



April 25, 2017

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

Attn: Kanicia Castillo

RE: **Burch Keely Unit No. 944H** - 30-015-44079

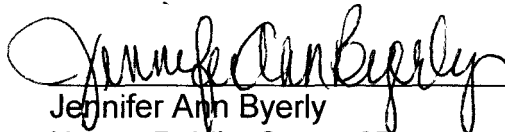
Please find enclosed a copy of the survey from 0' to 1086' ran on the above referenced well.

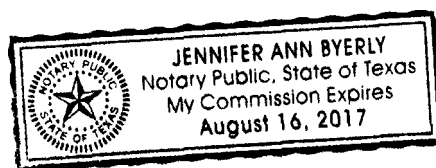
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 25th day of April, A.D., 2017, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG OPERATING
Lease/Well: BURCH KEELY UNIT No./944H

Rig Name: SILVER OAK 3
State/County: NEW MEXICO/EDDY
VS-Azi: 0.00 Degrees

Latitude: 32.83001, Longitude: -104.01964
Grid North = True North -0.17 degs (NAD 27)
Grid Correction Applied = -0.17 degs

Depth Reference : RKB=18 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: e-line gyro-de_01.ut
Minimum Curvature Method
Report Date/Time: 4/25/2017 / 08:31

VES Survey International
Midland, Texas
432-563-5444

Surveyor: Michael Cook

Burch Keely Unit No. 944H / API 30-015-44079

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	****
25.00	0.17	61.75	25.00	0.02	0.03	0.02	0.04	61.75	0.69
50.00	0.18	333.60	50.00	0.07	0.05	0.07	0.09	34.27	0.98
75.00	0.16	326.10	75.00	0.14	0.01	0.14	0.14	4.66	0.12
100.00	0.34	323.53	100.00	0.23	-0.05	0.23	0.23	346.70	0.73
125.00	0.46	314.58	125.00	0.36	-0.17	0.36	0.39	334.59	0.51
150.00	0.33	329.16	150.00	0.49	-0.28	0.49	0.56	330.40	0.65
175.00	0.27	337.58	175.00	0.60	-0.34	0.60	0.69	330.89	0.28
200.00	0.21	17.36	200.00	0.70	-0.34	0.70	0.78	333.84	0.70
225.00	0.22	20.00	225.00	0.79	-0.31	0.79	0.85	338.30	0.05
250.00	0.29	343.03	250.00	0.90	-0.32	0.90	0.95	340.53	0.70
275.00	0.38	314.07	275.00	1.01	-0.39	1.01	1.09	338.74	0.75
300.00	0.29	298.15	300.00	1.10	-0.51	1.10	1.21	335.15	0.50
325.00	0.29	280.32	325.00	1.14	-0.63	1.14	1.31	331.18	0.36
350.00	0.35	255.61	350.00	1.14	-0.77	1.14	1.37	326.02	0.59
375.00	0.46	227.25	375.00	1.05	-0.91	1.05	1.39	318.94	0.91
400.00	0.39	202.00	399.99	0.90	-1.02	0.90	1.36	311.48	0.80

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
425.00	0.33	178.44	424.99	0.75	-1.05	0.75	1.29	305.55	0.63
450.00	0.33	187.39	449.99	0.61	-1.06	0.61	1.22	299.80	0.21
475.00	0.32	162.99	474.99	0.47	-1.05	0.47	1.14	294.04	0.55
500.00	0.33	149.19	499.99	0.34	-0.99	0.34	1.04	288.85	0.32
525.00	0.36	131.36	524.99	0.22	-0.89	0.22	0.92	284.08	0.44
550.00	0.28	101.14	549.99	0.16	-0.77	0.16	0.79	281.72	0.73
575.00	0.46	87.68	574.99	0.15	-0.62	0.15	0.63	283.98	0.81
600.00	0.52	80.01	599.99	0.18	-0.40	0.18	0.44	293.68	0.35
625.00	0.58	60.00	624.99	0.26	-0.18	0.26	0.32	324.75	0.79
650.00	0.73	57.76	649.99	0.41	0.06	0.41	0.41	8.34	0.62
675.00	0.94	56.91	674.99	0.60	0.37	0.60	0.71	31.24	0.86
700.00	1.00	58.54	699.98	0.83	0.72	0.83	1.10	41.14	0.27
725.00	1.21	60.44	724.98	1.07	1.14	1.07	1.57	46.72	0.82
750.00	1.40	62.14	749.97	1.35	1.64	1.35	2.12	50.60	0.78
775.00	1.46	60.05	774.96	1.65	2.18	1.65	2.74	52.97	0.35
800.00	1.58	58.79	799.95	1.99	2.76	1.99	3.40	54.23	0.49
825.00	1.61	54.40	824.94	2.37	3.34	2.37	4.09	54.63	0.50
850.00	1.73	53.13	849.93	2.80	3.92	2.80	4.82	54.49	0.53
875.00	1.67	51.61	874.92	3.25	4.51	3.25	5.56	54.21	0.32
900.00	1.70	50.49	899.91	3.71	5.08	3.71	6.30	53.84	0.17
925.00	1.70	57.83	924.90	4.15	5.68	4.15	7.04	53.88	0.87
950.00	1.53	61.98	949.89	4.50	6.29	4.50	7.74	54.41	0.83
975.00	1.36	68.73	974.88	4.77	6.86	4.77	8.36	55.22	0.98
1000.00	1.32	79.07	999.88	4.93	7.42	4.93	8.91	56.41	0.98
1025.00	1.23	88.95	1024.87	4.99	7.97	4.99	9.40	57.96	0.95
1050.00	1.00	87.51	1049.87	5.00	8.46	5.00	9.83	59.39	0.93
1075.00	1.04	84.24	1074.86	5.03	8.90	5.03	10.23	60.50	0.29
1086.00	0.99	82.27	1085.86	5.06	9.09	5.06	10.41	60.92	0.55



VES Survey International
Midland, Texas
432-563-5444

Surveyor: Michael Cook

Burch Keely Unit No. 944H / API 30-015-44079

VES SURVEY
INTERNATIONAL

20

-S/+N

Depth=1086.0, Inc=1.0, AzG=82.3

0

Depth=0.0, Inc=0.0, AzG=0.0

-W/+E

20



I Michael Cook certify that I am employed by VES Survey International. That I did on the day(s) of 04/20/17 through 04/20/17 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 1,086.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of COG Operating for the Burch Keely Unit Well # 944H API # 30-015-44079 in Eddy County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by VES Survey International.

A handwritten signature in black ink, appearing to read "M Cook", written over a horizontal line.

Michael Cook
Service Technician
VES Survey International