



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

OIL AND GAS DOCKET NO. 08-0292746

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THE APPLICATION OF COG OPERATING LLC FOR PERMANENT GAS WELL CLASSIFICATION FOR VARIOUS LEASES AND WELLS, SANDBAR (BONE SPRINGS) FIELD, LOVING AND REEVES COUNTIES, TEXAS

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HEARD BY: Paul Dubois – Technical Examiner  
Cecile Hanna– Legal Examiner

DATE OF HEARING: November 7, 2014

CONFERENCE DATE: January 27, 2015

APPEARANCES: REPRESENTING:

**APPLICANT:**

Jim Clark  
Jonathan Travis

COG Operating LLC

### EXAMINERS' REPORT AND RECOMMENDATION

#### STATEMENT OF THE CASE

This is the application of COG Operating LLC (COG) to reclassify 23 oil wells as gas wells in the Sandbar (Bone Spring) Field, Loving and Reeves Counties, Texas. Reclassification of these 23 wells effective to the date of completion will make these wells eligible for a severance tax reduction under Statewide Rule 101 (16 Tex. Admin. Code § 3.101). The application was not protested.

At the hearing, COG withdrew its request to reclassify one oil well, the Brunson No. 1103H (API No. 301-31676). The Examiners recommend the remaining 22 oil wells be permanently reclassified as gas wells, effective the date of initial completion.

### DISCUSSION OF THE EVIDENCE

On June 12, 2012 the Commission issued a Final Order to Oil & Gas Docket No. 08-0275393, the application of Anadarko Petroleum Corporation to amend field rules and to authorize permanent gas well classification for wells in the Sandbar (Bone Spring) Field. In the matter of Docket No. 08-0275393 Anadarko sought to adopt a means of permanently classifying wells as gas wells based on a 3000:1 or greater GOR at completion. This approach, justified based on the works of Phillip L. Moses<sup>1</sup> and William D. McCain, Jr.<sup>2</sup>, was adopted at the request of operators in several Eagle Ford Formation and other fields in the state as well as by Anadarko in the Sandbar (Bone Spring) Field.

Reviewing the works of Moses and McCain, the examiners note the cited references predate the recent development of massive fracture stimulation of horizontal wells in tight shales that generate large volumes of flow-back water (indeed, it would be interesting and helpful to see Moses & McCain's work updated in this regard). Moses does, however, recognize the need for well testing to be conducted once a well has stabilized and before the initial reservoir pressure has decreased. Moses states, "The most important factor in a flow test is stabilization. This includes stable wellhead pressure, stable gas production, and stable liquid production." (Moses, 717). Stability would appear to require recovery of at least some of the introduced stimulation fluids before the original formation fluids can establish a representative production at the wellhead. But, Moses explains, well testing must occur early in the life of the well: "As is the case with oil reservoirs, gas-condensate reservoirs should be sampled early in their life, before significant pressure loss has occurred. Once reservoir pressure has declined below the original dewpoint, it is no longer possible to get samples that represent the original reservoir fluid". (Moses, 718). Thus the examiners recognize the potentially conflicting time demands that (1) the 3,000:1 GOR criteria for classification applies to wells with a 3,000:1 GOR at *completion* (as has been worded in the various Commission Final Orders on these issues), and not some indefinite time in the future after production has commenced; but (2) a certain additional time after well completion (i.e., stimulation) may be needed for a well to be stabilized to allow for a representative test.

The subject wells were permitted, drilled and completed as oil wells. COG stated it was unaware of the field rule provisions establishing gas well classification when an initial GOR is 3,000 scf/bbl or greater. COG now seeks to have these 21 oil wells reclassified as gas wells under the existing field rules established by the Commission in Docket No. 08-

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<sup>1</sup> Moses, Phillip L., SPE, Core Laboratories, Inc., "Engineering Applications of Phase Behavior of Crude oil and Condensate Systems", Journal of Petroleum Technology, July 1986, pp 715-723. SPE paper 15835.

<sup>2</sup> McCain, William D., Jr., The Properties of Petroleum Fluids, Second Edition, PennWell Publishing Company, Tulsa, OK. 1990.

0275393. During and after the hearing COG provided evidence to support these wells achieving a stabilized completion GOR of 3,000:1 or greater. The 22 wells are listed below:

Well	API No.	Initial Potential GOR from W-2 (scf/bbl)
Backswing No. 2002H	42-109-32405	12,813
Carpenter D Unit No. 204H	42-109-32583	4,550
Lorena No. 801H	42-109-32525	10,532
Shepard A Unit No. 802H	42-109-32610	6,084
Dr State East No. 2003H	42-109-32604	16,350
Owl Hills State No. 1402H	42-109-32584	6,102
Shepard No. 803H	42-109-32479	7,320
Carpenter C Unit No. 203H	42-109-32579	3,231
Lorena No. 802H	42-109-32523	7,687
Dr State East No. 1602H	42-109-32577	38,627
Deets No. 602H	42-109-32564	6,066
Captain Call No. 401H	42-109-32459	7,417
Mitchell No. 801H	42-109-32524	3,428
Aldrin No. 2801H	42-109-32534	6,019
Armstrong No. 2803H	42-109-32506	4,779
Lorena No. 803H	42-109-32500	782 (see below)
Wetherbee No. 401H	42-109-32480	3,257
Deets No. 601H	42-109-32456	6,541
Lorena No. 804H	42-109-32429	9,521
Johnnie Walker State No. 602H	42-389-33213	2,488 (see below)
Johnnie Walker State No. 601H	42-389-32958	2,699 (see below)
Captain Call No. 402H	42-109-32401	29,561

Three of the subject wells reported initial potential test (Form W-2) GORs below the 3,000 scf/bbl requirement established in the field rules. However, daily production data for these wells indicates the reported W-2 GORs are not representative of a stabilized production GOR following initial completion. The data submitted by COG after the hearing, as requested by the Examiners, indicates these three wells had stabilized production

GORs in excess of 3,000 scf/bbl as follows:

Well	API No.	Initial Potential GOR (Form W-2) (scf/bbl)	Stabilized GOR from Production Data (scf/bbl)
Lorena No. 803H	42-109-32500	782	4,000 to 6,000
Johnnie Walker State No.	42-389-33213	2,488	5,000 to 10,000
Johnnie Walker State No.	42-389-32958	2,699	10,000 and above

### FINDINGS OF FACT

1. Notice of this application and hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing.
2. On June 12, 2012 the Commission issued a Final Order to Oil & Gas Docket No. 08-0275393, authorizing the permanent classification as gas wells for all wells completed in the field with a gas-oil ratio (GOR) of 3,000:1 cubic feet per barrel and above, effective the date of initial completion.
3. COG has demonstrated that the subject 22 were completed with a GOR of 3,000 scf/bbl or greater.

### CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.45
3. The subject 22 wells meet the requirements of Sandbar (Bone Spring) Field Rules to be permanently classified as gas wells, effective the date of first production.

**RECOMMENDATION**

The examiners recommend that the 22 subject wells be permanently reclassified as gas wells, effective the date of initial completion, as requested by COG.

Respectfully submitted,



Paul Dubois  
Technical Examiner



Cecile Hanna  
Legal Examiner