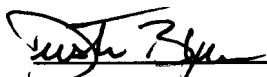


JAN 18 2018

RECEIVED

VES SURVEY

I Dustin Byers certify that I am employed by VES Survey International. That I did on the day(s) of 10/22/17 through 10/22/17 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 1,200.00 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 Malco 23 Federal Com Well # 13H API # 30-015-44297 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.



Dustin Byers
Service Technician
VES Survey International



NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 18 2018

RECEIVED

October 25, 2017

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

Attn: Kanicia Castillo

RE: **Malco 23 Federal Com No. 013H**

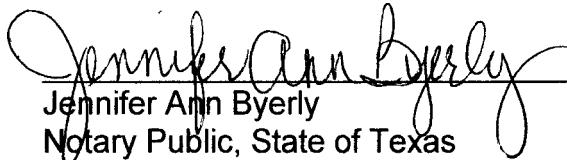
Please find enclosed a copy of the survey from 0' to 1200' ran on the above referenced well.

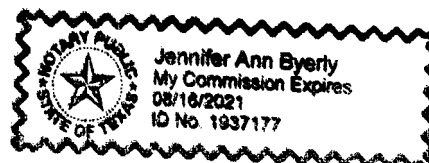
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

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


Jennifer Ann Byerly
Notary Public, State of Texas





VES SURVEY

Company: COG OPERATING
Lease/Well: MALCO 23 FEDERAL COM No./013H

Rig Name: SILVER OAK 3
State/County: NEW MEXICO/EDDY
VS-Azi: 0.00 Degrees
Latitude: 32.82714, Longitude: -104.14964
Grid North = True North -0.10 degs (NAD 27)
Grid Correction Applied = -0.10 degs

Depth Reference : RKB 18'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: eline-de_01.ut

Minimum Curvature Method

Report Date/Time: 10/25/2017 / 13:40

VES SURVEY INTERNATIONAL

West Texas

432-563-5444

Surveyor: Dustin Byers

Malco 23 Federal Com No. 013H / API 30-015-44297

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 18 2018

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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	0.71	202.19	100.00	-0.58	-0.23	-0.58	0.62	202.19	0.71
200.00	0.84	187.00	199.99	-1.88	-0.56	-1.88	1.96	196.54	0.24
300.00	0.74	166.45	299.98	-3.24	-0.50	-3.24	3.28	188.75	0.30
400.00	0.75	163.67	399.97	-4.49	-0.16	-4.49	4.50	182.09	0.04
500.00	0.79	168.57	499.96	-5.80	0.16	-5.80	5.80	178.44	0.08
600.00	0.55	159.09	599.95	-6.93	0.47	-6.93	6.94	176.14	0.26
700.00	0.56	164.51	699.95	-7.85	0.77	-7.85	7.89	174.40	0.05
800.00	0.48	178.89	799.95	-8.73	0.91	-8.73	8.78	174.07	0.15
900.00	0.22	166.27	899.94	-9.33	0.96	-9.33	9.38	174.12	0.26
1000.00	0.30	189.89	999.94	-9.78	0.96	-9.78	9.83	174.38	0.13
1100.00	0.39	194.64	1099.94	-10.37	0.83	-10.37	10.40	175.42	0.09
1200.00	0.47	218.07	1199.94	-11.02	0.49	-11.02	11.03	177.43	0.19

VES SURVEY INTERNATIONAL

West Texas

432-563-5444

Surveyor: Dustin Byers

Malco 23 Federal Com No. 013H / API 30-015-44297



VES SURVEY

0

Depth=0.0, Inc=0.0, AzG=0.0

-S/+N

Depth=1200.0, Inc=0.5, AzG=218.1

-20

0

-W/+E

20