

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

**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**

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

**CASE NOS. 23614-23617**

**APPLICATIONS OF EMPIRE NEW MEXICO LLC TO REVOKE INJECTION AUTHORITY, LEA COUNTY, NEW MEXICO.**

**CASE NOS. 24018-24027**

**APPLICATION OF GOODNIGHT MIDSTREAM PERMIAN LLC TO AMEND ORDER NO. R-22024/SWD-2403 TO INCREASE THE APPROVED INJECTION RATE IN ITS ANDRE DAWSON SWD #1, LEA COUNTY, NEW MEXICO.**

**CASE NO. 23775**

**EMPIRE NEW MEXICO LLC’S RESPONSES TO GOODNIGHT MIDSTREAM PERMIAN LLC’S THIRD SUBPOENA DATED JULY 2, 2024**

In accordance with the Subpoena issued July 2, 2024, Empire New Mexico, LLC (“Empire”) submits the following responses. A link to responsive documents is provided in the email transmitting this response.

1. Documents, communications, reports, protocols, and analyses reflecting treatment of Grayburg production wells within the EMSU for scale, H<sub>2</sub>S, or corrosion prior to

commencement of waterflooding operations in the EMSU.

RESPONSE: *See document(s) Bates# OCD 23614-17 03538-3557, produced herewith.*

2. Documents, communications, reports, analyses, and protocols reflecting treatment, including chemicals used with concentrations, volumes, and a description of filtering media and size of filters used on injected fluids, conducted by Gulf Oil, Chevron, and XTO to address scaling, H<sub>2</sub>S, and corrosion in Grayburg production wells, Grayburg injection wells, and San Andres water supply wells within the EMSU from creation of the EMSU until acquisition of the EMSU by Empire.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered no responsive documents.

3. Documents, communications, reports, analyses, and protocols reflecting treatment, including volumes and concentrations of chemicals used, and a description of filtering media and size of filters used on injected fluids, and Safety Data Sheets (SDS) for treating chemicals used, conducted by Empire New Mexico LLC to address scaling, H<sub>2</sub>S, and corrosion in Grayburg production wells, Grayburg injection wells, and San Andres water supply wells within the EMSU from Empire's acquisition of the EMSU to the present.

RESPONSE: *See documents Bates# OCD 23614-17 03558-3562, produced herewith.*

4. Documents, communications, reports, and analyses reflecting any changes made to treatment protocols or plans to address scaling, H<sub>2</sub>S, and corrosion in Grayburg production wells, Grayburg injection wells, and San Andres water supply wells within the EMSU from the

time Empire acquired the EMSU to the present.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered no responsive documents.

5. Please produce a complete, conforming, and legible copy of the ExxonMobil document titled “EMSU, EMSUB, and AGU Upside Potential – Infill Drilling and ROZ” attached, at least in part, as Exhibit A-5 in Empire’s Amended Exhibits filed on November 2, 2023, in Division Case Nos. 23614-23617 (“Empire’s Exhibit A-5”).

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered no responsive documents.

6. All documents, communications, reports, analyses, and data provided by XTO to Empire relating to the residual oil zone (“ROZ”) referenced in Empire’s Exhibit A-5, including but not limited to documents and data provided by XTO in the data room as part of Empire’s due diligence review of the EMSU, as well as complete, conforming and legible copies of the analyzed logs used to create the cross section titled “Eunice Area ROZ Cross-section” presented on page 7 of Empire’s Exhibit A-5.

RESPONSE: See document(s) Bates# OCD 23614-17 03563-3622, produced herewith.

7. Documents and data provided by XTO/ExxonMobil to the EMSU data room as part of Empire’s due diligence review prior to acquiring the EMSU reflecting any of the following:

- Scaling, H<sub>2</sub>S, and corrosion in Grayburg production wells, Grayburg injection wells, and San Andres water supply wells within the EMSU;

- Potential for ROZ development within the EMSU, including but not limited to reserves estimates and estimated recoveries;
- Communication between the Grayburg and San Andres formations; and
- Well remediation work and any related analyses reflecting potential causes.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered no responsive documents.

8. Documents and data reflecting Grayburg Formation pressure in EMSU production wells and injection wells for the years 2021, 2022, and 2023.

RESPONSE: *See* documents Bates# OCD 23614-17 03623-3627, produced herewith.

9. Documents and data reflecting shut-in well pressure measurements, including shut-in fluid levels, for Grayburg waterflood injection wells within the EMSU for the period beginning immediately after Empire acquired its operating interest(s) the EMSU to Present.

RESPONSE: *See* documents Bates# OCD 23614-17 03628, produced herewith.

10. Empire records, prior-operator records, internally or externally created documents, and data reflecting production (water, oil, or gas) from the EMSU #457, EMSU #458, EMSU #459, EMSU #460, EMSU #461, and EMSU #462 prior to 1994.

RESPONSE: Responsive information was previously produced in supplemental production relating to Goodnight's second subpoena.

11. Documents, data, analyses, reports, and summaries, including but not limited to internal and external correspondence, that address, reflect on, or concern studies prepared by

Empire on the feasibility of conducting tertiary recovery operations in the San Andres formation within the EMSU using carbon dioxide.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered that all responsive documents were previously produced.

12. Documents, data, analyses, reports, and summaries, including internal and external correspondence, that address, reflect on, or concern assessments for capital costs and expenditures estimated to be necessary to institute a tertiary recovery operation in the San Andres formation within the EMSU using carbon dioxide.

RESPONSE: Empire objects to Request No. 12 because it is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. The Commission's jurisdiction does not include authority to consider "assessments for capital costs and expenditures estimated to be necessary to institute a tertiary recovery operation in the San Andres formation." See NMSA 1978, §§ 70-2-6; 70-2-11, 70-2-12 Further, the Commission has expressly narrowed the scope of this hearing. See Join Order on Goodnight's Motion to Limit Scope of Hearing ("At said hearing, the parties shall submit all evidence, testimony, and legal argument on the issue of the existence, extent of and possible interference with a residual oil zone [in the EMSU] by produced water injection activities undertaken by Goodnight.").

13. Reservoir studies reflecting monthly carbon dioxide volumes (including total, purchased, and recycled carbon dioxide) Empire estimates will be required to conduct tertiary recovery in the San Andres formation within the EMSU.

RESPONSE: Empire objects to this request for the same reasons stated in response to Request No. 12.

14. Communications with potential suppliers of carbon dioxide for tertiary recovery operations in the San Andres formation within the EMSU.

RESPONSE: Empire objects to this request for the same reasons stated in response to Request No. 12.

15. Communications from Empire to Nutech, including documents, analyses, and data, reflecting “client information and experience” provided by Empire to establish “permeability threshold values” as it pertains to the San Andres formation referenced in Empire Exhibit E-1 in Empire’s Amended Exhibits filed on November 2, 2023, in Division Case Nos. 23614-23617.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered no documents reflecting “client information and experience” provided to Nutech by Empire. To Empire’s knowledge, the reference to “client information and experience by Mr. Dillewyn relates to information that Nutech had previously received from XTO and other clients operating within the area and Nutech’s experience with those clients.

16. To the extent Empire provided instructions to Nutech on input parameters, produce documents and communications between Empire and Nutech reflecting the modified Simandoux equation parameters used for each well (a,  $R_w$ ,  $R_{sh}$ , n, m,  $V_{sh}$ ) referenced in Galen

P. Dillewyn's testimony submitted on November 2, 2023, in Empire's Amended Exhibits filed on November 2, 2023, in Division Case Nos. 23614-23617.

RESPONSE: See response to Request No. 16.

17. Documents, data, and/or communications, whether internal or external, addressing the use of the San Andres formation in the EMSU as a carbon capture project, whether in the alternative to or in association with Empire's proposed carbon flood tertiary recovery project.

RESPONSE: Empire has conducted a diligent and thorough search of the records within its possession, custody, or control and discovered that no responsive documents.

18. The reservoir simulation model of the EMSU "to evaluate performance and impact to SWD injection and long-term flooding into the San Andres" that is referenced in the May 16, 2024 Form 8-K and attached as Exhibit 99, Press Release of Empire Petroleum, dated May 15, 2024, along with data relied on to construct the model, parameters and inputs, and analyses, reports, and summaries, including internal and external correspondence, that address, reflect on, or concern the reservoir model.

RESPONSE: The reservoir simulation model of the EMSU, which is the work of Empire's expert, is not complete. The model and data relied on to construct the model will be produced in accordance with the Commission's Pre-Hearing Order in this matter. *See New Mexicans for Free Enterprise v. The City of Santa Fe*, 2006-NMCA-007, 138 N.M. 785.

19. Documents, data, and/or communications, whether internal or external, related to

the any pilot project for CO<sub>2</sub> flood in the San Andres within the EMSU, to the extent such a pilot project is related to the “[p]rimary, secondary units with CO<sub>2</sub> potential” and the “[p]ilot to begin end of 2024” referenced in slide 12 of the Empire Petroleum Q1 2024 Earnings Slides, dated May 15, 2024, hosted on the “Investor Relations” > “Events & Presentations” page of Empire’s website (see <https://empirepetroleumcorp.com/investor-relations/events-presentations/>).

RESPONSE: The reference to a “pilot” in slide 12 pertains to infill drilling and not to CO<sub>2</sub> development. Thus, there are no responsive documents.

20. With respect to each person Empire may call as an expert witness at hearing, please provide:

- a. the name, address, and qualifications of the expert;
- b. the subject matter on which the expert is expected to testify;
- c. the substance of the facts and opinions to which the expert is expected to testify and a summary of the grounds for each opinion;
- d. any reports prepared by the expert regarding the pending action;
- e. a list of all publications authored by the witness within the preceding ten (10) years; and
- f. a listing of any other cases in which the witness has testified as an expert at trial or by deposition within the preceding four (4) years.

RESPONSE: Empire previously provided information responsive to subparts a-b in its witness disclosure filed July 8, 2024. See documents Bates# OCD 23614-17 03629-3645 for information responsive to subpart e.

Respectfully submitted,

By: /s/ Sharon T. Shaheen

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**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was served on the following by electronic mail on August 1, 2024.

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