

Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

COG Operating, LLC
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

January 15, 2013

Re: COG Operating, LLC
Hogan State Com #2H
Field: Empire
Rig: United 40
Eddy County, New Mexico
API # 30-015-40442

Enclosed please find the original of the surveys performed on the referenced well by Archer Directional Drilling Services. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Wellhole Number</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Robert Landon Field Engineer	Original Hole	4600-9553	12/11/12-12/18/12	MWD

If additional information is required, please contact the undersigned at the letterhead address and phone number.



Amador Baggerly
MWD Coordinator

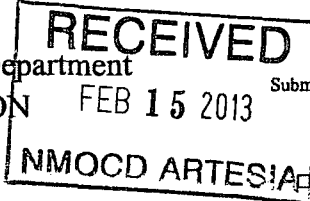
DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505



Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-40442	Pool Code 96610	Pool Name Empire;Glorieta-Yeso, East
Property Code 39291	Property Name HOGAN STATE COM	Well Number 2H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3665'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	2	17-S	29-E		1700	SOUTH	330	EAST	EDDY

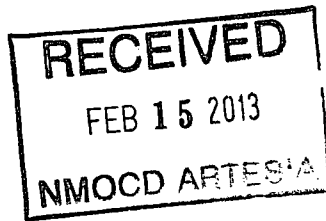
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	2	17-S	29-E		1706	SOUTH	341	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

4 3 2 1 39.94 AC. 40.00 AC. 40.04 AC. 40.10 AC. CORNER COORDINATES TABLE A) Y=677970.9 N, X=585901.4 E B) Y=677961.5 N, X=591198.9 E C) Y=676650.4 N, X=585907.0 E D) Y=676641.9 N, X=591199.7 E 341' B.H. GRID. AZ. = 269°28'00" HORIZ. DIST. = 4635.4' 330' S.L. 1700'	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>[Signature]</i> 02/14/13 Signature Date Kanicia Castillo Printed Name kcastillo@concho.com E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. JUNE 4, 2012 Date of Survey Signature & Seal of Professional Surveyor: <i>[Signature]</i> RONALD J. EIDSON NEW MEXICO 3239 Certificate Number Gary G. Eidson 12641 Ronald J. Eidson 3239 AF NWSC W.O.: 12.11.1035
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Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

MWD Survey Certification

State of New Mexico
County of Eddy

I, Amador Baggerly, certify that; I am employed by Archer Directional Drilling Services; that I did on the day(s) of 12/11/12 through 12/18/12, conduct or supervise the taking of MWD surveys from a depth of 4600 feet to a depth of 9553 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Archer Directional Drilling Services; that I am authorized and qualified to make this report; that these surveys were conducted at the request of COG Operating, LLC for the Hogan State Com #2H (API # 30-015-40442), Well located in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Archer Directional Drilling Services.



Amador Baggerly
MWD Coordinator



Company: COG Operating, LLC

Job Number:

04014-433-22

Calculation Method

Minimum Curvature

Well: Hogan State Com #2H

Mag Decl.:

7.51

Proposed Azimuth

270.1

Location: Eddy County, New Mexico

Dir Driller:

Cody Styles

Depth Reference

KBG

Rig: United 40

MWD Eng:

Robert Landon

Tie Into: Gyro Survey

Job Date: 12/11/12 - 12/18/12

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
Tie In	4500.00	0.39	298.61	0	4499.78	20.77	16.83 N	20.74 W					
1	4600	0.5	328.6	100	4599.78	21.30	17.37 N	21.27 W	27.46	309.23	0.25	0.11	29.99
2	4632	1.4	276.6	32	4631.77	21.76	17.53 N	21.73 W	27.92	308.90	3.63	2.81	-162.50
3	4663	4.3	263.8	31	4662.73	23.29	17.45 N	23.26 W	29.08	306.87	9.52	9.35	-41.29
4	4695	7.6	263.6	32	4694.55	26.59	17.08 N	26.56 W	31.58	302.75	10.31	10.31	-0.62
5	4727	10.8	266.3	32	4726.14	31.68	16.65 N	31.65 W	35.76	297.75	10.09	10.00	8.44
6	4759	14.2	268.6	32	4757.38	38.60	16.36 N	38.57 W	41.90	292.99	10.74	10.63	7.19
7	4790	17.5	269.7	31	4787.19	47.06	16.25 N	47.03 W	49.76	289.06	10.69	10.65	3.55
8	4822	20.9	270.0	32	4817.41	57.58	16.22 N	57.56 W	59.80	285.74	10.63	10.63	0.94
9	4854	24.0	270.1	32	4846.98	69.80	16.23 N	69.77 W	71.64	283.10	9.69	9.69	0.31
10	4885	27.0	270.0	31	4874.96	83.15	16.24 N	83.12 W	84.69	281.06	9.68	9.68	-0.32
11	4917	29.8	270.5	32	4903.10	98.37	16.31 N	98.34 W	99.68	279.42	8.78	8.75	1.56
12	4949	32.9	270.7	32	4930.43	115.01	16.49 N	114.98 W	116.16	278.16	9.69	9.69	0.62
13	4980	36.1	271.3	31	4955.97	132.56	16.80 N	132.54 W	133.60	277.22	10.38	10.32	1.94
14	5012	39.0	271.2	32	4981.34	152.06	17.22 N	152.03 W	153.00	276.46	9.06	9.06	-0.31
15	5044	41.7	270.7	32	5005.73	172.78	17.56 N	172.75 W	173.64	275.81	8.50	8.44	-1.56
16	5076	44.4	269.4	32	5029.11	194.62	17.58 N	194.59 W	195.38	275.16	8.88	8.44	-4.06
17	5107	46.9	268.8	31	5050.78	216.78	17.23 N	216.75 W	217.43	274.54	8.18	8.06	-1.94
18	5139	50.0	267.5	32	5072.00	240.71	16.45 N	240.68 W	241.24	273.91	10.15	9.69	-4.06
19	5171	54.8	266.3	32	5091.52	266.01	15.07 N	265.99 W	266.41	273.24	15.29	15.00	-3.75
20	5202	58.5	265.6	31	5108.56	291.84	13.24 N	291.81 W	292.11	272.60	12.08	11.94	-2.26
21	5234	61.1	265.6	32	5124.65	319.41	11.11 N	319.39 W	319.58	271.99	8.12	8.13	0.00
22	5266	63.8	265.8	32	5139.45	347.69	8.99 N	347.68 W	347.79	271.48	8.46	8.44	0.62
23	5298	67.1	266.2	32	5152.75	376.72	6.96 N	376.71 W	376.77	271.06	10.37	10.31	1.25
24	5329	70.2	266.6	31	5164.03	405.53	5.15 N	405.52 W	405.55	270.73	10.07	10.00	1.29
25	5361	73.4	266.8	32	5174.02	435.87	3.40 N	435.87 W	435.88	270.45	10.02	10.00	0.62
26	5393	76.9	267.1	32	5182.22	466.75	1.75 N	466.75 W	466.75	270.22	10.97	10.94	0.94
27	5424	79.7	267.7	31	5188.51	497.07	0.38 N	497.07 W	497.07	270.04	9.23	9.03	1.94
28	5456	82.2	268.4	32	5193.54	528.65	0.70 S	528.65 W	528.65	269.92	8.11	7.81	2.19
29	5488	85.5	268.6	32	5196.97	560.45	1.53 S	560.45 W	560.45	269.84	10.33	10.31	0.63
30	5520	88.6	268.0	32	5198.62	592.38	2.48 S	592.39 W	592.39	269.76	9.87	9.69	-1.88
31	5616	91.3	268.7	96	5198.70	688.33	5.24 S	688.34 W	688.36	269.56	2.91	2.81	0.73
32	5710	91.8	269.4	94	5196.16	782.28	6.80 S	782.29 W	782.32	269.50	0.91	0.53	0.74
33	5806	91.3	270.5	96	5193.56	878.24	6.88 S	878.26 W	878.28	269.55	1.26	-0.52	1.15
34	5901	91.5	270.7	95	5191.24	973.21	5.89 S	973.22 W	973.24	269.65	0.30	0.21	0.21
35	5996	92.4	271.1	95	5188.01	1068.14	4.40 S	1068.15 W	1068.16	269.76	1.04	0.95	0.42
36	6091	90.9	271.1	95	5185.27	1163.09	2.58 S	1163.09 W	1163.10	269.87	1.58	-1.58	0.00



Company: COG Operating, LLC

Job Number: 04014-433-22

Calculation Method

Minimum Curvature

Well: Hogan State Com #2H

Mag Decl.: 7.51

Proposed Azimuth

270.1

Location: Eddy County, New Mexico

Dir Driller: Cody Styles

Depth Reference

KBG

Rig: United 40

MWD Eng:

Robert Landon

Tie Into: Gyro Survey

Job Date: 12/11/12 - 12/18/12

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
37	6187	90.9	271.9	96	5183.77	1259.05	0.06 S	1259.05 W	1259.05	270.00	0.83	0.00	0.83
38	6282	91.1	271.9	95	5182.11	1353.99	3.09 N	1353.98 W	1353.99	270.13	0.21	0.21	0.00
39	6377	90.2	272.2	95	5181.03	1448.92	6.48 N	1448.91 W	1448.93	270.26	1.00	-0.95	0.32
40	6472	91.4	272.4	95	5179.70	1543.84	10.30 N	1543.83 W	1543.86	270.38	1.28	1.26	0.21
41	6567	90.5	271.6	95	5178.13	1638.77	13.61 N	1638.75 W	1638.81	270.48	1.27	-0.95	-0.84
42	6663	90.4	270.7	96	5177.37	1734.75	15.54 N	1734.73 W	1734.80	270.51	0.94	-0.10	-0.94
43	6758	91.4	270.8	95	5175.88	1829.74	16.78 N	1829.71 W	1829.79	270.53	1.06	1.05	0.11
44	6853	91.1	270.1	95	5173.81	1924.71	17.53 N	1924.68 W	1924.76	270.52	0.80	-0.32	-0.74
45	6948	92.4	270.4	95	5170.91	2019.66	17.94 N	2019.64 W	2019.72	270.51	1.40	1.37	0.32
46	7043	90.9	270.9	95	5168.17	2114.62	19.02 N	2114.59 W	2114.67	270.52	1.66	-1.58	0.53
47	7139	91.0	270.3	96	5166.58	2210.60	20.02 N	2210.57 W	2210.66	270.52	0.63	0.10	-0.62
48	7234	90.6	270.3	95	5165.26	2305.59	20.52 N	2305.56 W	2305.65	270.51	0.42	-0.42	0.00
49	7329	91.1	270.3	95	5163.85	2400.58	21.02 N	2400.55 W	2400.64	270.50	0.53	0.53	0.00
50	7424	91.0	269.6	95	5162.10	2495.56	20.94 N	2495.53 W	2495.62	270.48	0.74	-0.11	-0.74
51	7519	90.2	269.5	95	5161.11	2590.55	20.19 N	2590.52 W	2590.60	270.45	0.85	-0.84	-0.11
52	7614	90.3	269.3	95	5160.70	2685.54	19.20 N	2685.51 W	2685.58	270.41	0.24	0.11	-0.21
53	7710	90.6	269.0	96	5159.94	2781.53	17.77 N	2781.50 W	2781.56	270.37	0.44	0.31	-0.31
54	7805	91.3	268.7	95	5158.37	2876.49	15.86 N	2876.47 W	2876.51	270.32	0.80	0.74	-0.32
55	7900	92.4	268.8	95	5155.30	2971.41	13.79 N	2971.39 W	2971.43	270.27	1.16	1.16	0.11
56	7995	90.5	269.5	95	5152.90	3066.36	12.38 N	3066.35 W	3066.37	270.23	2.13	-2.00	0.74
57	8090	91.3	269.6	95	5151.40	3161.35	11.64 N	3161.33 W	3161.35	270.21	0.85	0.84	0.11
58	8185	90.8	269.3	95	5149.66	3256.33	10.73 N	3256.31 W	3256.33	270.19	0.61	-0.53	-0.32
59	8280	89.6	270.9	95	5149.33	3351.32	10.89 N	3351.31 W	3351.32	270.19	2.11	-1.26	1.68
60	8375	91.0	271.1	95	5148.83	3446.30	12.55 N	3446.29 W	3446.31	270.21	1.49	1.47	0.21
61	8471	91.1	269.7	96	5147.07	3542.28	13.22 N	3542.27 W	3542.29	270.21	1.46	0.10	-1.46
62	8566	90.7	270.2	95	5145.58	3637.27	13.14 N	3637.25 W	3637.28	270.21	0.67	-0.42	0.53
63	8661	91.1	270.5	95	5144.09	3732.26	13.72 N	3732.24 W	3732.27	270.21	0.53	0.42	0.32
64	8756	90.6	270.5	95	5142.68	3827.25	14.55 N	3827.23 W	3827.25	270.22	0.53	-0.53	0.00
65	8851	91.2	270.8	95	5141.19	3922.23	15.62 N	3922.21 W	3922.24	270.23	0.71	0.63	0.32
66	8946	89.5	270.3	95	5140.61	4017.22	16.54 N	4017.20 W	4017.23	270.24	1.87	-1.79	-0.53
67	9041	90.4	270.0	95	5140.69	4112.22	16.79 N	4112.20 W	4112.23	270.23	1.00	0.95	-0.32
68	9136	90.7	269.4	95	5139.78	4207.21	16.29 N	4207.19 W	4207.22	270.22	0.71	0.32	-0.63
69	9231	91.1	269.1	95	5138.29	4302.19	15.04 N	4302.17 W	4302.20	270.20	0.53	0.42	-0.32
70	9326	91.4	268.6	95	5136.21	4397.14	13.14 N	4397.13 W	4397.15	270.17	0.61	0.32	-0.53
71	9421	92.2	268.4	95	5133.23	4492.06	10.65 N	4492.05 W	4492.06	270.14	0.87	0.84	-0.21
72	9495	92.7	267.9	74	5130.07	4565.95	8.27 N	4565.94 W	4565.95	270.10	0.96	0.68	-0.68
Proj.	9553	92.7	267.9	58	5127.34	4623.84	6.14 N	4623.84 W	4623.84	270.08	0.00	0.00	0.00

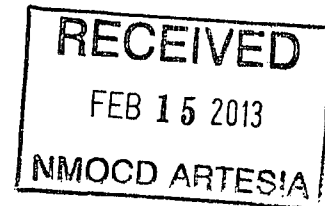


A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

December 26, 2012

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



Attn: Kanicia Castillo

RE: **Hogan State Com No. 002H**

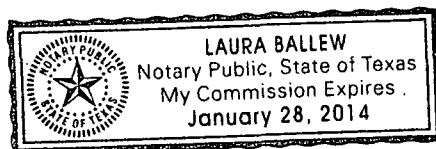
Please find enclosed a copy of the survey from 0.00' to 4500.00' ran on the above referenced well.

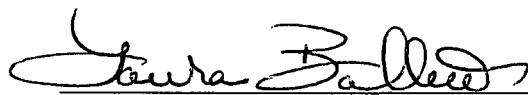
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 28th day of December A.D., 2012, by Keith Havelka.





Laura Ballew
Notary Public, State of Texas

Company: COG Operating LLC (Concho)

Lease/Well: Hogan State Com / No. 002H



Rig Name: UDI 40

State/County: New Mexico / Eddy

Latitude: 32.86, Longitude: -104.04

GRID North is 0.16 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB = 15'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: hogan st com 2h_ed.ut

Minimum Curvature Method

Report Date/Time: 12/26/2012 / 08:46

Vaughn Energy Services

Fort Worth, Texas

817-741-3610

Surveyor: Robert Hooper

Hogan State Com No. 002H / API 30-015-40442



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	0.84	334.74	100.00	0.66	-0.31	0.66	0.74	334.74	0.84
200.00	0.67	337.77	199.99	1.87	-0.85	1.87	2.06	335.60	0.18
300.00	0.78	334.84	299.98	3.03	-1.36	3.03	3.32	335.83	0.12
400.00	0.65	320.15	399.97	4.09	-2.02	4.09	4.56	333.74	0.22
500.00	0.53	338.45	499.97	4.96	-2.55	4.96	5.58	332.75	0.23
600.00	0.79	347.81	599.96	6.06	-2.87	6.06	6.71	334.68	0.28
700.00	0.78	355.67	699.95	7.41	-3.07	7.41	8.02	337.53	0.11
800.00	0.27	356.29	799.95	8.33	-3.13	8.33	8.90	339.39	0.50
900.00	1.02	16.94	899.94	9.42	-2.89	9.42	9.85	342.96	0.77
1000.00	0.61	81.65	999.93	10.35	-2.10	10.35	10.56	348.53	0.94
1100.00	0.70	175.70	1099.93	9.82	-1.53	9.82	9.94	351.17	0.96
1200.00	0.54	179.67	1199.92	8.74	-1.48	8.74	8.86	350.40	0.16
1300.00	0.43	176.81	1299.92	7.89	-1.45	7.89	8.02	349.56	0.11
1400.00	0.20	175.83	1399.91	7.34	-1.42	7.34	7.47	349.04	0.23
1500.00	0.49	209.56	1499.91	6.79	-1.62	6.79	6.98	346.60	0.34
1600.00	0.24	214.20	1599.91	6.25	-1.95	6.25	6.54	342.69	0.25
1700.00	0.44	219.97	1699.91	5.77	-2.31	5.77	6.22	338.16	0.20
1800.00	0.36	216.70	1799.91	5.22	-2.75	5.22	5.90	332.21	0.08

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	0.16	233.10	1899.91	4.89	-3.05	4.89	5.76	328.03	0.22
2000.00	0.40	237.21	1999.90	4.62	-3.45	4.62	5.77	323.23	0.24
2100.00	0.38	238.17	2099.90	4.26	-4.03	4.26	5.86	316.59	0.02
2200.00	0.42	258.40	2199.90	4.01	-4.67	4.01	6.15	310.64	0.15
2300.00	1.03	283.00	2299.89	4.13	-5.91	4.13	7.21	304.99	0.67
2400.00	1.08	301.57	2399.87	4.83	-7.59	4.83	8.99	302.49	0.34
2500.00	0.84	318.84	2499.86	5.87	-8.87	5.87	10.63	303.51	0.37
2600.00	0.60	334.97	2599.85	6.90	-9.57	6.90	11.79	305.78	0.31
2700.00	0.40	327.46	2699.85	7.66	-9.98	7.66	12.58	307.53	0.22
2800.00	0.44	328.69	2799.85	8.28	-10.36	8.28	13.26	308.63	0.04
2900.00	0.59	330.89	2899.84	9.05	-10.81	9.05	14.10	309.95	0.15
3000.00	0.61	328.77	2999.84	9.96	-11.33	9.96	15.08	311.30	0.03
3100.00	0.78	317.61	3099.83	10.91	-12.07	10.91	16.27	312.12	0.22
3200.00	1.04	316.01	3199.82	12.07	-13.16	12.07	17.85	312.53	0.26
3300.00	0.76	315.18	3299.80	13.19	-14.25	13.19	19.42	312.78	0.28
3400.00	0.57	318.21	3399.80	14.03	-15.05	14.03	20.58	312.99	0.19
3500.00	0.38	317.73	3499.79	14.65	-15.61	14.65	21.40	313.18	0.19
3600.00	0.38	313.89	3599.79	15.13	-16.07	15.13	22.07	313.26	0.03
3700.00	0.18	316.10	3699.79	15.47	-16.42	15.47	22.56	313.29	0.20
3800.00	0.27	276.55	3799.79	15.62	-16.77	15.62	22.91	312.96	0.18
3900.00	0.10	308.50	3899.79	15.70	-17.08	15.70	23.19	312.59	0.19
4000.00	0.20	280.37	3999.79	15.78	-17.32	15.78	23.43	312.35	0.12
4100.00	0.33	286.26	4099.79	15.90	-17.77	15.90	23.84	311.82	0.14
4200.00	0.64	289.34	4199.78	16.16	-18.57	16.16	24.62	311.03	0.31
4300.00	0.39	284.97	4299.78	16.44	-19.43	16.44	25.45	310.23	0.25
4400.00	0.41	281.37	4399.78	16.60	-20.11	16.60	26.08	309.53	0.03
4500.00	0.39	298.61	4499.78	16.83	-20.76	16.83	26.73	309.03	0.12

WELL NAME AND NUMBER Hogan State Com No. 2H
 LOCATION Section 2, T17S, R29E, Lot I, 1700 FSL, 330 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
.3° @ 141'		
.1° @ 334'		
.4° @ 515'		
.8° @ 915'		
.4° @ 1314'		
.2° @ 1744'		
.7° @ 2185'		
.8° @ 2629'		
1.2° @ 3105'		
1.0° @ 3517'		
.6° @ 3961'		

Drilling Contractor- UNITED DRILLING, INC.

By: *Luisa Noriega*
 (Luisa Noriega)

Title: Asst. Office Manager

Subscribed and sworn to before me this 21st day of December, 2012.

Charles Martin
 Notary Public

Chaves *New Mexico*
 County State

My Commission Expires: 10/8/16

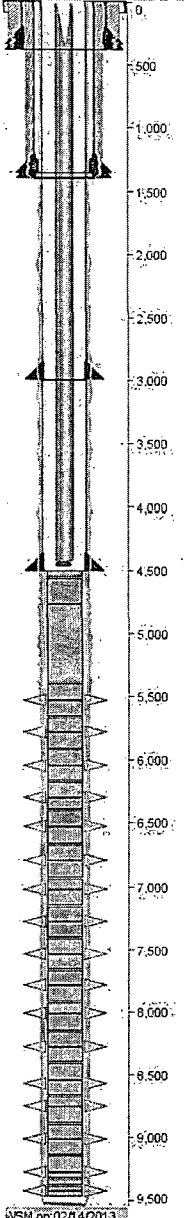
ID: 30-015-40442

Well Name: HOGAN STATE COM #2H

Event#: 3

Report Dates: 02/14/2013

HOGAN STATE COM #2H MD (ft)



PIPE SPECIFICATION

STRING NAME	SECTION NAME	JOINT COUNT	START DEPTH	END DEPTH	LENGTH	OD SIZE	ID SIZE	WT GRDNT	GRD	CONN
CONDUCTOR	CASING	2	0.00	80.00	80.00	20.00	19.12	94.0	H-40	OTR
SURFACE	GUIDE SHOE		376.82	378.00	1.18	13.38	12.71			STC
SURFACE	CASING	1	334.64	376.82	42.18	13.38	12.71	48.0	H-40	STC
SURFACE	INSERT FLOAT		334.64	334.64	0.00	13.38	12.71			STC
SURFACE	CASING	8	-2.61	334.64	337.25	13.38	12.71	48.0	H-40	STC
PRODUCTION	PEAK PUMP OUT		9468.15	9470.00	1.85					
PRODUCTION	5.5 CSG	1	9428.96	9468.15	39.19	5.50	4.89	17.0	L-80	LTC
PRODUCTION	HYDRO PORT		9426.43	9428.96	2.53					
PRODUCTION	5.5 CSG	1	9388.45	9426.43	37.98	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		9385.30	9388.45	3.15					
PRODUCTION	PEAK OPEN HOLE		9382.26	9385.30	3.04					
PRODUCTION	PEAK 5.5 PUP		9376.16	9382.26	6.10					
PRODUCTION	5.5 CSG	1	9332.51	9376.16	43.65	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		9329.41	9332.51	3.10					
PRODUCTION	PREDATOR OPEN		9325.37	9329.41	4.04					
PRODUCTION	PEAK 5.5 PUP		9319.36	9325.37	6.01					
PRODUCTION	5.5 CSG	1	9280.01	9319.36	39.35	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		9276.45	9280.01	3.56					
PRODUCTION	5.5 CSG	3	9148.13	9276.45	128.32	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		9144.99	9148.13	3.14					
PRODUCTION	PREDATOR OPEN		9140.88	9144.99	4.11					
PRODUCTION	PEAK 5.5 PUP		9134.91	9140.88	5.97					
PRODUCTION	5.5 CSG	3	9016.71	9134.91	118.20	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		9013.15	9016.71	3.56					
PRODUCTION	5.5 CSG	3	8894.55	9013.15	118.60	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		8891.41	8894.55	3.14					
PRODUCTION	PREDATOR OPEN		8887.28	8891.41	4.13					
PRODUCTION	PEAK 5.5 PUP		8881.26	8887.28	6.02					
PRODUCTION	5.5 CSG	3	8754.75	8881.26	126.51	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		8751.19	8754.75	3.56					
PRODUCTION	5.5 CSG	2	8672.46	8751.19	78.73	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		8669.28	8672.46	3.18					
PRODUCTION	PREDATOR OPEN		8665.25	8669.28	4.03					
PRODUCTION	PEAK 5.5 PUP		8659.15	8665.25	6.10					
PRODUCTION	5.5 CSG	3	8544.87	8659.15	114.28	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		8541.31	8544.87	3.56					
PRODUCTION	5.5 CSG	3	8410.73	8541.31	130.58	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		8407.56	8410.73	3.17					
PRODUCTION	PREDATOR OPEN		8403.54	8407.56	4.02					
PRODUCTION	PEAK 5.5 PUP		8397.45	8403.54	6.09					

PIPE SPECIFICATION

STRING NAME	SECTION NAME	JOINT COUNT	START DEPTH	END DEPTH	LENGTH	OD SIZE	ID SIZE	WT GRDNT	GRD	CONN
PRODUCTION	5.5 CSG	3	8282.05	8397.45	115.40	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		8278.49	8282.05	3.56					
PRODUCTION	5.5 CSG	3	8158.93	8278.49	119.56	5.50	4.89	17.0	L-80	
PRODUCTION	PEAK PUP JOINT		8155.74	8158.93	3.19					
PRODUCTION	PREDATOR OPEN		8151.74	8155.74	4.00					
PRODUCTION	PEAK 5.5 PUP		8145.67	8151.74	6.07					
PRODUCTION	5.5 CSG	3	8014.31	8145.67	131.36	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		8010.75	8014.31	3.56					
PRODUCTION	5.5 CSG	2	7927.79	8010.75	82.96	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		7924.60	7927.79	3.19					
PRODUCTION	PREDATOR OPEN		7920.47	7924.60	4.13					
PRODUCTION	PEAK 5.5 PUP		7914.37	7920.47	6.10					
PRODUCTION	5.5 CSG	3	7786.85	7914.37	127.52	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		7783.29	7786.85	3.56					
PRODUCTION	5.5 CSG	3	7668.34	7783.29	114.95	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		7665.14	7668.34	3.20					
PRODUCTION	PREDATOR OPEN		7661.09	7665.14	4.05					
PRODUCTION	PEAK 5.5 PUP		7655.01	7661.09	6.08					
PRODUCTION	5.5 CSG	3	7535.63	7655.01	119.38	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		7532.07	7535.63	3.56					
PRODUCTION	5.5 CSG	3	7408.84	7532.07	123.23	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		7405.65	7408.84	3.19					
PRODUCTION	PREDATOR OPEN		7401.62	7405.65	4.03					
PRODUCTION	PEAK 5.5 PUP		7395.54	7401.62	6.08					
PRODUCTION	5.5 CSG	3	7276.46	7395.54	119.08	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		7272.90	7276.46	3.56					
PRODUCTION	5.5 CSG	3	7153.16	7272.90	119.74	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		7149.99	7153.16	3.17					
PRODUCTION	PREDATOR OPEN		7145.96	7149.99	4.03					
PRODUCTION	PEAK 5.5 PUP		7139.91	7145.96	6.05					
PRODUCTION	5.5 CSG	3	7020.33	7139.91	119.58	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		7016.77	7020.33	3.56					
PRODUCTION	5.5 CSG	2	6933.48	7016.77	83.29	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		6930.29	6933.48	3.19					
PRODUCTION	PREDATOR OPEN		6926.28	6930.29	4.01					
PRODUCTION	PEAK 5.5 PUP		6920.23	6926.28	6.05					
PRODUCTION	5.5 CSG	3	6799.22	6920.23	121.01	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		6795.66	6799.22	3.56					
PRODUCTION	5.5 CSG	3	6675.06	6795.66	120.60	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		6671.88	6675.06	3.18					
PRODUCTION	PREDATOR OPEN		6667.75	6671.88	4.13					
PRODUCTION	PEAK 5.5 PUP		6661.69	6667.75	6.06					
PRODUCTION	5.5 CSG	3	6530.18	6661.69	131.51	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		6526.62	6530.18	3.56					
PRODUCTION	5.5 CSG	3	6400.41	6526.62	126.21	5.50	4.89	17.0	L-80	LTC

PIPE SPECIFICATION

STRING NAME	SECTION NAME	JOINT COUNT	START DEPTH	END DEPTH	LENGTH	OD SIZE	ID SIZE	WT GRDNT	GRD	CONN
PRODUCTION	PEAK PUP JOINT		6397.24	6400.41	3.17					
PRODUCTION	PREDATOR OPEN		6393.18	6397.24	4.06					
PRODUCTION	PEAK 5.5 PUP		6387.08	6393.18	6.10					
PRODUCTION	5.5 CSG	2	6300.40	6387.08	86.68	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		6296.84	6300.40	3.56					
PRODUCTION	5.5 CSG	3	6177.59	6296.84	119.25	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		6174.40	6177.59	3.19					
PRODUCTION	PREDATOR OPEN		6170.26	6174.40	4.14					
PRODUCTION	PEAK 5.5 PUP		6164.18	6170.26	6.08					
PRODUCTION	5.5 CSG	3	6048.10	6164.18	116.08	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		6044.54	6048.10	3.56					
PRODUCTION	5.5 CSG	3	5922.90	6044.54	121.64	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		5919.68	5922.90	3.22					
PRODUCTION	PREDATOR OPEN		5915.62	5919.68	4.06					
PRODUCTION	PEAK 5.5 PUP		5909.52	5915.62	6.10					
PRODUCTION	5.5 CSG	3	5783.88	5909.52	125.64	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		5780.32	5783.88	3.56					
PRODUCTION	5.5 CSG	3	5667.55	5780.32	112.77	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		5664.38	5667.55	3.17					
PRODUCTION	PREDATOR OPEN		5660.29	5664.38	4.09					
PRODUCTION	PEAK 5.5 PUP		5654.19	5660.29	6.10					
PRODUCTION	5.5 CSG	3	5532.85	5654.19	121.34	5.50	4.89	17.0	L-80	LTC
PRODUCTION	GEN III STRATA		5529.29	5532.85	3.56					
PRODUCTION	5.5 CSG	3	5398.22	5529.29	131.07	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK PUP JOINT		5395.04	5398.22	3.18					
PRODUCTION	PREDATOR OPEN		5390.96	5395.04	4.08					
PRODUCTION	PEAK 5.5 PUP		5384.86	5390.96	6.10					
PRODUCTION	5.5 CSG	15	4766.28	5384.86	618.58	5.50	4.89	17.0	L-80	LTC
PRODUCTION	PEAK DEBRIS SUB		4765.10	4766.28	1.18					
PRODUCTION	5.5 CSG	5	4562.06	4765.10	203.04	5.50	4.89	17.0	L-80	LTC
PRODUCTION	DV/ECP TOOL		4544.06	4562.06	18.00					
PRODUCTION	5.5 CSG	1	4500.32	4544.06	43.74	5.50	4.89	17.0	L-80	LTC
PRODUCTION	CROSS OVER		4498.27	4500.32	2.05					
PRODUCTION	7" CASING	34	3000.02	4498.27	1498.25	7.00	6.28	26.0	L-80	LTC
PRODUCTION	MARKER JOINT	1	2985.37	3000.02	14.65	7.00	6.28	26.0	L-80	LTC
PRODUCTION	7" CASING	68	-12.24	2985.37	2997.61	7.00	6.28	26.0	L-80	LTC
PRODUCTION				-12.24	-12.24					
TUBING	ELECTRIC		4423.02	4460.79	37.77	2.88	0.00	6.5	ESPBHA	
TUBING	TUBING	1	12.00	4423.02	4411.02	2.88	2.44	6.5	L-80	
TUBING	KELLY BUSHING		-0.00	12.00	12.00					
INTERMEDIATE	GUIDE SHOE		1388.20	1390.00	1.80	9.63	8.84			LTC
INTERMEDIATE	CASING	1	1346.03	1388.20	42.17	9.63	8.84	40.0	J-55	LTC
INTERMEDIATE	FLOAT COLLAR		1344.63	1346.03	1.40	9.63	8.84			LTC
INTERMEDIATE	CASING	31	-5.48	1344.63	1350.11	9.63	8.84	40.0	J-55	LTC

CEMENTING					
STRING NAME	STAGE #	LEAD TOP (est) (ft)	LEAD TOP (ver) (ft)	TAIL TOP (est) (ft)	TAIL TOP (ver) (ft)
SURFACE	1	0.0	0.0	0.0	0.0
SURFACE	2				
PRODUCTION	1	0.0	0.0		
INTERMEDIATE	1	0.0	0.0		

BHA STRING				
DRILL EQUIP CODE	DESCRIPTION	LENGTH	OD SIZE	ID SIZE

PERFORATION							
ZONE	JOB REPORT DATE	ZONE NAME	TOP DEPTH	BOTTOM DEPTH	HOLE SIZE	PEN SIZE	SQUEEZED
1	01/10/2013	BLINEBRY	9424.00	9425.00			N
2	01/10/2013	BLINEBRY	9275.00	9276.00			N
3	01/10/2013	BLINEBRY	9012.00	9013.00			N
4	01/10/2013	BLINEBRY	8750.00	8751.00			N
5	01/10/2013	BLINEBRY	8570.00	8571.00			N
6	01/10/2013	BLINEBRY	8277.00	8278.00			N
7	01/10/2013	BLINEBRY	8009.00	8010.00			N
8	01/10/2013	BLINEBRY	7782.00	7783.00			N
9	01/10/2013	BLINEBRY	7531.00	7532.00			N
10	01/10/2013	BLINEBRY	7271.00	7272.00			N
11	01/10/2013	BLINEBRY	7015.00	7016.00			N
12	01/10/2013	BLINEBRY	6794.00	6795.00			N
13	01/10/2013	BLINEBRY	6525.00	6526.00			N
14	01/10/2013	BLINEBRY	6295.00	6296.00			N
15	01/10/2013	BLINEBRY	6043.00	6044.00			N
16	01/10/2013	BLINEBRY	5779.00	5780.00			N
17	01/10/2013	BLINEBRY	5528.00	5529.00			N