

NM OIL CONSERVATION
ARTESIA DISTRICT

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG
RECEIVED

5. Lease Serial No.
NMNM113937

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____			7. Unit or CA Agreement Name and No.		
2. Name of Operator COG OPERATING LLC			8. Lease Name and Well No. CRAIG FEDERAL COM 12H		
3. Address 600 W ILLINOIS AVENUE MIDLAND, TX 79701			9. API Well No. 30-015-44208-00-S1		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 1 T26S R26E Mer NMP At surface NWNW 675FNL 790FWL 32.077152 N Lat, 104.252678 W Lon Sec 36 T25S R26E Mer NMP At top prod interval reported below SWSW 330FSL 330FWL 32.079910 N Lat, 104.254105 W Lon Sec 25 T25S R26E Mer NMP At total depth NWNW 200FNL 330FWL 32.107582 N Lat, 104.253693 W Lon			10. Field and Pool, or Exploratory WC G 03 S262631M		
14. Date Spudded 07/23/2017			15. Date T.D. Reached 08/10/2017		11. Sec., T., R., M., or Block and Survey or Area Sec 1 T26S R26E Mer NMP
16. Date Completed ☐ D & A ☒ Ready to Prod. 11/08/2017			12. County or Parish EDDY		
17. Elevations (DF, KB, RT, GL)* 3370 GL			13. State NM		
18. Total Depth: MD 18767 TVD 7912		19. Plug Back T.D.: MD 18665 TVD 7914		20. Depth Bridge Plug Set: MD 18665 TVD 7914	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE			22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)		

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J55	54.5	0	446		450		0	
12.250	9.625 J55	40.0	0	2381		935		0	
8.750	5.500 P-110	17.0	0	18750		2895		1170	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7238	7228						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	8729	18640	8729 TO 18640	0.430	2816	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8729 TO 18640	SEE ATTACHED

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/09/2017	11/09/2017	24	→	41.0	0.0	1471.0			
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
28/64	SI 600	400.0	→	41	0	1471		POW	

28a. Production - Interval B

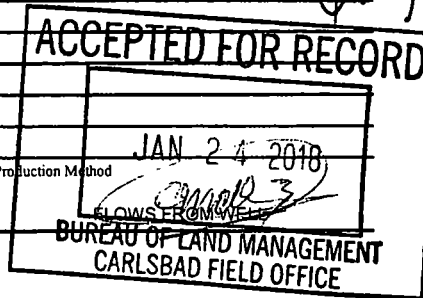
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
SI			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #396903 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Reclamation due 05/08/2018



28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
LAMAR	2020	2059		LAMAR	2020
BELL CANYON	2060	2924		BELL CANYON	2060
CHERRY CANYON	2925	4027		CHERRY CANYON	2925
BRUSHY CANYON	4028	5598		BRUSHY CANYON	4028
BONE SPRING LIME	5599	6542		BONE SPRING LIME	5599
BONE SPRING 1ST	6543	7333		BONE SPRING 1ST	6543
BONE SPRING 2ND	7334	7926		BONE SPRING 2ND	7334

32. Additional remarks (include plugging procedure):
Surveys and Perfs/Stimulation are attached.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #396903 Verified by the BLM Well Information System.

For COG OPERATING LLC, sent to the Carlsbad

Committed to AFMSS for processing by CHRISTOPHER WALLS on 01/02/2018 (18CRW0007SE)

Name (please print) STORMI DAVIS

Title PREPARER

Signature (Electronic Submission)

Date 12/05/2017

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Revisions to Operator-Submitted EC Data for Well Completion #396903

	Operator Submitted	BLM Revised (AFMSS)
Lease:	NMNM113937	NMNM113937
Agreement:		
Operator:	COG OPERATING LLC 2208 WEST MAIN ARTESIA, NM 88210 Ph: 575-748-6940	COG OPERATING LLC 600 W ILLINOIS AVENUE MIDLAND, TX 79701 Ph: 432.685.4385
Admin Contact:	STORMI DAVIS PREPARER E-Mail: sdavis@concho.com Ph: 575-748-6946	STORMI DAVIS PREPARER E-Mail: sdavis@concho.com Ph: 575-748-6946
Tech Contact:	STORMI DAVIS PREPARER E-Mail: sdavis@concho.com Ph: 575-748-6946	STORMI DAVIS PREPARER E-Mail: sdavis@concho.com Ph: 575-748-6946
Well Name:	CRAIG FEDERAL COM	CRAIG FEDERAL COM
Number:	12H	12H
Location:		
State:	NM	NM
County:	EDDY	EDDY
S/T/R:	Sec 1 T26S R26E Mer NMP	Sec 1 T26S R26E Mer NMP
Surf Loc:	NWNW 675FNL 790FWL	NWNW 675FNL 790FWL 32.077152 N Lat, 104.252678 W Lon
Field/Pool:	WILDCAT; BONE SPRING	WC G 03 S262631M
Logs Run:	NONE	NONE
Producing Intervals - Formations:	BONE SPRING	BONE SPRING
Porous Zones:	LAMAR BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING LM 1ST BONE SPRING 2ND BONE SPRING	LAMAR BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING LIME BONE SPRING 1ST BONE SPRING 2ND
Markers:	LAMAR BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING LM 1ST BONE SPRING 2ND BONE SPRING	LAMAR BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING LIME BONE SPRING 1ST BONE SPRING 2ND

CRAIG FEDERAL COM #12H (30-015-44208)

<u>Perfs</u>	<u>15% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	756	312983	355824
2	2394	311002	372876
3	2268	310331	365064
4	2268	314469	365358
5	2268	312777	363174
6	2268	311154	405090
7	2268	311461	368214
8	2352	313173	355908
9	2268	312028	355698
10	2268	313163	346584
11	2268	313535	354060
12	2226	312638	346332
13	2310	314847	356916
14	2268	312945	353346
15	2226	313926	343014
16	2268	313038	351330
17	2268	309195	344232
18	2268	313010	429912
19	2268	311046	343686
20	2268	311999	353052
21	2268	309495	334362
22	2268	262859	381276
23	2268	312115	349398
24	2268	312071	367164
25	2268	312586	339948
26	2268	313039	349692
27	2268	286902	335370
28	2268	312023	336924
29	2310	312066	347256
30	2268	313169	343560
31	2310	312192	336252
32	2310	310557	400260
33	2310	313194	325878
34	2268	312163	312554
35	2268	313477	348390
36	2268	312996	362502
37	2268	311759	329994
38	2268	312248	330330
39	2226	312855	345450
40	2268	312031	334782
41	2268	313305	370608
42	2268	312017	326214
43	2268	312045	326676
44	2310	312395	318318
45	2268	313066	341502
46	2268	312591	316260
47	2226	312706	334530
48	2268	312973	346038
49	2268	311800	298032
50	2268	314062	318234
51	2268	313200	310800
52	2310	314297	367290
53	2268	311080	319914
54	2310	312044	338310
55	2310	312680	337428
56	2268	312625	326466
57	2268	310566	320166
58	2268	312055	318360
59	2268	312031	336252
60	2268	307911	333984
61	3108	309599	317352
62	3108	311768	344274
63	2814	307026	328440
64	2814	302553	349776
Totals	146,832	19,894,912	22,086,236

CRAIG FEDERAL COM 12H

	From Bottom to Top	Stage 6	Distance Between Perfs	Shots	Stage 7	Distance Between Perfs	Shots	Stage 8	Distance Between Perfs	Shots	Stage 9	Distance Between Perfs	Shots	Stage 10	Distance Between Perfs	Shots
		18,040	19	8	18,460	43	8	18,328	21	8	18,178	19	8	18,019	25	8
		18,021	20	8	18,445	14	8	18,310	20	8	18,155	19	8	18,002	21	8
		18,801	19	8	18,431	14	8	18,290	19	8	18,136	24	8	17,981	17	8
		18,882	20	8	18,417	14	8	18,271	13	8	18,112	15	8	17,964	22	8
		18,562	19	8	18,403	14	8	18,258	8	8	18,097	23	8	17,942	20	8
		18,843	19	8	18,389	14	8	18,233	23	8	18,074	18	8	17,922	19	8
		18,524	20	8	18,375	20	8	18,213	18	8	18,058	14	8	17,903	19	8
		18,804	19	8	18,361	8	8	18,194	8	8	18,044	8	8	17,854	8	8
		Plug to Plug	18471	44	Plug to Plug	127	44	Plug to Plug	180	44	Plug to Plug	188	44	Plug to Plug	164	44
		Free Plug		Total Shots	Free Plug	18,471	Total Shots	Free Plug	18,344	Total Shots	Free Plug	18,184	Total Shots	Free Plug	18,029	Total Shots

	From Bottom to Top	Stage 7	Distance Between Perfs	Shots	Stage 8	Distance Between Perfs	Shots	Stage 9	Distance Between Perfs	Shots	Stage 10	Distance Between Perfs	Shots
		17,855	29	8	17,706	22	8	17,684	19	8	17,397	21	8
		17,845	20	8	17,690	20	8	17,634	19	8	17,376	19	8
		17,826	19	8	17,670	19	8	17,615	19	8	17,360	19	8
		17,806	24	8	17,651	20	8	17,490	20	8	17,341	21	8
		17,782	19	8	17,631	19	8	17,478	19	8	17,320	18	8
		17,767	24	8	17,612	19	8	17,457	19	8	17,302	18	8
		17,743	15	8	17,593	20	8	17,438	23	8	17,284	21	8
		17,728	8	8	17,573	8	8	17,418	8	8	17,263	8	8
		Plug to Plug	148	44	Plug to Plug	182	44	Plug to Plug	189	44	Plug to Plug	182	44
		Free Plug	17,888	Total Shots	Free Plug	17,718	Total Shots	Free Plug	17,684	Total Shots	Free Plug	17,408	Total Shots

	From Bottom to Top	Stage 11	Distance Between Perfs	Shots	Stage 12	Distance Between Perfs	Shots	Stage 13	Distance Between Perfs	Shots	Stage 14	Distance Between Perfs	Shots
		17,088	20	8	16,931	22	8	16,778	19	8	16,623	19	8
		17,069	19	8	16,914	20	8	16,759	20	8	16,604	20	8
		17,050	20	8	16,894	19	8	16,739	19	8	16,584	19	8
		17,030	19	8	16,878	21	8	16,720	19	8	16,563	20	8
		17,011	20	8	16,854	18	8	16,701	20	8	16,545	19	8
		16,991	19	8	16,830	20	8	16,681	18	8	16,526	19	8
		16,972	19	8	16,810	19	8	16,662	20	8	16,507	20	8
		16,953	8	8	16,787	8	8	16,642	8	8	16,487	8	8
		Plug to Plug	180	44	Plug to Plug	180	44	Plug to Plug	185	44	Plug to Plug	188	44
		Free Plug	17,098	Total Shots	Free Plug	16,928	Total Shots	Free Plug	16,788	Total Shots	Free Plug	16,633	Total Shots

	From Bottom to Top	Stage 16	Distance Between Perfs	Shots	Stage 17	Distance Between Perfs	Shots	Stage 18	Distance Between Perfs	Shots	Stage 19	Distance Between Perfs	Shots
		16,313	19	8	16,157	22	8	16,002	20	8	15,847	20	8
		16,293	19	8	16,136	19	8	15,983	23	8	15,828	20	8
		16,274	20	8	16,115	20	8	15,960	18	8	15,808	19	8
		16,254	19	8	16,099	19	8	15,944	16	8	15,788	19	8
		16,235	23	8	16,080	20	8	15,920	24	8	15,770	21	8
		16,212	16	8	16,060	19	8	15,905	18	8	15,749	18	8
		16,198	17	8	16,041	18	8	15,887	20	8	15,731	20	8
		16,179	8	8	16,022	8	8	15,867	8	8	15,711	8	8
		Plug to Plug	188	44	Plug to Plug	183	44	Plug to Plug	187	44	Plug to Plug	188	44
		Free Plug	16,322	Total Shots	Free Plug	16,187	Total Shots	Free Plug	16,044	Total Shots	Free Plug	15,857	Total Shots

	From Bottom to Top	Stage 21	Distance Between Perfs	Shots	Stage 22	Distance Between Perfs	Shots	Stage 23	Distance Between Perfs	Shots	Stage 24	Distance Between Perfs	Shots
		15,534	22	8	15,382	19	8	15,220	26	8	15,073	18	8
		15,517	15	8	15,358	15	8	15,207	19	8	15,052	19	8
		15,502	23	8	15,343	15	8	15,188	20	8	15,033	20	8
		15,470	20	8	15,328	24	8	15,168	19	8	15,013	19	8
		15,450	19	8	15,304	17	8	15,149	19	8	14,994	20	8
		15,440	20	8	15,287	22	8	15,130	22	8	14,974	19	8
		15,420	19	8	15,268	19	8	15,108	17	8	14,953	19	8
		15,401	8	8	15,248	8	8	15,091	8	8	14,938	8	8
		Plug to Plug	185	44	Plug to Plug	182	44	Plug to Plug	187	44	Plug to Plug	188	44
		Free Plug	15,544	Total Shots	Free Plug	15,381	Total Shots	Free Plug	15,238	Total Shots	Free Plug	15,081	Total Shots

	From Bottom to Top	Stage 26	Distance Between Perfs	Shots	Stage 27	Distance Between Perfs	Shots	Stage 28	Distance Between Perfs	Shots	Stage 29	Distance Between Perfs	Shots
		14,764	28	8	14,601	24	8	14,451	17	8	14,296	29	8
		14,742	20	8	14,586	18	8	14,431	19	8	14,276	19	8
		14,722	19	8	14,568	20	8	14,412	20	8	14,257	20	8
		14,703	20	8	14,548	20	8	14,392	19	8	14,237	19	8
		14,683	19	8	14,528	19	8	14,373	18	8	14,218	19	8
		14,664	21	8	14,509	20	8	14,354	20	8	14,199	20	8
		14,643	18	8	14,489	21	8	14,334	19	8	14,178	19	8
		14,623	8	8	14,468	8	8	14,315	8	8	14,158	8	8
		Plug to Plug	148	44	Plug to Plug	180	44	Plug to Plug	180	44	Plug to Plug	184	44
		Free Plug	14,784	Total Shots	Free Plug	14,618	Total Shots	Free Plug	14,460	Total Shots	Free Plug	14,320	Total Shots

	From Bottom to Top	Stage 31	Distance Between Perfs	Shots	Stage 32	Distance Between Perfs	Shots	Stage 33	Distance Between Perfs	Shots	Stage 34	Distance Between Perfs	Shots
		13,983	22	8	13,830	19	8	13,678	19	8	13,510	29	8
		13,968	18	8	13,811	20	8	13,662	28	8	13,500	19	8
		13,950	23	8	13,791	19	8	13,636	19	8	13,481	19	8
		13,927	17	8	13,772	20	8	13,617	20	8	13,462	20	8
		13,910	22	8	13,753	19	8	13,597	19	8	13,442	19	8
		13,888	19	8	13,733	19	8	13,578	19	8	13,423	20	8
		13,869	20	8	13,714	20	8	13,559	20	8	13,403	19	8
		13,840	8	8	13,694	8	8	13,539	8	8	13,384	8	8
		Plug to Plug	188	44	Plug to Plug	180	44	Plug to Plug	180	44	Plug to Plug	184	44
		Free Plug	13,998	Total Shots	Free Plug	13,840	Total Shots	Free Plug	13,680	Total Shots	Free Plug	13,520	Total Shots

	From Bottom to Top	Stage 37	Distance Between Perfs	Shots	Stage 38	Distance Between Perfs	Shots	Stage 39	Distance Between Perfs	Shots	Stage 40	Distance Between Perfs	Shots
		13,207	22	8	13,050	23	8	12,898	19	8	12,728	35	8
		13,190	19	8	13,030	15	8	12,880	20	8	12,722	13	8
		13,171	20	8	13,018	19	8	12,860	18	8	12,709	23	8
		13,151	19	8	12,998	19	8	12,841	20	8	12,689	21	8
		13,132	20	8	12,977	20	8	12,821	18	8	12,668	18	8
		13,112	19	8	12,957	19	8	12,802	23	8	12,647	19	8
		13,093	20	8	12,938	20	8	12,778	18	8	12,628	20	8
		13,073	8	8	12,918	8	8	12,753	8	8	12,608	8	8
		Plug to Plug	188	44	Plug to Plug	181	44	Plug to Plug	173	44	Plug to Plug	138	44
		Free Plug	13,215	Total Shots	Free Plug	13,050	Total Shots	Free Plug	12,898	Total Shots	Free Plug	12,738	Total Shots

From Bottom to Top	12,434	6	12,273	41	6	12,118	23	6	11,980	6	11,812	24	6		
	12,412	6	12,250	10	6	12,104	16	6	11,953	14	6	11,794	6		
	12,385	25	12,242	20	6	12,082	21	6	11,925	18	6	11,774	6		
	12,370	14	6	12,230	19	6	12,061	18	6	11,910	19	6	11,765	6	
	12,358	6	12,201	20	6	12,046	20	6	11,891	22	6	11,738	19	6	
	12,358	24	6	12,236	21	6	12,020	16	6	11,860	17	6	11,718	19	6
	12,314	6	12,181	17	6	12,007	16	6	11,852	15	6	11,677	20	6	
		6	12,160	17	6	12,007	16	6	11,852	15	6	11,677	20	6	
		6	12,143	6	6	11,988	16	6	11,837	15	6	11,677	20	6	
		6	12,143	6	6	11,988	16	6	11,837	15	6	11,677	20	6	
Plug to Plug	160	44	Plug to Plug	149	44	Plug to Plug	155	44	Plug to Plug	169	44	Plug to Plug	171	44	
Free Plug	12,441	Total Shots	Free Plug	12,432	Total Shots	Free Plug	12,413	Total Shots	Free Plug	12,404	Total Shots	Free Plug	12,432	Total Shots	

[illegible][illegible]

	Fig. 1	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Fig. 2	Shots	Distance Between Perfs	Fig. 3	Shots	Distance Between Perfs	Shots
From Bottom to Top	15,191	6	6,921	6	6,762	6	6,637	6	6,483	6	6,330	6
	10,867	6	6,776	6	6,776	6	6,637	6	6,483	6	6,330	6
	10,867	6	6,912	6	6,787	6	6,653	6	6,477	6	6,357	6
	10,046	6	6,893	6	6,558	6	6,558	6	6,435	6	6,315	6
	10,076	6	6,873	6	6,718	6	6,593	6	6,468	6	6,343	6
	10,009	6	6,854	6	6,592	6	6,444	6	6,319	6	6,194	6
	9,660	6	6,835	6	6,580	6	6,424	6	6,299	6	6,174	6
	9,670	6	6,815	6	6,560	6	6,404	6	6,279	6	6,154	6
Plug to Plug	44	Plug to Plug	44	Plug to Plug	44	Plug to Plug	44	Plug to Plug	44	Plug to Plug	44	44
10,118	Total Shots	6,981	Total Shots	6,981	Total Shots	6,981	Total Shots	6,981	Total Shots	6,981	Total Shots	

[illegible]