

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

**APPLICATION OF XTO PERMIAN  
OPERATING LLC FOR EXCEPTIONS  
TO THE WELL CASING PROGRAM  
REQUIREMENT UNDER ORDER NO.  
R-111-Q, EDDY COUNTY, NEW  
MEXICO.**

**CASE NO. \_\_\_\_\_**

**APPLICATION**

XTO Permian Operating LLC., (“XTO”) (OGRID No. 373075) through its undersigned attorneys, hereby files this application with the Oil Conservation Commission for approval of exceptions to the well casing program requirements provided under Order No. R-111-Q for three wells: (1) the James Ranch Unit DI 7 Sawtooth #116H (API No. 30-015-54882); (2) James Ranch Unit DI 7 Sawtooth Federal C #117H (API No. 30-015-54883); and (3) James Ranch Unit DI 7 Sawtooth #708H (API No. 30-015-54960). In support of this application, XTO states:

1. XTO is the designated operator of the James Ranch Unit (the “Unit”) in Eddy County, New Mexico.

2. As part of its operations of the Unit, XTO was engaged in a substantial drilling program in late 2023 through late 2024 that included drilling 32 wells, including the following three wells (collectively “the James Ranch Unit Sawtooth Wells”):

- James Ranch Unit DI 7 Sawtooth #116H (API No. 30-015-54882);
- James Ranch Unit DI 7 Sawtooth Federal C #117H (API No. 30-015-54883); and
- James Ranch Unit DI 7 Sawtooth #708H (API No. 30-015-54960).

3. The subject wells are within the Known Potash Leasing Area (“KPLA”) in Eddy and Lea Counties and subject to the requirements of Commission Order No. R-111-Q (the “Order”).

4. The Commission recently updated the Order on May 10, 2024, to include modifications “to improve practices for the safe and responsible concurrent development of oil and gas and potash within the KPLA.” *See* Order No. R-111-Q, ¶ 6.

5. The Joint Industrial Technical Committee (“JITC”) was the applicant seeking the updates in Commission Order No. R-111-Q. The JITC is an association recognized and defined by the Department of the Interior Secretarial Order No. 3324 and subject to the management and control of representatives of the potash mining and oil and gas industry. *See* § 4(j) Department of the Interior, Secretarial Order No. 3324, dated December 3, 2012. The purpose of the JITC “is to study how concurrent development of potash and oil and gas can be safely performed in proximity to each other.” *Id.* The JITC members are engaged in the drilling and production of oil and gas, or the mining and refining of potash, within acreage in Eddy and Lea Counties.

6. XTO is a member of the JITC and one of the proponents of the modifications incorporated in Order No. R-111-Q.

7. Included in the modifications under Order No. R-111-Q are more stringent well casing and cementing requirements for wells drilled and completed within the KPLA for the surface casing string, the salt protection string, the intermediate casing string for deep oil and gas wells, and the production casing string.

8. Under Order No. R-111-Q, all wells within the KPLA where a second intermediate string will be used, resulting in a four-string wellbore design, one of four well construction

methods is required to divert flow of wellbore fluids away from the salt interval in the event of a sudden production casing failure. *See* Order No. R-111-Q, C(5)(c) at p. 9.

9. XTO selected the fourth casing construction design, which includes an “engineered weak point,” or EWP, included in the “second intermediate casing string below the salt formation in in the form of a lower strength casing or rupture disc to divert fluid into a suitable relief zone below the salt formation.” *See* Order No. R-111-Q, C(5)(c)(iv) at p. 10; *see also id.*, Fig. F in Exhibit B, attached as **Exhibit A**.

10. Under this option, the second intermediate casing string engineered weak point “must be placed no less than 100 feet below the salt formation.” *Id.* C(5)(c)(iv)(1) at p. 10. And “the top of production casing cement must tie back at least 500 feet inside the second intermediate casing string but not above the engineered weak point.” *Id.* C(5)(c)(iv)(2) at p. 10.

11. While drilling the three James Ranch Unit Sawtooth Wells XTO encountered issues casing and cementing each well in conformance with the above-referenced requirements under Order No. R-111-Q, C(5)(c)(iv). As a result, the three wells do not comply with the requirements outlined in Order No. R-111-Q, C(5)(c)(iv).

12. Specifically, the James Ranch Unit DI 7 Sawtooth #116H has an engineered weak point in the casing that, while technically in compliance with Order No. R-111-Q, was inadvertently placed approximately 3 feet inside of the first intermediate casing shoe instead of below the below the first intermediate casing. *See* **Exhibit B**. This construction risks not meeting the intent of the design under Order No. R-111-Q, C(5)(c)(iv) to divert well bore fluids below the salt formation in the event of a well failure, because the crossover point to lower yield strength casing in the Second Intermediate casing string (i.e., the engineered weak point) is just above the

First Intermediate casing shoe. *See id.* (compare Scenario #1, JRU D17 116H, image to R111Q 4 String Design on left).

13. The James Ranch Unit DI 7 Sawtooth Federal C #117H and James Ranch Unit DI 7 Sawtooth #708H both had cement placed too high between the production casing string and second intermediate casing string during remedial bradenhead squeeze operations. In both wells, this resulted in top of cement placement above the engineered weak point instead of below it, as required. *See **Exhibit B*** (compare Scenario #2, JRU D17 117H, 708H, to R111Q 4 String Design on left).

14. XTO confirmed these casing issues and notifications were made to the BLM, Division, and potentially impacted Potash Companies (Mosaic and Intrepid) the same day. XTO suspended completion operations in all three wells pending approval of its request for exceptions to Order No. R-111-Q.

15. XTO has conducted a root-cause analysis to determine causal factors and planned corrective actions to prevent recurrence.

16. As part of its request for approval for exceptions to Order No. R-111-Q, XTO proposes the following additional mitigation safeguards for all three wells:

- a. First, XTO proposes to increase the solid body plug frequency to every two stages during hydraulic fracture operations, as opposed to the standard of every 10 stages. In addition to reducing the volume of potential flow in the event of a casing failure, this approach also will increase the frequency and number of well casing pressure tests to confirm casing integrity during hydraulic fracture operations after every two stages, or about every 400 feet of the wellbore lateral, instead of after every 10 stages.

- b. Second, XTO proposes to install additional surface pressure relief valves on the annulus between the second intermediate and first intermediate casing string during hydraulic fracture operations. This pressure relief valve will allow pressure build-up to be released at the surface in a controlled manner, rather than through any part of the casing potentially impacting the safety of potash mining operations, in the unlikely event of a production casing and second intermediate casing string failure. This safeguard is in addition to a surface pressure relief valve on the annulus behind the production casing string and second intermediate casing string.
  17. The proposed additional safeguards provide equivalent protections to the potash interval as the provisions in Order No. R-111-Q.
  18. XTO has notified the BLM, Division, JITC, and the affected potash operators of the well casing issues, its proposed additional mitigation measures, and the requested exceptions to Order No. R-111-Q. XTO has not received any objections to its proposals.
  19. A copy of this application will be provided by certified to Division-designated operators within one mile of each well, the Joint Industry Technical Committee, affected potash operators, and the BLM.
  20. Granting this application will prevent the undue waste of commercially recoverable potash and oil and gas resources, and protect correlative rights.
- WHEREFORE, XTO requests that this Application be set for hearing before the Oil Conservation Commission on April 21, 2023, and after notice and hearing as required by law, the Division enter its order granting this Application.

Respectfully submitted,

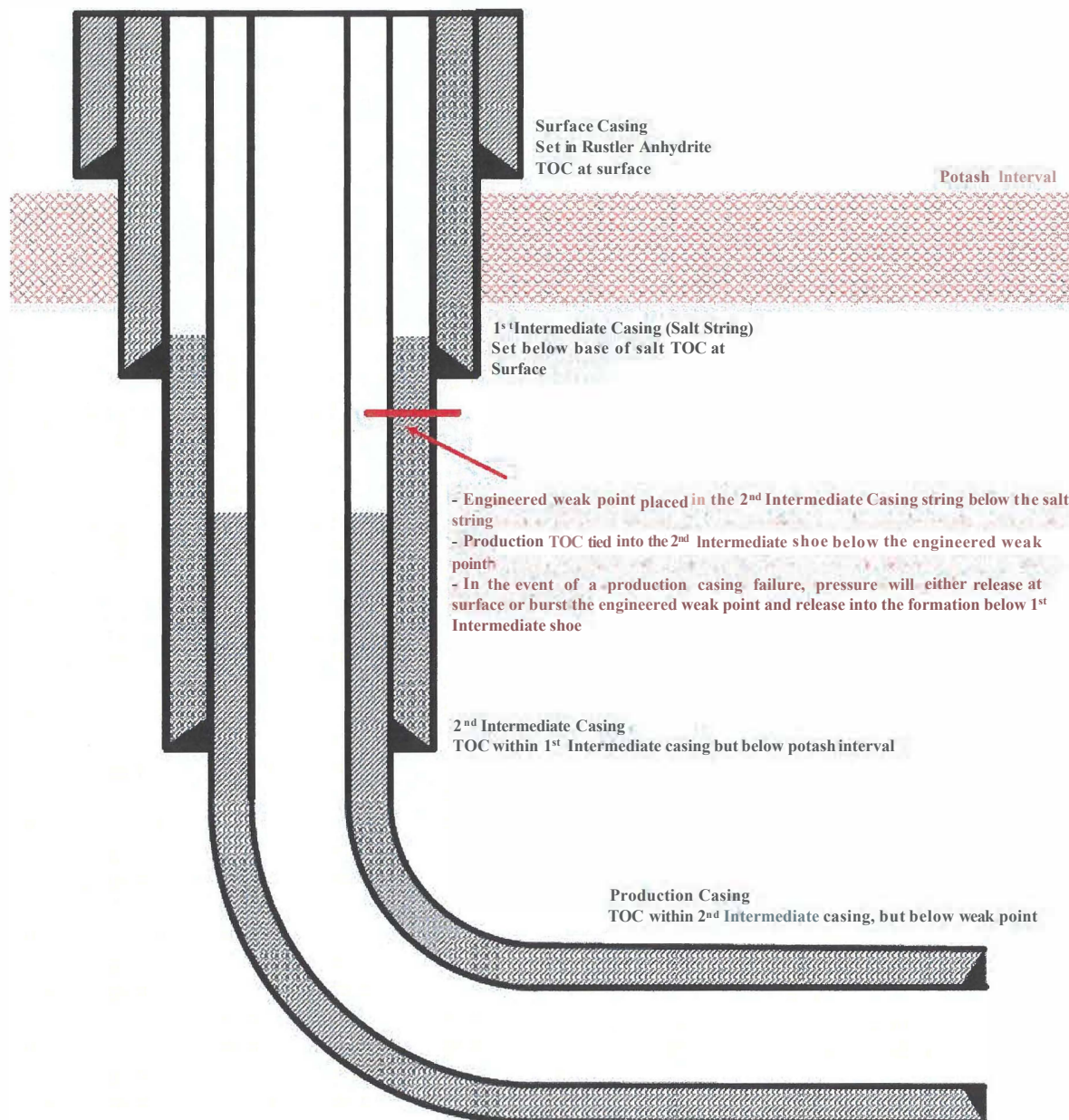
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**ATTORNEYS FOR XTO PERMIAN OPERATING  
LLC.**

CASE \_\_\_\_\_: **Application of XTO Permian Operating LLC for Exceptions to the Well Casing Program Requirement Under Order No. R-111-Q, Eddy County, New Mexico.** Applicant in the above-styled cause seeks an order for approval of exceptions to the well casing program requirements provided under Order No. R-111-Q for three wells: (1) the James Ranch Unit DI 7 Sawtooth #116H (API No. 30-015-54882); (2) James Ranch Unit DI 7 Sawtooth Federal C #117H (API No. 30-015-54883); and (3) James Ranch Unit DI 7 Sawtooth #708H (API No. 30-015-54960). The wells do not comply with the casing requirements outlined in Order No. R-111-Q, C(5)(c)(iv). Specifically, XTO seeks an exception for placement of an engineered weak point in the second intermediate casing 3 feet above the first intermediate casing shoe in the James Ranch Unit DI 7 Sawtooth #116H well. XTO also seeks exceptions for its James Ranch Unit DI 7 Sawtooth Federal C #117H and James Ranch Unit DI 7 Sawtooth #708H which both had top of cement placed above an engineered weak point instead of below it. XTO proposes additional safeguards during hydraulic fracturing including reducing the solid body plug frequency to once every two stages and placing a surface pressure relief valve on the annulus between the second intermediate and first intermediate casing string. This area is located approximately 16 miles east of Carlsbad, New Mexico.

**EXHIBIT A****4-String Design - Engineered Weak Point**[Figure F] 4 String - 2<sup>nd</sup> Intermediate casing engineered weak point

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**EXHIBIT B****R-111Q Design (Figure F) vs 3x JRU DI-7 Well Status**