8.69	123.07	0.13
3000.00	0.22	6.56	2999.80	-4.32	7.34	-4.32	8.52	120.50	0.04
3100.00	0.21	127.65	3099.80	-4.24	7.51	-4.24	8.62	119.46	0.38
3200.00	0.07	135.64	3199.80	-4.40	7.70	-4.40	8.86	119.74	0.14
3300.00	0.27	136.80	3299.80	-4.61	7.90	-4.61	9.15	120.29	0.20
3400.00	0.37	131.13	3399.80	-5.00	8.31	-5.00	9.70	121.04	0.10
3500.00	0.28	114.37	3499.80	-5.31	8.77	-5.31	10.25	121.20	0.13
3600.00	0.49	99.67	3599.79	-5.48	9.42	-5.48	10.90	120.22	0.23
3700.00	0.39	106.54	3699.79	-5.65	10.16	-5.65	11.63	119.08	0.11
3800.00	0.26	58.78	3799.79	-5.63	10.69	-5.63	12.08	117.79	0.29
3900.00	0.30	40.48	3899.79	-5.32	11.05	-5.32	12.26	115.68	0.10
4000.00	0.10	18.64	3999.79	-5.04	11.25	-5.04	12.33	114.13	0.21
4100.00	0.20	71.86	4099.79	-4.91	11.44	-4.91	12.45	113.21	0.16
4200.00	0.33	58.02	4199.79	-4.70	11.85	-4.70	12.74	111.63	0.15
4300.00	0.42	56.55	4299.78	-4.34	12.40	-4.34	13.14	109.31	0.08
4391.00	0.39	46.96	4390.78	-3.95	12.90	-3.95	13.49	107.03	0.08



VES Survey International
West Texas
(432) 563-5444
Surveyor: Bryan Massey
Hobgoblin 7 Federal Com UBB 2H / API 30-015-41813



Archer

Survey Report

Company:	COG OPERATING, LLC	Local Co-ordinate Reference:	Well: 2H
Project:	Eddy County, NM	TVD Reference:	3671' GL+12' KB @ 3683.00usft (United 43)
Site:	Hobgoblin 7 Federal Com UBB 2H	MD Reference:	3671' GL+12' KB @ 3683.00usft (United 43)
Well:	2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM R5000-1 MULTI

Project: Eddy County, NM			
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: Hobgoblin 7 Federal Com UBB 2H					
Site Position:		Northing:	674,351.30 usft	Latitude:	32° 51' 12.38 N
From:	Map	Easting:	601,657.80 usft	Longitude:	104° 0' 8.27 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.18 °

Well:	2H					
Well Position	+N-S	0.00 usft	Northing:	674,351.30 usft	Latitude:	32° 51' 12.38 N
	+E-W	0.00 usft	Easting:	601,657.80 usft	Longitude:	104° 0' 8.27 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,671.00 usft

Wellbore		Lateral			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/1/2014	7.80	60.72	48,553

Design		Surveys						
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		270.08

Survey Program		Date	11/21/2014	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	4,391.00	Survey #1 (Lateral)	GYRO-NS	Gyrocompass Gyro
4,416.00	9,593.00	Survey #2 (Lateral)	MWD+HDGM	OWSG MWD + HDGM
9,662.00	9,662.00	Survey #3 (Lateral)	Project	Projection

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	0.19	256.67	100.00	-0.04	-0.16	0.16	0.19	0.19	0.00
200.00	0.24	253.82	200.00	-0.13	-0.52	0.52	0.05	0.05	-2.85
300.00	0.44	246.62	300.00	-0.35	-1.08	1.08	0.20	0.20	-7.20
400.00	0.87	241.90	399.99	-0.86	-2.10	2.10	0.43	0.43	-4.72
500.00	1.02	248.83	499.98	-1.53	-3.60	3.60	0.19	0.15	6.93
600.00	0.73	259.74	599.97	-1.97	-5.06	5.05	0.33	-0.29	10.91
700.00	0.92	215.05	699.96	-2.74	-6.14	6.14	0.65	0.19	-44.69
800.00	0.64	245.97	799.95	-3.62	-7.12	7.11	0.50	-0.28	30.92

Archer

Survey Report

Company:	COG OPERATING, LLC	Local Co-ordinate Reference:	Well: 2H
Project:	Eddy County, NM	TVD Reference:	3671 GL+12 KB @ 3683.00usft (United 43)
Site:	Hobgoblin-7 Federal Com: UBB 2H	MD Reference:	3671 GL+12 KB @ 3683.00usft (United 43)
Well:	2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM: R5000.1 MULTI

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)
900.00	0.14	96.29	899.95	-3.87	-7.50	7.50	0.76	-0.50	-149.68
1,000.00	1.41	110.02	999.93	-4.30	-6.23	6.22	1.27	1.27	13.73
1,100.00	1.40	98.52	1,099.90	-4.90	-3.86	3.86	0.28	-0.01	-11.50
1,200.00	1.56	102.15	1,199.87	-5.37	-1.32	1.32	0.19	0.16	3.63
1,300.00	1.10	102.00	1,299.84	-5.86	0.95	-0.95	0.46	-0.46	-0.15
1,400.00	0.60	88.88	1,399.83	-6.05	2.41	-2.42	0.53	-0.50	-13.12
1,500.00	0.66	92.11	1,499.83	-6.06	3.51	-3.52	0.07	0.06	3.23
1,600.00	0.64	89.54	1,599.82	-6.07	4.64	-4.65	0.04	-0.02	-2.57
1,700.00	0.51	84.06	1,699.81	-6.02	5.64	-5.65	0.14	-0.13	-5.48
1,800.00	0.47	108.19	1,799.81	-6.10	6.48	-6.48	0.21	-0.04	24.13
1,900.00	0.22	98.59	1,899.81	-6.26	7.05	-7.06	0.26	-0.25	-9.60
2,000.00	0.10	155.92	1,999.81	-6.37	7.28	-7.29	0.19	-0.12	57.33
2,100.00	0.23	190.16	2,099.81	-6.65	7.28	-7.29	0.16	0.13	34.24
2,200.00	0.01	164.56	2,199.81	-6.85	7.25	-7.26	0.22	-0.22	-25.60
2,300.00	0.21	154.34	2,299.81	-7.03	7.33	-7.34	0.20	0.20	-10.22
2,400.00	0.15	16.41	2,399.81	-7.07	7.45	-7.46	0.34	-0.06	-137.93
2,500.00	0.33	340.72	2,499.81	-6.67	7.39	-7.40	0.23	0.18	-35.69
2,600.00	0.27	335.06	2,599.81	-6.18	7.19	-7.20	0.07	-0.06	-5.66
2,700.00	0.35	346.09	2,699.80	-5.67	7.02	-7.03	0.10	0.08	11.03
2,800.00	0.30	35.50	2,799.80	-5.16	7.10	-7.11	0.28	-0.05	49.41
2,900.00	0.26	8.58	2,899.80	-4.73	7.28	-7.29	0.14	-0.04	-26.92
3,000.00	0.22	6.56	2,999.80	-4.31	7.34	-7.35	0.04	-0.04	-2.02
3,100.00	0.21	127.65	3,099.80	-4.23	7.51	-7.51	0.37	-0.01	121.09
3,200.00	0.07	135.64	3,199.80	-4.39	7.69	-7.70	0.14	-0.14	7.99
3,300.00	0.27	136.80	3,299.80	-4.60	7.90	-7.91	0.20	0.20	1.16
3,400.00	0.37	131.13	3,399.80	-4.99	8.30	-8.31	0.10	0.10	-5.67
3,500.00	0.28	114.37	3,499.80	-5.30	8.77	-8.78	0.13	-0.09	-16.76
3,600.00	0.49	99.67	3,599.79	-5.47	9.41	-9.42	0.23	0.21	-14.70
3,700.00	0.39	106.54	3,699.79	-5.64	10.16	-10.17	0.11	-0.10	6.87
3,800.00	0.26	58.78	3,799.79	-5.62	10.68	-10.69	0.29	-0.13	-47.76
3,900.00	0.30	40.48	3,899.79	-5.30	11.05	-11.05	0.10	0.04	-18.30
4,000.00	0.10	18.64	3,999.79	-5.02	11.24	-11.25	0.21	-0.20	-21.84
4,100.00	0.20	71.86	4,099.79	-4.89	11.44	-11.44	0.16	0.10	53.22
4,200.00	0.33	58.02	4,199.79	-4.68	11.85	-11.85	0.14	0.13	-13.84
4,300.00	0.42	56.55	4,299.78	-4.32	12.40	-12.40	0.09	0.09	-1.47
4,391.00	0.39	46.96	4,390.78	-3.93	12.90	-12.91	0.08	-0.03	-10.54
4,416.00	0.40	40.70	4,415.78	-3.80	13.02	-13.03	0.18	0.04	-25.04
4,448.00	0.40	68.80	4,447.78	-3.68	13.20	-13.20	0.61	0.00	87.81
4,480.00	0.50	290.70	4,479.78	-3.59	13.17	-13.18	2.63	0.31	-431.56
4,511.00	2.10	277.80	4,510.77	-3.46	12.48	-12.49	5.21	5.16	-41.61
4,542.00	4.70	276.40	4,541.71	-3.25	10.66	-10.66	8.39	8.39	-4.52
4,574.00	7.20	275.40	4,573.54	-2.91	7.36	-7.36	7.82	7.81	-3.13
4,606.00	9.90	277.40	4,605.18	-2.37	2.63	-2.64	8.49	8.44	6.25

Archer

Survey Report

Company:	COG OPERATING, LLC	Local Co-ordinate Reference:	Well: 2H
Project:	Eddy County, NM	TVD Reference:	3671' GL+12' KB @ 3683.00usft (United 43)
Site:	Hobgoblin 7/Federal Com UBB-2H	MD Reference:	3671' GL+12' KB @ 3683.00usft (United 43)
Well:	2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM R5000.1 MULTI

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)
4,637.00	13.10	277.80	4,635.55	-1.55	-3.49	3.49	10.33	10.32	1.29
4,668.00	16.20	276.70	4,665.54	-0.57	-11.27	11.27	10.04	10.00	-3.55
4,700.00	19.50	276.00	4,696.00	0.51	-21.02	21.02	10.33	10.31	-2.19
4,732.00	22.60	275.10	4,725.86	1.62	-32.46	32.46	9.74	9.69	-2.81
4,763.00	26.10	273.90	4,754.10	2.61	-45.20	45.20	11.40	11.29	-3.87
4,794.00	29.10	273.00	4,781.57	3.47	-59.53	59.54	9.77	9.68	-2.90
4,826.00	32.20	272.40	4,809.09	4.23	-75.82	75.83	9.73	9.69	-1.88
4,857.00	35.40	272.20	4,834.85	4.93	-93.05	93.06	10.33	10.32	-0.65
4,889.00	38.40	272.20	4,860.44	5.66	-112.25	112.26	9.38	9.38	0.00
4,920.00	41.60	272.50	4,884.18	6.48	-132.16	132.17	10.34	10.32	0.97
4,952.00	44.70	273.40	4,907.53	7.61	-154.01	154.02	9.88	9.69	2.81
4,983.00	47.60	274.20	4,929.00	9.10	-176.31	176.33	9.54	9.35	2.58
5,015.00	50.90	274.80	4,949.88	11.00	-200.48	200.49	10.41	10.31	1.88
5,047.00	54.00	275.20	4,969.38	13.22	-225.75	225.77	9.74	9.69	1.25
5,078.00	57.30	275.30	4,986.87	15.56	-251.23	251.25	10.65	10.65	0.32
5,110.00	60.50	275.00	5,003.40	18.02	-278.52	278.54	10.03	10.00	-0.94
5,141.00	63.80	274.50	5,017.88	20.28	-305.83	305.86	10.74	10.65	-1.61
5,167.00	65.60	270.90	5,028.99	21.38	-329.30	329.33	14.30	6.92	-13.85
5,176.00	66.90	271.10	5,032.62	21.53	-337.54	337.57	14.59	14.44	2.22
5,208.00	70.10	270.20	5,044.35	21.86	-367.31	367.34	10.34	10.00	-2.81
5,240.00	72.90	269.30	5,054.50	21.73	-397.65	397.68	9.15	8.75	-2.81
5,271.00	75.20	268.60	5,063.02	21.18	-427.45	427.48	7.73	7.42	-2.26
5,303.00	77.40	267.50	5,070.60	20.12	-458.52	458.55	7.64	6.88	-3.44
5,334.00	79.80	267.30	5,076.72	18.74	-488.87	488.90	7.77	7.74	-0.65
5,365.00	82.30	268.00	5,081.55	17.49	-519.47	519.49	8.37	8.06	2.26
5,397.00	84.70	268.30	5,085.17	16.46	-551.24	551.27	7.56	7.50	0.94
5,429.00	86.00	268.70	5,087.76	15.63	-583.13	583.15	4.25	4.06	1.25
5,460.00	86.90	269.20	5,089.68	15.06	-614.06	614.08	3.32	2.90	1.61
5,492.00	87.70	270.90	5,091.19	15.09	-646.02	646.04	5.87	2.50	5.31
5,520.00	89.00	271.80	5,091.99	15.75	-674.00	674.02	5.65	4.64	3.21
5,618.00	91.30	271.40	5,091.74	18.49	-771.96	771.98	2.38	2.35	-0.41
5,713.00	91.40	271.10	5,089.50	20.56	-866.91	866.94	0.33	0.11	-0.32
5,807.00	91.40	271.10	5,087.20	22.36	-960.86	960.89	0.00	0.00	0.00
5,901.00	91.00	270.10	5,085.23	23.35	-1,054.84	1,054.87	1.15	-0.43	-1.06
5,996.00	90.90	269.80	5,083.66	23.26	-1,149.82	1,149.85	0.33	-0.11	-0.32
6,090.00	91.00	271.00	5,082.10	23.92	-1,243.81	1,243.84	1.28	0.11	1.28
6,185.00	91.30	270.80	5,080.19	25.41	-1,338.78	1,338.81	0.38	0.32	-0.21
6,279.00	91.50	270.40	5,077.90	26.39	-1,432.74	1,432.78	0.48	0.21	-0.43
6,374.00	90.70	271.50	5,076.07	27.97	-1,527.71	1,527.75	1.43	-0.84	1.16
6,469.00	90.90	271.50	5,074.75	30.46	-1,622.67	1,622.71	0.21	0.21	0.00
6,563.00	90.90	271.30	5,073.27	32.75	-1,716.63	1,716.67	0.21	0.00	-0.21
6,658.00	91.00	271.10	5,071.70	34.74	-1,811.59	1,811.64	0.24	0.11	-0.21
6,753.00	91.40	271.00	5,069.71	36.48	-1,906.56	1,906.61	0.43	0.42	-0.11

Archer

Survey Report

Company:	COG OPERATING, LLC	Local Co-ordinate Reference:	Well: 2H
Project:	Eddy County, NM	TVD Reference:	3671 GL+12' KB @ 3683' 00usft (United 43)
Site:	Hobgoblin 7-Federal Com. UBB 2H	MD Reference:	3671 GL+12' KB @ 3683' 00usft (United 43)
Well:	2H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM/R5000.1-MULTI

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)
6,847.00	91.60	271.00	5,067.25	38.12	-2,000.51	2,000.56	0.21	0.21	0.00
6,942.00	90.60	271.20	5,065.42	39.95	-2,095.47	2,095.53	1.07	-1.05	0.21
7,036.00	91.20	271.00	5,063.95	41.75	-2,189.44	2,189.50	0.67	0.64	-0.21
7,131.00	90.90	270.40	5,062.20	42.91	-2,284.42	2,284.48	0.71	-0.32	-0.63
7,226.00	90.80	270.10	5,060.80	43.32	-2,379.41	2,379.47	0.33	-0.11	-0.32
7,321.00	90.90	269.90	5,059.39	43.32	-2,474.40	2,474.46	0.24	0.11	-0.21
7,416.00	90.90	269.70	5,057.89	42.99	-2,569.39	2,569.44	0.21	0.00	-0.21
7,510.00	91.10	269.70	5,056.25	42.50	-2,663.37	2,663.43	0.21	0.21	0.00
7,605.00	90.60	269.40	5,054.84	41.75	-2,758.36	2,758.41	0.61	-0.53	-0.32
7,700.00	90.90	269.30	5,053.60	40.68	-2,853.34	2,853.40	0.33	0.32	-0.11
7,795.00	91.10	269.20	5,051.94	39.43	-2,948.32	2,948.37	0.24	0.21	-0.11
7,889.00	91.30	269.10	5,049.97	38.04	-3,042.29	3,042.34	0.24	0.21	-0.11
7,984.00	91.50	269.00	5,047.65	36.47	-3,137.25	3,137.30	0.24	0.21	-0.11
8,079.00	90.80	268.80	5,045.75	34.64	-3,232.21	3,232.26	0.77	-0.74	-0.21
8,173.00	90.80	268.70	5,044.43	32.59	-3,326.18	3,326.22	0.11	0.00	-0.11
8,268.00	90.90	268.50	5,043.02	30.27	-3,421.14	3,421.18	0.24	0.11	-0.21
8,363.00	91.20	268.50	5,041.28	27.78	-3,516.09	3,516.13	0.32	0.32	0.00
8,457.00	91.10	269.30	5,039.40	25.98	-3,610.05	3,610.09	0.86	-0.11	0.85
8,552.00	90.90	269.00	5,037.74	24.57	-3,705.03	3,705.06	0.38	-0.21	-0.32
8,646.00	90.30	268.70	5,036.75	22.68	-3,799.00	3,799.03	0.71	-0.64	-0.32
8,741.00	89.90	268.30	5,036.59	20.20	-3,893.97	3,894.00	0.60	-0.42	-0.42
8,836.00	90.90	268.90	5,035.93	17.88	-3,988.94	3,988.96	1.23	1.05	0.63
8,930.00	90.90	268.80	5,034.45	15.99	-4,082.91	4,082.93	0.11	0.00	-0.11
9,025.00	90.60	268.50	5,033.21	13.75	-4,177.87	4,177.89	0.45	-0.32	-0.32
9,119.00	91.40	268.90	5,031.57	11.62	-4,271.83	4,271.85	0.95	0.85	0.43
9,214.00	90.70	269.80	5,029.82	10.54	-4,366.81	4,366.82	1.20	-0.74	0.95
9,309.00	91.20	269.60	5,028.25	10.05	-4,461.80	4,461.81	0.57	0.53	-0.21
9,404.00	91.30	269.70	5,026.18	9.46	-4,556.77	4,556.78	0.15	0.11	0.11
9,498.00	91.30	269.40	5,024.04	8.73	-4,650.74	4,650.75	0.32	0.00	-0.32
9,593.00	91.50	269.40	5,021.72	7.73	-4,745.71	4,745.72	0.21	0.21	0.00
9,662.00	91.50	269.40	5,019.92	7.01	-4,814.68	4,814.69	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Hobgoblin 2H Surface	0.00	0.00	0.00	0.00	0.00	674,351.30	601,657.80	32° 51' 12.38 N	104° 0' 8.27 W
- actual wellpath hits target center									
- Point									
Hobgoblin 2H BHL	0.00	0.00	5,019.92	7.01	-4,814.68	674,358.31	596,843.12	32° 51' 12.59 N	104° 1' 4.71 W
- actual wellpath hits target center									
- Point									

WELL NAME AND NUMBER Hobgoblin 7 Federal Com LBB No. 2H
 LOCATION Section 7, T17S, R30E, Unit A, 1005 FNL, 15 FEL, Eddy County
 OPERATOR COG Operating LLC
 DRILLING CONTRACTOR United Drilling Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and had conducted deviation test and obtained the following results:

Degrees @ Depth	Degrees @ Depth	Degrees @ Depth
.8° @ 356'	9.9° @ 4606'	77.4° @ 5303'
.9° @ 667'	13.1° @ 4637'	79.8° @ 5334'
1.5° @ 981'	16.2° @ 4668'	82.3° @ 5365'
.5° @ 1167'	22.6° @ 4732'	84.7° @ 5397'
.8° @ 1460'	26.1° @ 4763'	86.0° @ 5429'
.6° @ 1774'	29.1° @ 4794'	86.9° @ 5460'
.5° @ 2085'	32.2° @ 4826'	87.7° @ 5492'
.2° @ 2402'	41.6° @ 4920'	90.4° @ 5552'
.5° @ 2717'	47.6° @ 4983'	91.3° @ 5618'
.4° @ 3000'	50.9° @ 5015'	91.4° @ 5713'
1.3° @ 3390'	54.0° @ 5047'	91.4° @ 5807'
1.7° @ 3661'	57.3° @ 5078'	91.0° @ 5901'
1.5° @ 3692'	60.5° @ 5110'	90.9° @ 5996'
1.7° @ 4102'	63.8° @ 5141'	91.0° @ 6090'
.5° @ 4434'	66.9° @ 5241'	91.3° @ 6185'
2.1° @ 4511'	70.1° @ 5708'	91.5° @ 6279'
4.7° @ 4542'	72.9° @ 5240'	90.7° @ 6374'
7.2° @ 4574'	75.2° @ 5271'	90.9° @ 6469'

Drilling Contractor- UNITED DRILLING, INC.

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 6 2015

By: Angel Salazar
(Angel Salazar)

Title: Vice President

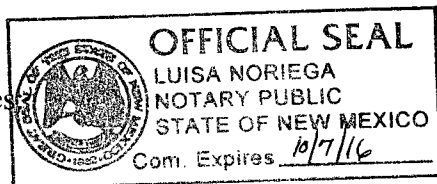
RECEIVED

Subscribed and sworn to before me this 25th day of November 2014.

Luisa Noriega
Notary Public

Chaves NM
County State

My Commission Expires



WELL NAME AND NUMBER Hobgoblin 7 Federal Com LBB No. 2H
 LOCATION Section 7, T17S, R30E, Unit A, 1005 FNL, 15 FEL, Eddy County
 OPERATOR COG Operating LLC
 DRILLING CONTRACTOR United Drilling, Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and had conducted deviation test and obtained the following results:

Degrees @ Depth	Degrees @ Depth	Degrees @ Depth
90.9° @ 6563'	90.9° @ 8268'	
91.0° @ 6658'	91.2° @ 8363'	
91.4° @ 6758'	91.1° @ 8457'	
91.6° @ 6847'	90.9° @ 8552'	
90.6° @ 6942'	89.9° @ 8741'	
91.2° @ 7036'	90.9° @ 8836'	
90.9° @ 7131'	90.6° @ 9025'	
90.8° @ 7226'	91.4° @ 9119'	
90.9° @ 7321'	91.3° @ 9404'	
90.9° @ 7416'	91.3° @ 9499'	
91.1° @ 7510'	91.5° @ 9658'	
90.6° @ 7605'		
90.9° @ 7700'		
91.1° @ 7795'		
91.3° @ 7889'		
91.5° @ 7984'		
90.8° @ 8079'		
90.8° @ 8173'		

Drilling Contractor- UNITED DRILLING, INC.

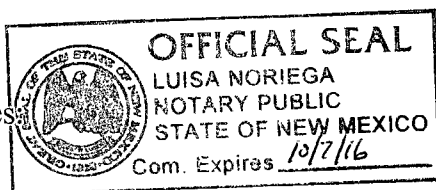
NM OIL CONSERVATION
 ARTESIA DISTRICT
 MAR 6 2015

By: *Angel Salazar*
 (Angel Salazar)

Title: Vice President

RECEIVED Subscribed and sworn to before me this 25th day of November 2014.

My Commission Expires



Luisa Noriega
 Notary Public
Chaves NM
 County State