



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 01-0282610

THE APPLICATION OF PETROHAWK OPERATING COMPANY TO AMEND FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD-1) FIELD, ATASCOSA, DIMMIT, FRIO, GONZALES, LA SALLE, MCMULLEN, WILSON AND ZAVALA COUNTIES, TEXAS

OIL AND GAS DOCKET NO. 02-0283238

THE APPLICATION OF PETROHAWK OPERATING COMPANY TO AMEND FIELD RULES FOR THE EAGLEVILLE (EAGLE FORD-2) FIELD, DE WITT, KARNES, LAVACA AND LIVE OAK COUNTIES, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Michael Crnich - Legal Examiner

DATE OF HEARING: June 21, 2013

APPEARANCES: REPRESENTING:

APPLICANT:

John Soule
Judith Fabela
Cary Holtzendorf
Tim Smith

Petrohawk Operating Company

PROTESTANT:

David Cooney
Deborah Flados
Lorenzo Garza
Doug Johnson
Joe Stasulli
Scott Rosenquist

Commission Staff

INTERESTED PARTIES:

Donnie C. Stowe Bob Tierney	Plains Exploration & Prod. Co.
Turner Williamson	Encana Oil & Gas (USA) Inc.

PROCEDURAL HISTORY

Application Filed:	May 10, 2013
Notice of Hearing:	May 30, 2013
Protest Received:	June 12, 2013
Hearing Held:	June 21, 2013
Record Closed:	June 21, 2013
Proposal for Decision Issued:	August 28, 2013

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Field Rules for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields were adopted in Final Order Nos. 01-0266450 and 02-0266475, effective November 30, 2010, as amended. The current Field Rules are summarized as follows:

1. Designation of the fields as the correlative interval from 10,294 feet to 10,580 feet, as shown on the log of the Petrohawk Resources, Inc. - Milton Unit, Well No. 1 (API No. 42-255-31608);
2. 330'-0' well spacing with special provisions for "take points", 100' lease line spacing for the first and last take points, a 33' "box" rule and "off-lease" penetration point and for horizontal drainhole wells;
3. 80 acre oil units with optional 40 acre density;
4. Allocation based on 100% acres, a maximum oil allowable of 2,000 BOPD and no casinghead gas limitation for oil wells;
5. Special provisions for an exception to Statewide Rule 13(b)(5)(a), which requires producing a flowing oil well through tubing;
6. Special provisions for an exception to Statewide Rule 51(a) regarding the 10 day rule for the filing of paperwork related to the completing of wells.

Petrohawk Operating Company ("Petrohawk") requests that the Field Rules for both subject fields be amended to provide for a 100' "surface box" rule for horizontal drainhole wells and additional six month extensions to Field Rule Nos. 5 and 6 for good cause shown, or if the well continues to flow at a pressure in excess of 300 psi. Petrohawk also requests that all over-production for the wells shown in the attached Exhibit A in the two subject fields be canceled. At the hearing, Petrohawk proposed that the 100' "surface box" rule be revised down to a 50' "surface box" rule.

The 50' or 100' "surface box" rule is protested by Commission staff, since there is already a procedure in place to handle surface location changes. The examiners recommend approval of the amended Field Rule Nos. 5 and 6, cancellation of the over-production and denial of the proposed "surface box" rule.

DISCUSSION OF THE EVIDENCE

The Eagleville (Eagle Ford-1) Field was created in November 2010 by the consolidation of the Dilworth, Leesville and Pilgrim (Eagleford) Fields. The average depth of the field is 10,600 feet and there are 1,591 producing oil wells and 30 producing gas wells carried on the proration schedules. Cumulative production from the field through June 2013 is 161.7 MMBO and 242.9 BCFG.

The Eagleville (Eagle Ford-2) Field was created in November 2010 by the consolidation of the Eagleville and Klotzman (Eagleford) Fields. The average depth of the field is 10,300 feet and there are 1,092 producing oil wells and one producing gas well carried on the proration schedules. Cumulative production from the field through June 2013 is 157.7 MMBO and 272.5 BCFG.

Applicant's Evidence

The Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields are under going rapid development with horizontal drainhole wells. The Eagle Ford formation contains over-pressured and normally pressured zones that are fracture stimulated with as many as 20 stages. The fracture stimulation requires high pressures and large volumes of frac fluid and proppant that exceed a tubing's burst strength and volume capacity. It typically takes 4 to 12 months for wells to recover load water and establish production representing stabilized flow of native reservoir fluids. Wellhead control is maintained as a "frac tree" is typically kept on the well until tubing is run into the well. Since snubbing operations have inherent safety risks and high costs, operators wait until surface pressures are manageable, usually less than 300 psi, before killing the well and installing tubing.

The current exceptions to Statewide Rule 13(b)(5)(a) and Statewide Rule 51(a) in Field Rule Nos. 5 and 6 allow operators of flowing oil wells in the subject fields the flexibility to run tubing and file completion paperwork once the pressure and production rates have declined, without penalties for six months. The exception also provides for one three

month extension. Petrohawk has had several wells that have flowed above 300 psi for over one year. Petrohawk submitted a tabulation of fifteen wells that will flow at a pressure above 300 psi for over the nine month exception time currently allowed. The estimated time for the wells flowing casing pressure to drop below 300 psi ranged from 10 months up 30 months. Petrohawk requests that the current six month exception be amended to provide for six month extensions if the well continues to flow at a pressure in excess of 300 psi. Commission staff in the Field Operations Section have no issues with approving the amended rules. Petrohawk also requests that all over-production for the wells shown in the attached Exhibit A in the two subject fields be canceled.

Petrohawk proposes that the Field Rules for both subject fields be amended to provide for a 100' "surface box" rule, or in the alternative, a 50' "surface box" rule for horizontal drainhole wells. From January to May 2013, there have been approximately 1,200 amended drilling permits issued by the Commission. Of the total amended drilling permits issued, approximately 100, or 8%, were issued to amend the surface location. Petrohawk stated that the new horizontal drainhole well drilling rigs were large structures that are built on rails. The rigs are designed to drill five horizontal drainhole wells in a row by drilling the first well and then sliding over 15 feet to drill the next well. Petrohawk opined that this procedure made it difficult to be accurate within one foot on any permitted surface location.

Petrohawk believes that there is no need to re-map the surface location on the drilling permit, as the actual surface location will be shown on the as drilled plat filed with the completion form. This new process would eliminate the expense and inconvenience to the operators to seek amended drilling permits for a change in the surface location. This would also eliminate the need for a Statewide Rule 37 exception when an as drilled plat is filed for a changed surface location instead of a proposed drilling plat. Petrohawk also noted that, in the past, Staff has approved completions when the surface location had been moved by less than 50 feet.

Staff's Protestant Evidence

The 50' or 100' "surface box" rule is protested by Commission staff. At the hearing, staff would only agree to a 10' "surface box" rule. There is already a procedure in place to handle surface location changes, which have historically required an amended Form W-1, although staff has the discretion to waive the fee if only the surface location changes. However, the matter of waiving the fee is not the same as the consideration of whether the permit must be amended, as an amended permit with a waived fee still counts as an amended permit. The implementation of the proposed 100' "surface box" rule would require an additional procedure be created to accommodate it. The W-1 review process is already in place as the Commission's practicing way of accommodating updates to the surface location. For a materially amended permit, Statewide Rule 5 requires a new Form W-1 and applicable fees and usually involves the addition of a field, reservoir or a change in location on a previously permitted well.

Under current completion review procedures, the proration section reviews the surface location calls on Form G-1 or W-2. If the field requires as-drilled plats, the engineering unit also checks the as-drilled survey line calls and grid coordinates against the permitted surface location. If the values do not match, the operator is instructed to submit an amended drilling permit application. The drilling permit section reviews the amended Form W-1 and re-spots the surface location in the mapping system. This requires specifically trained staff to verify the data for accuracy to ensure that the location data is properly inputted into the GIS system and cannot be automated. The final review on the completion report can then be performed.

The mapping section then updates the as-drilled bottom-hole location of the well by entering displacement coordinates relative to the permitted surface location. The surface location cannot be updated by this point in the sequence because the procedure for doing so falls within the permitting review. If the need for an amended W-1 is suspended by the proposed "surface box" rule, an alternate workflow would have to be created to trigger the drilling permit section to backtrack to a previously approved permit application. Further, this would require re-spotting the surface location without all of the information normally associated with this task being submitted on a Form W-1. Programming changes would have to be made in the drilling permits system and the online completion system to accommodate the new workflow. This will have a lower priority than developing systems and procedures for other tasks that do not already have fully functional procedures in place.

An amended permit for a moved surface location should not be burdensome for the operator because it does not require any information not already required to be submitted. The new surface location must already be platted and reported when creating the as-drilled plat and completing Form G-1 or W-2. The time expense in receiving approval for an amended permit should also be possible to overcome because the viability of the permitted surface location could be verified by the operator in advance of scheduling the drilling rig. The online drilling permit user interface has been programmed to make permit amendments more convenient by including an "auto-populate" feature. Once the initial permit is approved for a well, the filing user does not have to re-enter data for any subsequent amendments to that permit.

A difference in 100 feet between the permitted surface location and as-drilled surface location may lead to difficulties in field inspectors locating the well. If multiple wells are present within any given 100 by 100 foot area, any area-specific reference points given for locating the well may no longer apply. This could lead to misidentifying wells where pressure control concerns or hydrogen sulfide conditions may exist. Further, a 100-foot difference in the surface location may place the well in a different county, survey or abstract from the one listed on the drilling permit. If the surface location is now in a different county, the API number would be impacted as an issued API number is based on the surface location of the well.

The proposed "surface box" rule states, in part, "the area of a corrected surface location indicated by the operator shall consist of a one hundred (100) foot by one hundred (100) foot square based on the original survey line calls from the original permitted surface location". The proposed rule does not specify the center or the orientation of the square. A point located at a corner of the square would be approximately 142 feet away from the opposite corner, and the square could be oriented such that the surface location is in a corner of the square. Since the proposed rule does not specifically require the square to be centered on the surface location, and does not specify the orientation of the square, this would effectively grant the surface location 142 feet of tolerance instead of the proposed 100 feet.

Staff stated that there is not a problem to solve and the proposed "surface box" rule would institutionalize inaccuracies. The rule would also set a precedent for a 100-foot tolerance square, which propagates necessarily to 142 feet of tolerance. The language appears to have been intended to accommodate 100 feet of tolerance, but actually gives 142 feet. This same situation would also apply proportionately to a 50' "surface box" rule. Staff opined that the proposed rule would be difficult to understand on common ground, because the appearance of the rule does not match the actual allowance that it provides.

EXAMINERS' OPINION

The examiners recommend approval of the amended Field Rule Nos. 5 and 6 and denial of the proposed "surface box" rule. The examiners also recommend limiting additional extensions to Field Rule No. 5 to instances where the flowing casing pressure remains above 300 psi. No evidence of other "good cause" requiring an extension was presented.

Petrohawk did not provide a convincing argument for changing the Commission's current policy requiring an amended drilling permit for a changed surface location. Since only 8% of the amended permits are for a changed surface location, the examiners believe that the operators are not experiencing any undue burden. The examiners also agree with Staff that there is not a problem to solve and the proposed "surface box" rule would institutionalize inaccuracies in Commission maps and well data. These inaccuracies would make fast and certain identification of wells in emergency situations more difficult and time consuming.

In addition, programming changes would have to be made in the drilling permits system and the online completion system to accommodate the new workflow. This will have a lower priority than developing systems and procedures for other tasks that do not already have fully functional procedures in place. The proposed "surface box" rule would also set a precedent for a 100-foot tolerance square, which propagates necessarily to 142 feet of tolerance. This same situation would also apply proportionately to a 50' "surface box" rule. The proposed rule would be difficult to understand on common ground, because the appearance of the rule does not match the actual allowance that it provides.

FINDINGS OF FACT

1. Notice of this hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing.
2. The Eagleville (Eagle Ford-1) Field was created in November 2010 by the consolidation of the Dilworth, Leesville and Pilgrim (Eagleford) Fields. The average depth of the field is 10,600 feet and there are 1,591 producing oil wells and 30 producing gas wells carried on the proration schedules.
3. The Eagleville (Eagle Ford-2) Field was created in November 2010 by the consolidation of the Eagleville and Klotzman (Eagleford) Fields. The average depth of the field is 10,300 feet and there are 1,092 producing oil wells and one producing gas well carried on the proration schedules.
4. The Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields are under going rapid development with horizontal drainhole wells.
5. Statewide Rule 13(b)(5)(a) requires flowing oil wells to be produced through tubing. Currently, the rule does not allow for exceptions.
6. Statewide Rule 13(b)(5)(a) does not require flowing gas wells to be produced through tubing.
7. Exceptions to Statewide Rule 13(b)(5)(a) and Statewide Rule 51(a) will allow operators of flowing oil wells in these two fields the flexibility to run tubing and file completion paperwork, without penalties, once the pressure and production rates have declined.
 - a. The current exceptions to Statewide Rule 13(b)(5)(a) and Statewide Rule 51(a) in Field Rule Nos. 5 and 6 allow operators of flowing oil wells in the subject fields the flexibility to run tubing and file completion paperwork once the pressure and production rates have declined, without penalties for six months. The exception also provides for one three month extension.
 - b. Petrohawk Operating Company ("Petrohawk") has had several wells that have flowed above 300 psi for over one year.
 - c. A tabulation of fifteen wells shows that the wells will flow at a pressure above 300 psi for over the nine month exception time currently allowed.

- d. The estimated time for the fifteen wells flowing casing pressure to drop below 300 psi ranges from 10 months up 30 months.
8. Six month extensions to the six month exception if a well continues to flow at a casing pressure in excess of 300 psi is appropriate for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields.
 9. A “surface box” rule is not appropriate for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields.
 - a. Only 8% of the amended permits are for a changed surface location and operators are not experiencing any undue burden under the existing Commission policy.
 - b. There is not a problem to solve and the proposed “surface box” rule would institutionalize inaccuracies in Commission maps and well data.
 - c. Programming changes would have to be made in the drilling permits system and the online completion system to accommodate the new workflow. This will have a lower priority than developing systems and procedures for other tasks that do not already have fully functional procedures in place.
 - d. The proposed “surface box” rule would also set a precedent for a 100-foot tolerance square, which propagates necessarily to 142 feet of tolerance. This same situation would also apply proportionately to a 50’ “surface box” rule.
 - e. The proposed “surface box” rule is difficult to understand on common ground, because the appearance of the rule does not match the actual allowance that it provides.
 - f. The proposed “surface box” rule would introduce uncertainty as to the actual surface location of wells and could create unsafe conditions and delay prompt identification and locating of wells in emergency situations.
 - g. A difference in 100 feet between the permitted surface location and as-drilled surface location may lead to difficulties in field inspectors locating the well. If multiple wells are present within any given 100 by 100 foot area, any area-specific reference points given for locating the well may no longer apply. This could lead to misidentifying wells where pressure control concerns or hydrogen sulfide conditions may

exist. Further, a 100-foot difference in the surface location may place the well in a different county, survey or abstract from the one listed on the drilling permit.

10. Shutting-in oil wells to make up overproduction is not necessary to prevent waste.
11. No operator in the two subject fields has objected to the request to cancel over-production for the wells shown in the attached Exhibit A.


CONCLUSIONS OF LAW

1. Proper notice of this hearing was issued.
2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.
3. Approval of the amended Field Rule Nos. 5 and 6 for the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields is necessary to prevent waste, protect correlative rights and promote development of the fields.
4. Cancellation of the over-production for the wells shown in the attached Exhibit A in the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields will not cause waste and will not harm correlative rights.
5. The proposed "surface box" rule will not prevent waste or protect correlative rights and could adversely affect safety and would undermine the reliability and integrity of Commission maps and well data.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the amended Field Rule Nos. 5 and 6 and cancel the over-production for the wells shown in the attached Exhibit A in the Eagleville (Eagle Ford-1) and Eagleville (Eagle Ford-2) Fields, as requested by Petrohawk Operating Company. The examiners also recommend that the Commission deny the proposed "surface box" rule.

Respectfully submitted,


Richard D. Atkins, P.E.
Technical Examiner


Michael Crnich
Legal Examiner

Exhibit A

<u>Lease Name</u>	<u>Well No.</u>	<u>API No.</u>	<u>Field</u>
HAUGLUM A	1H	42-297-35203	Eagleville 1
A. GREAVES A	2H	42-255-32308	Eagleville 2
HAUGLUM	1H	42-297-34886	Eagleville 2
A. GREAVES B	3H	42-255-32715	Eagleville 2
DAVIS A	1H	42-255-32712	Eagleville 2
DAVIS A	2H	42-255-32713	Eagleville 2
DAVIS A	3H	42-255-32714	Eagleville 2
DAVIS B	1H	42-255-32721	Eagleville 2
KRUCIAK A	3H	42-255-32734	Eagleville 2
KRUCIAK A	1H	42-255-32736	Eagleville 2
DAVIS B	2H	42-255-32722	Eagleville 2
A. GREAVES B	4H	42-255-32726	Eagleville 2
A. GREAVES B	5H	42-255-32716	Eagleville 2
KRUCIAK A	4H	42-255-32737	Eagleville 2
KRUCIAK A	5H	42-255-32735	Eagleville 2
GALLO ROJO A	5H	42-255-32887	Eagleville 2
HAUGLUM	10H	42-297-35246	Eagleville 2
MAYER B	1H	42-255-32416	Eagleville 2
PAWELEK A	1H	42-255-32410	Eagleville 2
PAWELEK A	2H	42-255-32459	Eagleville 2
CREWS A	1H	42-255-32447	Eagleville 2
CREWS B	1H	42-255-32444	Eagleville 2
CRISP A	1H	42-255-32644	Eagleville 2
CRISP A	2H	42-255-32643	Eagleville 2
SMOLIK A	1H	42-255-32305	Eagleville 2
MIKA A	1H	42-255-32419	Eagleville 2
MIKA A	2H	42-255-35460	Eagleville 2
MIKA A	3H	42-255-32751	Eagleville 2
MAYER A	1H	42-255-32418	Eagleville 2
A. GREAVES A	1H	42-255-32307	Eagleville 2
WESSENDORFF A	1H	42-255-32436	Eagleville 2
NICHOLS A	1H	42-255-32750	Eagleville 2
DAVIS B	1H	42-255-32721	Eagleville 2
A. GREAVES B	2H	42-255-32724	Eagleville 2
A. GREAVES B	6H	42-255-32725	Eagleville 2
DAVIS B	3H	42-255-32723	Eagleville 2