

**THE APPLICATION OF LATIGO PETROLEUM, INC. TO AMEND FIELD RULES AND TO TRANSFER WELLS TO THE MEG (GRANITE WASH) FIELD, HEMPHILL COUNTY, TEXAS**

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**Heard by:** Andres J. Trevino, P.E. on April 30, 2009

**Appearances:**

George C. Neale  
Bob Tierney  
Rich Keogh  
Don Brown  
David Beck

**Representing:**

Latigo Petroleum, Inc.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Field rules for the Meg (Granite Wash) Field were adopted in Final Order No. 10-76,582, effective June 1, 1981, and are summarized as follows:

1. 660'-1320' well spacing;
2. 160 acre gas units plus 10% tolerance with a diagonal not to exceed 4500 feet;
3. Allocation based on 100% deliverability with AOF status.

Latigo requests that the rules for the field be amended as follows:

1. Designation of the field as the correlative interval from 10,830 feet to 12,250 feet, as shown on the log of the Latigo's, Moore 63 Lease Well No. 3;
2. 467'-660' well spacing for horizontal and vertical wells, with no limitation between vertical and horizontal wells; special language for "take points" in horizontal wells and off-lease penetration points;

3. 160 acre density plus 10% tolerance with optional 40 acre units, no P-15 or proration unit plats;
4. Special provisions for stacked lateral wells;
5. Allocation based on 95% deliverability/potential and 5% per well with AOF status.

Latigo requests that wells (listed in Appendix A) recently placed by into the Gem-Hemphill (Granite Wash) Field be transferred to the Meg (Granite Wash) Field. The application was unopposed and the examiner recommends that the field rules for the Meg (Granite Wash) Field be amended as proposed by Latigo.

### **DISCUSSION OF EVIDENCE**

The Meg (Granite Wash) Field was discovered in December 1980 at a depth of 10,918 feet. The field is designated as a non-associated field with six gas wells in the field. The field operates under Special Rules that allow 160 acre density and 660'/1320' well spacing and the allocation formula is currently suspended.

The Gem-Hemphill (Granite Wash) Field was discovered in October 1974 at a depth of 11,638 feet. The field is designated as a non-associated field with seven gas wells in the field. The field operates under Statewide Rules and the allocation formula is currently suspended. All wells currently listed on the proration schedule in the Gem-Hemphill (Granite Wash) Field are operated and were placed into the field recently by Latigo Petroleum. Upon locating the discovery wells for both the Meg (Granite Wash) Field and the Gem-Hemphill (Granite Wash) Field, Latigo believes its Gem-Hemphill wells should be transferred to the Meg field. The majority of the wells are clustered within 1½ miles of the Meg discovery well. The Gem-Hemphill discovery well is located approximately 3½ from the main cluster of wells. There are no wells clustered around the Gem-Hemphill field.

Latigo requests the well spacing be reduced to 467'/660' spacing with no between wells spacing requirement between vertical and horizontal wells. This spacing will allow flexibility in placing horizontal wells and promote development of the field. Latigo requests maintaining the 160 acre density while adding an optional 40 acre unit. Latigo presented drainage calculations for seven wells in the field to substantiate the optional 40 acre unit. Using decline curve analysis and reservoir information taken from available well logs, assuming an average of 8.0% porosity, 44.0% water saturation and a 80% recovery factor, drainage area calculations showed the wells will drain between 1 acre and 38 acres with an average of 22 acres. The EUR for the seven wells range from 32 MMCF to 1,615 MMCF.

Operators are currently developing similar Granite Wash fields in the area with horizontal wellbores. Latigo requests similar horizontal well rules that were recently approved for the Stiles Ranch (Granite Wash Cons.) Field. Latigo requests that a field rule be adopted which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. Latigo's proposed rule specifies that, for purposes of lease line and between-well spacing, the nearest "take point" in a horizontal well be used. This take-point could be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased well. Similar rules have been adopted in other tight reservoirs, including the Barnett Shale, some Cotton Valley fields and several Granite Wash Fields.

The proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 467 feet to a lease line, as long as no take-point is closer than 467 feet to any lease line. Horizontal drainhole length on a lease is then maximized, resulting in additional recovery of gas. For purposes of assignment of additional acreage pursuant to Rule 86, it is proposed that the distance between the first and last take-point in a horizontal well be used.

Latigo also requests that field rules for the subject field provide for off-lease penetration points. Statewide Rule 86 requires that the penetration point of a horizontal drainhole be on the lease. In some cases, it is beneficial to penetrate the reservoir off lease, while still having "take points" no closer to lease lines than allowed under the field rules. Similar rules allowing offsite penetration points have been adopted in other fields, after notice to the mineral owners of the off-lease tract on which the penetration point is to be located.

It is also requested that spacing rules for the field be adopted to accommodate the drilling of stacked horizontal lateral wells. The gross thickness of the Granite Wash field interval is almost 1,400 feet. Within the correlative interval there are three distinct intervals that are productive, the Upper, Middle and Lower Granite Wash. Latigo believes that several separate laterals may be necessary to effectively develop the reservoirs with horizontal wells. Similar stacked lateral rules have already been adopted in several Granite Wash fields in the area, as well as in the Newark, East (Barnett Shale) Field. The rule would allow stacked horizontal laterals within the Granite Wash correlative interval that are drilled from different wellbores to be considered a single well for regulatory purposes. It is proposed that a stacked lateral be defined to be multiple horizontal drainholes which are drilled (1) from different surface locations on the same lease unit no more than 250 feet from each other at the surface and (2) no more than 300 feet from each other in a horizontal plane within the correlative interval.

**FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Meg (Granite Wash) Field is an associated field which operates under Special Rules and AOF status.
3. The Meg (Granite Wash) Field was discovered in December 1980 at a depth of 10,918 feet. The field has six gas wells in the field.
4. The wells to be transferred to the Meg (Granite Wash) Field from the Gem-Hemphill (Granite Wash) Field are clustered around the Meg (Granite Wash) discovery well.
5. Development with optional 40 acre density is necessary to maximize recovery from the field. Seven wells analyzed by Latigo have a calculated average drainage area of 22 acres.
6. A spacing rule which utilizes “take-points” in a horizontal well for determination of distances to lease lines will prevent waste and will not harm correlative rights.
  - a. The Granite Wash is a tight formation and is not commercially productive unless fracture-stimulated.
  - b. A take-point in a horizontal well in this field may be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased portion of the wellbore.
  - c. Adoption of the proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 467 feet to a lease line, as long as no take-point is closer than 467 feet to any lease line.
  - d. Adoption of the proposed rule will allow the horizontal drainhole length on a lease to be maximized.
7. Allowing off-lease penetration points, after notice to mineral owners of the offsite tract, will result in maximum producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells.

8. The proposed minimum lease line spacing of 467 feet and minimum spacing of 660 feet between wells, with no limitation between horizontal and vertical wells, will provide flexibility in developing the field.
9. The proposed “stacked lateral” rule for the Meg (Granite Wash) Field will allow stacked horizontal laterals within the Granite Wash correlative interval that are drilled from different wellbores to be considered a single well for regulatory purposes.
10. For purposes of assignment of additional acreage pursuant to Rule 86, the distance between the first and last take-point in a horizontal well should be used.

**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. Amending the field rules for the Meg (Granite Wash) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

**RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission transfer wells listed in Appendix A and amend the field rules for the Meg (Granite Wash) Field as proposed by Latigo Petroleum, Inc.

Respectfully submitted,

Andres J. Trevino, P.E.  
Technical Examiner

## ATTACHMENT A

## WELLS TO BE TRANSFERRED TO THE MEG (GRANITE WASH) FIELD

<b>API No.</b>	<b>Lease Name</b>	<b>No.</b>	<b>Field Name</b>
211-33601	ANDERSON RANCH 61	1	GEM-HEMPHILL (GRANITE WASH)
211-34477	MOORE 62	1	GEM-HEMPHILL (GRANITE WASH)
211-33716	MOORE 63	1	GEM-HEMPHILL (GRANITE WASH)
211-34196	MOORE 63	2	GEM-HEMPHILL (GRANITE WASH)
211-34354	MOORE 63	3	GEM-HEMPHILL (GRANITE WASH)
211-34355	MOORE 63	4	GEM-HEMPHILL (GRANITE WASH)
211-33676	HANSON 29	1	GEM-HEMPHILL (GRANITE WASH)
211-34480	HANSON 40	2	GEM-HEMPHILL (GRANITE WASH)
211-34478	HANSON 40	3	GEM-HEMPHILL (GRANITE WASH)
211-34201	COOPER 39	1	GEM-HEMPHILL (GRANITE WASH)
211-34576	THOMAS 41	1	GEM-HEMPHILL (GRANITE WASH)
211-33905	SANDERS 60	2	GEM-HEMPHILL (GRANITE WASH)
211-34106	WELLS, J.O.	4096	GEM-HEMPHILL (GRANITE WASH)