

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

**IN RE NEW MEXICO OIL CONSERVATION DIVISION'S  
AMENDED APPLICATION FOR ORDER TO REVOKE  
ORDER NO. R-21096, AS AMENDED, AND APDS FOR  
CAVEMAN #402H AND CAVEMAN 7 12 WCD #003H WELLS      CASE NO. 22102**

**NEW MEXICO OIL CONSERVATION DIVISION'S AMENDED APPLICATION  
FOR ORDER TO REVOKE ORDER NO. R-21096, AS AMENDED, AND  
APDS FOR CAVEMAN #402H AND CAVEMAN 7 12 WCD #003H WELLS**

The New Mexico Oil Conservation Division (“Division”) amends its application to request an order revoking Order No. R-21096, as amended, and SPC Resources, LLC’s (“SPC”) Applications for Permit to Drill (“APDs”) the Caveman #402H and Caveman 7 12 WCD #003H wells.

**I. INTRODUCTION**

SPC is authorized to drill and complete wells on and to produce hydrocarbons from a spacing unit in proximity to the Carlsbad Brine Well Cavity (“Cavity”). The Cavity is an unstable geological feature created by the dissolution and extraction of brine from halite formations for sale to the oil and gas industry. Although partially stabilized by the injection of grout and sand into the southern portion of the Cavity, the northern portion remains at risk of subsidence and collapse. This non-negligible but unquantifiable risk jeopardizes public highways, a major irrigation canal, a mobile home park, private properties, and ground water in the area. The State of New Mexico has worked for years and expended significant public funds to stabilize the Cavity, and SPC’s development of the spacing unit before the Division determines that the Cavity has been

remediated poses an unacceptable risk of collapse, which would negate this taxpayer-funded effort and impair critically important infrastructure and resources in the area.

## **II. APPLICABLE LAW**

1. The Division has “jurisdiction, authority, and control over all persons, matters, or things necessary or proper to enforce effectively the provisions of [the Oil and Gas Act]....” NMSA 1978, § 70-2-6.

2. The Division is authorized to make orders “to prevent crude petroleum oil, natural gas or water from escaping from strata in which it is found into other strata.” NMSA 1978, § 70-2-12(B)(2).

3. The Division is authorized to make orders “to require wells to be drilled, operated and produced in such manner as to prevent injury to neighboring leases or properties.” NMSA 1978, § 70-2-12(B)(7).

## **III. FACTUAL BACKGROUND**

### **A. THE CAVITY**

4. The Carlsbad Brine Well was a facility that used a dissolution process to mine salt for commercial use in the oil and gas industry.

5. The Cavity is the subsurface cavern that formed as a result of mining of more than 220,000 cubic yards of salt from the Carlsbad Brine Well.

6. The Cavity lies beneath or in close proximity to the intersection of two major highways that are the principal routes for economic activity in the region, an irrigation canal that is the primary source of water for an estimated \$100 million of agriculture each year, a railroad that transports freight, potash, crude oil, and a large percentage of the frac sand used in the state,

two commercial operations including one with underground fuel storage tanks, a church, a feedstore, a mobile home park, and a major ground water aquifer.

7. In 2008, the Energy, Minerals and Natural Resources Department (“EMNRD”) identified the Cavity as a potential risk for collapse, and initiated a program to characterize and monitor the Cavity.

8. In 2012, EMNRD initiated a detailed evaluation of alternatives to stabilize the Cavity.

9. In 2018, EMNRD retained AMEC Environmental & Infrastructure, Inc., now Wood Environment & Infrastructure Solutions, Inc. (“Wood”), to implement the selected alternative of in-situ backfilling the Cavity with grout while simultaneously extracting brine.

10. Wood implemented the selected remedy in the southern portion of the Cavity, eliminating the immediate risk to the canal, trailer park, and church, but when Wood began to backfill the northern portion of the Cavity, it discovered a larger void with a volume of approximately 100,000 cubic yards extending beneath US 285 and less than 400 feet from US 62/180.

11. Because injecting grout into such a large void would not be cost-effective, EMNRD substituted sand for grout and continued to backfill the Cavity.

12. During the backfill process in 2020, EMNRD determined that the void would require a volume of sand that would exceed the financial resources available at the time, and suspended backfilling the void.

13. After further evaluation, EMNRD concluded that the partially filled void still posed an unacceptable risk of collapse, which could result in surface subsidence damaging a critical

transportation artery and the escape of pressurized brine from the cavity into the ground water aquifer above, and decided to continue to backfill the void with sand after securing additional funds.

14. EMNRD intends to resume backfilling the void with sand in approximately September 2021 and to complete the project during the spring or early summer of 2022.

15. To date, the State of New Mexico, Eddy County, and the City of Carlsbad have invested nearly \$58M, and expect to invest an additional \$24M to stabilize the Cavity.

#### **B. THE SPACING UNIT**

16. On August 6, 2019, SPC filed an application to pool all uncommitted interests in and produce hydrocarbons from the Wolfcamp formation underlying a spacing unit comprised of the W/2 and E/2 of Section 12, Township 22 South, Range 26 East, and the W/2 and E/2 of Section 7, Township 22 South, Range 27 East, NMPM, Eddy County, New Mexico (“Spacing Unit”).

17. On February 12, 2020, OCD granted SPC’s application and issued Order No. R-21096.

18. On April 12, 2021, OCD issued Order No. R-21096-A, which updated the form of order, granted an extension of time to commence drilling until February 12, 2022, pooled additional interest owners, and affirmed the material provisions of the original order.

19. On May 17, 2021, OCD issued Order No. R-21096-B, which pooled additional interest owners and affirmed the material provisions of the original order.

#### **C. THE CAVEMAN #402H WELL**

20. On November 5, 2020, the Division’s district office in Artesia approved SPC’s APD for the Caveman #402H well (API 30-015-47629) on the Spacing Unit.

21. The proposed surface hole location and vertical borehole for the Caveman #402H well is located approximately 7,200 feet from the Cavity.

22. The proposed lateral for the Caveman #402H well extends westward from the vertical borehole for approximately 10,500 feet at a depth of 8,797 feet beneath the surface.

23. On or about April 14, 2021, the Division's Cavity project manager discovered that several wells were planned or had been drilled in proximity to the Cavity.

24. On June 17, 2021, SPC sent a letter to the Division stating its intent to commence drilling the Caveman #402H well in late June or early July 2021 and to complete the well in late September or early October 2021.

25. On June 30, 2021, the Division requested that SPC temporarily suspend its plan to drill and complete the Caveman #402H well for twelve (12) months to allow EMNRD to complete the project to stabilize the Cavity.

26. On July 1, 2021, SPC refused to temporarily suspend drilling and completing the Caveman #402H well.

27. On July 2, 2021, the Division's Director issued an emergency order suspending the APD for the Caveman #402H well and prohibiting SPC from taking any action to drill or complete the well in order to protect the Cavity and ENMRD's ongoing stabilization project to prevent collateral injury to life, property, environment, public infrastructure, and neighboring properties.

28. On July 16, 2021, the Division again requested that SPC temporarily suspend its plan to drill and complete the Caveman #402H well for twelve (12) months to allow EMNRD to complete the project to stabilize the Cavity, and SPC again refused the request.

29. On July 17, 2021, the emergency order expired by operation of law.

**D. THE CAVEMAN 7 12 WCD #003H WELL**

30. On November 17, 2020, the Division's district office in Artesia approved SPC's APD for the Caveman 7 12 WCD #003H well (API 30-015-47689) on the Spacing Unit.

31. The proposed surface hole location and vertical borehole for the Caveman 7 12 WCD #003H well is located approximately 6,800 feet from the Cavity.

32. The proposed lateral for the Caveman 7 12 WCD #003H well extends westward from the vertical borehole for approximately 11,000 feet at a depth of 9,300 feet beneath the surface.

33. On August 6, 2021, the Division requested that SPC temporarily suspend its plan to drill and complete the Caveman 7 12 WCD #003H well for twelve (12) months to allow EMNRD to complete the project to stabilize the Cavity.

34. On August 9, 2021, SPC refused to temporarily suspend drilling the Caveman 7 12 WCD #003H well.

**IV. SPC'S REFUSAL TO TEMPORARILY SUSPEND ITS PLAN TO DRILL AND COMPLETE WELLS ON AND PRODUCE HYDROCARBONS FROM THE SPACING UNIT JEOPARDIZES THE CAVITY, STABILIZATION PROJECT, PUBLIC INFRASTRUCTURE, AND ENVIRONMENT.**

35. Although the portions of the Cavity are more stable than before, there are substantial uncertainties regarding stability in certain areas that cannot be addressed by the monitoring data collected to date.

36. Until EMNRD completes the ongoing stabilization project, seismic activity has a non-negligible but unquantifiable potential to jeopardize the stability of the Cavity.

37. Seismic events have been detected at the Cavity, and their frequency has increased due to induced seismicity resulting from oil and gas activities.

38. Drilling and/or completing wells on the Spacing Unit in the vicinity of the Cavity could establish or exacerbate conditions that, combined with subsequent seismic events, result in rock fall and rubble settlement, jeopardizing the stability of the Cavity resulting in damage to public infrastructure and contamination of a ground water aquifer.

39. The Division cannot specify appropriate conditions that would allow SPC to develop the Spacing Unit or to drill or complete the Caveman #402H well, the Caveman 7 12 WCD #003H well, or any other well that might be proposed on the Spacing Unit in a manner that does not increase the risk and likelihood of injury to neighboring properties, including the Cavity, public infrastructure, and the environment, until the Division determines that the Cavity has been remediated.

WHEREFORE, the Division respectfully requests an order revoking Order No. R-21096, as amended, and the APDs for the Caveman #402H and Caveman 7 12 WCD #003H wells.

Respectfully submitted,



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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of this pleading was mailed electronically on August 9, 2021 to:

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