

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

**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. \_\_\_\_\_

**APPLICATION**

Goodnight Midstream Permian, LLC (“Goodnight Midstream”) (OGRID No. 372311), through its undersigned attorneys, hereby files this application with the Oil Conservation Commission, pursuant to the provisions of NMSA 1978, § 70-2-12(B)(12), to amend Order No. R-7767 (the “Order”), attached as **Exhibit A**, to vertically contract the Eunice Monument Oil Pool within the area designated as the Eunice Monument South Unit Area (the “Unit Area”) by excluding the San Andres formation. This application is being filed in conjunction with a separate application to amend Commission Order No. R-7765, as amended, to modify the definition of the unitized interval within the Eunice Monument South Unit (“EMSU” or the “Unit”) to exclude the San Andres formation. In support, Goodnight Midstream states the following:

1. In 1984, Gulf Oil Corporation (“Gulf”) filed three related applications that were consolidated for hearing before the Commission.
2. In Case No. 8397, Gulf sought approval of the Eunice Monument South Unit (“EMSU”) as a statutory waterflood unit.
3. In Case No. 8398, Gulf sought approval for waterflood injection for purposes of secondary recovery in the Grayburg and Lower Penrose formations within the proposed Unit Area.

4. And in Case No. 8399, Gulf sought to expand the vertical limits of the Eunice Monument Oil Pool upward only within the proposed Unit Area to include the top of the Grayburg formation or to a subsea datum of -100 feet, whichever is higher. *See* Case No. 8399, Application, filed 10/3/1984. At the same time, Gulf also sought to vertically contract the overlying Eumont Gas Pool upward within the same area to prevent Unit Area wells from having completion intervals overlapping the two pools. *Id.*

5. The effect of Gulf's proposed pool modifications would be to include the Lower Penrose formation with the Grayburg formation in the Eunice Monument Oil Pool, while limiting the Eumont Gas Pool to the overlying Yates, Seven Rivers, Queen and Upper Penrose formations immediately above. *See* Case No. 8397, Vol. 1, Hrg. Tr. 6:12-17 (W. T. Kellahin stating "[t]he proposed application is one that includes the amendment to certain pool rules established by the Oil Conservation Commission. The objective of the amendment is to create within one pool an oil interval that generally is defined as including the Lower Penrose section and the Grayburg section in this area. The purpose will be [to] isolate the oil producing interval for the secondary waterflood project and to remove from the pool rules the gas zone in the Upper Penrose.").

6. According to the Application, the requested pool amendments would "allow for a more manageable Unit Area and a more effective waterflood of the entire oil column underlying the Unit Area which will prevent waste and should not impair correlative rights." *See* Case No. 8399, Application, filed 10/3/1984; *see also* Case No. 8397, Vol. 1, Hrg. Tr. 6:14-17.

7. After notice and hearing, the Commission issued Order R-7767 approving the request to amend the vertical limits of the pools within the Unit Area.

8. The Order contracted the Eumont Gas Pool within the Unit Area "to be from the top of the Yates formation to a lower unit described as the base of the Queen formation or 100 feet

below mean sea level, whichever is higher; the geologic markers having been previously found to occur at 2747 feet and 3666 feet, respectively, in Continental Oil Company's No. 23 Meyer B-4 Well (located at 660 feet from the South line and 1980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a Kelly bushing elevation of 3,595 feet above sea level." See Order No. R-7767, decretal ¶ 1.

9. The Order also expanded the vertical limits of the Eunice Monument Oil Pool within the Unit Area "to be from an upper limit described as 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit at the base of the San Andres formation; the geologic markers having been previously found to occur at 3666 feet and 5283 feet, respectively, in Continental Oil Company's No. 23 Meyer B-4 well (located at 660 feet from the South line and 1980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a Kelly drive bushing elevation of 3,595 feet above sea level." See Order No. R-7767, decretal ¶ 2.

10. Under the Oil and Gas Act, a "pool" is "an underground reservoir containing a common accumulation of crude petroleum oil or natural gas or both." NMSA 1978, § 70-2-33(B) (emphasis added). It also is a "zone of a general structure, which zone is completely separate from any other zone in the structure["]." *Id.* (emphasis added); see also 19.15.2.7.P(5) NMAC.

11. The San Andres formation within and around the Unit Area is geologically a completely separate zone from the overlying Grayburg and Lower Penrose formations and does not share a common accumulation of crude petroleum oil or natural gas or both with either the Grayburg or Lower Penrose formations.

12. Withdrawal of more than 340 million barrels of water from the San Andres within the Unit Area beginning in 1986 has resulted in a substantial and sustained pressure differential between the San Andres and overlying Grayburg and Lower Penrose formations across a broad geographic area, including the EMSU. That pressure differential has been maintained through an effective geologic seal at the top of the San Andres formation.

13. The San Andres formation within and around the Unit Area also is a non-hydrocarbon-bearing aquifer.

14. No hydrocarbons have been reported as having been produced from the San Andres formation within or around the Unit Area either before or after creation of the EMSU.

15. At the hearing in Case Nos. 8397-8399, Gulf presented evidence and testimony that the oil-water contact around and within the Unit Area is at a depth of approximately -325 feet subsea, well above the top of the San Andres formation.

16. At the hearing in Case Nos. 8397-8399, Gulf presented evidence and testimony that a continuous oil column extends from the Grayburg into the Lower Penrose formations, but does not extend into the San Andres.

17. At the hearing in Case Nos. 8397-8399, Gulf presented evidence and testimony that waterflood operations within the EMSU target the oil column and, therefore, would be limited to the Grayburg and Lower Penrose formations and expressly excluded the San Andres from its proposed waterflood operations because it is non-prospective for oil.

18. The Division has separately concluded there are geologic seals separating the San Andres disposal zone from the overlying producing Grayburg formation within the EMSU that prevents the vertical migration of fluids. *See* Order No. R-21190 ¶ 10.

19. The confirmed pressure differential, the fact that the oil column does not extend into the San Andres aquifer, and the presence of geologic seals, establish that the San Andres formation is geologically a completely separate zone from the overlying Grayburg and Lower Penrose formations within the EMSU.

20. At the hearing in Case Nos. 8397-8399, Gulf presented evidence and testimony that the San Andres formation would be used to provide the massive quantities of water required in the waterflood zone in the Grayburg and Lower Penrose formations for the initial fill-up period and, if needed, for makeup water in the future.

21. In this area, the San Andres formation has been designated by the Division as a produced water disposal zone since approximately 1960. The Division has authorized produced water disposal in the San Andres formation within the Unit Area since at least 1966. The Division assigned it the pool designation "SWD; San Andres" and pool code "96121" for "Salt Water Disposal."

22. Empire New Mexico, LLC owns and operates an active produced water disposal well within the Unit Area. Since about 1987, the well has injected more than 4 million barrels of produced water into the San Andres formation for disposal purposes. In addition to Empire, three different operators operate Division-approved produced water disposal wells that currently inject produced water into the San Andres within the Unit Area but are not operated as part of the Unit.

23. The San Andres formation was erroneously retained within the Eunice Monument Oil Pool under Order No. R-7767 in contravention of the Oil and Gas Act, the Statutory Unitization Act, and the Commission's regulations. *See* NMSA 1978, § 70-2-33(B); NMSA 1978, § 70-2-1 through 70-7-21; 19.15.2.7.P(5) NMAC.

24. The San Andres is not a hydrocarbon source; it is a water source. The New Mexico Office of the State Engineer (“OSE”) declared the San Andres as a groundwater source within the Capitan Ground Water Basin on September 27, 1965. By declaring the Capitan Basin, the OSE has expressly identified the San Andres as a water source subject to appropriation and beneficial use, and asserted jurisdiction over all waters within the Basin, including those within the San Andreas formation. *See* NMSA 1978, § 72-12-1.

25. Upon information and belief, no evidence of hydrocarbon production or prospectivity has been presented to the Division or Commission justifying retention of the San Andres formation within in the Eunice Monument Oil Pool under Order No. R-7767.

26. The Commission should therefore amend Order No. R-7767 to exclude the San Andres formation from the vertical limits of the Eunice Monument Oil Pool within the Unit Area.

27. The Eunice Monument Oil Pool should be amended to be defined from an upper limit described as 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit 540 feet below mean sea level or the base of the Grayburg, whichever is higher. For purposes of defining the Eunice Monument Oil Pool within the EMSU, the base of the Grayburg formation is found at the stratigraphic equivalent of 4,150 feet as found in Empire New Mexico LLC’s<sup>1</sup> EMSU #1 SWD (API No. 30-025-04484), as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a Kelly bushing elevation of 3,595 feet above sea level. **Exhibit B** is a type log of the EMSU #1 SWD. It depicts the proposed new vertical limits for the Eunice Monument Oil Pool.

28. The proposed new vertical limits definition of the Eunice Monument Oil Pool are proposed to apply only to the area underlying the EMSU, Lea County, New Mexico.

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<sup>1</sup> Formerly Continental Oil Company’s No. 23 Meyer B-4 well.

29. The proposed pool contraction complies with the requirements of the Oil and Gas Act, the Statutory Unitization Act, and the Commission's regulations and will not impede unit operations within the EMSU.

30. Approving this application will avoid the drilling of unnecessary wells, prevent waste, and protect correlative rights.

31. The application in this case relates to Goodnight Midstream Division Case Nos. 23614-23617, 23775, and Commission Case No. 24123 (de novo), and Empire New Mexico, LLC's Division Case Nos. 24018-24020 and 24025, which all involve a dispute over produced water disposal in the San Andres formation within the EMSU. Applicant therefore requests that this application be consolidated with the foregoing referenced cases for hearing before the full Commission.

WHEREFORE, Goodnight Midstream Permian, LLC requests that this application be set for hearing before the Oil Conservation Commission after an initial status conference on March 14, 2024, and, after notice and hearing as required by law, the Commission enter an order approving this application.

Respectfully submitted,

HOLLAND & HART LLP

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**ATTORNEYS FOR GOODNIGHT MIDSTREAM  
PERMIAN, LLC**



CASE \_\_\_\_\_ :

**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.** Applicant in the above-styled cause seeks to amend Order No. R-7767 (the “Order”) to vertically contract the Eunice Monument Oil Pool within the area designated as the Eunice Monument South Unit Area (the “Unit Area”) by excluding the San Andres formation. The Eunice Monument Oil Pool should be amended to be from an upper limit described as 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit 540 feet below mean sea level or the base of the Grayburg, whichever is higher. For purposes of defining the Eunice Monument Oil Pool within the EMSU, the base of the Grayburg formation is found at the stratigraphic equivalent of 4,150 feet as found in Empire New Mexico LLC’s EMSU #1 SWD (API No. 30-025-04484), as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a Kelly bushing elevation of 3,595 feet above sea level. This application is being filed in conjunction with a separate application to amend Commission Order No. R-7765, as amended, to modify the definition of the unitized interval within the Eunice Monument South Unit (“EMSU” or the “Unit”) to exclude the San Andres formation. The subject area is located approximately 7 miles west of Eunice, N.M.

# EXHIBIT A

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY AND MINERALS  
OIL CONSERVATION COMMISSION

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

CASE 8399  
Order No. R-7767

NOMENCLATURE

APPLICATION OF GULF OIL CORPORATION  
FOR POOL EXTENSION AND CONTRACTION,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This case came on for hearing at 9:00 A.M. on November 7, 1984, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 27th day of December, 1984, the Commission, a quorum having been present, having considered the testimony and the record and being otherwise fully advised in the premises,

FINDS THAT:

(1) Due public notice has been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Gulf Oil Corporation, is the operator of the Eunice Monument South Unit with horizontal limits including that acreage described on Exhibit "A" attached to this order.

(3) The applicant, seeks the upward extension of the vertical limits of the Eunice-Monument Pool to include either the top of the Grayburg formation or to a subsea datum of minus 100 feet, whichever is higher, and the concomitant amendment of the vertical limits of the Eumont

**EXHIBIT A**

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Case No. 8399  
Order No. R-7767

Gas Pool by contracting its lower limits to either the base of the Queen formation or to a subsea datum of minus 100 feet, whichever is higher, underlying said unit.

(4) The proposed amendment of pool vertical limits is necessary to permit the applicant to successfully carry out secondary recovery operations within the full oil column underlying said unit.

(5) No party appeared and objected to the proposed amendment of vertical limits.

(6) Granting this application will serve to prevent waste and will not violate correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) Within the area designated as the Eunice Monument South Unit Area, as shown on Exhibit "A" attached hereto, the vertical limits of the Eumont Gas Pool are hereby amended to be from the top of the Yates formation to a lower unit described as the base of the Queen formation or 100 feet below mean sea level, whichever is higher; the geologic markers having been previously found to occur at 2747 feet and 3666 feet, respectively, in Continental Oil Company's No. 23 Meyer B-4 Well (located at 660 feet from the South line and 1980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a kelly drive bushing elevation of 3,595 feet above sea level.

(2) Within the area designated as the Eunice Monument South Unit Area, as shown on Exhibit "A" attached hereto, the vertical limits of the Eunice Monument Oil Pool are hereby amended to be from an upper limit described as 100 feet below mean sea level or at the top of the Grayburg formation, whichever is higher, to a lower limit at the base of the San Andres formation; the geologic markers having been previously found to occur at 3666 feet and 5283 feet, respectively, in Continental Oil Company's No. 23 Meyer B-4 well (located at 660 feet from the South line and 1980 feet from the East line of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico) as recorded on the Welex Acoustic Velocity Log taken on October 30, 1962, said log being measured from a kelly drive bushing elevation of 3,595 feet above sea level.

# EXHIBIT A

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Case No. 8399  
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(3) The effective date of this order and the changes to vertical limits included herein shall be January 1, 1985.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JIM BACA, Member



ED KELLEY, MEMBER



R. L. STAMETS, Chairman  
and Secretary

S E A L

# EXHIBIT A

LEA COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 36 EAST, NMPM

Section 25: All  
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM

Section 30: S/2, S/2 N/2, NE/4 NW/4 and  
NW/4 NE/4

Section 31: All  
Section 32: All

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM

Section 2: S/2 S/2  
Section 3: Lots 3, 4, 5, 6, 11, 12, 13, and  
14 and S/2  
Section 4 through 11: All  
Section 12: W/2 SW/4  
Section 13: NW/4 NW/4  
Sections 14 through 18: All  
Section 21: N/2 and N/2 S/2  
Section 22: N/2 and N/2 S/2

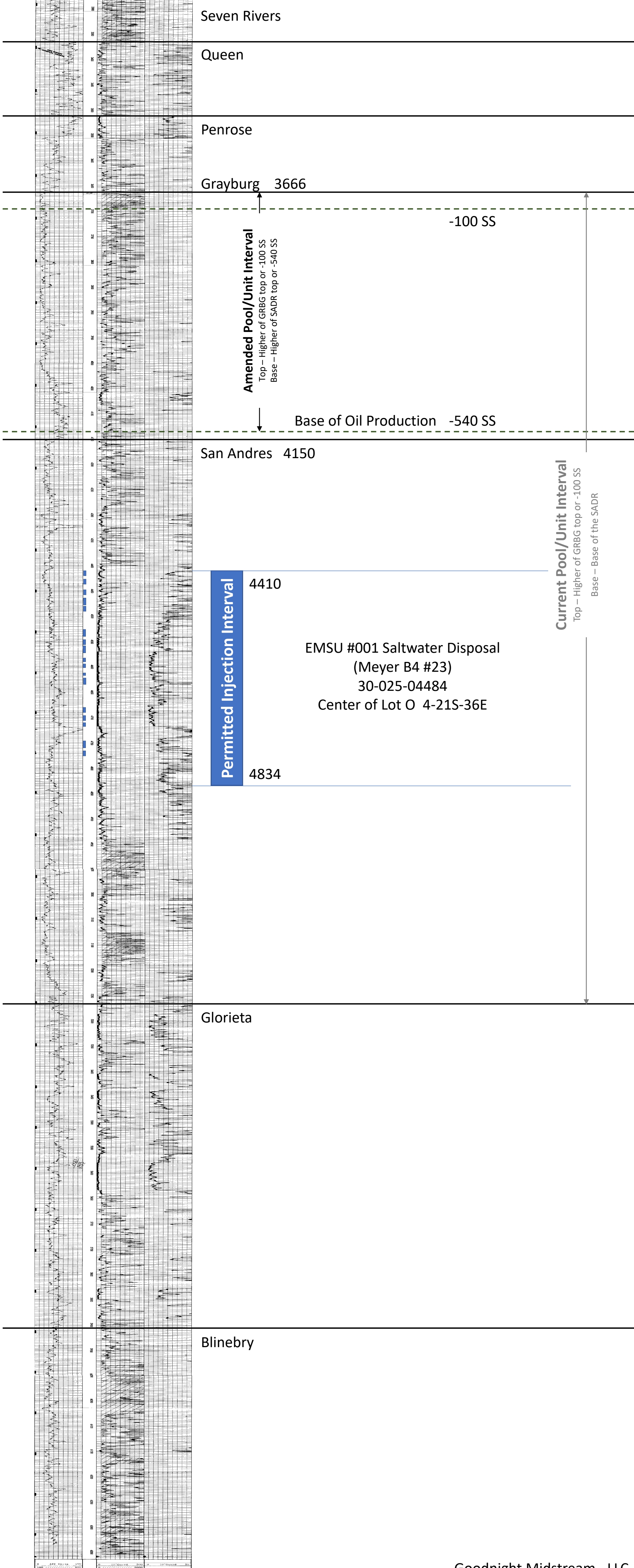
CASE NO. 8399  
ORDER NO. R-7767  
EXHIBIT "A"



**LEX** **GUARD LOG**  
 COMPANY CONTINENTAL OIL COMPANY  
 WELL MEYER B-4 # 23  
 FIELD OIL CENTER-BLINEBRY  
 COUNTY LEA STATE NEW MEXICO  
 Location 660'FSL 1980'FEL  
 Sec 4 Twp 21-S Rge 36-E  
 Permanent Datum Brudenhead Fig. Elev. 3584  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Date 10-30-62  
 Run No. 096  
 Depth-Driller 6882  
 Depth-Worker 6882  
 Top Log Int. 3000  
 Casing-Driller 8-5/8 @ 1305  
 Casing-Worker 7-7/8  
 Bit Size 7-7/8  
 Type Fluid in Hole 600  
 Dist. - Wire 2-2 1/2  
 Dist. - Fluid Line 10  
 Source of Sample Circulated  
 K. @ Home Temp. 15 @ 300' 7  
 K. @ Home Temp. 15 @ 70' 7  
 K. @ Home Temp. 10 @ 300' 7  
 Source R. M. Measured  
 Time Since C. 119 @ 12' 7  
 Max. Rec. Temp. 112 @ 630  
 Depth Location 600  
 Recorded By J. G. Greer  
 Witnessed By M. L. V. 186

**WELEX** **ACOUSTIC VELOCITY LOG**  
 COMPANY CONTINENTAL OIL COMPANY  
 WELL MEYER B-4 # 23  
 FIELD OIL CENTER-BLINEBRY  
 COUNTY LEA STATE NEW MEXICO  
 Location 660'FSL 1980'FEL  
 Other Services Guard  
 Sec 4 Twp 21-S Rge 36-E  
 Permanent Datum Brudenhead Fig. Elev. 3584  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Date 10-30-62

Sonic log has not been located.



Goodnight Midstream., LLC