

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

**APPLICATION OF GOODNIGHT
MIDSTREAM PERMIAN, LLC TO AMEND
ORDER NO. R-7765, AS AMENDED TO
EXCLUDE THE SAN ANDRES FORMATION
FROM THE UNITIZED INTERVAL OF THE
EUNICE MONUMENT SOUTH UNIT
LEA COUNTY, NEW MEXICO**

CASE NO. 24278

**APPLICATION OF GOODNIGHT
MIDSTREAM PERMIAN, LLC TO AMEND
ORDER NO. R-7767 TO EXCLUDE THE SAN
ANDRES FORMATION FROM THE EUNICE
MONUMENT OIL POOL WITHIN THE
EUNICE MONUMENT SOUTH UNIT AREA,
LEA COUNTY, NEW MEXICO**

CASE NO. 24277

**APPLICATION OF GOODNIGHT PERMIAN
MIDSTREAM, LLC FOR APPROVAL OF A
SALTWATER DISPOSAL WELL, LEA COUNTY,
NEW MEXICO AND, AS A PARTY ADVERSELY
AFFECTED BY ORDER R-22869-A, FOR A
HEARING DE NOVO BEFORE THE FULL
COMMISSION, PURSUANT TO NMSA 1978,
SECTION 70-2-13.**

CASE NO. 24123

**APPLICATION OF GOODNIGHT MIDSTREAM
PERMIAN, LLC TO AMEND ORDER
NO. R-22026/SWD-2403 TO INCREASE THE
APPROVED INJECTION RATE IN ITS ANDRE
DAWSON SWD #1, LEA COUNTY, NEW MEXICO**

CASE NO. 23775

**APPLICATIONS OF GOODNIGHT MIDSTREAM
PERMIAN, LLC FOR APPROVAL OF A
SALTWATER DISPOSAL WELL, LEA COUNTY,
NEW MEXICO**

CASE NOS. 23614-23617

**APPLICATION OF EMPIRE NEW MEXICO TO
REVOKE THE INJECTION AUTHORITY
GRANTED UNDER ORDER NO. R22026 FOR
THE ANDRE DAWSON SWD #001, LEA COUNTY,
NEW MEXICO**

CASE NOS. 24018-24027

OIL CONSERVATION DIVISION'S EXHIBIT LIST AND WITNESS TESTIMONY
DISCLOSURE

The New Mexico Oil Conservation Division (“OCD”) hereby submits its Exhibit List and Witness testimony Disclosure pursuant to the Oil Conservation Commission’s Pre-Hearing Order entered on June 3, 2024.

I. Reservation of rights

OCD reserves the right to supplement or amend this pleading. OCD also reserves the right to seek additional discovery, which would be consistent with its reservation of rights to amend or supplement this pleading. OCD avers that such a reservation is proper given that Goodnight and Empire supplemented their subpoena responses on or about August 21, 2024, five days prior to the exhibit and witness testimony disclosure deadline. On August 19, 2024, Hearing Officer Harwood issued an order denying the dual Motions to Quash Deposition Subpoenas filed by Empire and Goodnight, respectively, permitting the Parties to proceed with depositions. On August 22, 2024, the Hearing Officer in this matter issued two orders, one of which granted Goodnight’s Motion for Deposition Subpoenas. Based on previously filed pleadings and discussions amount the Parties, including Goodnight’s submission of deposition subpoenas pursuant to Hearing Officer Harwood’s August 22, 2024 Order, OCD understands that a total of nine (9) depositions remain to be taken, four (4) to be taken by Goodnight and five (5) to be taken by Empire. Based on undersigned counsel’s extensive experience with trial experts, OCD anticipates that this will result in up to nine (9) days of deposition testimony, which will generate a significant record that requires both review and analysis by OCD’s witnesses and attorney. Therefore, OCD cannot represent at the time of filing that the contents of this pleading represent

the full and complete testimony of OCD's disclosed witnesses, thereby justifying this reservation of rights.

II. Definitions

In the interest of clarifying the testimony as outlined below, OCD provides the following definitions:

“Act” or “the Act” refers to the New Mexico Oil and Gas Act, codified at Chapter 70, Article 2 of the NMSA 1978

“Empire” refers to Empire of New Mexico.

“Goodnight” refers to Goodnight Permian Midstream LLC.

“Hiss Article” refers to *Movement of Ground Water in Permian Guadalupian Aquifer Systems, Southeastern New Mexico and Western Texas* from the New Mexico Geological Society Guidebook, 31st Field Conference, Trans-Pecos Region, 1980.

“Hiss Paper” or “the Hiss Paper” refers to the 1975 thesis paper for the University of Colorado Department of Geological Sciences entitled STRATIGRAPHY AND GROUNDWATER HYDROLOGY OF THE CAPITAN AQUIFER, SOUTHEASTERN NEW MEXICO AND WESTERN TEXAS by William Louis Hiss, B.S. Kansas State University, M.S. University of Oklahoma, 1960.

“Legislature” or “the Legislature” refers to the New Mexico Legislature.

“Operators” refers to Empire of New Mexico and Goodnight Permian Midstream, LLC, collectively.

“OCD” refers to the New Mexico Oil Conservation Division.

“OCC” refers to the New Mexico Oil Conservation Commission.

“State” refers to the State of New Mexico.

“San Andres” refers to the San Andres Formation, which underlies the Grayburg Formation, and is in the San Juan Basin in Southeastern New Mexico.

“UIC” refers to Underground Injection Control, a program originating from § 42 U.S.C. 1421-26, 1431, and 1442-43, as well as 40 C.F.R. Parts 144-48, and which seek to prevent contamination of Underground Sources of Drinking Water (“USDW”).

III. OCD Witness Testimony.

a. Philip Goetze, Engineering UIC Permitting Group Lead

i. Introduction

Mr. Goetze has been employed by the Oil Conservation Division (OCD) for 11 years and is currently the manager of the UIC Group within the Engineering Bureau. He has extensive background in the administrative permitting for development and management of oil and gas resources under the state Oil and Gas Act. He is a technical reviewer of applications for Class II wells (including saltwater disposal wells and enhanced oil recovery (EOR) projects) under the New Mexico primacy agreement with the United States Environmental Protection Agency (USEPA) for its Underground Injection Control (UIC) Program of the Safe Drinking Water Act. During his tenure, Mr. Goetze has been a qualified hearing examiner for the OCD for cases ranging from compulsory pooling to protested applications for injection authority. Additional assignments related to his manager position include the development of practices and recommended guidance for UIC related subjects such as induced seismicity, exempted aquifers and Class II disposal impacts on producing intervals. He is responsible for preparing periodic reports for submission to the USEPA to demonstrate compliance with the SDWA and to respond to specific subject matters requests identified by the USEPA. In his capacity within the UIC Group, Mr. Goetze provides recommendations to management for modification of permitting and compliance practices which

reflect new technology or processes that impact UIC functions. Mr. Goetze has also authored over 350 hearing orders in his capacity as an examiner.

Mr. Goetze has qualified as an expert witness for the OCD for cases before the Oil Conservation Commission involving UIC permit applications and in support of rulemaking (e.g. acid gas injection well applications, casing requirements in the Roswell Artesian Basin, and reporting requirements for fracturing fluids). Mr. Goetze has also provided expert testimony before the New Mexico Water Quality Control Commission in support of rulemaking (e.g. expanded authority for UIC Class I hazardous disposal wells).

Prior experience to employment with the OCD, Mr. Goetze has over thirty years of experience developing and implementing a variety of projects with environmental, hydrologic, or regulatory applications. His prior government experiences include field mapping of mineral occurrences in wilderness areas for the U. S. Bureau of Mines as well as oil and gas leasing and mineral assessment for both the U. S. Geological Survey and the Bureau of Land Management. His employment with the private sector included supervision of numerous investigations of contaminated sites, the implementation and management of remediation projects, oversight of groundwater drilling projects, and project manager for the resolution of environmental compliance issues at private, tribal, state and federal properties.

Mr. Goetze graduated from the New Mexico Institute of Mining and Technology with a Bachelor of Science degree in geology and is currently a registered or licensed geologist in the states of Alaska, Arizona, and Texas. Mr. Goetze is also a Certified Professional Geologist, American Institute of Professional Geologist, and is Certified Hazardous Materials Manager through the Alliance of Hazardous Materials Professionals.

Mr. Goetze will provide expert testimony regarding the practices and operation of the UIC program within the OCD including the historical aspects of current UIC operations as they relate to the primacy agreement and past approvals of injection authority for various projects. Mr. Goetze will also provide testimony regarding groundwater occurrences, hydrologic issues and the OCD current exempted aquifer program. Mr. Goetze also has direct experience for many of the original permit applications for the disposal wells involved in the cases as well as the original hearing between two principal parties in this matter. Additionally, Mr. Goetze has reviewed and will continue to review documentation from the Parties, including anticipated exhibits and discovery disclosures, to which he will apply his background, training, and experience. Therefore, Mr. Goetze is being qualified as an expert in hydrogeology, petroleum geology, and in all matters regarding the functions of the UIC program for the OCD. Mr. Goetze's *Curriculum Vitae* is labeled Exhibit 16.

ii. Background relevant to matters before the Commission

Mr. Goetze, as OCD's expert on the matters of hydrology, geology, petroleum geology, underground injection controls, and injection permitting hereby provides the following testimony.

The San Andres formation has a long history of development by operators in New Mexico. This history is best explained through a series of exhibits that illustrate the changes, over time, that occurred to the San Andres, which will be followed by a discussion of the current status of the San Andres. San Andres history includes a discussion of maps showing historical and current wells in the San Andres (OCD Exhibits 1 & 2) outlining the area of interest, Oil and Gas Act and Statutory Unitization excerpts and a UIC document prepared for the United States Environmental Protection Agency for state primacy that in turn govern and inform OCD's UIC program (OCD Exhibits 3 & 4), two principal references by William Louis Hiss detailing hydrology, specifically a 1975 thesis

paper for the University of Colorado Department of Geological Sciences entitled Stratigraphy and Groundwater Hydrology of the Capitan Aquifer, Southeastern New Mexico and Western Texas and an article entitled “*Movement of Ground Water in Permian Guadalupian Aquifer Systems, Southeastern New Mexico and Western Texas*” from the New Mexico Geological Society Guidebook, 31st Field Conference, (OCD Exhibits 5A and 5B, respectively), a history of San Andres production (OCD Exhibit 6), and the history of disposal in the San Andres (contained in OCD Exhibit 7).

Exhibit 1 shows the landscape of production and injection wells in the neighborhood around the wells under consideration in these matters. Exhibit 2 shows the specific conditions around the subject wells within the feature described as the Hobbs Channel. Both Exhibits 1 & 2 can be considered together. The area around the subject wells has a significant history of development and are unique in the sense that they have features, the San Andres and Grayburg are in current operation. One can also see the features about which OCD is concerned, namely the Hobbs Channel and Capitan Reef.

Exhibit 3 is a collection of Oil and Gas Act and Statutory Unitization Act provisions that relate to the UIC program developed by the EPA and OCD. The first excerpt comes from § 70-2-12 NMSA, titled “Enumeration of Powers.” § 70-2-12 sets forth the scope of OCD’s powers under the Act. Relevant to the discussion before the OCC, the Legislature set forth several key actions OCD is empowered to regulate, as set forth in § 70-2-12(B):

- (2) Oil or water, among other things, from escaping its local strata into other strata;
- (4) Prevention of drowning of oil or gas producing strata, encroachment by water of productive strata, or any other kind of water encroachment upon productive strata to ensure production from those productive strata;

- (7) that wells be drilled, operated, and produced in a way that avoids injury to neighboring leases or property;
- (11) whether a given well or pool is an oil or gas pool, as well as the power to reclassify wells and pools as necessary;
- (14) injection into oil or gas pools; and
- (15) the management of produced water in relation to production, among other things, of oil and gas.”

The entire Statutory Unitization Act, codified as §§ 70-1-1 through 21 NMSA, is relevant to the discussion before the OCC to emphasize the significance of information requirements and level of effort for approval of an order (through hearing) for a secondary or tertiary enhanced oil recovery project.

Exhibit 4 is a subject-specific document from the OCD’s Primacy Agreement for OCD’s UIC Program, Appendix II. By way of background, the EPA developed its Federal UIC program with the goal of protecting existing and potential sources of underground drinking water from contamination in response to the U.S. Congress’s 1974 Safe Drinking Water Act as codified in 42 U.S.C. §1421. Per the powers granted to it under the Safe Drinking Water Act, the EPA promulgated regulations to set forth procedures for determining which underground waters required protection and found in 40 C.F.R. Part 144 through 148. In 1980, OCD took up the work required by the EPA and developed an aquifer evaluation program which were included in the Primacy Demonstration as Appendix I and Appendix II. Appendix II provides the framework upon which OCD may study, classify, and delineate underground drinking waters that require protection under UIC Program regulations. Appendix II also applies these criteria to the aquifer systems of the Permian Basin with emphasis on the San Andres Formation in the area of interest.

Exhibit 5 contains two principal documents of significant subject content and two figure excerpts. The first is the Hiss Article, which OCD contends is the most recent and best resource on the relationship between the Hobbs Channel and the Capitan Reef, with the latter being

managed as an USDW. Content of this article was incorporated in Appendix II by the authors of the Primacy Demonstration support the OCD effort and remains an important standard for addressing disposal in the Hobbs Channel.

The second document in Exhibit 9 is the Hiss Paper which is the basis of the Hiss Article and a source for numerous professional publications regarding the hydrology of the Capitan Reef. Also include as exhibits are two figures from the Hiss Paper, Figures 19 and 26. Figure 19 provides a visual summary of the complex relationship between hydrocarbon producing zones and freshwater zones within the Capitan Reef and adjacent formations such as the San Andres. Figure 26 is a map of the chloride-ion concentration which was used by Hiss to delineate the Hobbs Channel and assist in determining the hydrologic relationship between the Capitan Reef and the San Andres formation extending northeast towards Hobbs. Chlorides, in terms of the oil and gas industry, are water soluble molecules containing chlorine and are often found with oil and gas resources and which operators later dispose by injection back into wells as a form of waste. Additionally, high concentrations of chlorides are harmful to the environment and threaten public health through impact on USDWs. Chlorides are also important from a regulatory stance as they are commonly the major contributor to the constituents for the determination of Total Dissolve Solids (“TDS”) concentrations. TDS concentrations is one of the primary criteria for identifying ground water that is identified as protectable under both federal and state regulation.

Exhibit 6 is a figure map showing production areas in the area of interest that emphasizes the production from both primary recovery operations along with the high occurrence of multiple active secondary and tertiary enhanced recovery projects. With the substantial amount of evidence being presented by the parties in these cases on this subject, the OCD is only reiterating and

recognizing the importance of oil and gas production in this area and the opportunity for that application of secondary and tertiary efforts for recovering the remaining oil in place.

Exhibit 7 is a collection of exhibits providing a background on the OCD approval of applications for injection of produced water into the San Andres for the wells and at issue in the cases before the OCC. These exhibits include historical information on disposal wells, estimates on injection volume in the area of interest, case file testimony on reservoir characteristics, and the recent trend in applications for shallow disposal wells. The significance of these documents is to trace the long use of the San Andres for disposal in support of earlier oil and gas development in the Area of Interest, followed by disposal associated with mature and large waterflood operations, and the current trend for commercial disposal systems that utilize multiple well networks. Also included is information on the capacity of the San Andres and its unique quality for accepting injected water “under vacuum”. This reservoir characteristic of the San Andres in this area has been identified as a preferred opportunity for expanded capacity to satisfy the growing volume of produced water that requires disposal.

Exhibit 8 includes an article from the *Journal of Petroleum Technology*'s April 2019 edition and authored by Stephen Rassenfoss and titled “Permian Operators Squeezed by Growing Water Pressure.” In Exhibit 8, Mr. Rassenfoss maintains that, due to the billions of gallons of produced water injected into saltwater disposal wells in formations such as the San Andres, operators increasingly encounter problems, specifically the pressure encountered by drillers, which increases the risk in moving “in and out” of lower pressure zones. Mr. Rassenfoss states that water production in the western half of the basin (that is, New Mexico) is increasing water production during oil recovery and in the Delaware Basin where water cuts of 80-90% are common, which necessitate not one injection well per production well, but two. Also contained in this Exhibit are

e-mail transcripts regarding the completion of two recent disposal wells approved for injection within the San Andres formation. A third example is provided detailing the completion issues of an older abandoned production well which OCD approved for re-entry and recompletion as a San Andres disposal well. These records highlight the increasing occurrence of completion problems and subsequent remedial action required for the cementing of production casing.

iii. Division Order R-22869-A

Exhibit 9 is Division Order No. R-22869-A from Division Case No. 22626. Case No. 22626 was initiated by Goodnight for approval of a saltwater disposal well, to wit: Piazza SWD Well No. 1. Empire opposed the application underlying Case No. 22626. The Division, *via* the Hearing Officer Phillip Goetze's recommendations to former OCD Director Dylan Fuge, ultimately denied the application on several grounds, with the most relevant being:

“10. Applicant's proposed operation for the Proposed Well would expand the use of the San Andres formation as a disposal interval. Approval of the Proposed Well with the injection of UIC Class II fluids into the Unitized Interval would encroach towards the northeast and the interior of the EMSU and the use of the San Andres formation as a compatible source of make-up water for waterflood operations.

11. Empire has provided sufficient evidence for continued assessment of the Unitized Interval for potential recovery of any additional hydrocarbon resources remaining in place. Approval of the Proposed Well would contradict the responsibility of the OCD “to prevent the drowning by water of any stratum or part thereof capable of producing oil or gas or both oil and gas in paying quantities and to prevent the premature and irregular encroachment of water or any other kind of water encroachment that reduces or tends to reduce the total ultimate recovery of crude petroleum oil or gas or both oil and gas from any pool.”

OCD's denial of Goodnight's application states, in relevant part:

“1. The application of Goodnight Midstream Permian, LLC for authority to inject produced water into the San Andres formation

using the proposed Piazza SWD Well No. 1 as a UIC Class II disposal well is hereby denied.

2. Empire New Mexico, LLC, as the unit operator of the Eunice Monument South Unit, shall comply with Commission Order No. R-7766, Ordering Paragraph (8) and reinstitute submitting monthly reports for the waterflood project. The unit operator shall provide these reports to OCD through the OCD Engineering e-mail (ocd.engineer@emnr.dnm.gov) with electronic copies also provided to the New Mexico State Land Office (“NMSLO”) and the appropriate office of the Bureau of Land Management. OCD shall have the authority without hearing to reduce the reporting frequency to biannual two years after the approval of this order. Additionally, Empire shall provide a copy of any Plans of Operation and/or Plans of Development that are annually submitted to the NMSLO for this Unit.”

iv. Current status of affairs

Exhibit 10 contains a single document with content that is significant in multiple ways. The first is the general subject content of a May 28, 2020 update to the EPA Chief and Environmental Engineer for the EPA’s Ground Water/UIC Section, Region 6 by the OCD and drafted by Mr. Goetze. Mr. Goetze provided the EPA with a summary of the Hiss Paper, a review of OCD protocols in place for Class II injection wells, a review of status of the wells identified in the RESPEC Report, and most importantly, current OCD procedures to protect drinking water in New Mexico. Exhibit 10 culminates with the opinion of Mr. Goetze that “[p]ortions of the Capitan Reef continue to attract interest as an alternative disposal interval when compared to more expensive, deeper disposal zones.”

A second document provided as an attachment of the update and significant to the OCD position is the OCD-created summary of the Capitan Reef ground-water elevation data identified as Division Case No. 15732, Division Exhibit No. 4. This exhibit from an important case involving the Reef and, per its creator Mr. Goetze, shows that for period prior the mid 1970’s, water levels in the Capitan Reef were dropping then abruptly change and continued to increase to the last data

set obtained in 2016. This observation, along with a lack of recharge to the Capitan Reef, would indicate a continuous, external source of water that may be connected with disposal in the Hobbs Channel.

A third document provided as an attachment of the update is the resulting Order No. R-14738 which was the result of Case No. 15723 that directed the Division to comply with the requirements of the Exempt Aquifer conditions and obtain information to satisfy the permitting criteria while protecting ground water.

v. Similar situations to that of the Capitan Reef

Exhibit 11 are documents that established an understanding of the Aquifer Exemption Program which the Memorandum issued by the USEPA in 2014 to better assist state with primacy in providing the required information for exemption approval, the OCD's response to the USEPA directive to two correspondences showing the historical obligation established by the OCD and the Office of the State Engineer regarding the protection of the Capitan Reef and a figure summarizing the current status of the Capitan Reef approved as Exempted Aquifers by USEPA.

Exhibit 11A contains the most current guidance for qualifying an aquifer for exempt status. If there is migration of injection fluid from the San Andres in the Hobbs Channel into the Capitan Reef, the OCD would be required to characterize and address the impacts to the Capitan Reef. The information requirements of the USEPA would necessitate a greater project to determine the hydrologic relation of the Hobbs Channel and the Reef. Exhibit 11B contains a response by the OCD to the USEPA request in 2016 for a review of injection by Class II wells for possible impacts to USDW. This review identified the effort for protection of the Capitan Reef as a USDW which has been maintained without a formal determination for any portion of the Reef as Exempted Aquifer. Exhibits 11C and 11D notes the earlier efforts by the OCD for assessing the Capitan Reef

as an USDW and continuation of the agreement with the New Mexico State Engineer for protection as an USDW.

Exhibit 11E is a map detailing the portion of the Capitan Reef system which was nominated for Exemption and approved by the USEPA. The significance of this figure shows the potential for extension of the exempted status for the Capitan Reef from its occurrence in Texas where it is a historical source of oil and gas production possibly north to the area of the Hobbs Channel based on the findings of an investigation of the New Mexico portion of the Reef initiated to determine the impacts of the San Andres disposal.

Exhibit 12 summarizes the resolution by the state of California through its oil and gas agency, the Geologic Energy Management Division (“CalGEM”), to achieve compliance for the state’s Aquifer Exemption Program used in concurrence with its UIC Class II well permitting procedures. These correspondences emphasize the renewed effort in Aquifer Exemption Program by the USEPA following an audit in 2011 and a subsequent review in 2012. The USEPA imposed on a state with primacy for UIC Class II wells to address these deficiencies by submitting a plan in 2015 to bring the program into compliance by 2017. The primary source of the noncompliance was the use by CalGEM of “historically treated exempted aquifers” when issuing UIC permits. As part of the plan to return to compliance, CalGEM has had to identify and prepare applications for aquifer exemption applications for these historically treated exempted aquifers which are required to be submitted to and approved by the USEPA. OCD provides this example as a parallel to the changing conditions surrounding the Capitan Reef and the possible impacts of disposal in the Hobbs Channel. Additionally, OCD has continued to require formation water sampling as a condition of new UIC permits in the Hobbs Channel to better quantify injection intervals to avoid this deficiency in its Aquifer Exemption program.

Exhibit 13 is a 2016 publication from the New Mexico Bureau of Geology and Mineral Resources by Lewis Land titled “Overview of Fresh and Brackish Water Quality in New Mexico.” Dr. Lewis Land is the former karst hydrogeologist for the National Cave and Karst Research Institute and was the Institute’s liaison with the New Mexico Bureau of Geology and Mineral Resources. In his paper, Dr. Land asks “[a]s New Mexico considers the use of desalinated brackish water (less than 10,000 mg/L total dissolved solid) to diversify the public water supply, many questions must first be answered. Where are the brackish water resources? What data are available? What exactly is the water chemistry? How feasible is it to use brackish water for public supply?” Dr. Land focuses his analysis on the Capitan Reef, detailing its geologic nature and explaining how the Reef historically recharged. Dr. Land also explains his concern about mineral content of water coming from the Reef based on a limited number (13) of wells sampled for the data and that data is now roughly fifty (50) years old, reflecting the dearth of viable data available currently to assess the water quality status in the Reef. Dr. Land summarizes his paper in the following excerpt:

“Brackish water resources are clearly available in the Capitan Reef aquifer, although for the most part that water is more accurately described as a brine, and would thus not be suitable for conventional desalination technologies. However, this highly saline water is a valuable resource for industrial applications in southeastern New Mexico and west Texas. Both the petroleum and potash mining industries have recently expressed interest in exploiting brackish water in the reef aquifer for water flooding of mature oil fields in the Permian Basin region and for processing of potash ore.”

Finally Exhibit 14 offers recommendations by the OCD for determining any impacts to the Capitan Reef as a result of disposal in the Hobbs Channel. Immediate consideration should be given to the existing monitoring network established under the original effort by Hiss and the United States Geological Survey. Further assessment by the use of new dedicated monitoring wells, the use of new production well completions and the re-entry of plugged wells also offers opportunity for

obtaining subsurface information. Modeling coupled with remote sensing can offer decision-makers sufficient information for a determination of any impact or the need for an Aquifer Exemption application.

vi. Recommendation to Commission.

OCD possesses the authority to regulate the oil and gas industry in many respects. OCD regulates injection to avoid flooding of recovery zones and injection, generally. *See* § 70-2-12 NMSA; *see also* Chapter 15, Part 25 NMAC. OCD regulates “[p]revention of drowning of oil or gas producing strata, encroachment by water of productive strata, or any other kind of water encroachment upon productive strata to ensure production from those productive strata. *Id.* OCD also regulates management of produced water in relation to production, among other things, of oil and gas. *Id.* OCD regulates the prevention of water, crude petroleum oil, or natural gas from escaping from strata in which it is found into other strata. *Id.* Finally, OCD possesses authority “to regulate the disposition, handling, transport, storage, recycling, treatment and disposal of produced water during, or for reuse in, the exploration, drilling, production, treatment or refinement of oil or gas, including disposal by injection pursuant to authority delegated under the federal Safe Drinking Water Act, in a manner that protects public health, the environment and freshwater resources.” *Id.*

Based on the above exhibits and testimony, OCD, by and through Philip Goetze, renders the following opinion and recommendation to the OCC:

- (1) That there is a potential risk to the water quality in the Capitan Reef, which is managed as a protected aquifer, from injection operations in the San Andres formation within the hydrologic feature identified as the Hobbs Channel;

- (2) That neither Operator has addressed, in any meaningful way, the risks posed to drinking water due to said injection, nor have the Operators shown concern about this issue;
- (3) That OCD lacks sufficient data, based on the Operators' evidence, to determine the status of the Hobbs Channel or Capitan Reef and the hydrologic relationship between these features;
- (4) To resolve the above, OCD recommends that the OCC order the Operators, as identified individually or collectively, to do the following and to withhold a final decision on the merits of the Operators' respective claims:
 - a. Empire shall develop for OCD review and potential approval a pilot project to fully delineate the existence, or lack thereof, of any ROZ for any and all formations and pools for which Empire claims the existence of a ROZ;
 - b. OCD and the Operators shall develop and implement a plan for both the immediate monitoring of the ground water between the Capitan Reef and injection in the San Andres of the Hobbs Channel and a comprehensive investigation of the hydrology in this area as characterize the relationship for possible use in an Aquifer Exemption application; and
 - c. the OCC shall direct the OCD to suspend any new UIC permit applications in review for UIC Class II commercial disposal wells within the Hobbs Channel until the OCD provides initial results of the monitoring effort.

b. OCD Deputy Director Brandon Powell

OCD Deputy Director Powell manages the OCD's Engineering Bureau which contains the UIC Group. He has served with OCD in various positions for more than 18 years, including, engineering bureau chief, district supervisor, staff manager, inspection/enforcement supervisor,

and environmental specialist. Mr. Powell's UIC experience has ranged from field implementation to policy oversight for the OCD. Mr. Powell in his various OCD capacities has testified in various OCD rule makings and other hearings as an OCD process expert. Prior to joining OCD, Mr. Powell was a facility manager and environmental technician for an environmental services company. His qualifications are described in Exhibit 1. Mr. Powell will testify regarding aspects of the history of the area, the OCD's activities for disposal, and the OCD's efforts to institute a uniform process for permitting. Deputy Director Powell's *Curriculum Vitae* is labeled as Exhibit 15.

Deputy Director Powell, having reviewed the pleadings filed by the Operators, hereby offers information from the OCD's perspective. This action has not been brought by the OCD nor is it being viewed as a compliance action by the OCD. The Operators have shown potentially negligent actions by each other and the OCD may elect to pursue those actions but reserves the right to do so after this hearing, after which all of evidence of the case will have been identified and potential violations will have matured. This action does, however, have the potential to have not only regional effects but also more profound and far-reaching consequences. The OCD would specifically point out, through the respective applications, one of the remedies sought is adverse actions regarding previously issued OCD orders pertinent to the Operators' injection authority. Deputy Director Powell wishes to convey the importance of only doing so with an abundance of caution and offers the following in support thereof:

When operators apply to OCD for permits to inject, they do so through rules promulgated by the OCC. It should be recognized the rules promulgated by the OCC allow an offset operator with concerns the opportunity to contest a permit prior to issuance. A permit is issued once it has met the regulatory thresholds. A result of such permit approval leads operators to invest money, time, equipment costs, and other expenses in both preparing to apply for such a permit, but also

afterwards in the actual process of implementing the permit by preparing a wellsite, drilling a well and then subsequent injection. In essence, operators rely on the injection permit as the bedrock for the operator's investment in a given well or wells. To be clear, an injection permit *does not* create any interest in the underlying property but creates a right to inject a limited volume within certain pressure constraints that form the outer limit of the injection permit. Similarly, OCD comes to rely on both injection permits and operator honesty and reporting to form a basis for its regulation of injection wells – OCD must rely on these things to (1) ensure compliance with OCD regulations and (2) to provide a stable and predictable regulatory environment for the regulated community.

The effects of adversely acting against a previously issued injection permits comes with several factors. One effect is that these types of modifications create regulatory instability that may impact multiple operators, specifically those proximate to the subject well or wells, from an oil and gas perspective to the particular injection well at issue under an injection permit. The oil and gas industry is built on nearly a century of regulations and statutes executed through permits and orders. This process forms the regulatory framework currently in place in New Mexico. Proximate operators depend on this structure as much as the operator that secures an injection permit in that proximate operators know exactly what their neighbors may, and may not, do insofar as injection and can determine how that may affect the proximate operator's business activities. Another concern of OCD's is the reliance of the operator that secured the injection permit on the permit itself. As noted previously, operators invest significant sums of money in not only securing an injection permit, but also in the drilling, refitting, and injection activities underlying that the injection permit allows.

OCD is tasked with regulating the oil and gas industry in New Mexico per the Oil and Gas Act. § 70-2-1 NMSA. It is in the interest of OCD, and therefore New Mexicans and the regulated community, for OCD to build and maintain a stable and reliable regulatory structure that yields industry compliance with OCD regulations and statutes. Such consistency reduces uncertainty for operators working in a dynamic industry. This also reduces compliance issues couched in uncertainty. A dependable regulatory regime likewise allows for operators to act efficiently, which in turn generates tax revenues for the State. Therefore, the risks of adversely effecting existing orders are significant and should only be done so with caution and an abundance of evidence. Taking adverse actions without meeting these thresholds could undermine the confidence in OCD's regulatory environment by both the regulated community, and New Mexican citizens.

The next concern of OCD's is ascertaining what threshold should be met prior to adversely modifying an existing OCD order. OCD maintains there is no clear standard in OCD regulations for such an action, but it appears that there would need to be a legal and factual basis for such an action. OCD's position is that in this case the burden lies with the operator moving for an adverse modification to demonstrate to the OCC the level of information to meet such a threshold to justify an order modification, with a particular emphasis on the factual predicate required. OCD does not believe the Operators have made such a demonstration and should be compelled to do so. OCD could foresee such demonstration being performed as a pilot project reviewed and potentially approved by the OCD. However, these actions cannot be specifically directed by the OCD, as the necessary actions may be outside of OCD's regulatory purview, for example land leases and monetary commitments for drilling investigatory wells.

IV. OCD's Exhibit List

OCD proffers the following exhibits, for which a link will be sent to counsel for access and download:

- a. Exhibit 1: General Site Map Showing Area of Interest and Locations of Wells Including UIC Class II Disposal Wells
- b. Exhibit 2: Map Showing Locations of Goodnight's UIC Class II Disposal Wells and Empire East Monument South Unit Within the Hobbs Channel
- c. Exhibit 3: UIC Program: New Mexico Oil and Gas Act
- d. Exhibit 3A: Enumeration of Powers excerpt from the New Mexico Oil and Gas Act
- e. Exhibit 3B: Statutory Unit Act excerpt from the New Mexico Oil and Gas Act
- f. Exhibit 4: UIC Program: Appendix II from the New Mexico Primacy Demonstration
- g. Exhibit 5: Permian Guadalupian Ground Water References by W. L. Hiss
- h. Exhibit 5A: *Movement of Ground Water in Permian Guadalupian Aquifer Systems, Southeastern New Mexico and Western Texas* from the New Mexico Geological Society Guidebook, 31st Field Conference, Trans-Pecos Region, 1980
- i. Exhibit 5B: *Stratigraphy and Ground-Water Hydrology of the Capitan Aquifer, Southeastern New Mexico and Western Texas* by William L. Hiss, Doctor of Philosophy Thesis, 1975 [text only]
- j. Exhibit 5C: Figure 19 from W. L. Hiss Doctor of Philosophy Thesis
- k. Exhibit 5D: Figure 26 from W. L. Hiss Doctor of Philosophy Thesis
- l. Exhibit 6: Summary of Permian Production in the Area of Interest

Exhibit 7: Summary of Disposal Operations into Permian Formations in the Area of Interest

- m. Exhibit 7A: Chronology of UIC Class II Disposal Permits and Disposal Operations
- n. Exhibit 7B: Excerpts of Testimony from Cases Involving Disposal Well Applications
- o. Exhibit 7C: Summary of Injection Volumes by UIC Class II Disposal Wells
- p. Exhibit 7D: Summary of Form C-108 Applications for the Area of Interest
- Exhibit 8: Current Issues Regarding Disposal in San Andres formation
- q. Exhibit 8A: *Permian Operators Squeezed by Growing Water Pressure*; Journal of Petroleum Technology, April 2019
- r. Exhibit 8B: Well completion forms from the Well File for E M E Well No. 8 (API No. 30-025-06017)
- s. Exhibit 8C: OCD E-mail communications regarding cement work for the N-11 SWD Well No.1 dated July 13, 2020
- t. Exhibit 8D: OCD E-mail communications regarding cement work for the Andre Dawson SWD Well No.1 dated December 21, 2022
- u. Exhibit 9: Division Order No. R-22869-A
- v. Exhibit 10: *Update of Underground Injection Control Class II Activities within the State of New Mexico for Possible Injection into Underground Sources of Drinking Water: The Capitan Reef Aquifer System*, Oil Conservation Division correspondence to the United States Environmental Protection Agency dated May 28, 2020

- w. Exhibit 11: Safe Drinking Water Act Aquifer Exemption Program
- x. Exhibit 11A: *Enhancing Coordination and Communication with States on Review and Approval of Aquifer Exemption Requests Under SWDA*, United States Environmental Protection Agency Memorandum dated July 24, 2014
- y. Exhibit 11B: *Review of Underground Injection Control Class II Activities within the State of New Mexico for Possible Injection into Underground Sources of Drinking Water*, Oil Conservation Division correspondence to the United States Environmental Protection Agency dated October 24, 2016
- z. Exhibit 11C: Oil Conservation Division correspondence to the New Mexico State Engineer dated April 23, 1992
- aa. Exhibit 11D: Oil Conservation Division correspondence to the New Mexico State Engineer dated March 23, 1993
- bb. Exhibit 11E: Figure Showing Current Exempted Aquifer Designations for the Capitan Reef.
- cc. Exhibit 12: State of California Experience
- dd. Exhibit 12A: United States Environmental Protection Agency correspondence dated to the California Department of Conservation and California State Water Resources Control Board dated December 22, 2014
- ee. Exhibit 12B: California Department of Conservation and California State Water Resources Control Board correspondence to the United States Environmental Protection Agency dated February 6, 2015

- ff.** Exhibit 12C: United States Environmental Protection Agency correspondence dated to the California Department of Conservation and California State Water Resources Control Board dated March 9, 2015
- gg.** Exhibit 12D: California Department of Conservation and California State Water Resources Control Board correspondence to the United States Environmental Protection Agency dated March 3, 2017
- hh.** Exhibit 13: Capitan Reef Excerpt from *Overview of Fresh and Brackish Water Quality in New Mexico*; New Mexico Bureau of Geology and Mineral Resources Open File Report 583; 2016
- ii.** Exhibit 14: Proposed Investigation and Monitoring Plan Regarding the Capitan Reef Aquifer and Disposal in the San Andres Formation in the Area of Interest
- jj.** Exhibit 15: Resume of Brandon Powell
- kk.** Exhibit 16: Resume of Phillip Goetze
- ll.** Any and all documents or exhibits disclosed in any capacity by any Party, including any such documents or exhibits relied-upon by the Parties in deposition or at any merits hearing in this matter.

Respectfully submitted,

Christopher L. Moander
Assistant General Counsel
New Mexico Energy, Minerals and
Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Tel (505) 709-5687
chris.moander@emnrd.nm.gov

CERTIFICATE OF SERVICE

I certify that on August 26, 2024, this pleading was served by electronic mail on:

<p>Ernest L. Padilla Padilla Law Firm, P.A. Post Office Box 2523 Santa Fe, New Mexico 87504 (505) 988-7577 padillalawnm@outlook.com</p> <p>Dana S. Hardy Jaclyn M. McLean HINKLE SHANOR LLP P.O. Box 2068 Santa Fe, NM 87504-2068 (505) 982-4554 dhardy@hinklelawfirm.com jmclean@hinklelawfirm.com</p> <p>Sharon T. Shaheen Samantha H. Catalano Spencer Fane Post Office Box 2307 Santa Fe, NM 87504-2307 (505) 986-2678 sshhaheen@spencerfane.com cc: dortiz@spencerfane.com</p> <p><i>Attorneys for Empire New Mexico, LLC</i></p>	<p>Michael H. Feldewert Adam G. Rankin Paula M. Vance HOLLAND & HART LLP 110 N. Guadalupe Street #1 Santa Fe, NM 87501 (505) 988-4421 mfeldewert@hollandhart.com agrarkin@hollandhart.com pmvance@hollandhart.com NRJurgensen@hollandhart.com</p> <p><i>Attorneys for Goodnight Midstream Permian, LLC</i></p> <p>Miguel A. Suazo Sophia A. Graham Kaitlyn A. Luck 500 Don Gaspar Ave. Santa Fe, NM 87505 (505) 946-2090 msuazo@bwenergylaw.com sgraham@bwenergylaw.com kluck@bwenergylaw.com</p> <p><i>Attorneys for Pilot Water Solutions SWD, LLC</i></p> <p>Matthew Beck Peifer Hanson Mullins & Baker, P.A. P.O. Box 25245 Albuquerque, NM 87125-5245 (505) 247-4800 mbeck@peiferlaw.com</p> <p><i>Attorneys for Rice Operating Company and Permian Line Service, LLC</i></p>
--	--

Christopher L. Moander