



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508  
<https://www.blm.gov/new-mexico>



In Reply Refer To:  
3180 (NM92500)

Reference:  
Arrowhead Grayburg Unit, NMNM105558836  
Legacy: NMNM084642X  
2025 Plan of Development  
Lea County, New Mexico



Empire Petroleum Corporation  
Attn: Darrell Davis  
2200 South Utica Place, Suite 150  
Tulsa, OK 74114

To whom it may concern:

The 2025 annual Plan of Development/Operations, dated 3/31/2025 for the Arrowhead Grayburg Unit, is hereby approved. It was reviewed on April 3, 2025, and is approved as of the date of this letter. The Carlsbad Field Office will be notified of this approval. Approval of the Plan of Development does not replace any further operational approvals which may be required through the appropriate field office.

Please ensure future Unit Plans of Development and Operations correct/include the following information.

- Lease map. This map must show all leases in the unit area with lease numbers. Map must indicate commitment status of each lease and lessor (Federal, State, Indian Allotted, or Fee).
- Geologic interpretations (structure and isopach) for the San Andres formation. As the POD explicitly mentions possible plans of developing this resource, the geologic interpretations for that formation must be included.
- Well Status List is not very legible – and in some cases, completely illegible. Saving Excel files as .pdf and then inserting those pages directly into the POD document would help a lot. Also, columns for “Property,” “Lease Type,” “OCDUI(?),” “Pool Number,” “Oil POD,” and “Gas POD” are unnecessary. Additionally, there are two columns for well status. Any dual completions should be listed on separate rows, so there is no need for multiple status columns.
- Exhibit B is not very legible – and in some cases, completely illegible. Saving Excel files as .pdf and then inserting those pages directly into the POD document would help a lot. Also, “Tract Name” column is not required. Additionally, the columns for Royalty

Owner, Overriding Royalty, and Working Interest don't need to be as wide as they are. If you select those columns and double-click at the side, Excel will adjust their width. This will allow all columns to fit on the page while improving legibility.

If you have any questions, contact Ben Barton, Petroleum Engineer, at [bcbarton@blm.gov](mailto:bcbarton@blm.gov).

Sincerely,

KYLE  
PARADIS

Digitally signed by  
KYLE PARADIS  
Date: 2025.04.04  
15:09:58 -06'00'

Kyle Paradis  
Branch Chief - Reservoir Management  
Division of Minerals

1 Enclosure

1 – Arrowhead Grayburg Unit 2025 POD (17 pp.)

cc:

NMSLO, Baylen Lamkin (email: [blamkin@nmslo.gov](mailto:blamkin@nmslo.gov))

CFO, Chris Walls

Unit File (NM925000, File)



March 31, 2025

United States Department of the Interior  
Bureau of Land Management  
Reservoir Management  
New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, NM 87508

RE: ARROWHEAD GRAYBURG UNIT  
NMNM 084642X / MLRS (NMNM105558836)  
2024 Plan of Development  
Lea County, New Mexico

Empire New Mexico LLC, as Unit Operator of the ARROWHEAD GRAYBURG UNIT, hereby submits for your approval our 2024 Yearly Summary of Operations and 2025 Plan of Development. Empire acquired the Unit from XTO Energy Inc. and became Operator during 2021.

Items included are as follows:


1. 2024 Yearly Summary of Activities
2. 2025 Plan of Development
3. Current status of all wells within the unit
4. Production graphs for each productive reservoir/participating area
5. Most current geological, field operations, and PA maps, each showing respectively the Units
6. Structural and isopach interpretations
7. Participating area boundaries with wells, flowlines, and roads.

It is understood that approval of this Plan does not approve the work covered by the Plan. Individual approval is still required for such items as APDs/ROWS/etc.

Any modifications or additions to the Plan of Development will be filed as supplements to the Plan.

If you have any questions, please contact Sr. Production and Reservoir Engineer Darrell Davis at [ddavis@empirepetrocorp.com](mailto:ddavis@empirepetrocorp.com) or (832) 525-7575.

Sincerely,

  
Jack E. Wheeler  
Sr. Vice President – Land and Legal

**2024 Yearly Summary of Activities****Remedial Activities**

| Well Name and API#        | Legal Location | Target Formation | Current Status                            |
|---------------------------|----------------|------------------|---|
| AGU-160<br>(30-025-24272) | G-01-22S-36E   | Grayburg         | Active injector after repairing MIT       |
| AGU-390<br>(30-025-34299) | P-12-22S-36E   | Grayburg         | Active producer after repairing Kudu Pump |
| AGU-398<br>(30-025-37285) | P-12-22S-36E   | Grayburg         | Active producer after repairing rod part  |

**Completions / Recompletions / Drilling**

| Well Name and API#        | Legal Location | Target Formation | Current Status                           |
|---------------------------|----------------|------------------|--|
| AGU-329<br>(30-025-34842) | M-36-21S-36E   | Grayburg         | Active producer after workover to Zone 1 |
| AGU-359<br>(30-025-35423) | P-02-22S-36E   | Grayburg         | Active producer after workover to Zone 1 |

**Temporary Abandoned**

| Well Name and API#        | Legal Location | Description of Work Performed | Current Status |
|---------------------------|----------------|-------------------------------|----------------|
| AGU-108<br>(30-025-23949) | I-25-21S-36E   | Grayburg                      | TA             |
| AGU-200<br>(30-025-31752) | J-07-22S-37E   | Grayburg                      | TA             |
| AGU-202<br>(30-025-31561) | 3-07-22S-37E   | Grayburg                      | TA             |
| AGU-225<br>(30-025-31410) | G-13-22S-36E   | Grayburg                      | TA             |
| AGU-234<br>(30-025-31610) | 3-18-22S-37E   | Grayburg                      | TA             |
| AGU-360<br>(30-025-37283) | M-01-22S-36E   | Grayburg                      | TA             |
| AGU-369<br>(30-025-34298) | D-12-22S-36E   | Grayburg                      | TA             |

**Plug and Abandoned**

| Well Name and API#        | Legal Location | Description of Work Performed | Current Status        |
|---------------------------|----------------|-------------------------------|-----------------------|
| AGU-231<br>(30-025-10355) | I-18-22S-37E   | Grayburg                      | Plugged, Not Released |
| AGU-245<br>(30-025-10359) | B-19-22S-37E   | Grayburg                      | Plugged, Not Released |
| AGU-344<br>(30-025-34665) | E-01-22S-36E   | Grayburg                      | P&A                   |



In June 2023 Empire New Mexico began working on an Inactive Well List that had been steadily growing since acquiring the Field from XTO (Exxon Mobil) in April, 2021. The list initially included 74 wells that needed to be rectified as per the NMOCD's requirements by one of the following operations: P&A, TA, Returning to Production/Injection or by updating the reported production/injection volumes. XTO also strongly requested that we complete the inactive list so that they could transfer the remaining wells from the acquisition to Empire New Mexico's operatorship. Once Empire New Mexico resolved the list in November 2023, XTO submitted the Change of Operatorship paperwork for an additional 77 inactive wells (including 19 AGU wells) that were finalized the same month. After the 77 inactive wells were transferred from XTO, the NMOCD entered an Inactive Well Agreed Compliance Order for Inactive Wells (ACOI) Agreement with Empire New Mexico on November 2, 2023. Empire worked on approximately 10 inactive wells per month during 2024 and completed all work during August 2024.

### **2025 Plan of Development**

Arrowhead Grayburg Unit (AGU) has 37 oil producers, 45 water injectors, and 1 water supply well. It also has 12 temporary abandoned wells and 3 plugged and abandoned wells which have not been released and are still on the OCD well list. Average production was 187 BOPD, 28,005 BWPd, and 263 MCFPD from the Grayburg formation and an additional 1110 BWPd from the San Andres for water supply. Average water injection was 29,115 BWPd which included all Grayburg and San Andres produced water. Empire will continue to evaluate wells for additional opportunities to increase Grayburg oil production and is planning a CO2 flood for the Grayburg and San Andres ROZ (Residual Oil Zone) intervals. Since we plan to perform a CO2 flood at EMSU, EMSU-B, and AGU, we want to maintain as many wellbores as possible instead of permanent P&A. Work identified thus far for 2025 is as follows:

#### **Remedial Activities**

| Well Name and API#        | Legal Location | Target Formation | Current Status           |
|---------------------------|----------------|------------------|--------------------------|
| AGU-142<br>(30-025-04928) | N-36-21S-36E   | Grayburg         | Rod part                 |
| AGU-184<br>(30-025-10094) | 1-07-22S-37E   | Grayburg         | Rod part                 |
| AGU-391<br>(30-025-37284) | 4-0722S-37E    | Grayburg         | ESP grounded<br>downhole |

#### **Completions / Recompletions**

| Well Name and API# | Legal Location | Target Formation | Current Status |
|--------------------|----------------|------------------|----------------|
|                    |                |                  |                |

#### **Temporary Abandoned**

| Well Name and API#        | Legal Location | Description of Proposed Work | Current Status                                |
|---------------------------|----------------|------------------------------|---|
| AGU-329<br>(30-025-34842) | M-36-21S-36E   | Temporary Abandon            | Well will reach its<br>economic limit in 2025 |
| AGU-359<br>(30-025-35423) | P-02-22S-36E   | Temporary Abandon            | Well will reach its<br>economic limit in 2025 |

|                     |  |                   |  |
|---------------------|--|-------------------|--|
| AGU-397<br>(30-025- |  | Temporary Abandon | Well will reach its economic limit in 2025 |
|---------------------|--|-------------------|--|

#### Plug and Abandoned

| Well Name and API#        | Legal Location | Description of Proposed Work | Current Status                        |
|---------------------------|----------------|------------------------------|---------------------------------------|
| AGU-108<br>(30-025-23949) | I-25-215-36E   | Plug and Abandon             | Failed MIT. Must be P&A'd by 8/1/2025 |

### **Arrowhead Grayburg Unit – Waterflood Management**

The Arrowhead Pool, located in Lea County, New Mexico was discovered on May 24, 1938 by Continental's #1 State J-2 Well. Completions were typically openhole and included both the lowest member of the Queen (Penrose) and Grayburg Formations. Peak oil production occurred during March, 1944 at a rate of 5,558 BOPD. AGU consists of 5,922.26 acres of unitized interval in the Penrose, Grayburg, and San Andres intervals. The top of the Unit is defined as -150' subsea or the top of the Grayburg, whichever is shallowest, and the base is defined as -1500' subsea covering most of the San Andres. This results in many wells having perforations in the Lower Penrose interval and some wells tested the San Andres which is mostly a Residual Oil Zone (ROZ).

The Arrowhead Grayburg Unit was formed in June, 1991 and water injection began in September, 1992. At the time of the Technical Committee Report in September, 1989 which proposed AGU, the Field was producing 403 BOPD, 2,872 BWPD, and 254 MCFPD with watercut of 87.7% and GOR of 6318 scf/stb. Initial solution GOR was approximately 432 scf/stb and bubble point pressure 1,372 psi. Therefore, a gas cap had formed in the Reservoir. Reservoir pressure had dropped from 1,460 psi to 450 psi by 1964 and by the time first water injection occurred in September, 1992, Reservoir pressure had dropped to below 300 psi. The high gas saturation in the Reservoir negatively impacted waterflood performance and therefore did not meet Chevron's production forecast of incremental production.

Peak oil production during the waterflood of 901 BOPD occurred in October, 1998 after 19 new producers were drilled on 20 acre spacing, water injection reached 40,000 BWPD. The majority of the Field is drilled on 40-acre spacing with the Injector sweeping 80-acre patterns, but these new 20-acre infill wells reduced the spacing in some areas and increased oil recovery. There were 51 Water Injection Wells associated with the 80-acre patterns and after the Infill Wells were drilled, an additional 6 Water Injectors were utilized to increase water injection. The Unit currently produces approximately 187 BOPD, 28,005 BWPD and 263 MCFPD from 37 Producers while injecting 29,115 BWPD into 45 Water Injectors. Watercut is 99.34%. The Unit has one active Water Supply Well which produces water from the San Andres at an average rate of 1110 BWPD during 2024.

Due to the high watercut of most producing wells, a major focus is on performing conformance activities which will either reduce water production or take the necessary steps to increase fluid withdrawals and increase water injection rates. During 2024, Empire performed two recompletions to Zone 1 at the top of the Grayburg interval in AGU-329 and AGU-359. Both wells produced 100% water with some gas due to the high permeability interval being swept by the waterflood. Empire believes oil recovery can be increased from the Grayburg by drilling horizontal wells to target Zones 3, 4, and 5 which

have not been swept effectively by the waterflood. A CO2 flood in the Grayburg is also being designed to increase oil recovery by 15%-20% OOIP. Since Zones 1 and 2 have high permeability intervals which impacted the waterflood, they will be pressured up with water and the focus of the CO2 flood will be recover additional oil from Zones 3, 4, and 5 and the Residual Oil Zone (ROZ) in the San Andres. Empire has spoken with three companies regarding CO2 supplies.

#### Current and Planned Water Use

AGU has one active water supply well and is forecasted to produce less than 1500 BWPD on average from the San Andres during 2025. AGU does not have any active SWD wells. No drilling is planned for 2025.

Figure 1: Arrowhead Grayburg Unit Waterflood Patterns

NMNM 084642X / MLRS (NMNM105558836)

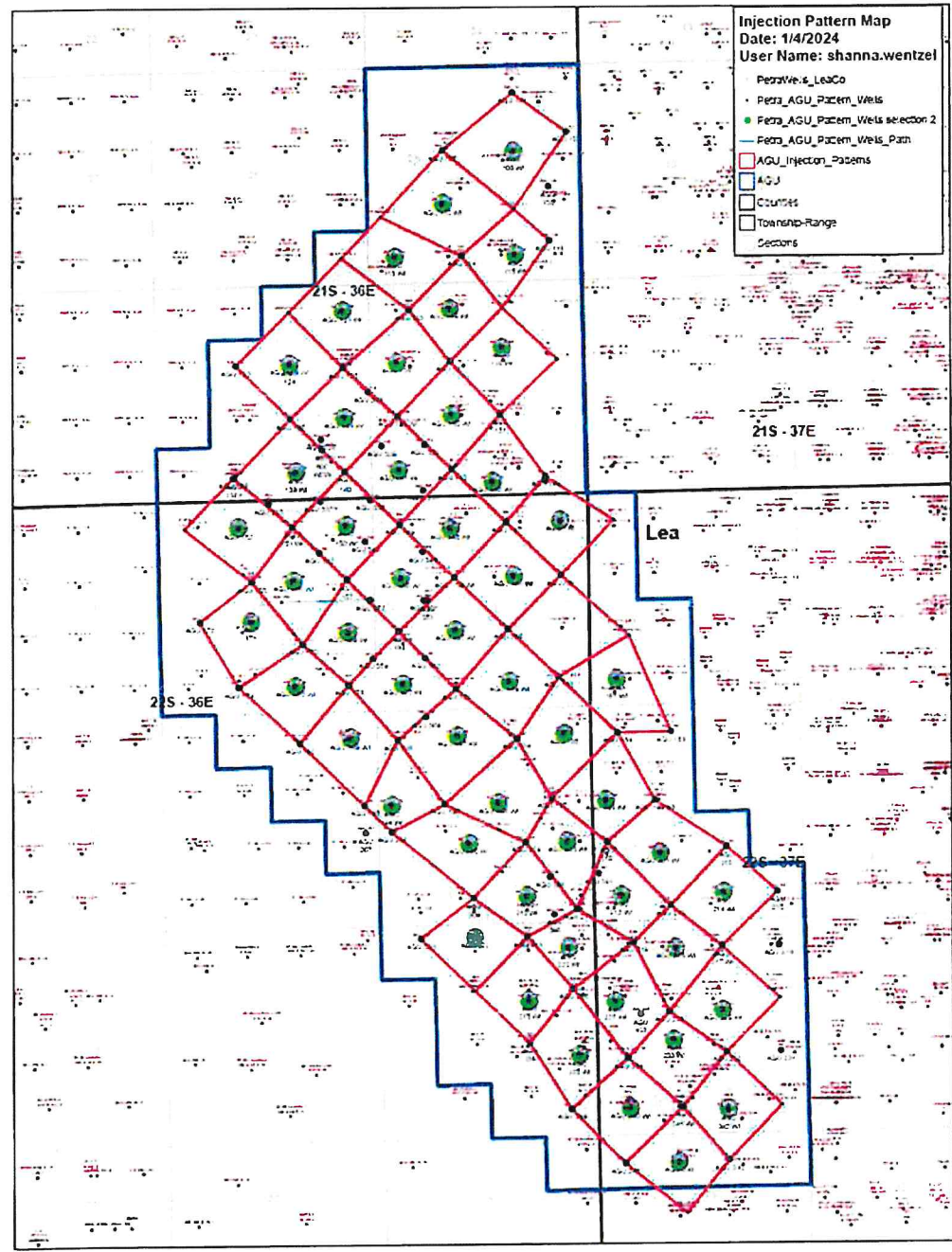




Figure 2: AGU - Top of Grayburg Structure Contours with Federal, State, and Fee Leases

NMNM 084642X / MLRS (NMNM105558836)

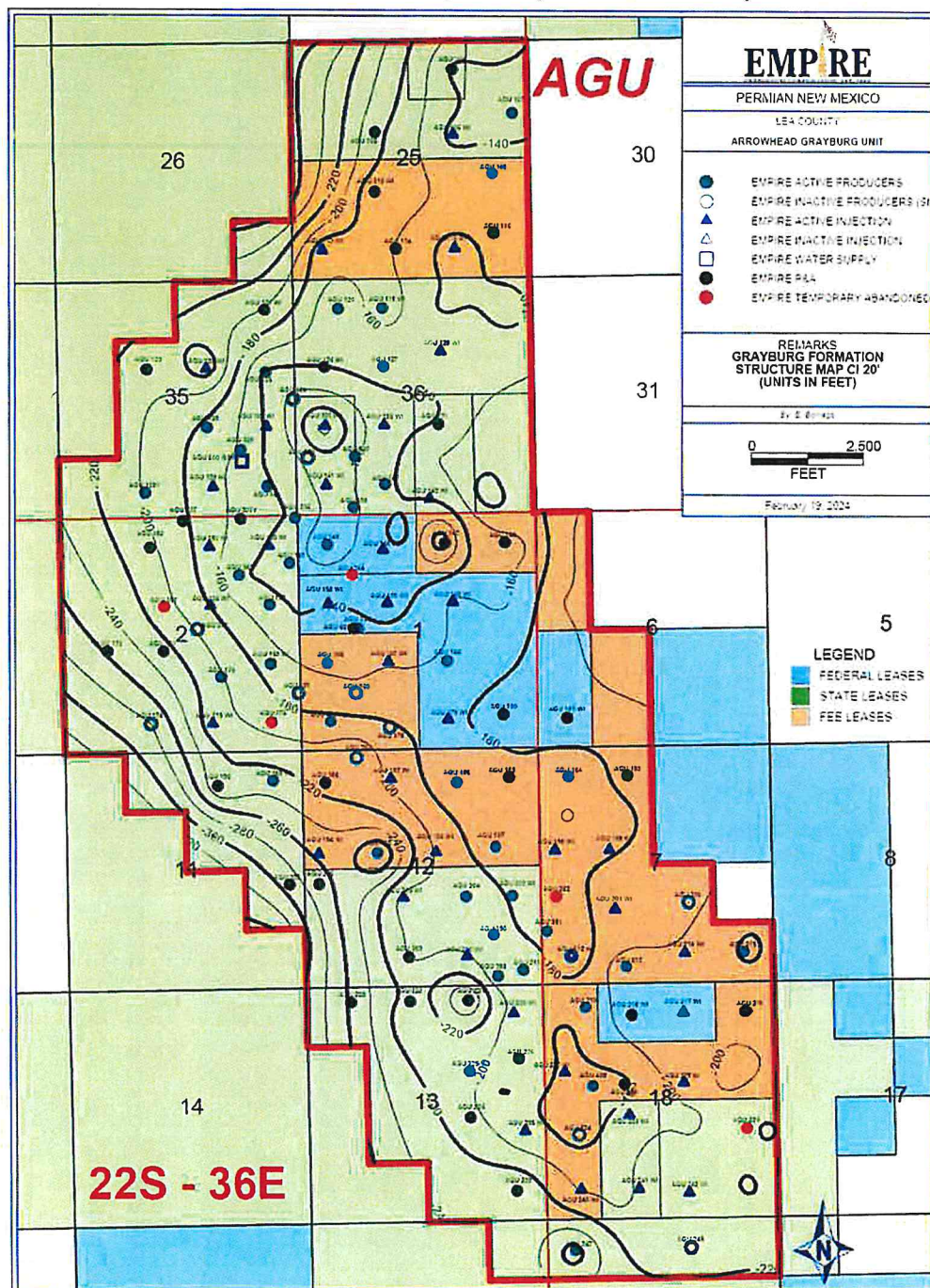




Figure 3: AGU – Top Grayburg to Top of San Andres with Federal, State, and Fee Leases

NMNM 084642X / MLRS (NMNM105558836)

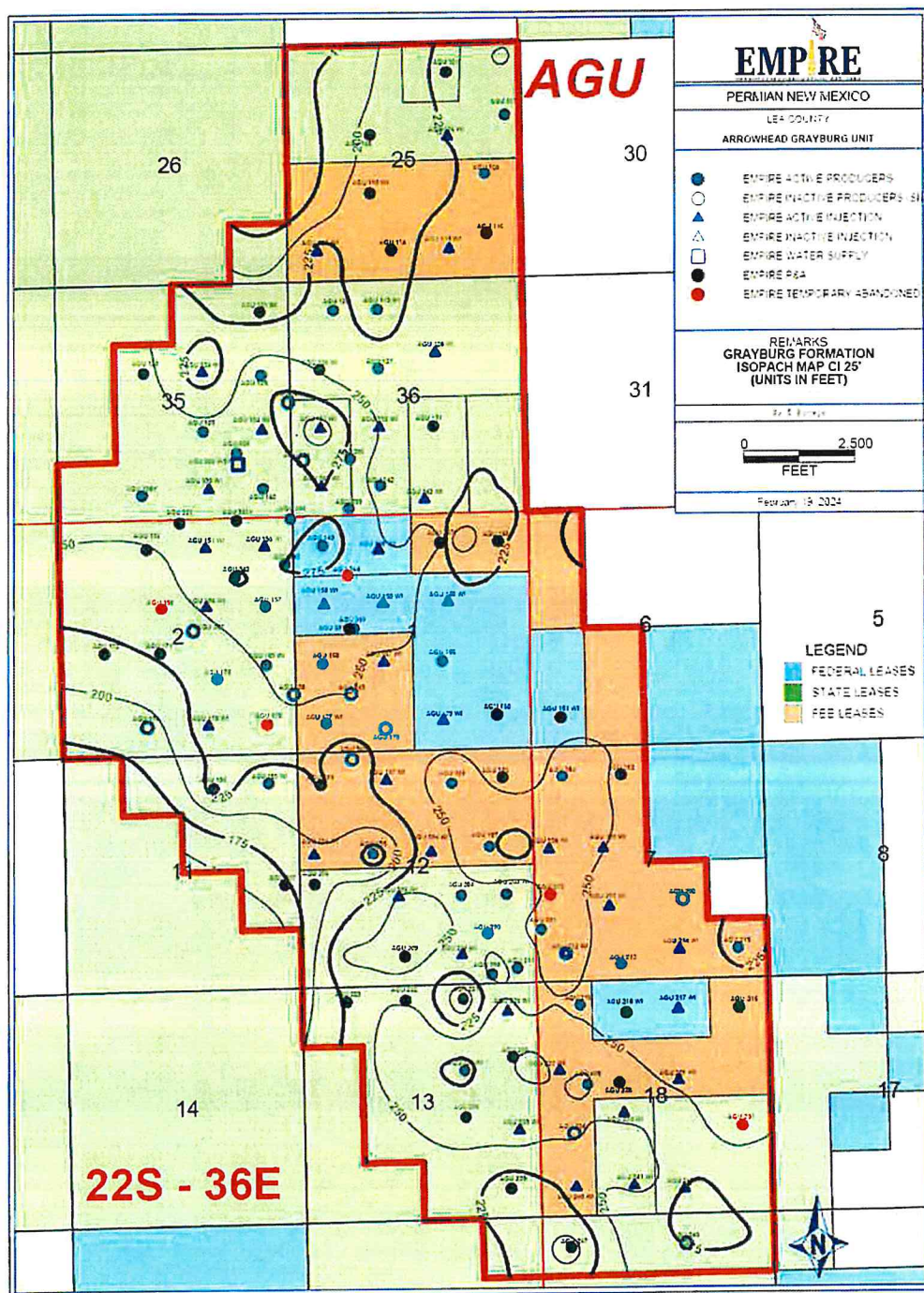


Figure 4: Production History for AGU since 1/1/2010

NMNM 084642X / MLRS (NMNM10558836)

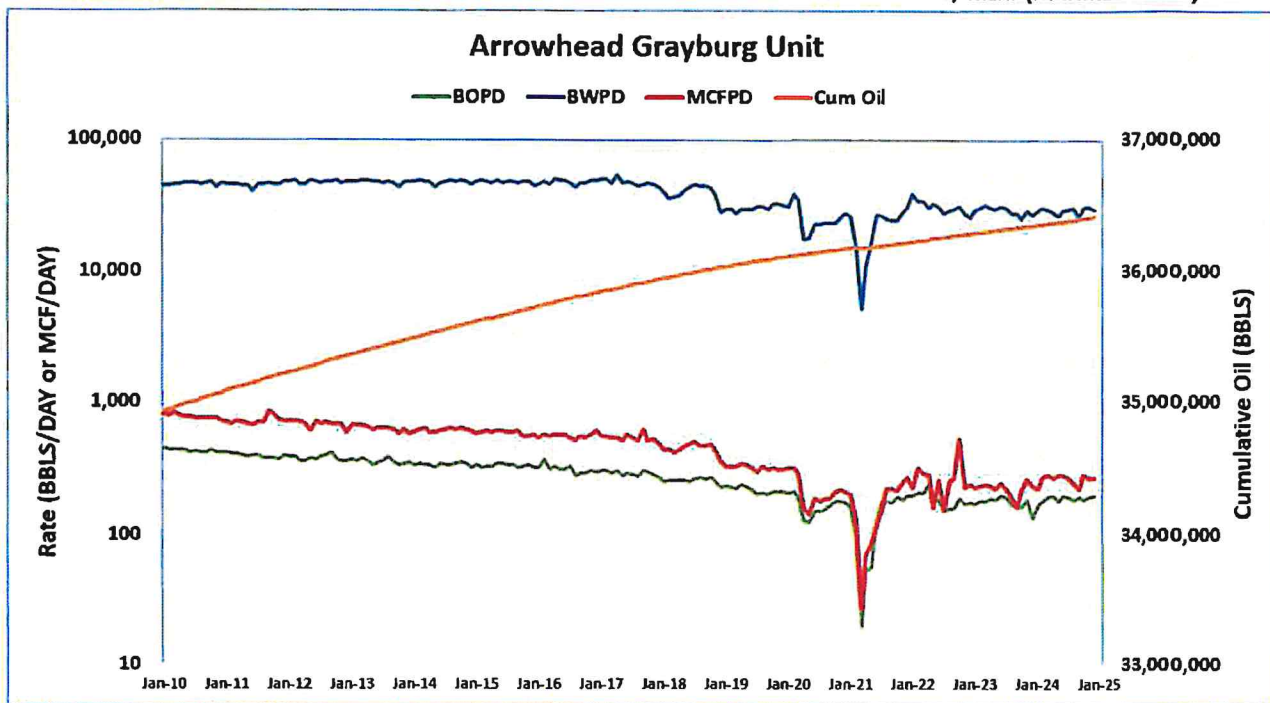


Figure 5: AGU Cumulative Oil versus Water-Oil Ratio

NMNM 084642X / MLRS (NMNM10558836)

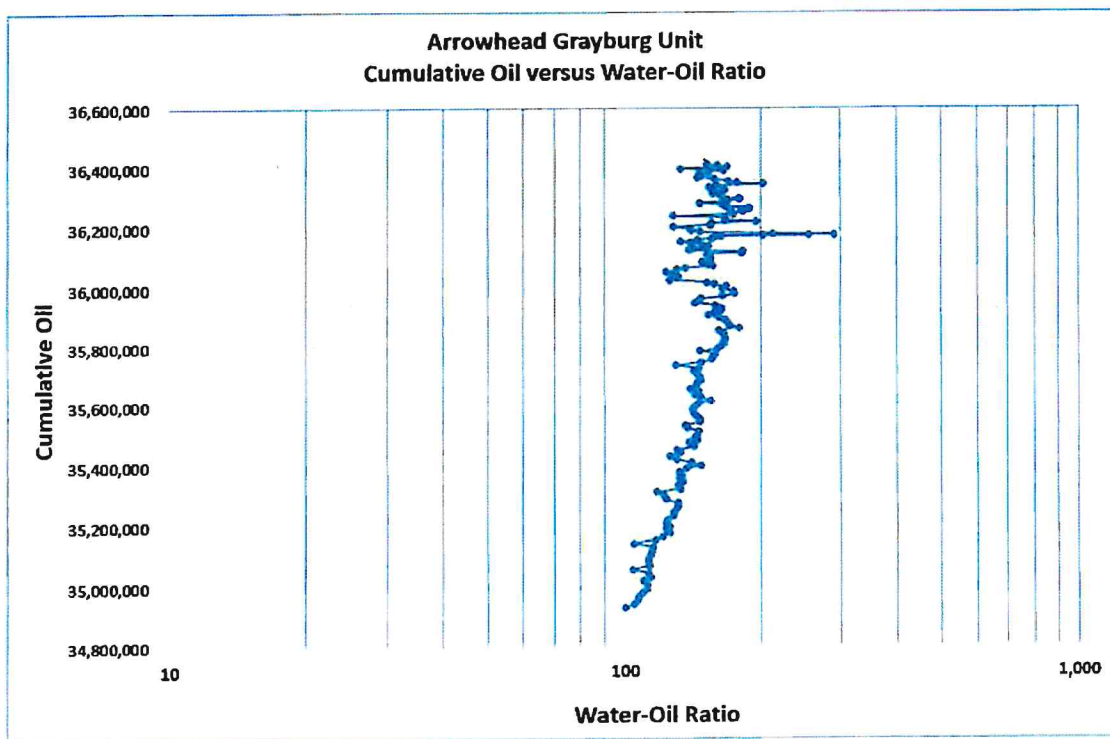


Figure 6: AGU Water Injection Rate and IWR since 1/1/2010

NMNM 084642X / MLRS (NMNM10558836)

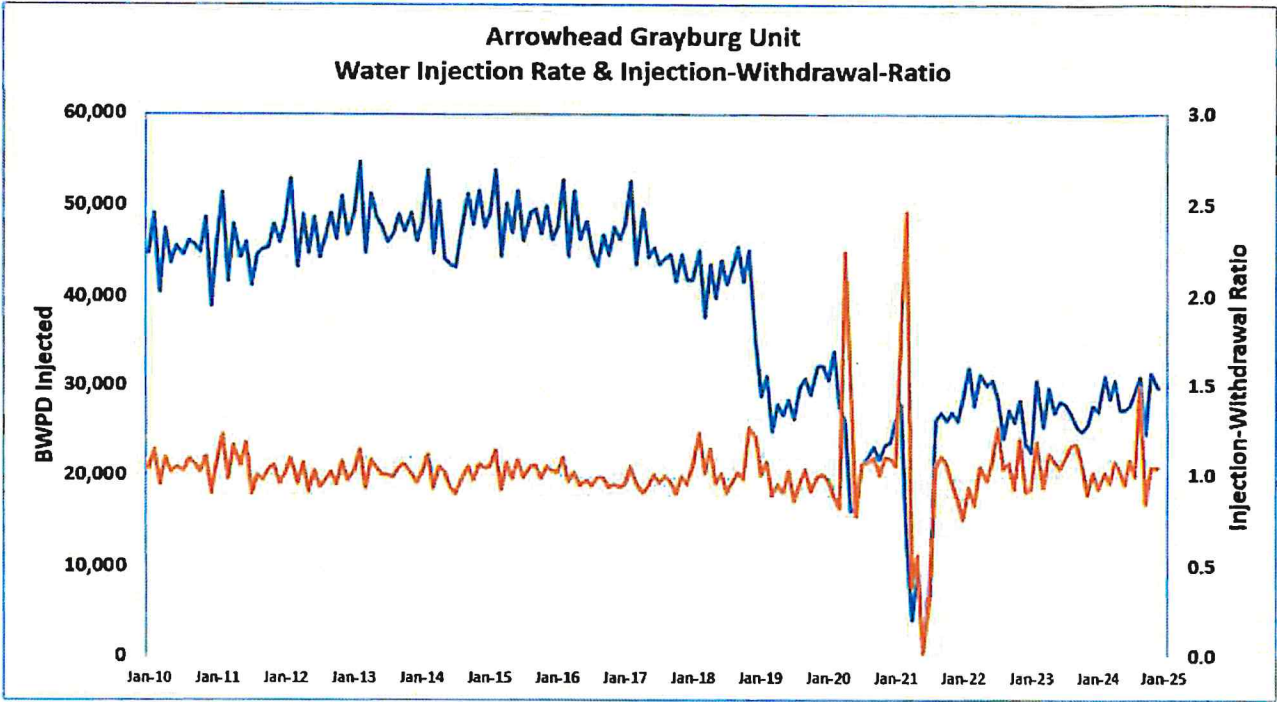




Figure 7. Aerial Map showing AGU Wells, Surface Facilities, and Lease Roads

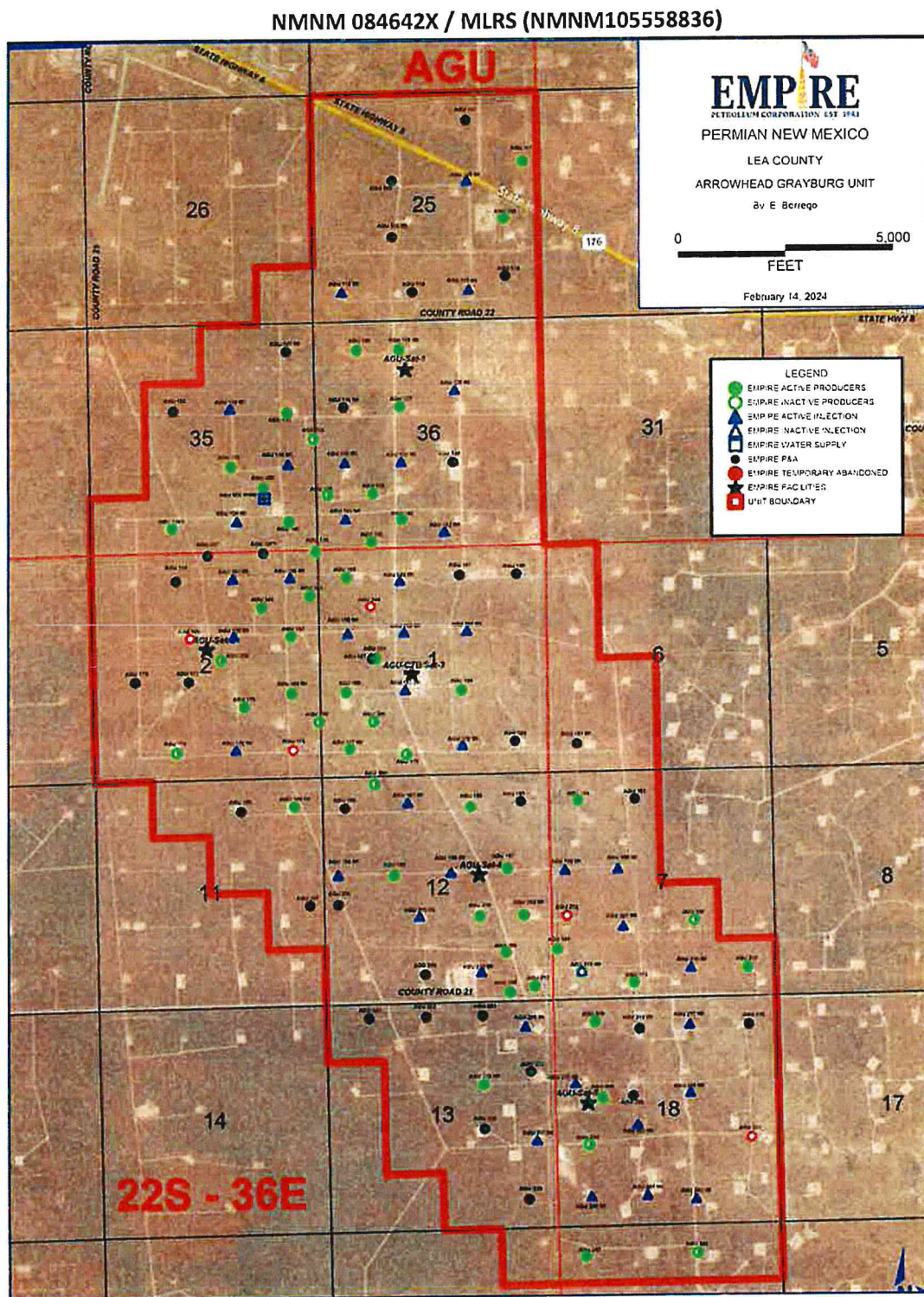




Figure 8. Map showing AGU Wells, Production Flowlines, Surface Facilities, and Lease Roads

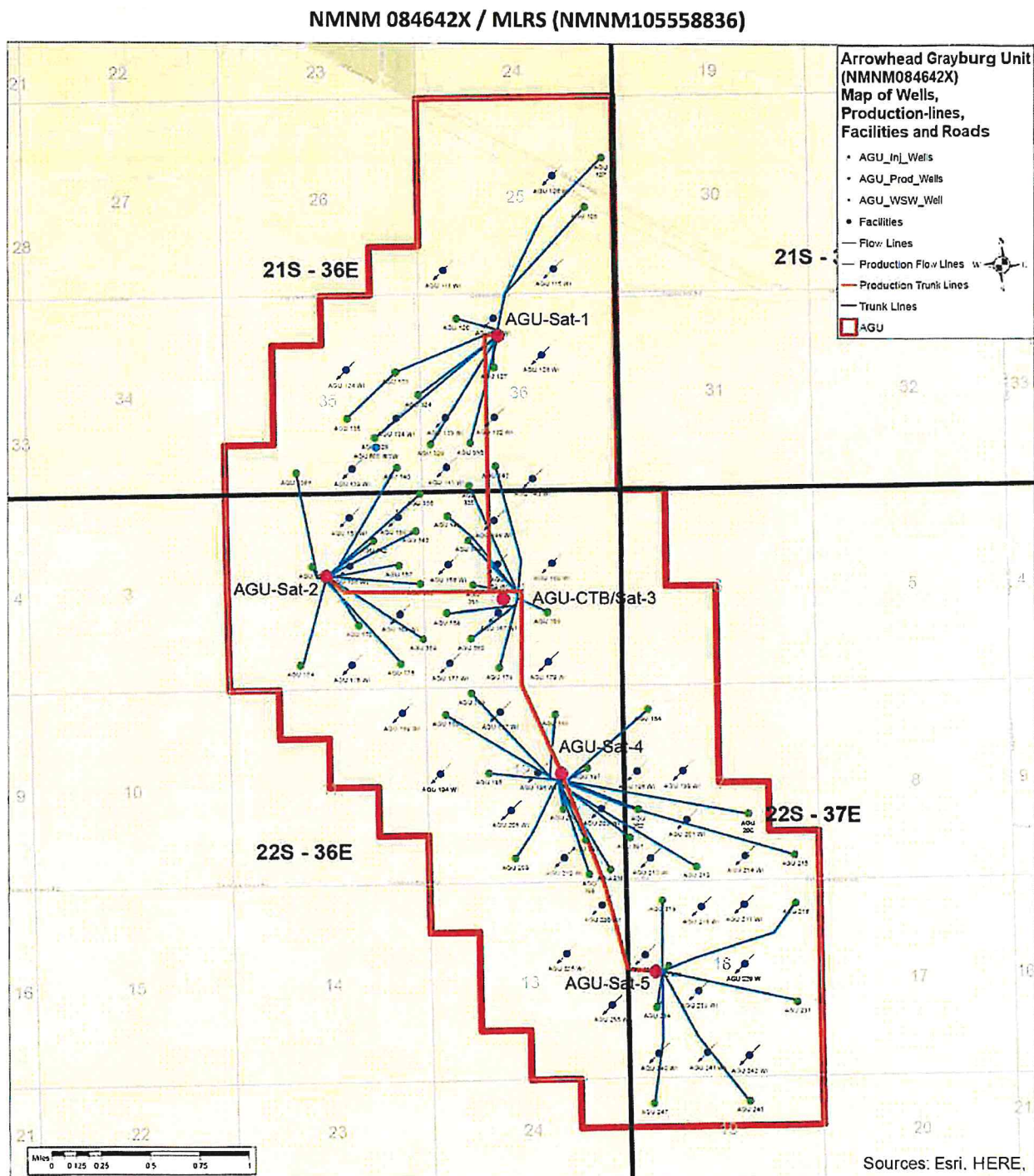


Figure 9. Map showing AGU Wells, Water Injection Lines, Surface Facilities, and Lease Roads

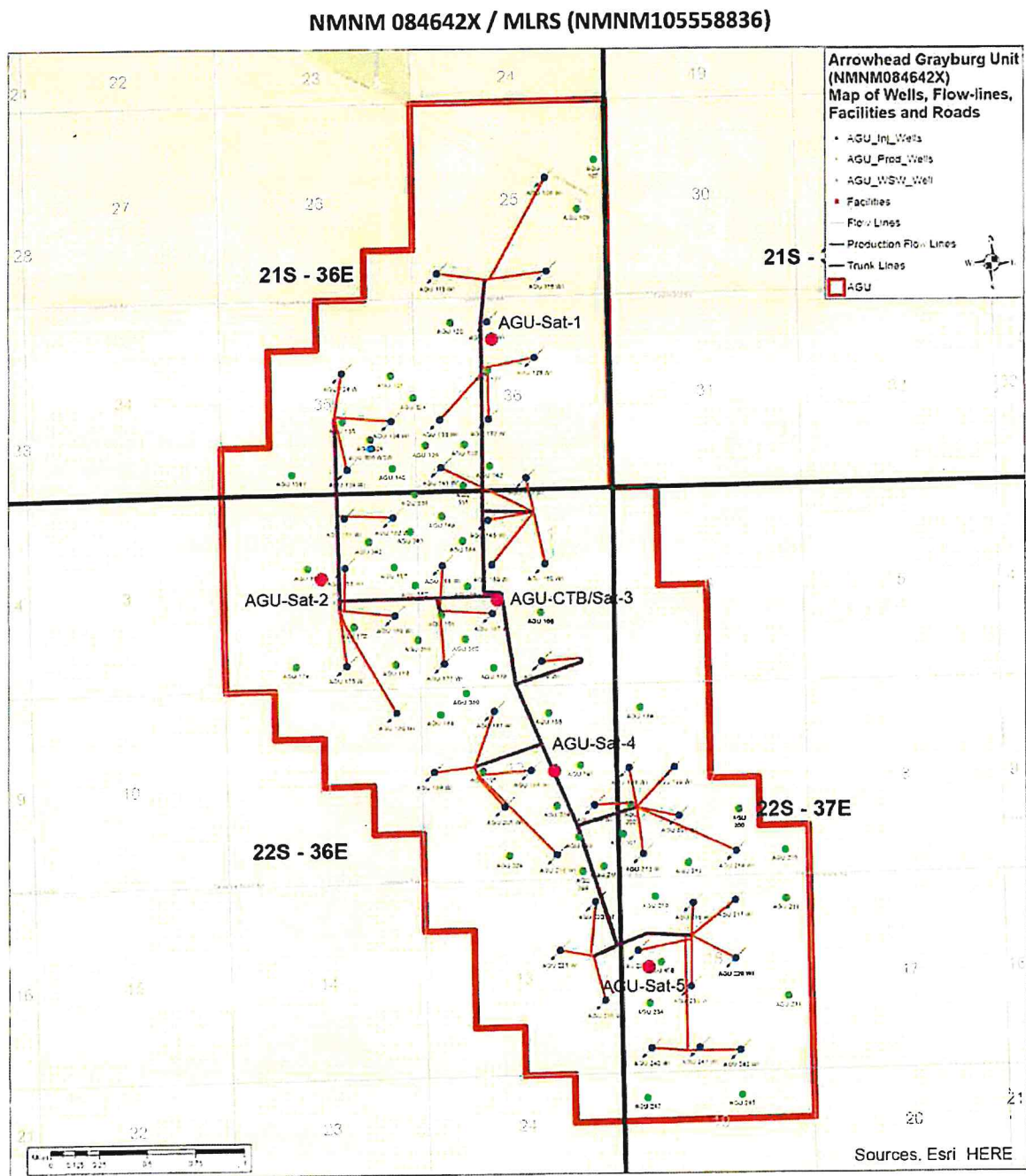


Table 1: Current Status of All Wells in the Arrowhead Grayburg Unit (Page 1 or 3)

NMNM 084642X / MLRS (NMNM105558836)

| Property                     | Well Name                    | Lease Type | Well Status                    | ULSR         | OCDUL | API          | Well Type | Last Prod/Inj | Pool | Pool Name          | Well Completion Status | Oil Prod | Gas Prod | In Add. Bond |
|------------------------------|------------------------------|------------|--------------------------------|--------------|-------|--------------|-----------|---------------|------|--------------------|------------------------|----------|----------|--------------|
| ARROWHEAD GRAYBURG UNIT #106 | ARROWHEAD GRAYBURG UNIT #106 | S          | Active                         | G 30-215-356 | G     | 30-035-29374 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 |          |          | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #107 | ARROWHEAD GRAYBURG UNIT #107 | S          | Active                         | H 25-215-366 | H     | 30-025-21620 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #108 | ARROWHEAD GRAYBURG UNIT #108 | P          | Active                         | I 35-215-366 | I     | 30-035-29449 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #110 | ARROWHEAD GRAYBURG UNIT #110 | F          | Active                         | I 25-215-366 | I     | 30-035-31519 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #111 | ARROWHEAD GRAYBURG UNIT #111 | P          | Active                         | O 25-215-366 | O     | 30-035-29699 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #119 | ARROWHEAD GRAYBURG UNIT #119 | S          | Active                         | C 30-215-366 | C     | 30-025-04922 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #120 | ARROWHEAD GRAYBURG UNIT #120 | S          | Active                         | O 36-215-366 | O     | 30-025-20940 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #124 | ARROWHEAD GRAYBURG UNIT #124 | S          | Active                         | G 25-215-366 | G     | 30-025-04916 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #125 | ARROWHEAD GRAYBURG UNIT #125 | S          | Active                         | H 35-215-366 | H     | 30-025-21423 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #127 | ARROWHEAD GRAYBURG UNIT #127 | S          | Active                         | I 25-215-366 | I     | 30-035-04935 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #128 | ARROWHEAD GRAYBURG UNIT #128 | S          | Active                         | O 36-215-366 | O     | 30-025-24165 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #130 | ARROWHEAD GRAYBURG UNIT #130 | S          | Active                         | K 36-215-366 | K     | 30-025-04920 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #132 | ARROWHEAD GRAYBURG UNIT #132 | S          | Active                         | L 36-215-366 | L     | 30-025-04979 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #134 | ARROWHEAD GRAYBURG UNIT #134 | S          | Active                         | I 35-215-366 | I     | 30-025-04922 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #135 | ARROWHEAD GRAYBURG UNIT #135 | S          | Active                         | I 35-215-366 | I     | 30-025-04917 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #137 | ARROWHEAD GRAYBURG UNIT #137 | P          | Active                         | H 35-215-366 | H     | 30-025-32829 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #138 | ARROWHEAD GRAYBURG UNIT #138 | S          | Active                         | O 35-215-366 | O     | 30-035-31393 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #140 | ARROWHEAD GRAYBURG UNIT #140 | S          | Active                         | P 25-215-366 | P     | 30-025-04923 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #142 | ARROWHEAD GRAYBURG UNIT #142 | S          | Active                         | H 36-215-366 | H     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #143 | ARROWHEAD GRAYBURG UNIT #143 | S          | Active                         | H 36-215-366 | H     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #144 | ARROWHEAD GRAYBURG UNIT #144 | S          | Active                         | O 36-215-366 | O     | 30-035-04940 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #145 | ARROWHEAD GRAYBURG UNIT #145 | F          | Active                         | I 01-225-366 | C     | 30-025-31393 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #149 | ARROWHEAD GRAYBURG UNIT #149 | F          | Active                         | I 01-225-366 | C     | 30-025-31393 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #150 | ARROWHEAD GRAYBURG UNIT #150 | S          | Active                         | I 02-225-366 | A     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #151 | ARROWHEAD GRAYBURG UNIT #151 | S          | Active                         | I 02-225-366 | B     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #152 | ARROWHEAD GRAYBURG UNIT #152 | S          | Approved Temporary Abandonment | F 03-225-366 | F     | 30-025-31417 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #153 | ARROWHEAD GRAYBURG UNIT #153 | S          | Active                         | O 02-225-366 | O     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #154 | ARROWHEAD GRAYBURG UNIT #154 | S          | Active                         | H 02-225-366 | H     | 30-025-04923 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #155 | ARROWHEAD GRAYBURG UNIT #155 | F          | Active                         | E 01-225-366 | E     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #156 | ARROWHEAD GRAYBURG UNIT #156 | F          | Active                         | I 01-225-366 | F     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #157 | ARROWHEAD GRAYBURG UNIT #157 | F          | Active                         | O 01-225-366 | O     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #158 | ARROWHEAD GRAYBURG UNIT #158 | F          | Active                         | I 01-225-366 | I     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #167 | ARROWHEAD GRAYBURG UNIT #167 | P          | Active                         | K 01-225-366 | K     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #168 | ARROWHEAD GRAYBURG UNIT #168 | P          | Active                         | L 01-225-366 | L     | 30-025-04923 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #169 | ARROWHEAD GRAYBURG UNIT #169 | S          | Active                         | I 02-225-366 | I     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #170 | ARROWHEAD GRAYBURG UNIT #170 | S          | Active                         | I 02-225-366 | I     | 30-025-04923 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #171 | ARROWHEAD GRAYBURG UNIT #171 | S          | Approved Temporary Abandonment | H 02-225-366 | H     | 30-025-31364 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #175 | ARROWHEAD GRAYBURG UNIT #175 | S          | Active                         | O 02-225-366 | O     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #176 | ARROWHEAD GRAYBURG UNIT #176 | S          | Approved Temporary Abandonment | F 02-225-366 | F     | 30-025-04923 | O         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2465219  | 2865219  | 2/1/2027     |
| ARROWHEAD GRAYBURG UNIT #177 | ARROWHEAD GRAYBURG UNIT #177 | P          | Active                         | H 01-225-366 | H     | 30-025-04923 | I         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2465219  | 2865219  | 2/1/2027     |



**NMNM 084642X / MLRS (NMNM105558836)**

| Page# | Well Name                    | Lease Type | Well Status                    | UESP         | OCOL | API          | Well Test | Last Producty | Pool | Pool Name          | Well Completion Status | GO PDD  | Gas FOD | In-Add Bond |
|-------|------------------------------|------------|--------------------------------|--------------|------|--------------|-----------|---------------|------|--------------------|------------------------|---------|---------|-------------|
|       | ARROWHEAD GRAYBURG UNIT 1172 | P          | Approved Temporary Abandonment | A 11 225 362 | H    | 30 025 31559 | 0         | Dec 16        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2815747 | 2815747 | 1/1/2019    |
|       | ARROWHEAD GRAYBURG UNIT 1179 | P          | Active                         | A 11 225 360 | O    | 30 025 31560 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1181 | P          | Active                         | A 11 225 370 | E    | 30 025 31720 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1182 | P          | Active                         | B 11 225 364 | B    | 30 025 31721 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1183 | P          | Active                         | C 11 225 366 | C    | 30 025 30806 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1189 | S          | Active                         | A 11 225 366 | A    | 30 025 31630 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1194 | P          | Active                         | E 11 225 362 | E    | 30 025 31612 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2805216 | 2815747 | 10/1/2025   |
|       | ARROWHEAD GRAYBURG UNIT 1195 | P          | Lease                          | F 11 225 366 | F    | 30 025 30882 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1196 | P          | Active                         | G 11 225 366 | G    | 30 025 30865 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1197 | P          | Active                         | H 11 225 366 | H    | 30 025 31631 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1198 | P          | Active                         | I 11 225 370 | I    | 30 025 31632 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1199 | P          | Active                         | J 11 225 370 | J    | 30 025 31560 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2805216 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1199 | P          | Approved Temporary Abandonment | K 11 225 370 | K    | 30 025 31753 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2815747 | 2815747 | 8/1/2020    |
|       | ARROWHEAD GRAYBURG UNIT 1200 | P          | Active                         | K 11 225 370 | K    | 30 025 31675 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1202 | P          | Approved Temporary Abandonment | L 11 225 370 | L    | 30 025 31561 | 0         | Dec 27        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2815747 | 2815747 | 1/1/2025    |
|       | ARROWHEAD GRAYBURG UNIT 1203 | S          | Active                         | M 11 225 366 | M    | 30 025 31075 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1204 | S          | Active                         | N 11 225 366 | N    | 30 025 30847 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1205 | S          | Active                         | O 11 225 366 | O    | 30 025 30866 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1210 | S          | Active                         | P 11 225 366 | P    | 30 025 31560 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1210 | S          | Active                         | P 11 225 366 | P    | 30 025 31534 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1212 | S          | Active                         | Q 11 225 370 | Q    | 30 025 31088 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1213 | P          | Active                         | R 11 225 370 | R    | 30 025 31582 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1214 | P          | Active                         | S 11 225 370 | S    | 30 025 31605 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1215 | P          | Active                         | T 11 225 370 | T    | 30 025 31751 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1216 | P          | Plugged, Not Released          | U 11 225 370 | U    | 30 025 10031 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1217 | P          | Active                         | V 11 225 370 | V    | 30 025 31562 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1218 | S          | Active                         | W 11 225 370 | W    | 30 025 31609 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1220 | S          | Active                         | A 11 225 366 | A    | 30 025 31437 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2805216 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1223 | S          | Approved Temporary Abandonment | G 11 225 366 | G    | 30 025 31246 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2815747 | 2815747 | 5/1/2026    |
|       | ARROWHEAD GRAYBURG UNIT 1227 | S          | Active                         | T 11 225 370 | E    | 30 025 31245 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1229 | S          | Active                         | R 11 225 370 | G    | 30 025 31741 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1231 | S          | Plugged, Not Released          | L 11 225 370 | H    | 30 025 10035 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2812690 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1233 | S          | Active                         | N 11 225 370 | K    | 30 025 31647 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1233 | P          | Approved Temporary Abandonment | T 11 225 370 | 0    | 30 025 31610 | 0         | Jan 20        | 3040 | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2815747 | 2815747 | 4/1/2022    |
|       | ARROWHEAD GRAYBURG UNIT 1235 | S          | Active                         | L 11 225 370 | H    | 30 025 31290 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1240 | S          | Active                         | A 11 225 370 | H    | 30 025 31632 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1241 | S          | Active                         | N 11 225 370 | 0    | 30 025 31535 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1247 | S          | Active                         | O 11 225 370 | 0    | 30 025 31379 | 0         | Jan 25        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 2/1/2027    |
|       | ARROWHEAD GRAYBURG UNIT 1245 | S          | Plugged, Not Released          | B 11 225 370 | B    | 30 025 10035 | 0         | Jul 16        | 3040 | ARROWHEAD GRAYBURG | Active                 | 2815747 | 2815747 | 8/1/2019    |

Table 1: Current Status of All Wells in the Arrowhead Grayburg Unit (Page 3 or 3)

NMNM 084642X / MLRS (NMNM105558836)

| Property | Well Name                     | Lease Type | Well Status                    | USNR         | OCDUR | API          | Well Type | Last Production | Pool  | Pool Name          | Well Completion Status | Oil Prod | Gas Prod | In Add    | Band |
|----------|-------------------------------|------------|--------------------------------|--------------|-------|--------------|-----------|-----------------|-------|--------------------|------------------------|----------|----------|-----------|------|
|          | ARROWHEAD GRAYBURG UNIT #127  | S          | Active                         | 1-19-225-37E | D     | 30-025-10385 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 212710   | 2015740  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #127A | S          | Approved Temporary Abandonment | 1-23-225-36E | F     | 30-025-35419 | O         | Feb-17          | 3040  | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2002210  | 2005219  | 2-1-2016  |      |
|          | ARROWHEAD GRAYBURG UNIT #128  | S          | Active                         | 1-30-225-36E | F     | 30-025-27262 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2012094  | 2015749  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #129  | S          | Active                         | 1-30-225-36E | H     | 30-025-34342 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2003310  | 2005219  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #130  | S          | Active                         | 1-30-225-36E | H     | 30-025-34840 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2105210  | 2015742  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #133  | S          | Active                         | 1-30-225-36E | H     | 30-025-34656 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015744  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #134  | S          | Active                         | 1-02-225-36E | A     | 30-025-34937 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015743  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #134  | S          | Active                         | 1-02-225-36E | B     | 30-025-34637 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015743  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #134  | S          | Active                         | 1-02-225-36E | A     | 30-025-34824 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015744  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #135  | F          | Active                         | E-01-225-36E | E     | 30-025-34927 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015744  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #135  | S          | Approved Temporary Abandonment | H-02-225-36E | H     | 30-025-34423 | O         | Mar-19          | 3040  | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2005210  | 2015744  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #135  | S          | Active                         | P-02-225-36E | P     | 30-025-35423 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015742  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #136  | F          | Approved Temporary Abandonment | H-02-225-36E | H     | 30-025-37272 | O         | Jan-19          | 3040  | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2012094  | 2015749  | 2-1-2021  |      |
|          | ARROWHEAD GRAYBURG UNIT #136  | P          | Approved Temporary Abandonment | G-12-225-36E | O     | 30-025-34290 | O         | Mar-27          | 3040  | ARROWHEAD GRAYBURG | Temporary Abandonment  | 2005210  | 2015747  | 8-1-2024  |      |
|          | ARROWHEAD GRAYBURG UNIT #136  | S          | Active                         | P-12-225-36E | P     | 30-025-34290 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2005210  | 2015747  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #137  | P          | Active                         | 1-07-225-36E | H     | 30-025-37284 | O         | Oct-24          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2012094  | 2015749  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #138  | S          | Active                         | P-12-225-36E | P     | 30-025-37285 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2012094  | 2015749  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #140P | S          | Cancelled And                  | P-02-225-36E | P     | 30-025-39155 | S         |                 |       |                    |                        |          |          |           |      |
|          | ARROWHEAD GRAYBURG UNIT #140S | S          | Cancelled And                  | G-12-225-36E | G     | 30-025-39150 | O         |                 |       |                    |                        |          |          |           |      |
|          | ARROWHEAD GRAYBURG UNIT #141  | P          | Active                         | 2-15-225-37E | E     | 30-025-37286 | O         | Jan-25          | 3040  | ARROWHEAD GRAYBURG | Active                 | 2122094  | 2125749  | 2-1-2027  |      |
|          | ARROWHEAD GRAYBURG UNIT #141  | P          | Cancelled And                  | 1-15-225-36E | I     | 30-025-41300 | O         |                 |       |                    |                        |          |          |           |      |
|          | ARROWHEAD GRAYBURG UNIT #141C | S          | Cancelled And                  | G-12-225-36E | G     | 30-025-41301 | O         |                 |       |                    |                        |          |          |           |      |
|          | ARROWHEAD GRAYBURG UNIT #600  | S          | Active                         | P-02-225-36E | P     | 30-025-51234 | O         | Mar-05          | 30221 | WOM. SAN ANTONIO   | Active                 |          |          | 10-1-2007 |      |



**EUNICE MONUMENT SOUTH A & B UNITS**

(NMNM 070948X)/MLRS (NMNM105450732)

**EMSU Waterflood Report  
(Monthly Volumes)**

|          | Oil Produced<br>(Barrels) | Water Produced<br>(Barrels) | Gas Produced<br>(MCF) | Water Injected<br>(Barrels) | EMSU-459 WSW<br>(Barrels) |
|----------|---------------------------|-----------------------------|-----------------------|-----------------------------|---------------------------|
| Jan-2024 | 25,506                    | 2,148,707                   | 13,463                | 2,193,286                   | 6                         |
| Feb-2024 | 23,615                    | 2,175,978                   | 13,273                | 2,208,865                   | 10,707                    |
| Mar-2024 | 25,663                    | 2,269,220                   | 14,968                | 2,233,541                   | 3,127                     |
| Apr-2024 | 24,561                    | 2,125,479                   | 14,406                | 2,190,705                   | 91,767                    |
| May-2024 | 23,298                    | 2,036,775                   | 9,814                 | 2,125,333                   | 127,980                   |
| Jun-2024 | 23,302                    | 2,156,468                   | 15,086                | 2,078,008                   | 28,691                    |
| Jul-2024 | 22,421                    | 2,178,841                   | 15,743                | 2,094,316                   | 36,728                    |
| Aug-2024 | 25,546                    | 2,285,740                   | 18,526                | 2,232,263                   | 4,528                     |
| Sep-2024 | 23,513                    | 2,190,233                   | 16,633                | 2,082,584                   | 33,185                    |
| Oct-2024 | 24,310                    | 2,243,943                   | 16,606                | 2,095,858                   | 3,357                     |
| Nov-2024 | 23,689                    | 2,160,243                   | 16,597                | 2,027,866                   | -                         |
| Dec-2024 | 23,756                    | 2,151,196                   | 16,208                | 2,047,543                   | 9,177                     |
| Jan-2025 | 21,354                    | 1,914,221                   | 12,188                | 1,928,482                   | 17,000                    |
| Feb-2025 | 20,519                    | 1,860,706                   | 10,223                | 1,823,172                   | 3,835                     |
| Mar-2025 | 13,761                    | 1,333,027                   | 8,113                 | 1,389,513                   | 83,352                    |
| Apr-2025 | 19,932                    | 2,060,390                   | 13,184                | 2,008,200                   | 9,459                     |

**April-2025 Report****EMSU Waterflood Report  
(Daily Volumes)**

|          | Oil Produced<br>(BBLS/DAY) | Water Produced<br>(BBLS/DAY) | Gas Produced<br>(MCF/DAY) | Water Injected<br>(BBLS/DAY) | EMSU-459 WSW<br>(BBLS/DAY) |
|----------|----------------------------|------------------------------|---------------------------|------------------------------|----------------------------|
| Jan-2024 | 823                        | 69,313                       | 434                       | 70,751                       | 0                          |
| Feb-2024 | 814                        | 75,034                       | 458                       | 76,168                       | 369                        |
| Mar-2024 | 828                        | 73,201                       | 483                       | 72,050                       | 101                        |
| Apr-2024 | 819                        | 70,849                       | 480                       | 73,024                       | 3,059                      |
| May-2024 | 752                        | 65,702                       | 317                       | 68,559                       | 4,128                      |
| Jun-2024 | 777                        | 71,882                       | 503                       | 69,267                       | 956                        |
| Jul-2024 | 723                        | 70,285                       | 508                       | 67,559                       | 1,185                      |
| Aug-2024 | 824                        | 73,734                       | 598                       | 72,008                       | 146                        |
| Sep-2024 | 784                        | 73,008                       | 554                       | 69,419                       | 1,106                      |
| Oct-2024 | 784                        | 72,385                       | 536                       | 67,608                       | 108                        |
| Nov-2024 | 790                        | 72,008                       | 553                       | 67,596                       | -                          |
| Dec-2024 | 766                        | 69,393                       | 523                       | 66,050                       | 296                        |
| Jan-2025 | 689                        | 61,749                       | 393                       | 62,209                       | 548                        |
| Feb-2025 | 733                        | 66,454                       | 365                       | 65,113                       | 137                        |
| Mar-2025 | 444                        | 43,001                       | 262                       | 44,823                       | 2,689                      |
| Apr-2025 | 664                        | 68,680                       | 439                       | 66,940                       | 315                        |

**EMSU-B Waterflood Report  
(Monthly Volumes)**

|          | Oil Produced<br>(Barrels) | Water Produced<br>(Barrels) | Gas Produced<br>(MCF) | Water Injected<br>(Barrels) |
|----------|---------------------------|-----------------------------|-----------------------|-----------------------------|
| Jan-2024 | 5,737                     | 506,316                     | 4,002                 | 516,821                     |
| Feb-2024 | 4,629                     | 406,618                     | 2,961                 | 412,764                     |
| Mar-2024 | 5,584                     | 493,744                     | 5,575                 | 485,981                     |
| Apr-2024 | 3,514                     | 297,272                     | 3,642                 | 306,395                     |
| May-2024 | 3,367                     | 292,728                     | 3,490                 | 305,456                     |
| Jun-2024 | 5,227                     | 461,673                     | 5,039                 | 444,876                     |
| Jul-2024 | 5,078                     | 463,272                     | 5,083                 | 445,300                     |
| Aug-2024 | 4,819                     | 469,264                     | 4,968                 | 473,833                     |
| Sep-2024 | 4,825                     | 465,568                     | 5,035                 | 442,686                     |
| Oct-2024 | 5,083                     | 495,900                     | 5,194                 | 463,174                     |
| Nov-2024 | 5,618                     | 534,148                     | 5,609                 | 501,416                     |
| Dec-2024 | 6,156                     | 534,608                     | 5,663                 | 508,849                     |
| Jan-2025 | 5,945                     | 532,064                     | 5,482                 | 536,028                     |
| Feb-2025 | 5,642                     | 515,761                     | 5,126                 | 505,357                     |
| Mar-2025 | 3,525                     | 348,615                     | 3,220                 | 363,387                     |
| Apr-2025 | 6,007                     | 527,096                     | 5,460                 | 513,745                     |

**EMSU-B Waterflood Report  
(Daily Volumes)**

|          | Oil Produced<br>(BBLS/DAY) | Water Produced<br>(BBLS/DAY) | Gas Produced<br>(MCF/DAY) | Water Injected<br>(BBLS/DAY) |
|----------|----------------------------|------------------------------|---------------------------|------------------------------|
| Jan-2024 | 185                        | 16,333                       | 129                       | 16,672                       |
| Feb-2024 | 160                        | 14,021                       | 102                       | 14,233                       |
| Mar-2024 | 180                        | 15,927                       | 180                       | 15,677                       |
| Apr-2024 | 117                        | 9,909                        | 121                       | 10,213                       |
| May-2024 | 109                        | 9,443                        | 113                       | 9,853                        |
| Jun-2024 | 174                        | 15,389                       | 168                       | 14,829                       |
| Jul-2024 | 164                        | 14,944                       | 164                       | 14,365                       |
| Aug-2024 | 155                        | 15,138                       | 160                       | 15,285                       |
| Sep-2024 | 161                        | 15,519                       | 168                       | 14,756                       |
| Oct-2024 | 164                        | 15,997                       | 168                       | 14,941                       |
| Nov-2024 | 187                        | 17,805                       | 187                       | 16,714                       |
| Dec-2024 | 199                        | 17,245                       | 183                       | 16,414                       |
| Jan-2025 | 192                        | 17,163                       | 177                       | 17,291                       |
| Feb-2025 | 202                        | 18,420                       | 183                       | 18,048                       |
| Mar-2025 | 114                        | 11,246                       | 104                       | 11,722                       |
| Apr-2025 | 200                        | 17,570                       | 182                       | 17,125                       |

Field reported (unallocated) volumes.



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508  
<https://www.blm.gov/new-mexico>

In Reply Refer To:  
3180 (NM92500)

Reference:  
Eunice Monument South A & B Unit, NMNM105450732  
Legacy: NMNM070948X  
2025 Plan of Development  
Lea County, New Mexico



Empire Petroleum Corporation  
Attn: Darrell Davis  
2200 South Utica Place, Suite 150  
Tulsa, OK 74114

To whom it may concern:

The 2025 annual Plan of Development/Operations, dated 4/1/2025 for the Eunice Monument South A & B Unit, is hereby approved. It was reviewed on April 4, 2025, and is approved as of the date of this letter. The Carlsbad Field Office will be notified of this approval. Approval of the Plan of Development does not replace any further operational approvals which may be required through the appropriate field office.

Please ensure future Unit Plans of Development and Operations correct/include the following information.

- Lease map. Map must indicate both commitment status and lessor (Federal, State, Indian Allotted, or Fee) of each lease.
- Geologic interpretations (structure and isopach) for the San Andres formation. As the POD explicitly mentions possible plans of developing the ROZ resource, the geologic interpretations for that formation must be included. Additionally, all wells in the unit, per the well status list, are completed in both formations.
- Well Status List is not very legible – and in some cases, completely illegible. Saving Excel files as .pdf and then inserting those pages directly into the POD document would help a lot. Also, columns for “Property,” “Lease Type,” “OCDUI(?),” “Pool Number,” “Oil POD,” and “Gas POD” are unnecessary. Additionally, there are two columns for well status. Any dual completions should be listed on separate rows, so there is no need for multiple status columns.
- Exhibit B is not very legible – and in some cases, completely illegible. Saving Excel files as .pdf and then inserting those pages directly into the POD document would help a lot. Also, “Tract Name” column is not required. Additionally, the columns for Royalty

**INTERIOR REGION 5 · MISSOURI BASIN**  
Kansas, Most of Montana, North Dakota,  
Nebraska, South Dakota

**INTERIOR REGION 6 · ARKANSAS-  
RIO GRANDE-TEXAS GULF**  
Oklahoma, Texas

**INTERIOR REGION 7 · UPPER  
COLORADO BASIN**  
Colorado, New Mexico, Utah, Wyoming

Owner, Overriding Royalty, and Working Interest don't need to be as wide as they are. If you select those columns and double-click at the side, Excel will adjust their width. This will allow all columns to fit on the page while improving legibility.

If you have any questions, contact Ben Barton, Petroleum Engineer, at [bcbarton@blm.gov](mailto:bcbarton@blm.gov).

Sincerely,

KYLE  
PARADIS

Digitally signed by  
KYLE PARADIS  
Date: 2025.04.04  
15:08:57 -06'00'

Kyle Paradis  
Branch Chief - Reservoir Management  
Division of Minerals

1 Enclosure

1 – Eunice Monument South A & B Unit 2025 POD (21 pp.)

cc:

NMSLO, Baylen Lamkin (email: [blamkin@nmslo.gov](mailto:blamkin@nmslo.gov))

CFO, Chris Walls

Unit File (NM925000, File)





April 1, 2025

United States Department of the Interior  
Bureau of Land Management - Reservoir Management  
New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, NM 87508

RE: EUNICE MONUMENT SOUTH A & B UNITS  
MLRS (NMNM105450732)  
2025 Plan of Development  
Lea County, New Mexico

Empire New Mexico LLC (Empire), in its capacity as the Unit Operator of the EUNICE MONUMENT SOUTH A & B UNITS (EMSU & EMSUB) MLRS (NMNM105450732), hereby presents our 2024 Summary of Operations and 2025 Plan of Development for your consideration. The following plan outlines our strategy for the ongoing development of potential oil and gas reserves situated in the Grayburg/San Andres formations in Empire's Units. In order to protect the Grayburg and San Andres oil resources, including a ROZ (Residual Oil Zone) in the San Andres, it is critical that the New Mexico Oil Conservation Commission deny 5 SWD drilling permits currently submitted by a 3<sup>rd</sup> party company seeking to dispose of over 200,000 BWPD into the unitized San Andres interval inside EMSU. The existing disposal permits on 4 active SWD wells inside the EMSU should also be revoked, thus protecting these oil resources.

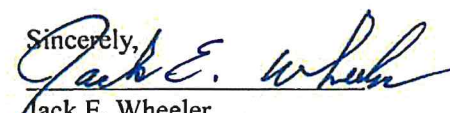
Included herewith are the following documents for your review and approval:

1. Summary of Operations for the previous year (2024).
2. Planned operations for the year 2025.
3. Current status report on all wells within the Units.
4. Production/injection graphs for each unit.
5. Detailed maps encompassing geological interpretation of structural maps, isopach, area boundaries, and types of leases, wells, flow lines, roads, and facilities.

Please note that approval of this Plan does not constitute approval for the actual execution of the work outlined therein. Individual approval is still required for specific items such as APDs/ROWS/etc. Any modifications to the Plan of Development will be filed as supplements to the Plan.

If you have any questions, please contact Sr. Production and Reservoir Engineer Darrell Davis at [ddavis@empirepetrocorp.com](mailto:ddavis@empirepetrocorp.com) or (832) 525-7575.

Sincerely,

  
Jack E. Wheeler  
Sr. Vice President – Land and Legal

**2024 Summary of Operations and 2025 Plan of Development**

**EUNICE MONUMENT SOUTH A & B UNITS (EMSU & EMSU-B)  
MLRS (NMNM105450732)  
Operator: Empire New Mexico LLC**

**Contents**

- A. Review of 2024 Operations
- B. Plan of Development for 2025
- C. Waterflood Surveillance and Optimization
- D. Trespassing by 3<sup>rd</sup> Party Saltwater Disposal Companies

Table 1: 2024 Well Work Activity for EMSU & EMSU-B

- Figure 1: EMSU "A" Oil, Water, Gas and Cumulative Oil Plot
- Figure 2: EMSU "A" Cumulative Oil versus Water-Oil Ratio Plot
- Figure 3: EMSU "A" Water Injection Rate & Injection-Withdrawal Ratio
- Figure 4: EMSU "B" Oil, Water, Gas and Cumulative Oil Plot
- Figure 5: EMSU "B" Cumulative Oil versus Water-Oil Ratio Plot
- Figure 6: EMSU "B" Water Injection Rate & Injection-Withdrawal Ratio
- Figure 7: Satellite View showing Well Locations, Surface Facilities, and Lease Roads for EMSU "A"
- Figure 8: Satellite View showing Well Locations, Surface Facilities, and Lease Roads for EMSU "B"
- Figure 9: Wells, Flowlines, Surface Facilities for EMSU "A"
- Figure 10: Wells, Flowlines, Surface Facilities for EMSU "B"
- Figure 11: Water Injection Lines for EMSU "B"
- Figure 12: Lease Types and Unit Boundaries for EMSU "A" & "B"
- Figure 13: Structure Map - Top of Grayburg Formation
- Figure 14: Isopach Map - Grayburg Formation

Table 2: EMSU "A" & EMSU "B" Well Status



Attached herewith are the following documents for your reference:

1. Review of 2024 Operations & 2025 Plan of Development (POD)
2. Table 1: 2024 Well Activity
3. Figures 1 to 6: production/injection rates and cumulative, and Water-Oil Ratio (WOR) plots.
4. Figures 7 to 12: Maps of the Units showcasing outlines, flow lines, facilities, leases, roads, satellite views, structural maps of the top of the Grayburg Formation, isopach maps of the Grayburg Formation, and injection patterns.
5. Table 2: Well Status

Note: no confidential or proprietary information.

#### **A. Review of 2024 Operations:**

Average 2024 production from the Eunice Monument South Unit A (EMSU) and Eunice Monument South Unit B (EMSUB) MLRS (NMNM105450732 was 956 barrels of oil per day (BOPD), 66 thousand standard cubic feet of gas per day (MCFPD), 85,670 barrels of water per day (BWPD), with 86,261 barrels of water injected per day (BWPD). In addition to the 85,670 BWPD Grayburg water, 957 BWPD was produced from the San Andres as make-up water. This make-up water allowed for an average Injection-Withdrawal-Ratio (IWR) of 0.994. Influx of water from the San Andres through natural fractures and low permeability dolomite provides additional pressure support.

Tables 1 and 2 provide a list of the wells we worked on throughout 2024.

Summary of operational activities:

- Executed 48 well activities during 2024, including 7 plug and abandonments and 5 temporary abandonments.
- There were also 5 rod part repairs, 15 mechanical integrity test (MIT) repairs, 4 hole in tubing repairs, 3 grounded downhole ESP repairs, 2 bradenhead test repairs, 1 sucker rod pump repair, 1 pumping unit changeout, 1 plugback workover, and 4 cased hole logs run.
- No drilling activities took place within EMSU A or EMSU B.
- In June 2023 Empire New Mexico began working on an Inactive Well List that had been steadily growing since acquiring the Field from XTO (Exxon Mobil) in April, 2021. The list initially included 74 wells that needed to be rectified as per the NMOCDC's requirements by one of the following operations: P&A, TA, Returning to Production/Injection or by updating the reported production/injection volumes. XTO also strongly requested that we complete the inactive list so that they could transfer the remaining wells from the acquisition to Empire New Mexico's operatorship. Once Empire New Mexico resolved the list in November 2023, XTO submitted the Change

of Operatorship paperwork for an additional 77 inactive wells (including 19 AGU wells) that were finalized the same month. After the 77 inactive wells were transferred from XTO, the NMOCD entered an Inactive Well Agreed Compliance Order for Inactive Wells (ACOI) Agreement with Empire New Mexico on November 2, 2023. Empire worked on approximately 10 inactive wells per month during 2024 and completed all work during August 2024.

**B. Plan of Development for 2025:**

- Through March 2025, there have been 3 hole in tubing repairs, 1 grounded downhole ESP repair, and 1 pumping unit changeout.
- Focus on well repairs and reactivations, ensuring continuous monitoring of units' production and timely well service repairs.
- Assessment of additional pay and infill opportunities, involving reservoir analysis, evaluation for behind-pipe, deepening opportunities, and new drills.
- Continued evaluation of injector/producer wells for remedial work to boost injectivity/productivity.
- Assessment of wells currently producing at uneconomic rates for Temporary Abandonment (TA) or Plug & Abandonment (P&A).

**C. Waterflood Surveillance and Optimization:**

The inception of waterflood operations dates to 1986 for EMSU "A" and subsequently in 1992 for EMSU "B".

A comprehensive waterflood performance analysis commenced in late 2023 for EMSU, aiming to optimize the flood and maximize areal and vertical recovery where feasible. This analysis entails allocating production and injection data of each well to its pattern based on the pattern's geometry.

To analyze the patterns, they had to be compared on dimensionless basis to make the process "apples to apples". The analysis was accomplished by estimating the hydrocarbon pore volume (HCPV) of each pattern by considering factors such as pattern area, thickness (isopach map), average porosity, and water saturation, facilitating a dimensionless comparison of patterns based on injected and produced HCPV. The process, coupled with conformance analysis, enables Empire to identify areas with low waterflood sweep efficiency and "thief" zones, which are characterized by high permeability preferential flow paths that undermine waterflood performance due to water channeling. Subsequently, corrective measures can be implemented to enhance the recovery factor. These remedial measures include, but are not limited to, water shut-off campaigns of the offending flow units, squeeze perforations in both injectors and producers, perforate additional intervals, deepen wells, new wells, etc.

In the upcoming year, each pattern will undergo analysis, and adjustments will be recommended and executed in alignment with Empire's budget and financial objectives. Empire

has already identified patterns with short-lived injection, previously classified as poor performing waterflood areas.

Another initiative undertaken by Empire involves an evaluation of past conformance campaigns to assess their effectiveness and replicate successful strategies, thereby enhancing conformance and sweep efficiency. Additionally, Empire has identified areas where wells were drilled or completed only to the top third of the Grayburg formation, presenting an opportunity to deepen or recomplete these wells into the middle and lower Grayburg formation to target additional recoverable reserves in unswept areas.

Further analysis will be conducted to identify potential areas for improvement, encompassing the examination of historical and new injection profile logs, as well as a comprehensive review of perforated zones histories (including recompletions) and their impact on the historical production performance of the waterflood.

#### **D. Trespassing By 3<sup>rd</sup> Party Saltwater Disposal Companies:**

Empire recognized during 2023 that a 3<sup>rd</sup> party Saltwater Disposal Company is injecting Delaware Basin high salinity water into the unitized interval of EMSU. While water disposal was previously injected into this formation at moderate rates using compatible water from Eunice Monument oil producing reservoirs, two companies are now injecting at high rates and disposing of incompatible water from the Delaware Basin horizontal wells. One Company is now requesting that drilling and injection permits be issued for 5 additional wells which would allow for an additional 200,000 BWPD to be injected into the San Andres unitized interval. Empire is currently at a hearing with New Mexico Oil Conservation Commission seeking to have these drilling permits denied and for the permits on 4 active SWD wells inside the EMSU to be revoked. These 4 active SWD wells are currently disposing of 56,000 BWPD and is impacting Grayburg waterflood operations and negatively impacting the future development of a Residual Oil Zone (ROZ) in the San Andres which contains more than 900 million barrels oil-in-place. Until these disposal operations are terminated, Empire cannot go forward with further development at EMSU, especially for development of a CO<sub>2</sub>-EOR project in the San Andres given the uncertainty of reservoir pressure increase and damages to the ROZ interval.

**Table 1. 2024 Well Work Activity EMSU & EMSU-B**

| Well Name  | API10        | Legal Location    | Formation | Status | ACTIVITY                  |
|------------|--------------|-------------------|-----------|--------|---------------------------|
| EMSU 146   | 30-025-29946 | 2-31-20S-37E      | Grayburg  | Active | Bradenhead<br>Test Repair |
| EMSU 239   | 30-025-04468 | J-04-21S-36E      | Grayburg  | Active | Bradenhead<br>Test Repair |
| EMSU 306   | 30-025-04604 | E-11-21S-36E      | Grayburg  | Active | GDH-ESP                   |
| EMSU 385   | 30-025-04650 | E-15-21S-36E      | Grayburg  | Active | GDH-ESP                   |
| EMSU 748   | 30-025-34632 | G-15-21S-36E      | Grayburg  | Active | GDH-ESP                   |
| EMSU 256   | 30-025-04495 | O-05-21S-36E      | Grayburg  | Active | HIT                       |
| EMSU 300   | 30-025-04579 | G-09-21S-36E      | Grayburg  | Active | HIT                       |
| EMSU 560   | 30-025-35461 | O-36-20S-36E      | Grayburg  | Active | HIT                       |
| EMSU 695   | 30-025-35162 | I-09-21S-36E      | Grayburg  | Active | HIT                       |
| EMSU 144   | 30-025-12543 | G-36-20S-36E      | Grayburg  | Active | Log                       |
| EMSU 225   | 30-025-29683 | N-05-21S-36E      | Grayburg  | Active | Log                       |
| EMSU 295   | 30-025-04560 | F-08-21S-36E      | Grayburg  | Active | Log                       |
| EMSU 649   | 30-025-33187 | P-06-21S-36E      | Grayburg  | Active | Log                       |
| EMSU 116   | 30-025-06290 | K-30-20S-37E      | Grayburg  | Active | MIT Repair                |
| EMSU 144   | 30-025-12543 | G-36-20S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 187   | 30-025-04515 | 4-05-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 201   | 30-025-04472 | 6-04-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 221   | 30-025-08706 | N-06-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 225   | 30-025-29683 | N-05-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 226   | 30-025-04501 | 15-05-21S-36E     | Grayburg  | Active | MIT Repair                |
| EMSU 295   | 30-025-04560 | F-08-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 297   | 30-025-04568 | H-08-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 307   | 30-025-08708 | F-11-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 314   | 30-025-04605 | L-11-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 359   | 30-025-04651 | C-15-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 362   | 30-025-04662 | B-16-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU 390   | 30-025-04635 | F-14-21S-36E      | Grayburg  | Active | MIT Repair                |
| EMSU-B 912 | 30-025-04305 | 20S 36E 24K SE SW | Grayburg  | Active | MIT Repair                |
| EMSU 737   | 30-025-34853 | B-15-21S-36E      | Grayburg  | Active | Repair Pump               |
| EMSU 105   | 30-025-04335 | D-25-20S-36E      | Grayburg  | P&A    | P&A                       |
| EMSU 144   | 30-025-12543 | G-36-20S-36E      | Grayburg  | P&A    | P&A                       |
| EMSU 200H  | 30-025-04492 |                   | Grayburg  | P&A    | P&A                       |
| EMSU 208   | 30-025-04470 |                   | Grayburg  | P&A    | P&A                       |
| EMSU 232   | 30-025-04452 | 13-03-21S-36E     | Grayburg  | P&A    | P&A                       |



|            |              |                   |          |        |                          |
|------------|--------------|-------------------|----------|--------|--------------------------|
| EMSU 364   | 30-025-04659 | D-16-21S-36E      | Grayburg | P&A    | P&A                      |
| EMSU-B 912 | 30-025-04305 | 20S 36E 24K SE SW | Grayburg | P&A    | P&A                      |
| EMSU 278   | 30-025-20133 | A-09-21S-36E      | Grayburg | Active | Plugback                 |
| EMSU 264   | 30-025-04457 | O-03-21S-36E      | Grayburg | Active | Rod Part                 |
| EMSU 397   | 30-025-04646 | I-15-21S-36E      | Grayburg | Active | Rod Part                 |
| EMSU 649   | 30-025-33187 | P-06-21S-36E      | Grayburg | Active | Rod Part                 |
| EMSU 734   | 30-025-34851 | D-15-21S-36E      | Grayburg | Active | Rod Part                 |
| EMSU-B 884 | 30-025-04268 | J-14-20S-36E      | Grayburg | Active | Rod Part                 |
| EMSU 749   | 30-025-34641 | C-15-21S-36E      | Grayburg | Active | Swap out<br>Pumping Unit |
| EMSU 123   | 30-025-29957 | N-25-20S-36E      | Grayburg | TA     | TA                       |
| EMSU 216   | 30-025-08704 | I-06-21S-36E      | Grayburg | TA     | TA                       |
| EMSU 335   | 30-025-04558 | M-08-21S-36E      | Grayburg | TA     | TA                       |
| EMSU 409   | 30-025-04678 | I-18-21S-36E      | Grayburg | TA     | TA                       |
| EMSU 585   | 30-025-35157 | 4-05-21S-36E      | Grayburg | TA     | TA                       |

**HIT:** Hole in Tubing, **P&A:** Plug and Abandon, **TA:** Temporarily abandoned, **GDH:** Grounded Downhole, **MIT:** Mechanical Integrity Test

Figure 1: EMSU "A" OIL, WATER, GAS PRODUCTION & CUMULATIVE OIL PLOT

NMNM MLRS (NMNM105450732)

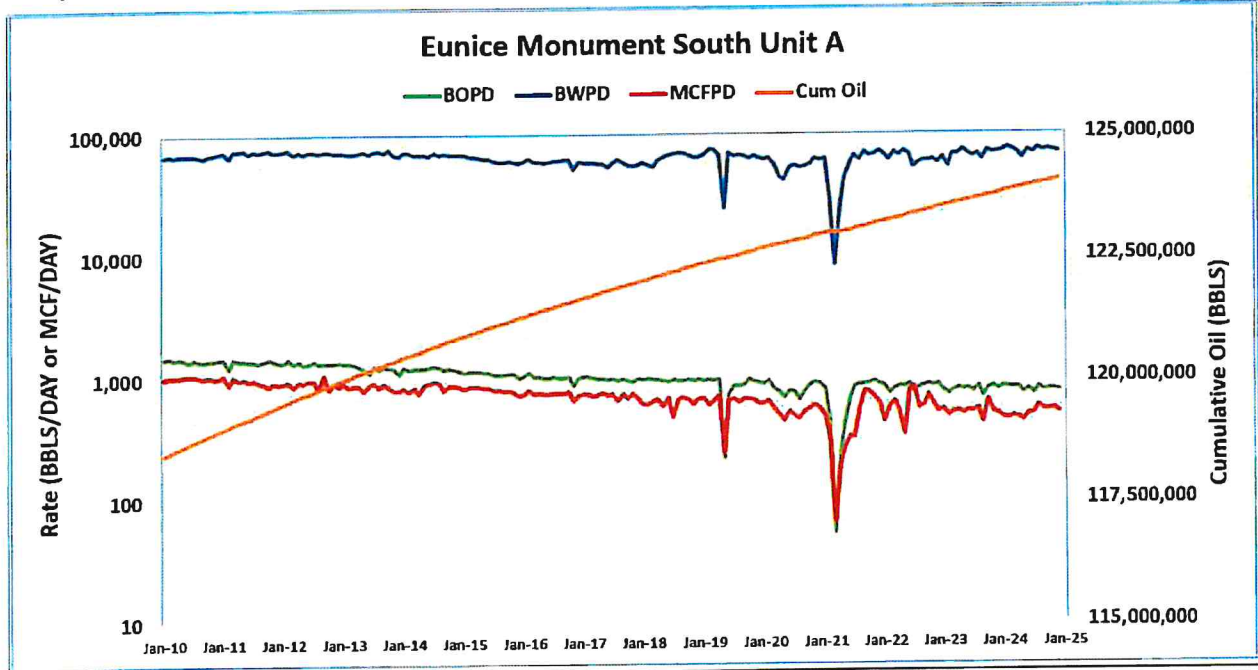


Figure 2: EMSU "A" CUMULATIVE OIL VERSUS WATER-OIL RATIO PLOT

NMNM MLRS (NMNM105450732)

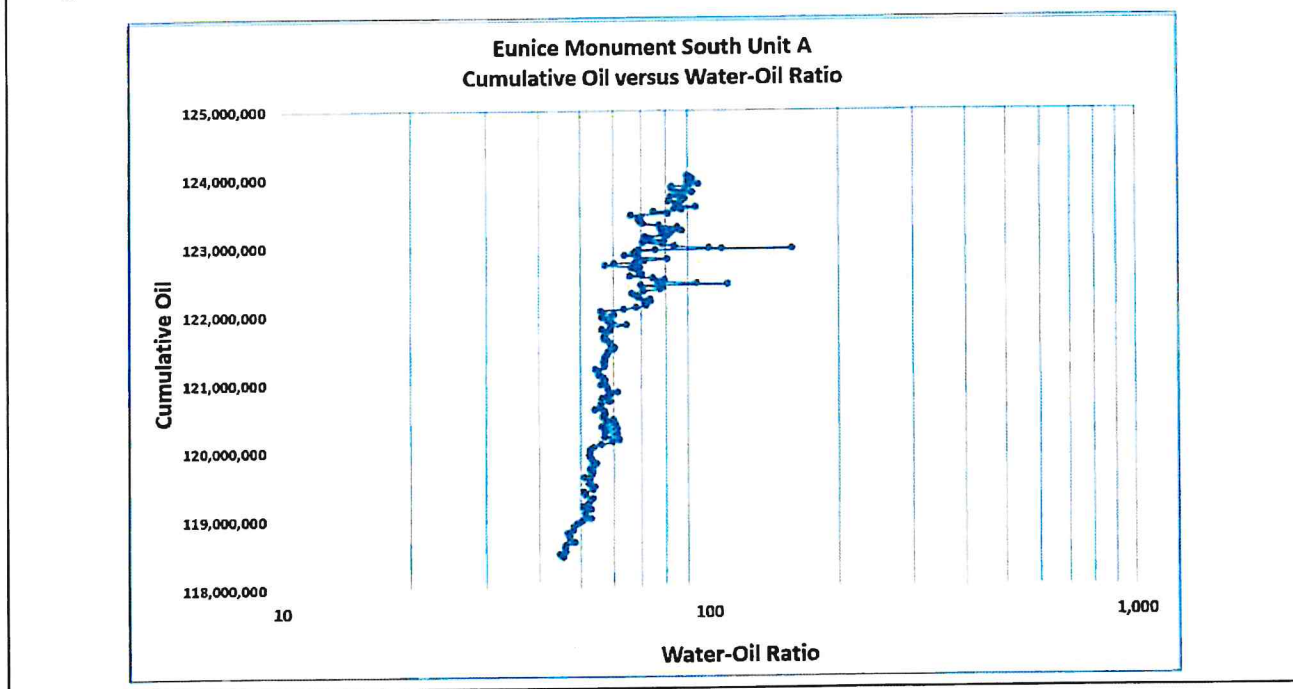


Figure 3: EMSU "A" WATER INJECTION RATE & INJECTION-WITHDRAWAL RATIO PLOT

NMNM MLRS (NMNM105450732)

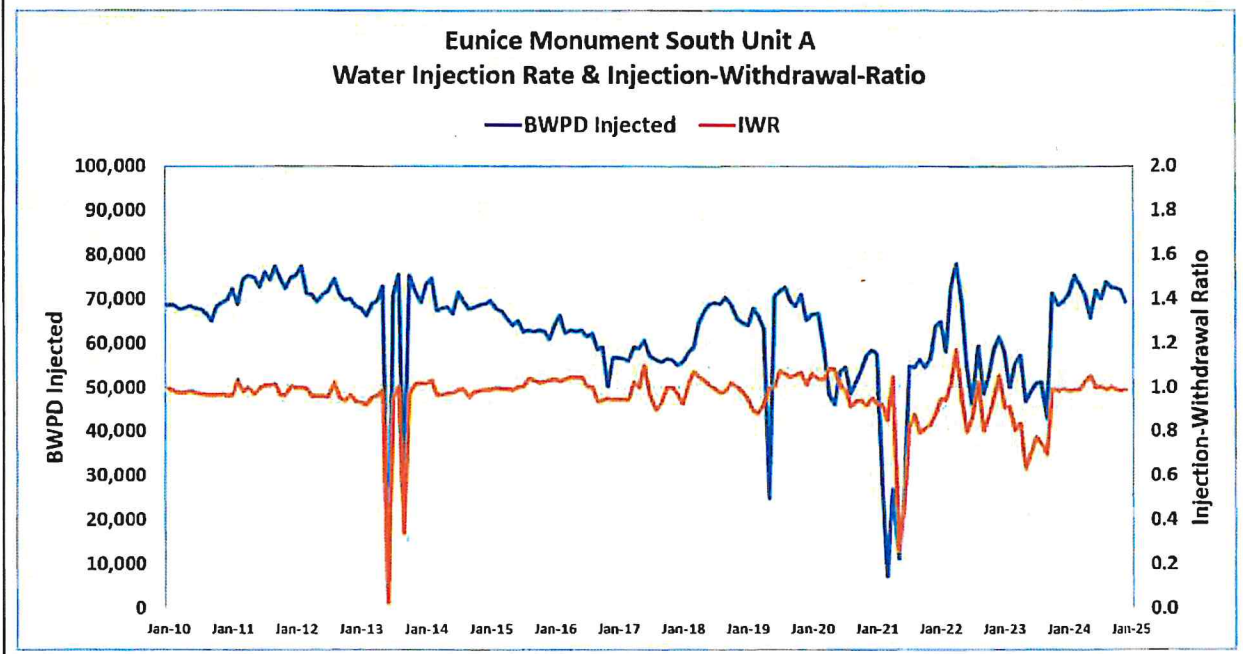


Figure 4: EMSU "B" OIL, WATER, GAS PRODUCTION & CUMULATIVE OIL PLOT

NMNM MLRS (NMNM105450732)

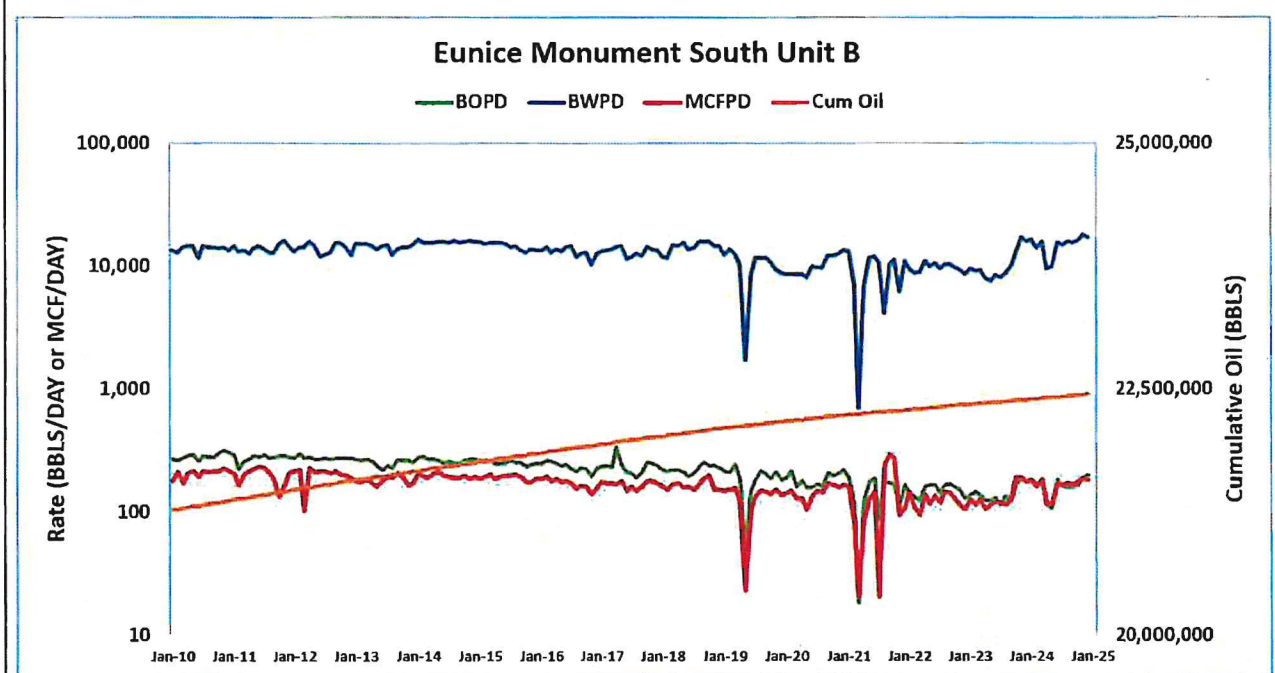


Figure 5: EMSU "B" CUMULATIVE OIL VERSUS WATER-OIL RATIO PLOT

NMNM MLRS (NMNM105450732)

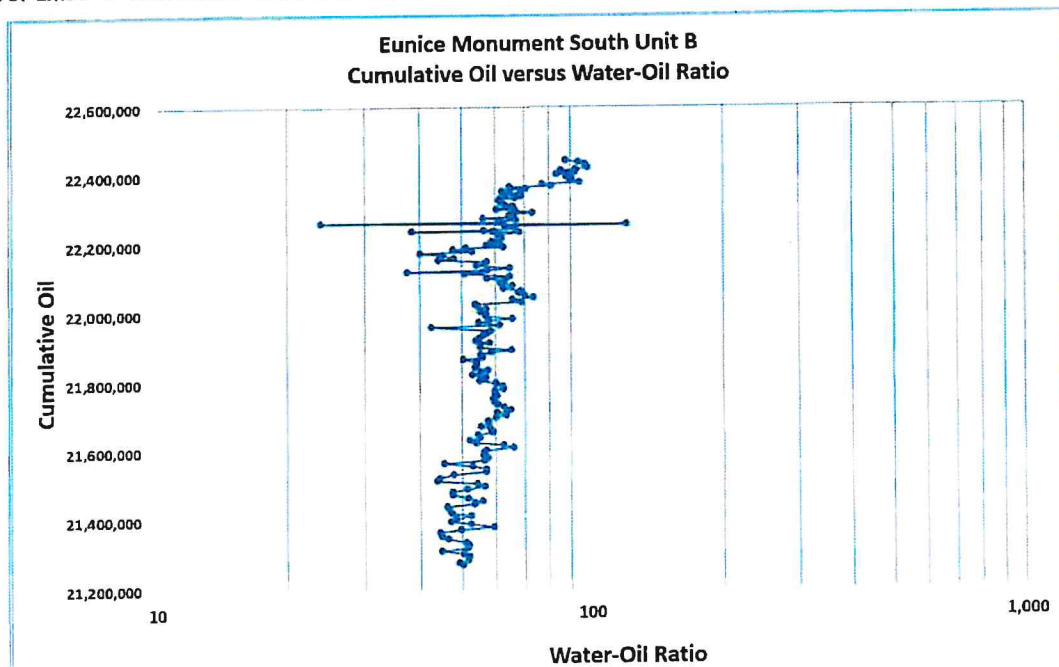


Figure 6: EMSU "B" WATER INJECTION RATE & INJECTION-WITHDRAWAL RATIO PLOT

NMNM MLRS (NMNM105450732)

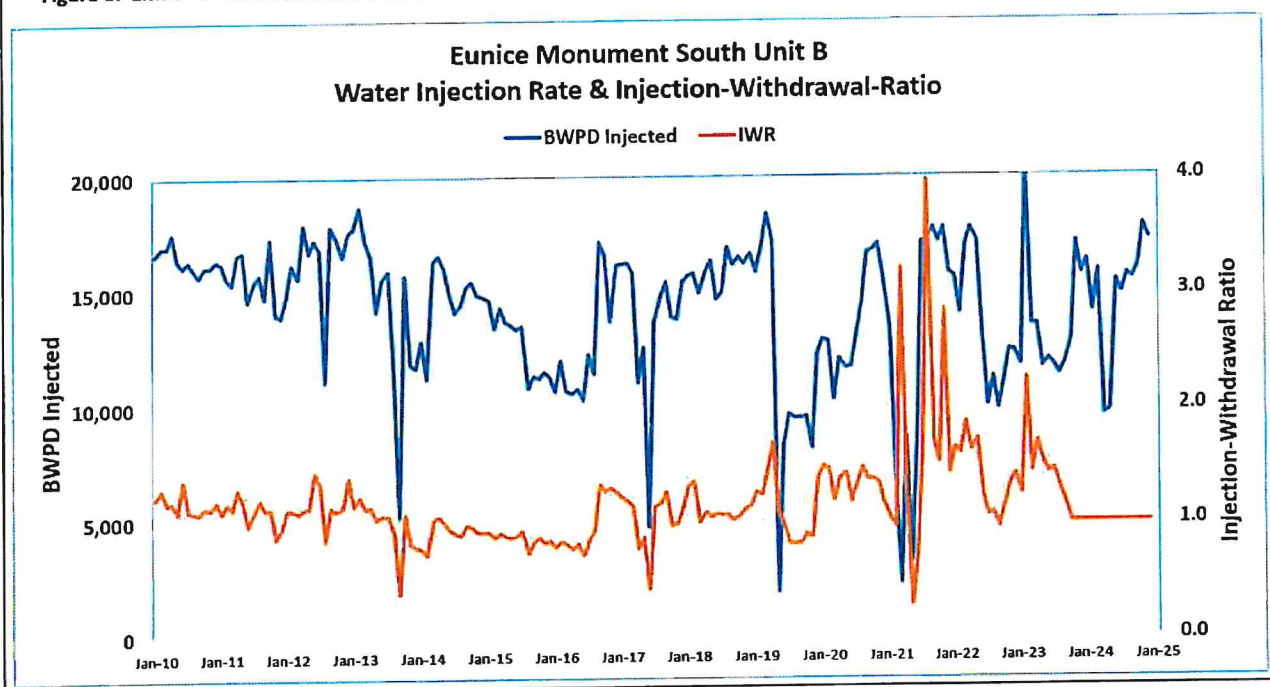
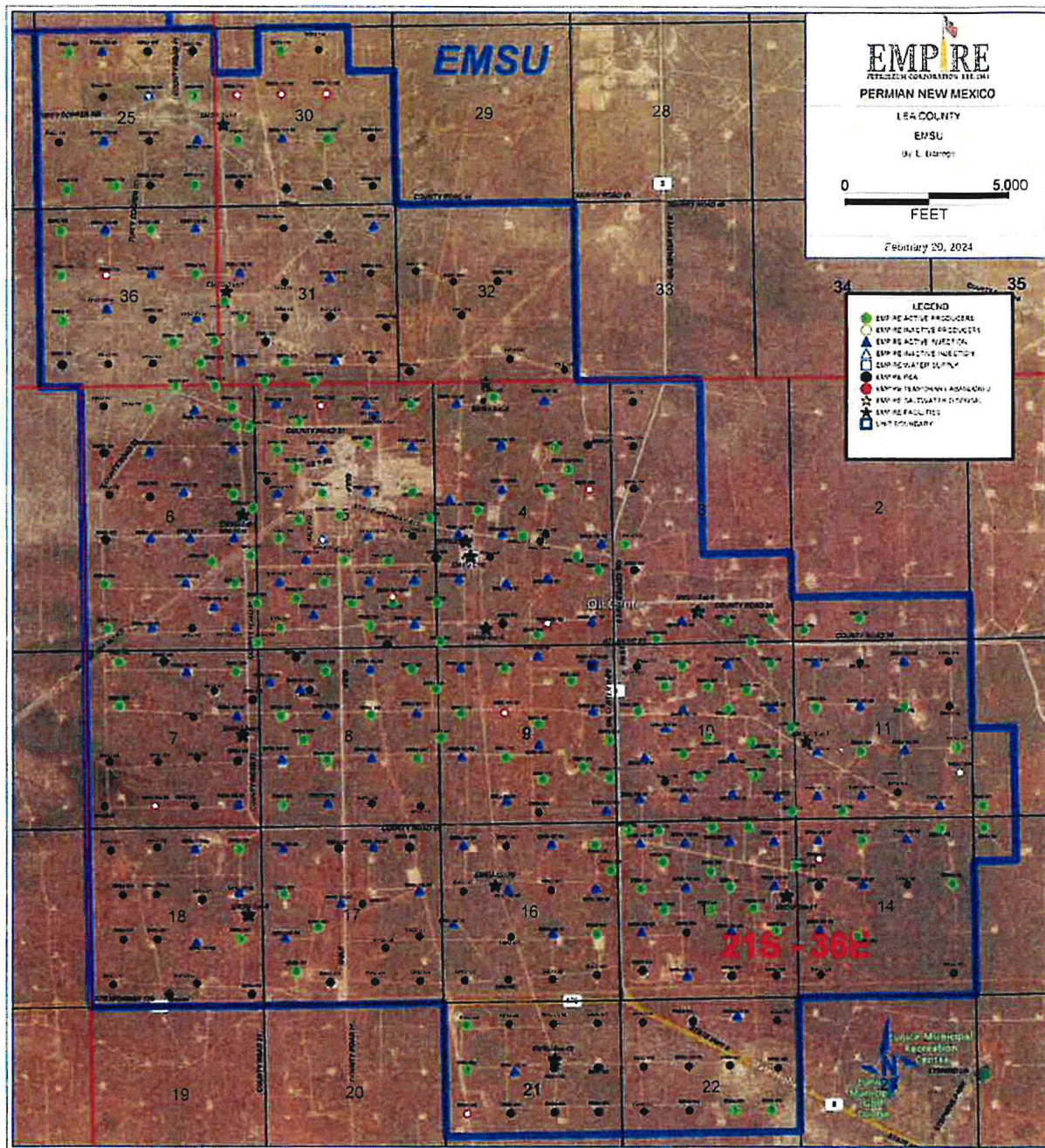




Figure 7. Satellite view showing Well Locations, Surface Facilities, and Lease Roads for EMSU "A".





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Figure 9. Wells, Flow Lines, Surface Facilities for EMSU "A"

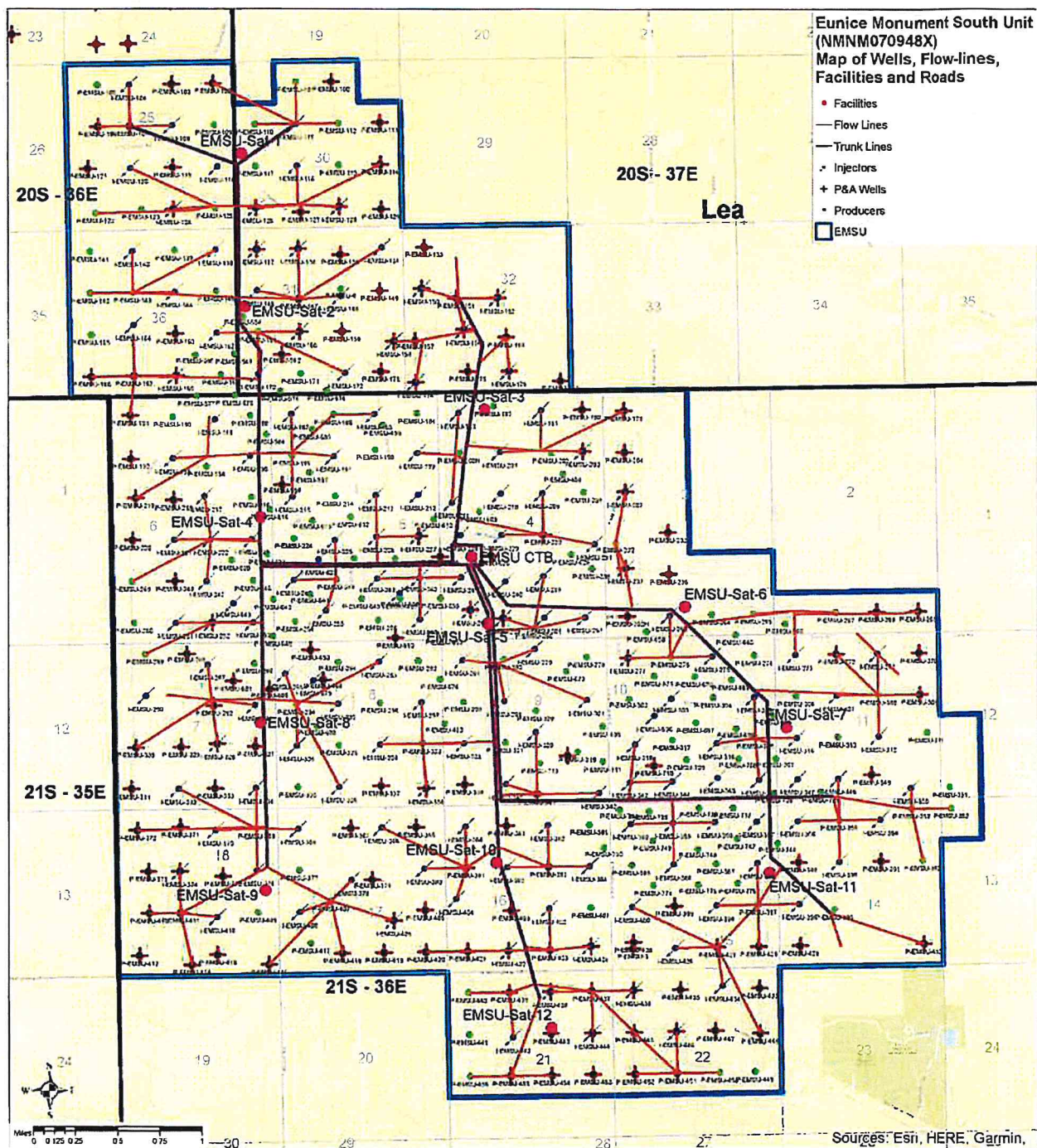


Figure 10. Wells, Flow Lines, Surface Facilities for EMSU "B"

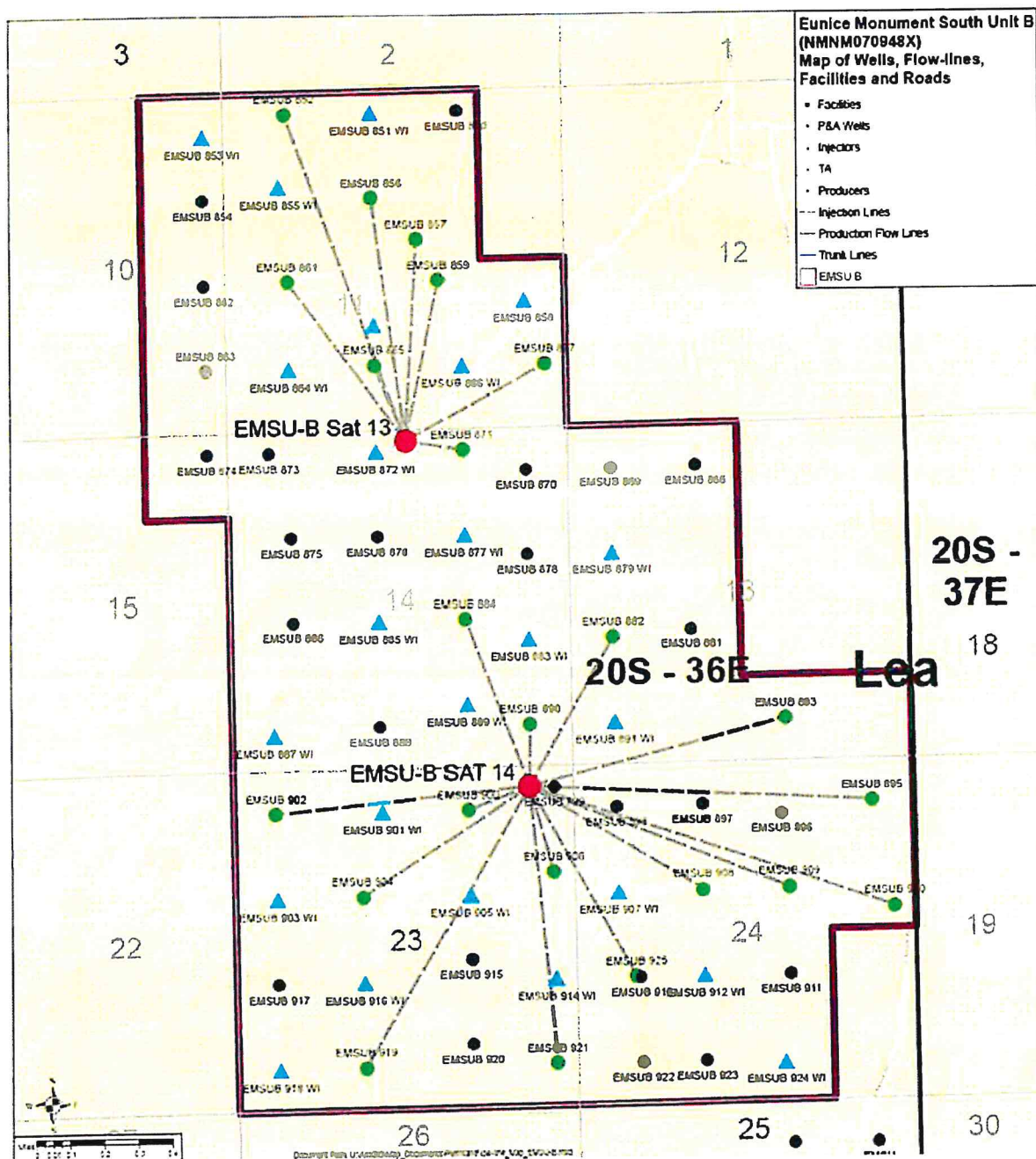




Figure 11. Water Injection Lines for EMSU "B"

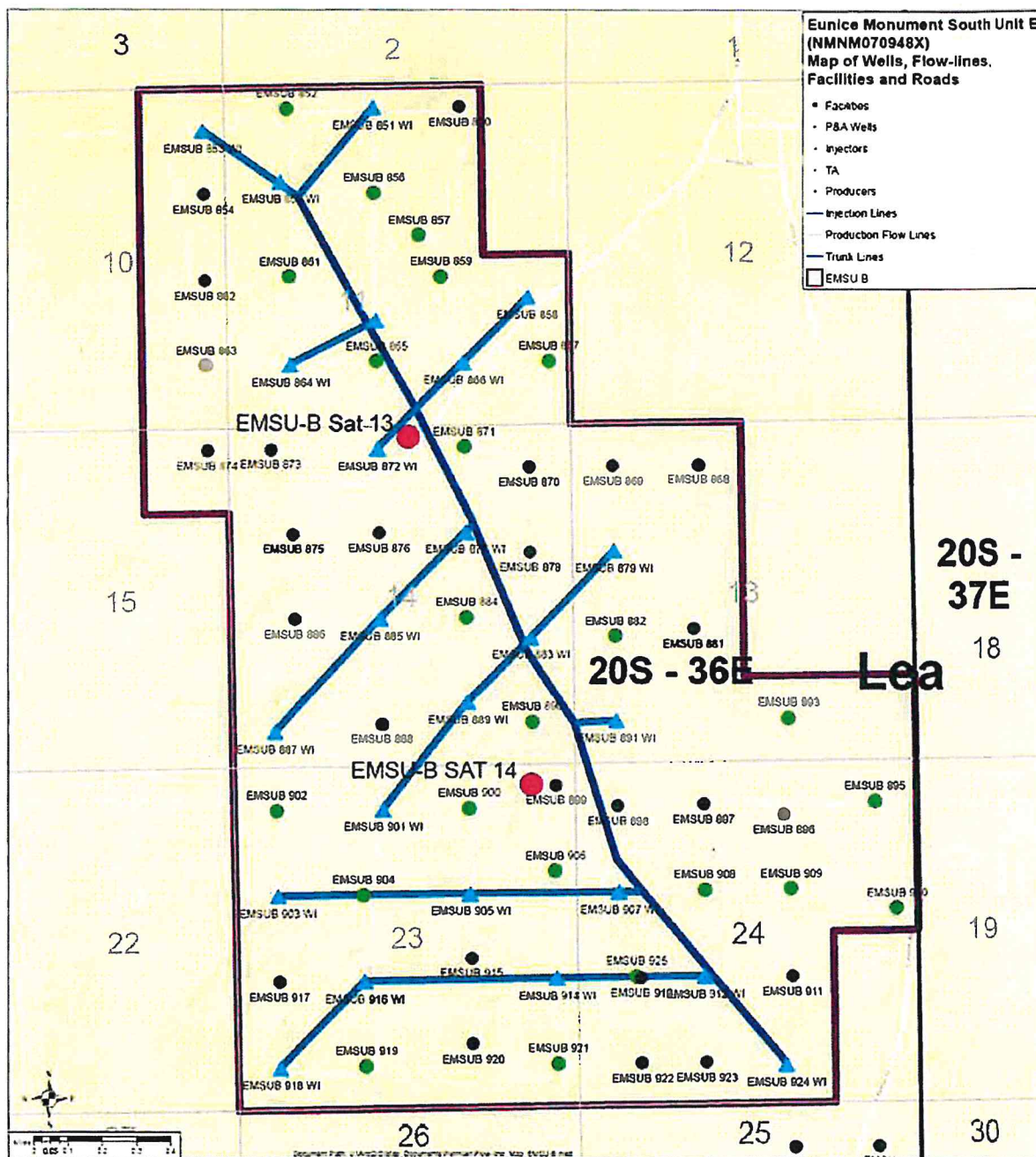


Figure 12. Lease Types and Unit Boundaries for EMSU A & B.

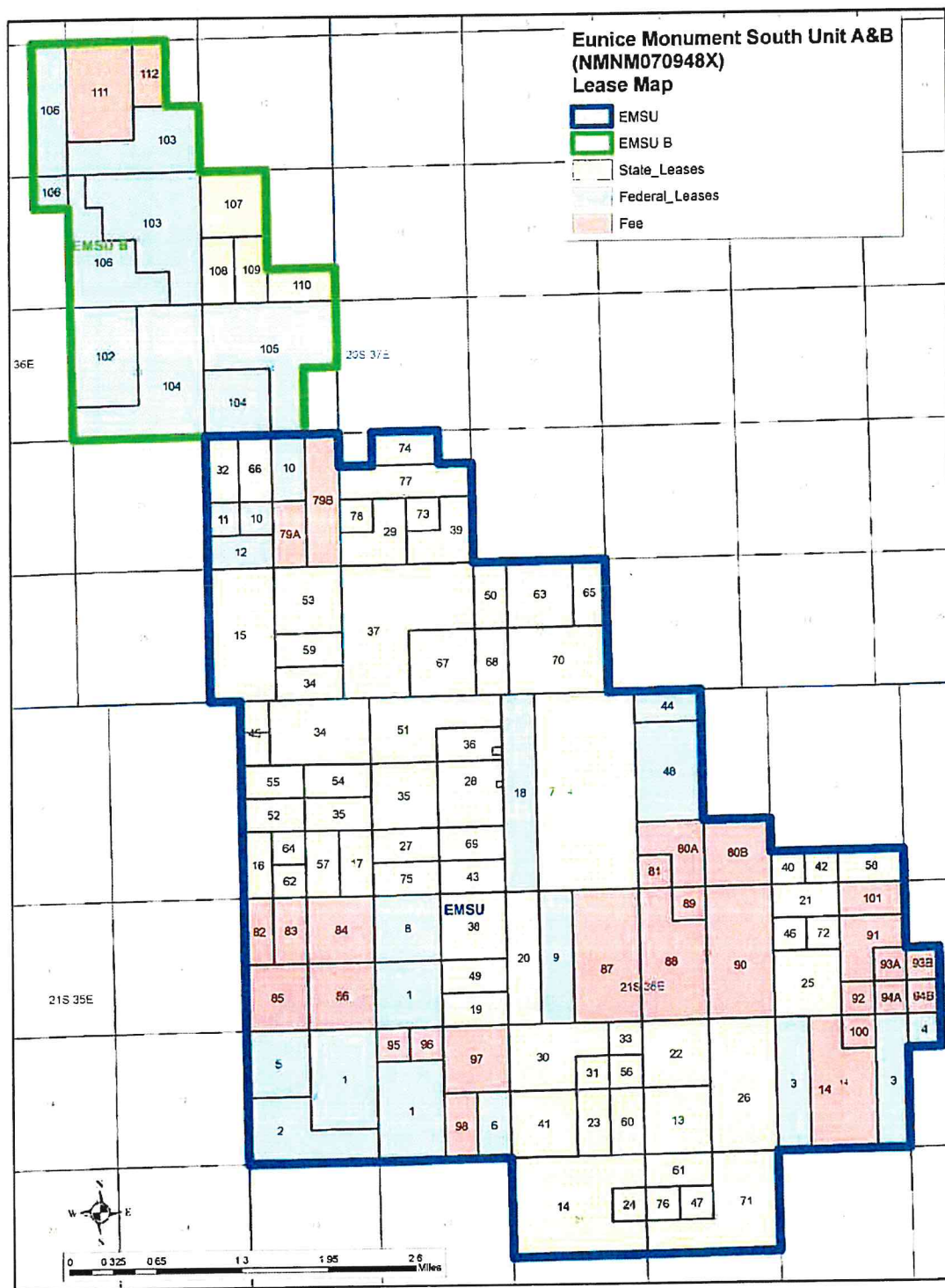




Figure 13. Structure Map - Top of Grayburg Formation.

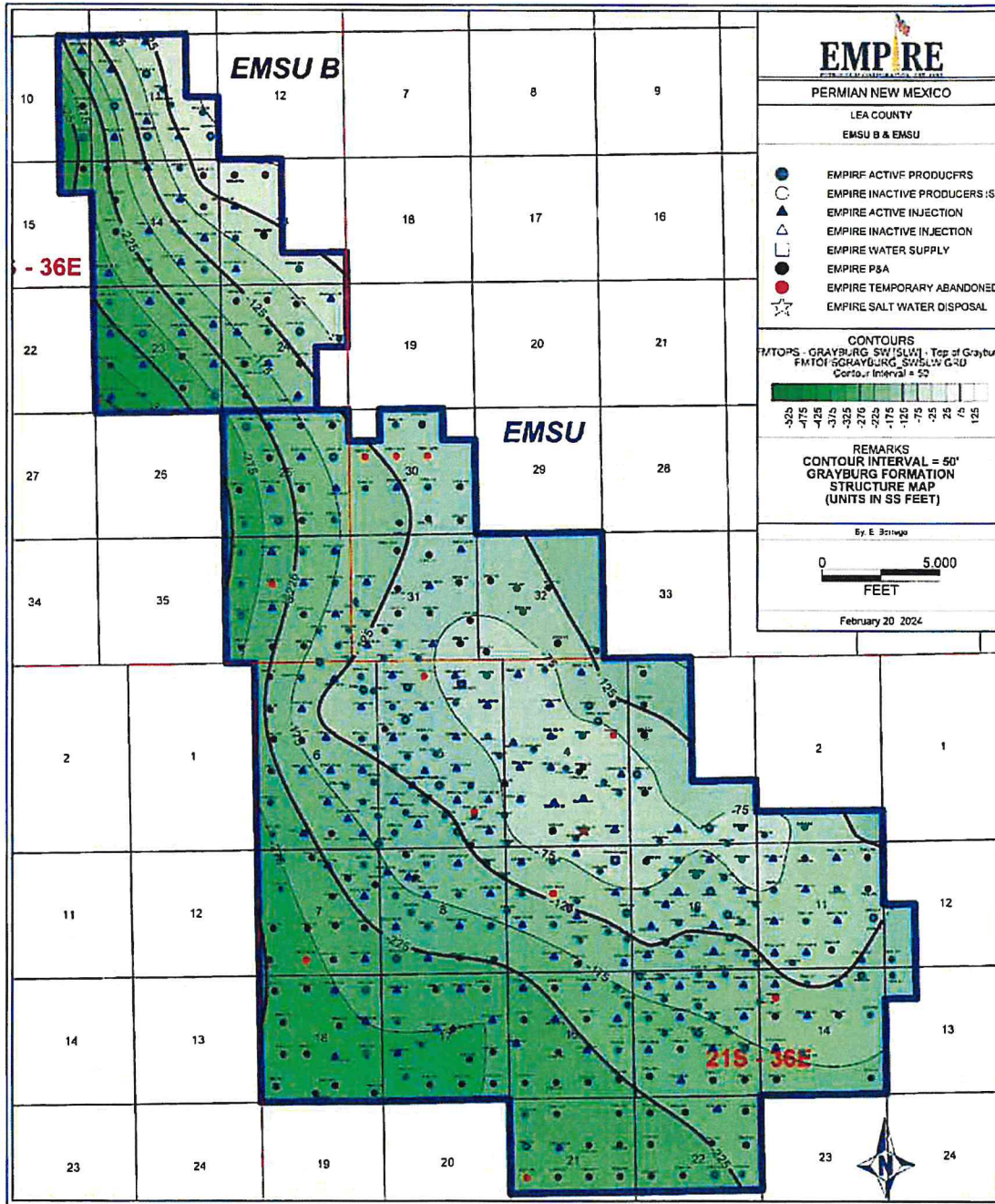
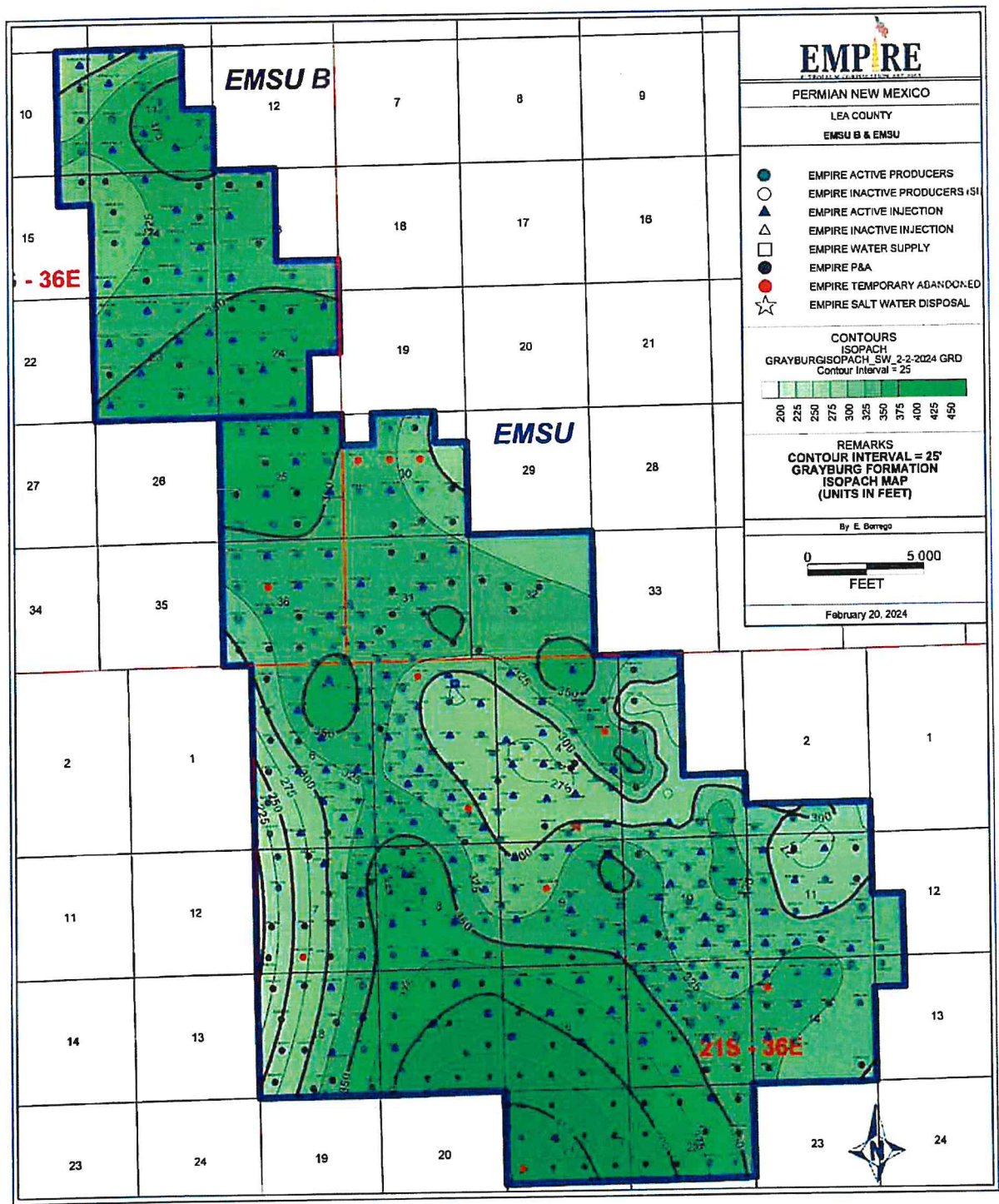


Figure 14. Isopach Map - Grayburg Formation.





**Table 2: Current Status of Wells in the Eunice Monument South A & B Units (page 1 of 3)**

[illegible]

300679 Empire New HousellC

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**Table 2: Current Status of Wells in the Eunice Monument South A & B Units (page 3 of 3)**

[illegible]