

**APPLICANT'S PROPOSED DRAFT ORDER**

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION**

**IN THE MATTER OF THE HEARING CALLED  
BY THE OIL CONSERVATION COMMISSION  
FOR THE PURPOSE OF CONSIDERING:**

**APPLICATION OF FRONTIER FIELD SERVICES, LLC,  
FOR AUTHORIZATION TO INJECT,  
LEA COUNTY, NEW MEXICO.**

**CASE NO. 15193 ORDER NO. R-13443-C**

**ORDER OF THE COMMISSION**

THIS MATTER came before the Oil Conservation Commission ("Commission") on the application of Frontier Field Services, LLC ("Frontier" or the "Applicant") for authorization to inject treated acid gas. The Commission having conducted a public hearing on September 10, 2015, and having considered the testimony, the record, and the arguments of the parties, and being otherwise fully advised, enters the following findings, conclusions and order.

**THE COMMISSION FINDS THAT:**

1. Notice has been given of the application and the hearing of this matter, and the Commission has jurisdiction of the parties and the subject matter herein.

2. Frontier seeks an amendment to Order Nos. R-13443-A and R-13443-B to provide for an increase of the maximum rate of injection of treated acid gas ("TAG") and plant wastewater into the Wolfcamp formation through two previously approved AGI wells located near Applicant's Maljamar Processing Plant identified as follows: Maljamar AGI Well No. 1 API No. 30-025-40420, 130' FSL and 1,830' FEL Section 21, T-17-S, R-32-E, NMPM and Maljamar AGI Well No. 2 API No. 30-025-42628 400' FSL and 2,100' FEL (Surface), 350' FSL and 650' FWL (Bottom Hole) Section 21, T-17-S, R-32-E, NMPM. Applicant proposes to increase the rate of injection through the wells to 3.5 MMSCFD.

3. Frontier also seeks to have the Commission authorize the Division to review and approve further modifications to Applicant's injection authorization either administratively or by hearing for such matters as are presently provided for injection operations under 19.15.16.1 NMAC, *et seq.* and by the Division's current procedures.

4. Injection into the Maljamar AGI Well No. 1 was approved by Commission Order No. R-13443-A. Order No. 14331, Case No. 14464, *Application of Frontier Field Services for Approval of an Acid Gas Disposal Well*, Order ¶ 1 (March 19, 2013). The well has been drilled and completed and injection operations have commenced.

5. Injection into the Maljamar AGI Well No. 2 was approved by Commission Order R-13443-B. Order No. 14331-B, Case No. 15193, *Application of Frontier Field Services for Authorization to Inject*, Order ¶ 1 (November 19, 2014). The well has not yet been drilled. Injection into the Wolfcamp formation at depths of approximately 9,600-10,220 feet subsurface is authorized.

6. Order No. R-13443-B provided for a maximum daily injection rate of 2 MMSCFD through either well or both wells combined. Order No. 14331-B, Order ¶ ¶ 1, 2 (November 19, 2014). Frontier seeks to increase the maximum daily injection rate to 3.5 MMSCFD.

7. In support of the application, Frontier presented direct testimony from two witnesses: one fact witness, Coy Bryant, Frontier's Director of Operations; and a technical witness, Alberto Gutierrez, RG, President of Geolex, Inc.

8. The Oil Conservation Division ("Division") previously filed an entry of appearance as an intervener but presented no witness testimony. Instead, the Division presented a written statement of support for Frontier's Application.

9. Mr. Bryant testified that concentrations of H<sub>2</sub>S and CO<sub>2</sub> in plant inlet gas have increased since the commencement of injection operations, requiring the addition and modification of AGI compression facilities. Initially, the TAG was composed of 88 percent CO<sub>2</sub> and 12 percent H<sub>2</sub>S, along with trace components of C<sub>1</sub> – C<sub>7</sub>. It is expected that the composition of the injection fluids will change to 70 percent CO<sub>2</sub> and 30 percent H<sub>2</sub>S. These circumstances, along with the anticipated consolidation of processing plants in southeast New Mexico will result in an increase in treated acid gas production of up to 3.5 MMSCFD. With the increased injection rate, Frontier expects to be able to treat the full volumes of gas

delivered by producers while avoiding curtailments of processing services from capacity constraints.

10. Mr. Bryant further testified that certain of the circumstances that existed at the time of the filing of the earlier Application which resulted in the issuance of Order No. R-13443-B remain unchanged. Frontier does not seek an increase of surface injection pressures. There are no new wells in the half-mile area of review ("AOR") which penetrate the Wolfcamp formation. The single plugged and abandoned well within the AOR, the Queen "B" No. 036, has maintained casing and cementing integrity and continues to be isolated from the injection zone. The design and construction of the Maljamar AGI Well No. 2 will be unchanged. The ownership of the surface within one-half mile has not changed. The offsetting operators remain the same.

11. Order No. R-1334-B requires Frontier to modify the current H<sub>2</sub>S Contingency Plan when the Maljamar AGI Well No. 2 is brought online. Order No. 14331-B, Order ¶ 6 (November 19, 2014). Mr. Bryant testified that at such time, the Contingency Plan will be modified to account for the additional volumes of hydrogen sulfide that the Maljamar Processing Plant will be handling.

12. Frontier's technical witness, Alberto Gutierrez, RG, testified that at a constant 2.0 MMSCFD injection rate the calculated injection radius would be 0.26 miles and an area of 139 acres. With a safety factor of 100 percent, or the injection of 4.0 MMSCFD of TAG, the radius of influence for each well after injecting for thirty years will be approximately 0.37 miles with a reservoir area of 278 acres. Based on proposed injection volumes at 3.5 MMSCFD, the injection radius will increase to 0.32 miles with an area of approximately 207 acres. When calculated using the 100 percent safety factor, the radius increases to 0.45 miles and the area will increase to 292 acres. There is sufficient pore volume to contain the additional volumes of TAG and wastewater. The actual configuration of the plume of injected fluid volumes will depend on depositional variability, but is expected to remain within the one-half mile AOR.

13. In the area of reservoir expected to be occupied by the larger injection plume, the proposed injection zone provides a sufficient geologic seal to contain the injected TAG and wastewater and prevent its migration into other zones. The injection zone is sufficiently isolated from any protectable groundwater sources and there is no evidence injection will impair existing or potential hydrocarbon production in the area. In addition, there is not any faulting or other geologic or man-made conduits that will allow the treated injected acid gas to migrate out of the injection zone.

14. The increased rate of injection will not result in an increase surface injection pressures. The Maljamar AGI Well No. 1 and the Maljamar AGI Well No. 2 are designed to operate independently or with flows split between them, allowing both wells to inject at pressures well below the maximum authorized operating pressure.

15. Injection of the proposed waste stream at the increased rate in conformance with this Order will protect the environment and human health, and will not cause waste or impair correlative rights.

17. The witnesses for the Applicant also testified regarding the request for the Commission to authorize the Division to review and approve further modifications to Applicant's injection authorization either administratively or by hearing for such matters as are presently provided for under the rules for injection operations and under the Division's current procedures.

18. The Division currently does not have rules expressly and specifically applicable to injection operations for TAG. In view of this, it has been the practice of the Division's directors to direct the Commission to hear all applications for AGI injection well operations pursuant to Rule 19.15.4.20 NMAC. In issuing orders approving of AGI injection well operations, the Commission has on occasion included provisions authorizing the Division to review and approve specified modifications to authorizations to inject.

19. Order R-13443-B provides that the Division may approve the following modifications: (1) modifications to well casing programs, Order No. 14331-B, Case No. 15193, *Application of Frontier Field Services for Authorization to Inject*, Finding ¶ 20 (November 19, 2014); changes to the frequency for reporting injection parameters, *Id.*, Finding ¶ 20; modifications to immediate notification parameters, *Id.*, Finding ¶ 25(k); and increases to operating pressures, *Id.*, Order ¶ 20.

20. The Applicant recommended and the Division concurred that the Commission authorize the Division to review and approve such other matters either administratively or after hearing as the Division determines appropriate.

21. Authorizing the Division to review and approve such modifications to Frontier's authorization to inject will serve to promote efficiency of the administrative process for the Applicant and the Division, as well as the Commission.

22. Frontier provided personal notice, via certified mail, return-receipt requested, of the submission of its application and the Commission hearing to all operators, surface owners, and lessees within a one-half mile radius of the bottomhole location for the proposed well.

23. Pursuant to Rule 19.15.4.9.B(3) NMAC, the Division provided public notice by publishing notice of Frontier's application and the Commission hearing in a newspaper of general circulation in Lea County.

24. No objections to the Application were filed and no other party appeared at the hearing in this matter.

**THE COMMISSION CONCLUDES THAT:**

1. The Commission has jurisdiction over the parties and the subject matter of this case.

2. Proper public notice has been given.
3. Proper individual notice has been given to all operators, surface owners, and lessees within a one-half mile radius of the planned bottomhole location of the Maljamar AGI Well No. 2.
4. Under the provisions of this Order and Orders R-13443-A and R-13443-B, Frontier's injection of treated acid gas at the increased rate can be conducted in a safe manner without causing waste, impairing correlative rights, adversely affecting oil and gas producing zones, or endangering fresh water, public health, or the environment.

**IT IS THEREFORE ORDERED THAT:**

1. Frontier's application is approved.
2. Frontier is hereby authorized to inject acid gas and carbon dioxide through the Maljamar AGI Well No. 1 and the Maljamar AGI Well No. 2 at an increased rate not to exceed 3.5 MMSCFD.
3. Applicant is further authorized to use the maximum daily injection rate apply to the proposed Maljamar AGI Well No. 2 and to the existing Maljamar AGI Well No. 1 (for either well, or both wells combined).
4. Paragraph 1 of Order No. R-13443-B is hereby amended to provide for operations at a maximum daily injection rate of 3.5 MMSCFD. Order No. 14331-B, Order ¶ 1, (November 19, 2014). The remaining provisions of Order Nos. R-13443-A and R-13443-B are unchanged and continue to be applicable.
5. Prior to commencing injection through the Maljamar Well No. 2, the operator shall prepare and secure approval by the Division's Environmental Bureau of a hydrogen sulfide contingency plan that complies with Division Rule 19.15.1 1.9 NMAC and accounts for the additional volumes of injected H<sub>2</sub>S.
6. The Division Director may, on written request of the operator and for good cause shown, review and approve modifications to the Applicant's injection authorization either administratively or through the Division's hearing process for such matters as are presently provided for injection operations under 19.15.16.1 NMAC, *et seq.* and by the Division's current procedures.

