Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone [333387] 2. Name of Operator 9. API Well No. [372224] 30-025-50745 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory [33813] 2901 VIA FORTUNA, STE. 600 AUSTIN, TX 78746 737-300-4700 4. Location of Well (Report location clearly and in accordance with any State requirements.\*) 11. Sec., T. R. M. or Blk. and Survey or Area At surface At proposed prod. zone 14. Distance in miles and direction from nearest town or post office\* 12. County or Parish 13. State 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, applied for, on this lease, ft. 23. Estimated duration 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above) 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date Title Approved by (Signature) Name (Printed/Typed) Date Title Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction NGMP Rec 09/28/2022 APPROVED WITH CONDITIONS SL (Continued on page 2) \*(Instructions on page 2)

Released to Imaging: 10/14/2022 7:21:52 AM Approval Date: 09/23/2022

#### **INSTRUCTIONS**

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

#### **NOTICES**

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

#### **Additional Operator Remarks**

#### **Location of Well**

0. SHL: NENE / 230 FNL / 2390 FWL / TWSP: 26S / RANGE: 36E / SECTION: 4 / LAT: 32.0789476 / LONG: -103.2709037 ( TVD: 0 feet, MD: 0 feet ) PPP: SENW / 2640 FSL / 2240 FWL / TWSP: 25S / RANGE: 36E / SECTION: 28 / LAT: 32.1013505 / LONG: -103.2711292 ( TVD: 12072 feet, MD: 20458 feet ) PPP: SESW / 100 FSL / 2318 FWL / TWSP: 25S / RANGE: 36E / SECTION: 33 / LAT: 32.0798547 / LONG: -103.2711367 ( TVD: 12068 feet, MD: 12641 feet ) BHL: NENW / 50 FNL / 2318 FWL / TWSP: 25S / RANGE: 36E / SECTION: 28 / LAT: 32.1084636 / LONG: -103.2711284 ( TVD: 12072 feet, MD: 23046 feet )

#### **BLM Point of Contact**

Name: CIJI METHOLA

Title: GIS Support - Adjudicator

Phone: (575) 234-5924 Email: cmethola@blm.gov

#### **Review and Appeal Rights**

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Sante Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Sante Fe, NM 87505

FORM C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

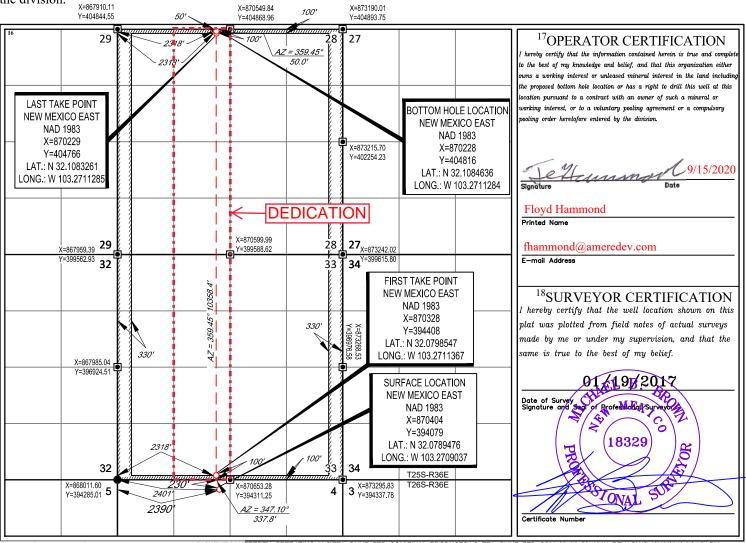
| <sup>1</sup> API Numbe     | er                            | <sup>3</sup> Pool Name      |                 |                          |  |  |  |
|----------------------------|-------------------------------|-----------------------------|-----------------|--------------------------|--|--|--|
| 30-025-5074                | 5                             | Jal; Wolfcamp, West         |                 |                          |  |  |  |
| <sup>4</sup> Property Code |                               | <sup>5</sup> Pr             | operty Name     | <sup>6</sup> Well Number |  |  |  |
| 333387                     |                               | TEA OLIVE F                 | ED COM 25 36 33 | 124H                     |  |  |  |
| <sup>7</sup> OGRID No.     |                               | <sup>8</sup> O <sub>I</sub> | erator Name     | <sup>9</sup> Elevation   |  |  |  |
| 372224                     | AMEREDEV OPERATING, LLC. 2993 |                             |                 |                          |  |  |  |

<sup>10</sup>Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| C             | 4       | 26-S     | 36-E  | _       | 230'          | NORTH            | 2390'         | WEST           | LEA    |

| UL or lot no.                 | Section                  | Township   | Range            | Lot Idn              | Feet from the | North/South line | Feet from the | East/West line | County |
|-------------------------------|--------------------------|------------|------------------|----------------------|---------------|------------------|---------------|----------------|--------|
| C                             | 28                       | 25-S       | 36-E             | _                    | 50'           | NORTH            | 2318'         | WEST           | LEA    |
| <sup>12</sup> Dedicated Acres | <sup>13</sup> Joint or l | Infill 14( | Consolidation Co | de <sup>15</sup> Ord | er No.        |                  |               |                |        |
| 320                           |                          |            | С                |                      |               |                  |               |                |        |

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



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#### State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

#### NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

| Section 1 — Plan Description  Effective May 25, 2021 |                  |              |                         |                          |                          |  |  |  |  |
|--|------------------|--------------|-------------------------|--------------------------|--------------------------|--|--|--|--|
| Operator:  | _Ameredev II, LL | C            | OGRID:                  | 372224                   | Date:                    | 09/26/2022_                            |  |  |  |
| . <b>Type:</b> ⊠ Original □ A                        | Amendment due to | □ 19.15.27.9 | .D(6)(a) NMAC [         | □ 19.15.27.9.D(6         | 5)(b) NMAC □ C           | Other.                                 |  |  |  |
| Other, please describe: _                            |                  |              |                         |                          |                          |  |  |  |  |
| I. Well(s): Provide the for recompleted from a sing  |                  |              |                         |                          | rells proposed to l      | pe drilled or propo                    |  |  |  |
| Well Name  | API              | ULSTR        | Footages                | Anticipated<br>Oil BBL/D | Anticipated<br>Gas MCF/D | Anticipated<br>Produced Water<br>BBL/D |  |  |  |
| Tea Olive Fed Com 25<br>36 33 105H                   |                  |              | 100' FSL &<br>315' FWL  | 900                      | 5000                     | 2700                                   |  |  |  |
| Tea Olive Fed Com 25<br>36 33 124H                   |                  |              | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |  |  |  |
| Tea Olive Fed Com 25<br>36 33 122H                   |                  |              | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |  |  |  |
| Tea Olive Fed Com 25<br>36 33 115H                   |                  |              | 100' FSL &<br>1700' FWL | 900                      | 5000                     | 2700                                   |  |  |  |
| Tea Olive Fed Com 25<br>36 33 102H                   |                  |              | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |  |  |  |
| Tea Olive Fed Com 25<br>36 33 121H                   |                  |              | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |  |  |  |

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                          | API | Spud Date  | TD Reached<br>Date | Completion<br>Commencement Date | Initial Flow<br>Back Date | First Production<br>Date |
|------------------------------------|-----|------------|--------------------|---------------------------------|---------------------------|--------------------------|
| Tea Olive Fed Com 25<br>36 33 105H |     | 10/06/2023 | 10/28/2023         | 03/13/2024                      | 04/01/2024                | 04/04/2024               |
| Tea Olive Fed Com 25<br>36 33 124H |     | 09/25/2023 | 10/17/2023         | 12/24/2023                      | 01/12/2024                | 01/15/2024               |
| Tea Olive Fed Com 25<br>36 33 122H |     | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |
| Tea Olive Fed Com 25<br>36 33 115H |     | 10/30/2023 | 11/21/2023         | 03/13/2024                      | 04/01/2024                | 04/04/2024               |
| Tea Olive Fed Com 25<br>36 33 102H |     | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |
| Tea Olive Fed Com 25<br>36 33 121H |     | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |

VI. Separation Equipment: 

Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: 

Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

### Section 2 – Enhanced Plan <u>EFFECTIVE APRIL 1, 2022</u>

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

🗵 Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### IX. Anticipated Natural Gas Production:

| Well | API | Anticipated Average<br>Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|------|-----|---|--|
|      |     |   |  |
|      |     |   |  |

#### X. Natural Gas Gathering System (NGGS):

| Operator | System | ULSTR of Tie-in | Anticipated Gathering<br>Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|----------|--------|-----------------|-------------------------------------|---|
|          |        |                 |                                     |   |
|          |        |                 |                                     |   |

| XI. Map. $\square$ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the |
|---|
| production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of       |
| the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.   |

| XII. Line Capacity. The natural | gas gathering system $\square$ | will □ will not hav | e capacity to gather | 100% of the anticipated | l natural gas |
|---------------------------------|--------------------------------|---------------------|----------------------|-------------------------|---------------|
| production volume from the well | prior to the date of first p   | production.         |                      |                         |               |

| XIII.  | Line Pressure. Operator   | $\square$ does $\square$ does no | t anticipate that its | existing well(s) con | nected to the sa  | me segment,   | or portion, | of the  |
|--------|---------------------------|----------------------------------|-----------------------|----------------------|-------------------|---------------|-------------|---------|
| natura | l gas gathering system(s) | described above wi               | ill continue to meet  | anticipated increase | es in line pressu | ire caused by | the new we  | ell(s). |

| Į | _  At | ttach | O | perator | 's p | lan to | o manage | pro | duct | ion | in r | esponse | to 1 | the | increased | 11 | ine | pressu | re |
|---|-------|-------|---|---------|------|--------|----------|-----|------|-----|------|---------|------|-----|-----------|----|-----|--------|----|
|   |       |       |   |         |      |        |          |     |      |     |      |         |      |     |           |    |     |        |    |

| XIV. Confidentiality:   Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in          |
|--|
| Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information |
| for which confidentiality is asserted and the basis for such assertion.  |

(i)

# Section 3 - Certifications Effective May 25, 2021

|   | •   |
|---|---|
| Operator certifies that, a                        | after reasonable inquiry and based on the available information at the time of submittal:   |
| one hundred percent of                            | e to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering   |
| hundred percent of the a into account the current | able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. box, Operator will select one of the following: |
| Well Shut-In. ☐ Opera<br>D of 19.15.27.9 NMAC     | tor will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection 5; or  |
|   | Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential sees for the natural gas until a natural gas gathering system is available, including:   |
| (a)   | power generation on lease;  |
| (b)   | power generation for grid;  |
| (c)   | compression on lease;   |
| (d)   | liquids removal on lease;   |
| (e)   | reinjection for underground storage;  |
| <b>(f)</b>  | reinjection for temporary storage;  |
| (g)   | reinjection for enhanced oil recovery;  |
| (h)   | fuel cell production; and   |

#### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

other alternative beneficial uses approved by the division.

- (a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or
- (b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
- 2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

| Signature: Cesca Gu                                   |
|---|
| Printed Name: Cesca Yu                                |
| Title: Engineer                                       |
| E-mail Address: cyu@ameredev.com                      |
| Date: 09/26/2022                                      |
| Phone: 512-775-1417                                   |
| OIL CONSERVATION DIVISION                             |
| (Only applicable when submitted as a standalone form) |
| Approved By:  |
| Title:  |
| Approval Date:  |
| Conditions of Approval:                               |
|   |
|   |
|   |
|   |

# Natural Gas Management Plan

# VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment is sized to allow for retention time and velocity to adequately separate oil, gas, and water at anticipated peak rates.
- All central tank battery equipment is designed to efficiently capture the remaining gas from the liquid phase.
- Valves and meters are designed to service without flow interruption or venting of gas.

# VII. <u>Operational Practices: Attach a complete description of the actions Operator will</u> take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

#### 19.15.27.8 (A)

Ameredev's field operations are designed with the goal of minimizing flaring and preventing venting of natural gas. If capturing the gas is not possible then the gas is combusted/flared using properly sized flares or combustors in accordance with state air permit rules.

#### 19.15.27.8 (B) Venting and Flaring during drilling operations

- A properly-sized flare stack will be located at a minimum 100' from the nearest surface hole location on the pad.
- All natural gas produced during drilling operations will be flared. Venting will only occur if there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety, public health, or the environment.

### 19.15.27.8 (C) Venting and Flaring during completions or recompletions operations.

- During all phases of flowback, wells will flow through a sand separator, or other appropriate flowback separation equipment, and the well stream will be directed to a central tank battery (CTB) through properly sized flowlines
- The CTB will have properly sized separation equipment for maximum anticipated flowrates
- Multiple stages of separation will be used to separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet.

### 19.15.27.8 (D) Venting and Flaring during production operations.

• During production, the well stream will be routed to the CTB where multiple stages of separation will separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks with a closed

loop system that will recover any residual gas from the tanks and route such gas to a sales outlet, minimizing tank emissions.

- Flares are equipped with auto-ignition systems and continuous pilot operations.
- Automatic gauging equipment is installed on all tanks.

#### 19.15.27.8 (E) Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- Automatic gauging equipment is installed on all tanks to minimize venting
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- •Flares are equipped with continuous pilots and auto-ignitors along with remote monitoring of the pilot status
- Weekly AVOs and monthly LDAR inspections will be performed on all wells and facilities that produce more than 60 Mcfd.
- Gas/H2S detectors will be installed throughout the facilities and wellheads to detect leaks and enable timely repairs.

#### 19.15.27.8 (F) Measurement or estimation of vented and flared natural gas

- All high pressure flared gas is measured by equipment conforming to API 14.10.
- No meter bypasses are installed.
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated through flare flow curves with the assistance of air emissions consultants, as necessary.

# VIII. <u>Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.</u>

- Ameredev will use best management practices to vent as minimally as possible during well intervention operations and downhole well maintenance
- All natural gas is routed into the gas gathering system and directed to one of Ameredev's multiple gas sales outlets.
- All venting events will be recorded and all start-up, shutdown, maintenance logs will be kept for control equipment
- All control equipment will be maintained to provide highest run-time possible
- All procedures are drafted to keep venting and flaring to the absolute minimum



#### U.S. Department of the Interior **BUREAU OF LAND MANAGEMENT**

# **Drilling Plan Data Report**

09/23/2022

**APD ID:** 10400061860

**Submission Date:** 09/15/2020

Highlighted data reflects the most recent changes

Operator Name: AMEREDEV OPERATING LLC

Well Number: 124H

Well Name: TEA OLIVE FED COM 25 36 33 Well Type: OIL WELL

Well Work Type: Drill

**Show Final Text** 

### **Section 1 - Geologic Formations**

| Formation |                   |           | True Vertical |       |             | Mineral Resources | Producing |
|-----------|-------------------|-----------|---------------|-------|-------------|-------------------|-----------|
| ID        | Formation Name    | Elevation |               | Depth | Lithologies |                   | Formatio  |
| 869725    | RUSTLER ANHYDRITE | 2994      | 1252          | 1252  | ANHYDRITE   | NONE              | N         |
| 869726    | SALADO            | 1249      | 1745          | 1745  | SALT        | NONE              | N         |
| 869723    | TANSILL           | -372      | 3366          | 3366  | LIMESTONE   | NONE              | N         |
| 869724    | CAPITAN REEF      | -932      | 3926          | 3926  | LIMESTONE   | USEABLE WATER     | N         |
| 869728    | LAMAR             | -2088     | 5082          | 5082  | LIMESTONE   | NONE              | N         |
| 869729    | BELL CANYON       | -2263     | 5257          | 5257  | SANDSTONE   | NATURAL GAS, OIL  | N         |
| 869730    | BRUSHY CANYON     | -3909     | 6903          | 6903  | SANDSTONE   | NATURAL GAS, OIL  | N         |
| 869727    | BONE SPRING LIME  | -4891     | 7885          | 7885  | LIMESTONE   | NONE              | N         |
| 869731    | BONE SPRING 1ST   | -6431     | 9425          | 9425  | SANDSTONE   | NATURAL GAS, OIL  | N         |
| 869732    | BONE SPRING 2ND   | -6982     | 9976          | 9976  | SANDSTONE   | NATURAL GAS, OIL  | N         |
| 869733    | BONE SPRING 3RD   | -7581     | 10575         | 10575 | LIMESTONE   | NATURAL GAS, OIL  | N         |
| 869734    | BONE SPRING 3RD   | -8173     | 11167         | 11167 | SANDSTONE   | NATURAL GAS, OIL  | N         |
| 869735    | WOLFCAMP          | -8431     | 11425         | 11425 | SHALE       | NATURAL GAS, OIL  | N         |
| 869722    | WOLFCAMP          | -8778     | 11772         | 11772 | SHALE       | NATURAL GAS, OIL  | Y         |
|           |                   |           |               |       |             |                   |           |

#### **Section 2 - Blowout Prevention**

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Pressure Rating (PSI): 10M Rating Depth: 15000

**Equipment:** 10M BOPE SYSTEM WILL BE USED AFTER THE SURFACE CASING IS SET. A KELLY COCK WILL BE KEPT IN THE DRILL STRING AT ALL TIMES. A FULL OPENING DRILL PIPE STABBING VALVE WITH PROPER DRILL

PIPE CONNECTIONS WILL BE ON THE RIG FLOOR AT ALL TIMES.

**Requesting Variance?** YES

Variance request: Co-Flex Choke Line, 5M Annular Preventer

Testing Procedure: See attachment

**Choke Diagram Attachment:** 

10M\_Choke\_Manifold\_REV\_20200915164047.pdf

**BOP Diagram Attachment:** 

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20200915164059.pdf

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20200915164059.pdf

5M\_BOP\_System\_20200915164100.pdf

4\_String\_MB\_Ameredev\_Wellhead\_Drawing\_7.0625in\_Spool\_net\_REV\_20200915164112.pdf

### **Section 3 - Casing**

| Casing ID | String Type      | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade      | Weight | Joint Type     | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF   |
|-----------|------------------|-----------|----------|-----------|----------|----------------|------------|---------------|-------------|----------------|-------------|----------------|-----------------------------|------------|--------|----------------|-------------|----------|---------------|----------|--------------|-----------|
| 1         | SURFACE          | 17.5      | 13.375   | NEW       | API      | N              | 0          | 1377          | 0           | 1377           | 2993        | 1616           | 1377                        | J-55       |        | OTHER -<br>BTC | 6.66        | 1        | DRY           | 9.77     | DRY          | 11.4<br>2 |
| 2         | INTERMED<br>IATE | 9.87<br>5 | 7.625    | NEW       | API      | N              | 0          | 10700         | 0           | 10700          | 2905        | -7707          | 10700                       | HCL<br>-80 | -      | OTHER -<br>FJM | 1.28        | 1.21     | DRY           | 2.04     | DRY          | 2.96      |
| 3         | PRODUCTI<br>ON   | 6.75      | 5.5      | NEW       | API      | N              | 0          | 23046         | 0           | 12072          | 2905        | -9079          | 23046                       | P-<br>110  | -      | OTHER -<br>SFH | 1.71        | 1.83     | DRY           | 2.36     | DRY          | 2.62      |

#### **Casing Attachments**

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Casing ID: 1

String

**SURFACE** 

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

13.375\_68\_J55\_SEAH\_20200915164307.pdf

Tea\_Olive\_Fed\_Com\_25\_36\_33\_124H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200915164411.pdf

Casing ID: 2

String

INTERMEDIATE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

#### **Casing Design Assumptions and Worksheet(s):**

7.625\_29.70\_P110HC\_LIBERTY\_FJM\_20200915164444.pdf

Tea\_Olive\_Fed\_Com\_25\_36\_33\_124H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200915164453.pdf

Casing ID: 3

String

**PRODUCTION** 

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

5\_20200915164522.5\_23

Tea\_Olive\_Fed\_Com\_25\_36\_33\_124H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200915164532.pdf

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

#### **Section 4 - Cement**

| String Type  | Lead/Tail | Stage Tool<br>Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft       | Excess% | Cement type | Additives   |
|--------------|-----------|---------------------|--------|-----------|--------------|-------|---------|-------------|---------|-------------|---|
| SURFACE      | Lead      |                     | 0      | 991       | 934          | 1.76  | 13.5    | 1643.<br>5  | 100     | Class C     | Bentonite, Accelerator,<br>Kolseal, Defoamer,<br>Celloflake                                   |
| SURFACE      | Tail      |                     | 991    | 1377      | 200          | 1.34  | 14.8    | 268         | 100     | Class C     | None  |
| INTERMEDIATE | Lead      | 3366                | 0      | 2835      | 647          | 3.5   | 9       | 2263.<br>32 | 50      | Class C     | Bentonite, Salt, Kolseal,<br>Defoamer, Celloflake   |
| INTERMEDIATE | Tail      |                     | 2835   | 3366      | 200          | 1.33  | 14.8    | 266         | 25      | Class C     | None  |
| INTERMEDIATE | Lead      | 3366                | 3366   | 9479      | 2194         | 2.47  | 11.9    | 5418.<br>77 | 50      | Class H     | Bentonite, Retarder,<br>Kolseal, Defoamer,<br>Celloflake, Anti-Settling<br>Expansion Additive |
| INTERMEDIATE | Tail      |                     | 9479   | 1070<br>0 | 200          | 1.31  | 14.2    | 262         | 25      | Class H     | Salt, Bentonite,<br>Retarder, Dispersant,<br>Fluid Loss                                       |
| PRODUCTION   | Lead      |                     | 0      | 2304<br>6 | 1794         | 1.34  | 14.2    | 2403.<br>98 | 25      | Class H     | Salt, Bentonite, Fluid<br>Loss, Dispersant,<br>Retarder, Defoamer                             |

### **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

**Describe what will be on location to control well or mitigate other conditions:** All necessary supplies (e.g. bentonite, cedar bark) for fluid control will be on site.

**Describe the mud monitoring system utilized:** An electronic pit volume totalizer (PVT) will be utilized on the circulating system to monitor pit volume, flow rate, pump pressure, and pump rate.

#### **Circulating Medium Table**

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

| Top Depth | Bottom Depth | Mud Type                         | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | Hd | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|----------------------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 0         | 1377         | WATER-BASED<br>MUD               | 8.4                  | 8.6                  |                     |                             |    |                |                |                 |                            |
| 1377      | 1070<br>0    | OTHER : Diesel<br>Brine Emulsion | 8.5                  | 9.4                  |                     |                             |    |                |                |                 |                            |
| 1070<br>0 | 1207<br>2    | OIL-BASED<br>MUD                 | 10.5                 | 12.5                 |                     |                             |    |                |                |                 |                            |

#### Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

A directional survey, measurement while drilling and a mudlog/geologic lithology log will all be run from surface to TD.

List of open and cased hole logs run in the well:

MEASUREMENT WHILE DRILLING, MUD LOG/GEOLOGICAL LITHOLOGY LOG, DIRECTIONAL SURVEY,

Coring operation description for the well:

No coring will be done on this well.

#### **Section 7 - Pressure**

Anticipated Bottom Hole Pressure: 6591 Anticipated Surface Pressure: 3935

**Anticipated Bottom Hole Temperature(F): 165** 

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

**Contingency Plans geoharzards description:** 

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

H2S\_Plan\_20200915164844.pdf

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

#### **Section 8 - Other Information**

#### Proposed horizontal/directional/multi-lateral plan submission:

TO124\_DR\_20200915164904.pdf

TO124\_LLR\_20200915164904.pdf

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20200915164913.pdf

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20200915164913.pdf

#### Other proposed operations facets description:

4-STRING CONTINGENCY PLAN AND SKID PROCEDURE ATTACHED

#### Other proposed operations facets attachment:

Wolfcamp\_Contingency\_20200915164934.pdf Rig\_Skid\_Procedure\_20200915164944.pdf

#### Other Variance attachment:

Requested\_Exceptions\_\_\_3\_String\_Revised\_01312019\_20200915164955.pdf R616\_\_\_CoC\_for\_hoses\_12\_18\_17\_20200915165047.pdf



#### **Wellbore Schematic**

Well: Tea Olive Fed Com 25-36-33 124H
SHL: Sec. 04 26S-36E 230' FNL & 2390' FWL
BHL: Sec. 28 25S-36E 50' FNL & 2318' FWL

Lea, NM

Wellhead: A - 13-5/8" 10M x 13-5/8" SOW

B - 13-5/8" 10M x 13-5/8" 10M C - 13-5/8" 10M x 13-5/8" 10M

Tubing Spool - 7-1/16" 15M x 13-3/8" 10M

Xmas Tree: 2-9/16" 10M

**Tubing:** 2-7/8" L-80 6.5# 8rd EUE

Co. Well ID: XXXXXX

AFE No.: XXXX-XXX

API No.: XXXXXXXXXXXXXX

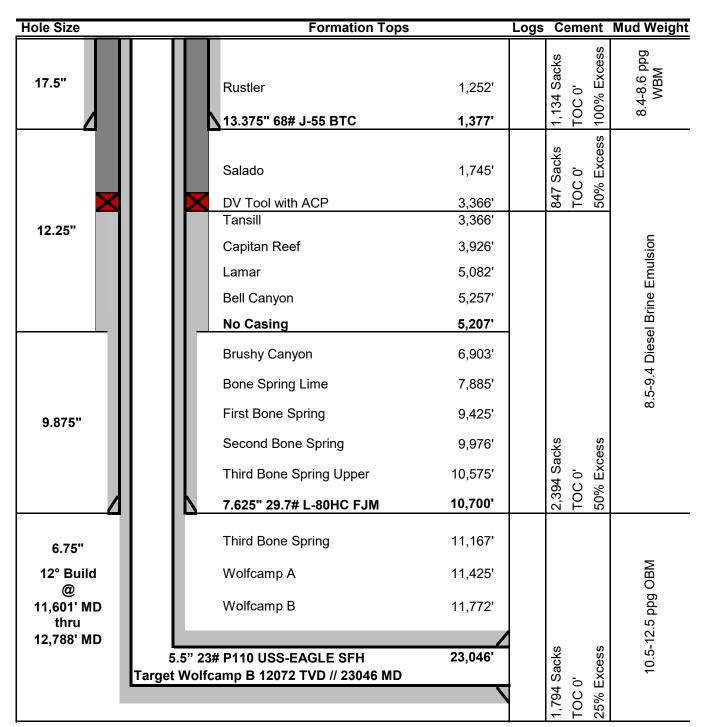
GL: 2,993'

Field: Delaware

Objective: Wolfcamp B
TVD: 12,072'
MD: 23,046'

Rig: TBD KB 27'

E-Mail: Wellsite2@ameredev.com



### Casing Design and Safety Factor Check

|                | Casing Specifications |         |        |        |        |          |  |  |  |  |  |  |  |
|----------------|-----------------------|---------|--------|--------|--------|----------|--|--|--|--|--|--|--|
| Segment        | Hole ID               | Depth   | OD     | Weight | Grade  | Coupling |  |  |  |  |  |  |  |
| Surface        | 17.5                  | 1,377'  | 13.375 | 68     | J-55   | BTC      |  |  |  |  |  |  |  |
| Intermediate   | 9.875                 | 10,700' | 7.625  | 29.7   | HCL-80 | FJM      |  |  |  |  |  |  |  |
| Prod Segment A | 6.75                  | 11,601' | 5.5    | 23     | P-110  | SFH      |  |  |  |  |  |  |  |
| Prod Segment B | 6.75                  | 23,046' | 5.5    | 23     | P-110  | SFH      |  |  |  |  |  |  |  |

|                           | Chec      | k Surface ( | Casing    |       |  |  |  |  |  |  |  |
|---------------------------|-----------|-------------|-----------|-------|--|--|--|--|--|--|--|
| OD Cplg                   | Body      | Joint       | Collapse  | Burst |  |  |  |  |  |  |  |
| inches                    | 1000 lbs  | 1000 lbs    | psi       | psi   |  |  |  |  |  |  |  |
| 14.375                    | 1,069     | 915         | 4,100     | 3,450 |  |  |  |  |  |  |  |
|                           | S         | afety Facto | ors       |       |  |  |  |  |  |  |  |
| 1.56                      | 11.42     | 9.77        | 6.66      | 0.66  |  |  |  |  |  |  |  |
| Check Intermediate Casing |           |             |           |       |  |  |  |  |  |  |  |
| OD Cplg                   | Body      | Joint       | Collapse  | Burst |  |  |  |  |  |  |  |
| inches                    | 1000 lbs  | 1000 lbs    | psi       | psi   |  |  |  |  |  |  |  |
| 7.625                     | 940       | 558         | 6700      | 9460  |  |  |  |  |  |  |  |
| Safety Factors            |           |             |           |       |  |  |  |  |  |  |  |
| 1.13                      | 2.96      | 2.04        | 1.28      | 1.21  |  |  |  |  |  |  |  |
|                           | Check Pro | od Casing,  | Segment A |       |  |  |  |  |  |  |  |
| OD Cplg                   | Body      | Joint       | Collapse  | Burst |  |  |  |  |  |  |  |
| inches                    | 1000 lbs  | 1000 lbs    | psi       | psi   |  |  |  |  |  |  |  |
| 5.777                     | 728       | 655         | 12780     | 14360 |  |  |  |  |  |  |  |
|                           | S         | afety Facto | ors       |       |  |  |  |  |  |  |  |
| 0.49                      | 2.62      | 2.36        | 1.70      | 1.83  |  |  |  |  |  |  |  |
|                           | Check Pro | od Casing,  | Segment B |       |  |  |  |  |  |  |  |
| OD Cplg                   | Body      | Joint       | Collapse  | Burst |  |  |  |  |  |  |  |
| inches                    | 1000 lbs  | 1000 lbs    | psi       | psi   |  |  |  |  |  |  |  |
| 5.777                     | 728       | 655         | 12780     | 14360 |  |  |  |  |  |  |  |
|                           | S         | afety Facto | ors       |       |  |  |  |  |  |  |  |
| 0.49                      | 67.20     | 60.46       | 1.63      | 1.83  |  |  |  |  |  |  |  |

### PERFORMANCE DATA

API BTC 13.375 in 68.00 lbs/ft J-55

**Technical Data Sheet** 

| Tubular Parameters           |        |        |                              |           | _ |
|------------------------------|--------|--------|------------------------------|-----------|---|
| Size                         | 13.375 | in     | Minimum Yield                | 55,000    |   |
| Nominal Weight               | 68.00  | lbs/ft | Minimum Tensile              | 75,000    |   |
| Grade                        | J-55   |        | Yield Load                   | 1,069,000 |   |
| PE Weight                    | 66.10  | lbs/ft | Tensile Load                 | 1,458,000 |   |
| Wall Thickness               | 0.480  | in     | Min. Internal Yield Pressure | 3,500     |   |
| Nominal ID                   | 12.415 | in     | Collapse Pressure            | 1,950     |   |
| Drift Diameter               | 12.259 | in     |                              | I         | 1 |
| Nom. Pipe Body Area          | 19.445 | in²    |                              |           |   |
|                              | 1      | '      |                              |           |   |
| <b>Connection Parameters</b> |        |        |                              |           |   |
| Connection OD                | 14.375 | in     |                              |           |   |
| Coupling Length              | 10.625 | in     |                              |           |   |
| Threads Per Inch             | 5.000  | in     |                              |           |   |
| Standoff Thread Turns        | 1.000  |        |                              |           |   |
| Make-Up Loss                 | 4.513  | in     |                              |           |   |
| Yield Load In Tension        |        | lbs    |                              |           |   |
| Min. Internal Yield Pressure | 3,500  | psi    |                              |           |   |
|                              |        | 1      |                              |           |   |

Printed on: February-13-2015

#### NOTE

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### **U. S. Steel Tubular Products** 7.625" 29.70lbs/ft (0.375" Wall) P110 HC USS-LIBERTY FJM®

6/6/2017 6:18:53 PM

|  |         | ·····                        | >                |
|--|---------|------------------------------|------------------|
| MECHANICAL PROPERTIES                            | Pipe    | USS-LIBERTY FJM <sup>®</sup> |                  |
| Minimum Yield Strength                           | 110,000 |                              | psi              |
| Maximum Yield Strength                           | 140,000 |                              | psi              |
| Minimum Tensile Strength                         | 125,000 |                              | psi              |
| DIMENSIONS                                       | Pipe    | USS-LIBERTY FJM <sup>®</sup> |                  |
| Outside Diameter                                 | 7.625   | 7.625                        | in.              |
| Wall Thickness                                   | 0.375   |                              | in.              |
| Inside Diameter                                  | 6.875   | 6.789                        | in.              |
| Standard Drift                                   | 6.750   | 6.750                        | in.              |
| Alternate Drift                                  |         |                              | in.              |
| Nominal Linear Weight, T&C                       | 29.70   |                              | lbs/ft           |
| Plain End Weight                                 | 29.06   |                              | lbs/ft           |
| ECTION AREA                                      | Pipe    | USS-LIBERTY FJM <sup>®</sup> |                  |
| Critical Area                                    | 8.541   | 5.074                        | sq. in.          |
| Joint Efficiency                                 |         | 59.4                         | %                |
| RFORMANCE  | Pipe    | USS-LIBERTY FJM <sup>®</sup> |                  |
| Minimum Collapse Pressure                        | 6,700   | 6,700                        | psi              |
| Minimum Internal Yield Pressure                  | 9,460   | 9,460                        | psi              |
| Minimum Pipe Body Yield Strength                 | 940,000 |                              | lbs              |
| Joint Strength                                   |         | 558,000                      | lbs              |
| Compression Rating                               |         | 558,000                      | lbs              |
| Reference Length                                 |         | 12,810                       | ft               |
| Maximum Uniaxial Bend Rating                     |         | 39.3                         | deg/100 ft       |
| AKE-UP DATA                                      | Pipe    | USS-LIBERTY FJM <sup>®</sup> |                  |
| Make-Up Loss                                     |         | 3.92                         | in.              |
|  |         |                              |                  |
| Minimum Make-Up Torque                           |         | 10,800                       | ft-lbs           |
| Minimum Make-Up Torque<br>Maximum Make-Up Torque |         | 10,800<br>15,250             | ft-lbs<br>ft-lbs |

- 1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
- 2. Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
- 3. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- 4. USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
- 5. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- 6. Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
- 7. Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

#### **Legal Notice**

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> U. S. Steel Tubular Products 10343 Sam Houston Park Dr., #120 Houston, TX 77064

1-877-893-9461 connections@uss.com www.usstubular.com



### U. S. Steel Tubular Products 5.500" 23.00lbs/ft (0.415" Wall)

#### 11/14/2018 9:02:57 AM

USS RYS110 USS-EAGLE SFH™

#### **MECHANICAL PROPERTIES** Pipe **USS-EAGLE SFH™** Minimum Yield Strength 110,000 psi Maximum Yield Strength 125,000 psi Minimum Tensile Strength 120,000 psi **USS-EAGLE SFH™ DIMENSIONS Pipe** Outside Diameter 5.500 5.830 in. Wall Thickness 0.415 in. Inside Diameter 4.670 4.585 in. Standard Drift 4.545 4.545 in. Alternate Drift 4.545 in. Nominal Linear Weight, T&C 23.00 lbs/ft Plain End Weight 22.56 lbs/ft **SECTION AREA USS-EAGLE SFH™ Pipe** Critical Area 6.630 5.507 sq. in. % Joint Efficiency 83.1 **USS-EAGLE SFH™ PERFORMANCE** Pipe Minimum Collapse Pressure 14,540 14,540 psi 10,000 External Pressure Leak Resistance psi Minimum Internal Yield Pressure 14,520 14,520 psi Minimum Pipe Body Yield Strength 729,000 lbs Joint Strength 606,000 lbs Compression Rating 606,000 lbs Reference Length 17,909 ft Maximum Uniaxial Bend Rating 76.2 deg/100 ft **MAKE-UP DATA USS-EAGLE SFH™** Pipe

#### **Legal Notice**

Make-Up Loss

Minimum Make-Up Torque

Maximum Make-Up Torque

Maximum Operating Torque

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6.65

16,600

19,800

28,000

U. S. Steel Tubular Products 460 Wildwood Forest Drive, Suite 300S Spring, Texas 77380 1-877-893-9461 connections@uss.com www.usstubular.com in.

ft-lbs

ft-lbs

ft-lbs



TO/FIR TO/FIR #5S Tea Olive 124H

Wellbore #1

Plan: Design #1

# **Standard Planning Report**

30 June, 2020

# AMEREDEV

#### **Ameredev Operating, LLC**

**Planning Report** 

Database: EDM5000

Company: Ameredev Operating, LLC.

 Project:
 TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

Minimum Curvature

Project

TO/FIR

Map System:US State Plane 1983Geo Datum:North American Datum 1983Map Zone:New Mexico Eastern Zone

System Datum:

Mean Sea Level

Site TO/FIR #5S

Northing: 394,078.35 usft 32° 4' 44.211 N Site Position: Latitude: From: Lat/Long Easting: 870,363.79 usft Longitude: 103° 16' 15.718 W **Position Uncertainty:** 0.0 usft Slot Radius: 13-3/16 " **Grid Convergence:** 0.56°

Well Tea Olive 124H

 Well Position
 +N/-S
 0.4 usft
 Northing:
 394,078.74 usft
 Latitude:
 32° 4′ 44.211 N

 +E/-W
 40.0 usft
 Easting:
 870,403.78 usft
 Longitude:
 103° 16′ 15.253 W

Position Uncertainty0.0 usftWellhead Elevation:Ground Level:2,993.0 usft

Wellbore #1 Wellbore Magnetics **Model Name** Sample Date Declination **Dip Angle** Field Strength (°) (°) (nT) IGRF2015 6.65 59.96 47,741.20978403 11/14/2018

Design #1 Design **Audit Notes:** Version: Phase: **PROTOTYPE** Tie On Depth: 0.0 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (usft) (usft) (usft) (°) 359.06 0.0 0.0 0.0

Plan Survey Tool Program Date 4/16/2019

Depth From Depth To

(usft) (usft) Survey (Wellbore) Tool Name Remarks

1 0.0 23,046.2 Design #1 (Wellbore #1) MWD

OWSG MWD - Standard

Planning Report

AMEREDEV

Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

| lan Sections                |                    |                |                             |                 |                 |                               |                              |                             |            |           |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|-----------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | Target    |
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.0             | 0.0             | 0.00                          | 0.00                         | 0.00                        | 0.00       |           |
| 2,000.0                     | 0.00               | 0.00           | 2,000.0                     | 0.0             | 0.0             | 0.00                          | 0.00                         | 0.00                        | 0.00       |           |
| 2,300.0                     | 6.00               | 215.00         | 2,299.5                     | -12.9           | -9.0            | 2.00                          | 2.00                         | 0.00                        | 215.00     |           |
| 6,775.1                     | 6.00               | 215.00         | 6,750.0                     | -396.0          | -277.3          | 0.00                          | 0.00                         | 0.00                        | 0.00       |           |
| 7,075.1                     | 0.00               | 0.00           | 7,049.5                     | -408.9          | -286.3          | 2.00                          | -2.00                        | 0.00                        | 180.00     |           |
| 11,600.6                    | 0.00               | 0.00           | 11,575.0                    | -408.9          | -286.3          | 0.00                          | 0.00                         | 0.00                        | 0.00       |           |
| 12,326.5                    | 87.10              | 14.38          | 12,051.9                    | 30.2            | -173.7          | 12.00                         | 12.00                        | 0.00                        | 14.38      |           |
| 12,661.3                    | 87.10              | 14.38          | 12,068.8                    | 354.2           | -90.6           | 0.00                          | 0.00                         | 0.00                        | 0.00       |           |
| 12,788.1                    | 90.00              | 359.44         | 12,072.0                    | 479.6           | -75.4           | 12.00                         | 2.29                         | -11.79                      | -79.28     | TO124 EOC |
| 23,046.2                    | 90.00              | 359.44         | 12,072.0                    | 10,737.3        | -175.4          | 0.00                          | 0.00                         | 0.00                        | 0.00       | TO124 BHL |

Planning Report



Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

Site: TO/FIR #5S
Well: Tea Olive 124H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

| Design:                     | Design #1          |                |                             |                 |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Planned Survey              |                    |                |                             |                 |                 |                               |                               |                              |                             |
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 100.0                       | 0.00               | 0.00           | 100.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 200.0                       | 0.00               | 0.00           | 200.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 300.0                       | 0.00               | 0.00           | 300.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 400.0                       | 0.00               | 0.00           | 400.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 500.0                       | 0.00               | 0.00           | 500.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 600.0                       | 0.00               | 0.00           | 600.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 700.0                       | 0.00               | 0.00           | 700.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 800.0                       | 0.00               | 0.00           | 800.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 900.0                       | 0.00               | 0.00           | 900.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 1,000.0                     | 0.00               | 0.00           | 1,000.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,100.0                     | 0.00               | 0.00           | 1,100.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,200.0                     | 0.00               | 0.00           | 1,200.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,300.0                     | 0.00               | 0.00           | 1,300.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,400.0                     | 0.00               | 0.00           | 1,400.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,500.0                     | 0.00               | 0.00           | 1,500.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,600.0                     | 0.00               | 0.00           | 1,600.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,700.0                     |                    |                | 1,700.0                     | 0.0             |                 |                               |                               |                              |                             |
|                             | 0.00               | 0.00           |                             |                 | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,800.0                     | 0.00               | 0.00           | 1,800.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,900.0                     | 0.00               | 0.00           | 1,900.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 2,000.0                     | 0.00               | 0.00           | 2,000.0                     | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 2,100.0                     | 2.00               | 215.00         | 2,100.0                     | -1.4            | -1.0            | -1.4                          | 2.00                          | 2.00                         | 0.00                        |
| 2,200.0                     | 4.00               | 215.00         | 2,199.8                     | -5.7            | -4.0            | -5.7                          | 2.00                          | 2.00                         | 0.00                        |
| 2,300.0                     | 6.00               | 215.00         | 2,299.5                     | -12.9           | -9.0            | -12.7                         | 2.00                          | 2.00                         | 0.00                        |
| 2,400.0                     | 6.00               | 215.00         | 2,398.9                     | -21.4           | -15.0           | -21.2                         | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 2,500.0                     | 6.00               | 215.00         | 2,498.4                     | -30.0           | -21.0           | -29.6                         | 0.00                          | 0.00                         | 0.00                        |
| 2,600.0                     | 6.00               | 215.00         | 2,597.8                     | -38.5           | -27.0           | -38.1                         | 0.00                          | 0.00                         | 0.00                        |
| 2,700.0                     | 6.00               | 215.00         | 2,697.3                     | -47.1           | -33.0           | -46.6                         | 0.00                          | 0.00                         | 0.00                        |
| 2,800.0                     | 6.00               | 215.00         | 2,796.7                     | -55.7           | -39.0           | -55.0                         | 0.00                          | 0.00                         | 0.00                        |
| 2,900.0                     | 6.00               | 215.00         | 2,896.2                     | -64.2           | -45.0           | -63.5                         | 0.00                          | 0.00                         | 0.00                        |
| 2 000 0                     | 6.00               | 215.00         | 2,995.6                     | -72.8           | E1 0            | 72.0                          | 0.00                          | 0.00                         | 0.00                        |
| 3,000.0                     | 6.00               | 215.00         |                             |                 | -51.0           | -72.0                         | 0.00                          | 0.00                         |                             |
| 3,100.0                     | 6.00               | 215.00         | 3,095.1                     | -81.4           | -57.0           | -80.4                         | 0.00                          | 0.00                         | 0.00                        |
| 3,200.0                     | 6.00               | 215.00         | 3,194.5                     | -89.9           | -63.0           | -88.9                         | 0.00                          | 0.00                         | 0.00                        |
| 3,300.0                     | 6.00               | 215.00         | 3,294.0                     | -98.5           | -69.0           | -97.3                         | 0.00                          | 0.00                         | 0.00                        |
| 3,400.0                     | 6.00               | 215.00         | 3,393.4                     | -107.0          | -75.0           | -105.8                        | 0.00                          | 0.00                         | 0.00                        |
| 3,500.0                     | 6.00               | 215.00         | 3,492.9                     | -115.6          | -80.9           | -114.3                        | 0.00                          | 0.00                         | 0.00                        |
| 3,600.0                     | 6.00               | 215.00         | 3,592.3                     | -124.2          | -86.9           | -122.7                        | 0.00                          | 0.00                         | 0.00                        |
| 3,700.0                     | 6.00               | 215.00         | 3,691.8                     | -132.7          | -92.9           | -131.2                        | 0.00                          | 0.00                         | 0.00                        |
| 3,800.0                     | 6.00               | 215.00         | 3,791.2                     | -141.3          | -98.9           | -139.7                        | 0.00                          | 0.00                         | 0.00                        |
| 3,900.0                     | 6.00               | 215.00         | 3,890.7                     | -149.9          | -104.9          | -148.1                        | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 4,000.0                     | 6.00               | 215.00         | 3,990.1                     | -158.4          | -110.9          | -156.6                        | 0.00                          | 0.00                         | 0.00                        |
| 4,100.0                     | 6.00               | 215.00         | 4,089.6                     | -167.0          | -116.9          | -165.0                        | 0.00                          | 0.00                         | 0.00                        |
| 4,200.0                     | 6.00               | 215.00         | 4,189.0                     | -175.5          | -122.9          | -173.5                        | 0.00                          | 0.00                         | 0.00                        |
| 4,300.0                     | 6.00               | 215.00         | 4,288.5                     | -184.1          | -128.9          | -182.0                        | 0.00                          | 0.00                         | 0.00                        |
| 4,400.0                     | 6.00               | 215.00         | 4,387.9                     | -192.7          | -134.9          | -190.4                        | 0.00                          | 0.00                         | 0.00                        |
| 4,500.0                     | 6.00               | 215.00         | 4,487.4                     | -201.2          | -140.9          | -198.9                        | 0.00                          | 0.00                         | 0.00                        |
| 4,600.0                     | 6.00               | 215.00         | 4,586.9                     | -201.2          | -140.9          | -196.9                        | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 4,700.0                     | 6.00               | 215.00         | 4,686.3                     | -218.4          | -152.9          | -215.8                        | 0.00                          | 0.00                         | 0.00                        |
| 4,800.0                     | 6.00               | 215.00         | 4,785.8                     | -226.9          | -158.9          | -224.3                        | 0.00                          | 0.00                         | 0.00                        |
| 4,900.0                     | 6.00               | 215.00         | 4,885.2                     | -235.5          | -164.9          | -232.8                        | 0.00                          | 0.00                         | 0.00                        |
| 5,000.0                     | 6.00               | 215.00         | 4,984.7                     | -244.0          | -170.9          | -241.2                        | 0.00                          | 0.00                         | 0.00                        |
| 5,100.0                     | 6.00               | 215.00         | 5,084.1                     | -252.6          | -176.9          | -249.7                        | 0.00                          | 0.00                         | 0.00                        |
| 5,200.0                     | 6.00               | 215.00         | 5,183.6                     | -261.2          | -182.9          | -258.1                        | 0.00                          | 0.00                         | 0.00                        |
| 5,300.0                     | 6.00               | 215.00         | 5,283.0                     | -269.7          | -188.9          | -266.6                        | 0.00                          | 0.00                         | 0.00                        |
| 3,300.0                     | 0.00               | 210.00         | 5,205.0                     | -203.1          | -100.9          | -200.0                        | 0.00                          | 0.00                         | 0.00                        |





Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

| Design:                     | Design #1          |                  |                             |                  |                  |                               |                               |                              |                             |
|-----------------------------|--------------------|------------------|-----------------------------|------------------|------------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Planned Survey              |                    |                  |                             |                  |                  |                               |                               |                              |                             |
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°)   | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft)  | +E/-W<br>(usft)  | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 5,400.0                     | 6.00               | 215.00           | 5,382.5                     | -278.3           | -194.9           | -275.1                        | 0.00                          | 0.00                         | 0.00                        |
| 5,500.0                     | 6.00               | 215.00           | 5,481.9                     | -286.9           | -200.9           | -283.5                        | 0.00                          | 0.00                         | 0.00                        |
| 5,600.0                     | 6.00<br>6.00       | 215.00<br>215.00 | 5,581.4<br>5,680.8          | -295.4<br>-304.0 | -206.9<br>-212.8 | -292.0<br>-300.5              | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00                        |
| 5,700.0<br>5,800.0          | 6.00               | 215.00           | 5,780.3                     | -304.0<br>-312.5 | -212.6<br>-218.8 | -300.5                        | 0.00                          | 0.00                         | 0.00<br>0.00                |
| 5,900.0                     | 6.00               | 215.00           | 5,879.7                     | -321.1           | -224.8           | -317.4                        | 0.00                          | 0.00                         | 0.00                        |
| 6,000.0                     | 6.00               | 215.00           | 5,979.2                     | -329.7           | -230.8           | -325.9                        | 0.00                          | 0.00                         | 0.00                        |
| 6,100.0                     | 6.00               | 215.00           | 6,078.6                     | -338.2           | -236.8           | -334.3                        | 0.00                          | 0.00                         | 0.00                        |
| 6,200.0                     | 6.00               | 215.00           | 6,178.1                     | -346.8           | -242.8           | -342.8                        | 0.00                          | 0.00                         | 0.00                        |
| 6,300.0                     | 6.00               | 215.00           | 6,277.5                     | -355.4           | -248.8           | -351.2                        | 0.00                          | 0.00                         | 0.00                        |
| 6,400.0                     | 6.00               | 215.00           | 6,377.0                     | -363.9           | -254.8           | -359.7                        | 0.00                          | 0.00                         | 0.00                        |
| 6,500.0                     | 6.00               | 215.00           | 6,476.4                     | -372.5           | -260.8           | -368.2                        | 0.00                          | 0.00                         | 0.00                        |
| 6,600.0                     | 6.00               | 215.00           | 6,575.9                     | -381.0           | -266.8           | -376.6                        | 0.00                          | 0.00                         | 0.00                        |
| 6,700.0                     | 6.00               | 215.00           | 6,675.3                     | -389.6           | -272.8           | -385.1                        | 0.00                          | 0.00                         | 0.00                        |
| 6,775.1<br>6,800.0          | 6.00<br>5.50       | 215.00<br>215.00 | 6,750.0<br>6,774.8          | -396.0<br>-398.1 | -277.3<br>-278.7 | -391.5<br>-393.5              | 0.00<br>2.00                  | 0.00<br>-2.00                | 0.00<br>0.00                |
| 6,900.0                     |                    | 215.00           | 6,874.5                     | -404.5           | -276.7           | -393.5                        | 2.00                          | -2.00                        | 0.00                        |
| 7,000.0                     | 3.50<br>1.50       | 215.00           | 6,874.5<br>6,974.4          | -404.5<br>-408.1 | -283.2<br>-285.7 | -399.8<br>-403.4              | 2.00                          | -2.00<br>-2.00               | 0.00                        |
| 7,000.0                     | 0.00               | 0.00             | 7,049.5                     | -408.1           | -286.3           | -404.2                        | 2.00                          | -2.00                        | 0.00                        |
| 7,100.0                     | 0.00               | 0.00             | 7,074.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,200.0                     | 0.00               | 0.00             | 7,174.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,300.0                     | 0.00               | 0.00             | 7.274.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,400.0                     | 0.00               | 0.00             | 7,374.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,500.0                     | 0.00               | 0.00             | 7,474.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,600.0                     | 0.00               | 0.00             | 7,574.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,700.0                     | 0.00               | 0.00             | 7,674.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,800.0                     | 0.00               | 0.00             | 7,774.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 7,900.0                     | 0.00               | 0.00             | 7,874.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 8,000.0                     | 0.00               | 0.00             | 7,974.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 8,100.0<br>8,200.0          | 0.00<br>0.00       | 0.00<br>0.00     | 8,074.4<br>8,174.4          | -408.9<br>-408.9 | -286.3<br>-286.3 | -404.2<br>-404.2              | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00<br>0.00                |
|                             |                    |                  |                             |                  |                  |                               |                               |                              |                             |
| 8,300.0<br>8,400.0          | 0.00<br>0.00       | 0.00<br>0.00     | 8,274.4<br>8,374.4          | -408.9<br>-408.9 | -286.3<br>-286.3 | -404.2<br>-404.2              | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00<br>0.00                |
| 8,500.0                     | 0.00               | 0.00             | 8,474.4                     | -406.9<br>-408.9 | -200.3<br>-286.3 | -404.2<br>-404.2              | 0.00                          | 0.00                         | 0.00                        |
| 8,600.0                     | 0.00               | 0.00             | 8,574.4                     | -408.9           | -286.3           | -404.2<br>-404.2              | 0.00                          | 0.00                         | 0.00                        |
| 8,700.0                     | 0.00               | 0.00             | 8,674.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 8,800.0                     | 0.00               | 0.00             | 8,774.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 8,900.0                     | 0.00               | 0.00             | 8,874.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,000.0                     | 0.00               | 0.00             | 8,974.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,100.0                     | 0.00               | 0.00             | 9,074.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,200.0                     | 0.00               | 0.00             | 9,174.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,300.0                     | 0.00               | 0.00             | 9,274.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,400.0                     | 0.00               | 0.00             | 9,374.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,500.0<br>9,600.0          | 0.00<br>0.00       | 0.00<br>0.00     | 9,474.4<br>9,574.4          | -408.9<br>-408.9 | -286.3<br>-286.3 | -404.2<br>-404.2              | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00<br>0.00                |
| 9,700.0                     | 0.00               | 0.00             | 9,574.4<br>9,674.4          | -406.9<br>-408.9 | -286.3           | -404.2<br>-404.2              | 0.00                          | 0.00                         | 0.00                        |
| 9,800.0                     | 0.00               | 0.00             | 9,774.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 9,900.0                     | 0.00               | 0.00             | 9,874.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,000.0                    | 0.00               | 0.00             | 9,974.4                     | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,100.0                    | 0.00               | 0.00             | 10,074.4                    | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,200.0                    | 0.00               | 0.00             | 10,174.4                    | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,300.0                    | 0.00               | 0.00             | 10,274.4                    | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,400.0                    | 0.00               | 0.00             | 10,374.4                    | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |
| 10,500.0                    | 0.00               | 0.00             | 10,474.4                    | -408.9           | -286.3           | -404.2                        | 0.00                          | 0.00                         | 0.00                        |

Planning Report



Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid Minimum Curvature

| Design:  | Design #1                                 |  |  |   |  |   |   |   |                                      |
|--|---|--|--|---|--|---|---|---|--------------------------------------|
| Planned Survey   |   |  |  |   |  |   |   |   |                                      |
| Measured<br>Depth<br>(usft)                              | Inclination<br>(°)                        | Azimuth<br>(°)                                 | Vertical<br>Depth<br>(usft)                              | +N/-S<br>(usft)                                     | +E/-W<br>(usft)                                | Vertical<br>Section<br>(usft)                       | Dogleg<br>Rate<br>(°/100usft)             | Build<br>Rate<br>(°/100usft)              | Turn<br>Rate<br>(°/100usft)          |
| 10,600.0<br>10,700.0                                     | 0.00<br>0.00                              | 0.00<br>0.00                                   | 10,574.4<br>10,674.4                                     | -408.9<br>-408.9                                    | -286.3<br>-286.3                               | -404.2<br>-404.2                                    | 0.00<br>0.00                              | 0.00<br>0.00                              | 0.00<br>0.00                         |
| 10,800.0<br>10,900.0<br>11,000.0<br>11,100.0<br>11,200.0 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00           | 10,774.4<br>10,874.4<br>10,974.4<br>11,074.4<br>11,174.4 | -408.9<br>-408.9<br>-408.9<br>-408.9                | -286.3<br>-286.3<br>-286.3<br>-286.3<br>-286.3 | -404.2<br>-404.2<br>-404.2<br>-404.2<br>-404.2      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 11,300.0<br>11,400.0<br>11,500.0<br>11,600.0<br>11,600.6 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00           | 11,274.4<br>11,374.4<br>11,474.4<br>11,574.4<br>11,575.0 | -408.9<br>-408.9<br>-408.9<br>-408.9                | -286.3<br>-286.3<br>-286.3<br>-286.3<br>-286.3 | -404.2<br>-404.2<br>-404.2<br>-404.2<br>-404.2      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| TO124 KOP  |   |  |  |   |  |   |   |   |                                      |
| 11,700.0<br>11,800.0<br>11,900.0<br>12,000.0<br>12,100.0 | 11.93<br>23.93<br>35.93<br>47.93<br>59.93 | 14.38<br>14.38<br>14.38<br>14.38               | 11,673.7<br>11,768.6<br>11,855.2<br>11,929.4<br>11,988.2 | -398.9<br>-369.1<br>-320.9<br>-256.3<br>-178.2      | -283.7<br>-276.1<br>-263.7<br>-247.2<br>-227.1 | -394.2<br>-364.6<br>-316.6<br>-252.2<br>-174.4      | 12.00<br>12.00<br>12.00<br>12.00<br>12.00 | 12.00<br>12.00<br>12.00<br>12.00<br>12.00 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 12,200.0<br>12,300.0<br>12,326.5<br>12,400.0<br>12,500.0 | 71.93<br>83.93<br>87.10<br>87.10<br>87.10 | 14.38<br>14.38<br>14.38<br>14.38<br>14.38      | 12,028.9<br>12,049.8<br>12,051.9<br>12,055.6<br>12,060.6 | -89.9<br>4.7<br>30.2<br>101.4<br>198.1              | -204.5<br>-180.2<br>-173.7<br>-155.4<br>-130.6 | -86.5<br>7.6<br>33.1<br>103.9<br>200.2              | 12.00<br>12.00<br>12.00<br>0.00<br>0.00   | 12.00<br>12.00<br>12.00<br>0.00<br>0.00   | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 12,532.6   | 87.10                                     | 14.38  | 12,062.3   | 229.7   | -122.5   | 231.6   | 0.00                                      | 0.00                                      | 0.00                                 |
| TO124 into N   | MNM136233                                 |  |  |   |  |   |   |   |                                      |
| 12,600.0<br>12,641.2                                     | 87.10<br>87.10                            | 14.38<br>14.38                                 | 12,065.7<br>12,067.8                                     | 294.9<br>334.7                                      | -105.8<br>-95.6                                | 296.5<br>336.2                                      | 0.00<br>0.00                              | 0.00<br>0.00                              | 0.00<br>0.00                         |
| TO124 FTP  | 07.10                                     | 44.00  | 40.000.0   | 054.0   | 00.0   | 055.0   | 0.00                                      |   | 0.00                                 |
| 12,661.3<br>12,700.0                                     | 87.10<br>87.98                            | 14.38<br>9.82                                  | 12,068.8<br>12,070.4                                     | 354.2<br>392.0                                      | -90.6<br>-82.5                                 | 355.6<br>393.2                                      | 0.00<br>12.00                             | 0.00<br>2.25                              | 0.00<br>-11.80                       |
| 12,788.1   | 90.00                                     | 359.44   | 12,072.0   | 479.6   | -75.4  | 480.8   | 12.00                                     | 2.30                                      | -11.78                               |
| 12,800.0<br>12,900.0<br>13,000.0<br>13,100.0             | 90.00<br>90.00<br>90.00<br>90.00          | 359.44<br>359.44<br>359.44<br>359.44           | 12,072.0<br>12,072.0<br>12,072.0<br>12,072.0             | 491.5<br>591.5<br>691.5<br>791.5                    | -75.5<br>-76.5<br>-77.5<br>-78.5               | 492.7<br>592.7<br>692.7<br>792.7                    | 0.00<br>0.00<br>0.00<br>0.00              | 0.00<br>0.00<br>0.00<br>0.00              | 0.00<br>0.00<br>0.00<br>0.00         |
| 13,200.0<br>13,300.0<br>13,400.0<br>13,500.0<br>13,600.0 | 90.00<br>90.00<br>90.00<br>90.00<br>90.00 | 359.44<br>359.44<br>359.44<br>359.44           | 12,072.0<br>12,072.0<br>12,072.0<br>12,072.0<br>12,072.0 | 891.5<br>991.5<br>1,091.5<br>1,191.5<br>1,291.5     | -79.4<br>-80.4<br>-81.4<br>-82.4<br>-83.3      | 892.7<br>992.7<br>1,092.7<br>1,192.7<br>1,292.7     | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 13,700.0<br>13,800.0<br>13,900.0<br>14,000.0<br>14,100.0 | 90.00<br>90.00<br>90.00<br>90.00<br>90.00 | 359.44<br>359.44<br>359.44<br>359.44<br>359.44 | 12,072.0<br>12,072.0<br>12,072.0<br>12,072.0<br>12,072.0 | 1,391.5<br>1,491.5<br>1,591.5<br>1,691.5<br>1,791.5 | -84.3<br>-85.3<br>-86.3<br>-87.2<br>-88.2      | 1,392.7<br>1,492.7<br>1,592.7<br>1,692.7<br>1,792.7 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 14,200.0<br>14,300.0<br>14,400.0<br>14,500.0<br>14,600.0 | 90.00<br>90.00<br>90.00<br>90.00<br>90.00 | 359.44<br>359.44<br>359.44<br>359.44<br>359.44 | 12,072.0<br>12,072.0<br>12,072.0<br>12,072.0<br>12,072.0 | 1,891.5<br>1,991.5<br>2,091.4<br>2,191.4<br>2,291.4 | -89.2<br>-90.1<br>-91.1<br>-92.1<br>-93.1      | 1,892.7<br>1,992.7<br>2,092.7<br>2,192.7<br>2,292.7 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00      | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 14,700.0<br>14,800.0                                     | 90.00<br>90.00                            | 359.44<br>359.44                               | 12,072.0<br>12,072.0                                     | 2,391.4<br>2,491.4                                  | -94.0<br>-95.0                                 | 2,392.7<br>2,492.6                                  | 0.00<br>0.00                              | 0.00<br>0.00                              | 0.00<br>0.00                         |





Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

| Design:                     | Design #1          |                  |                             |                    |                  |                               |                               |                              |                             |
|-----------------------------|--------------------|------------------|-----------------------------|--------------------|------------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Planned Survey              |                    |                  |                             |                    |                  |                               |                               |                              |                             |
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°)   | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft)    | +E/-W<br>(usft)  | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 14,900.0                    | 90.00              | 359.44           | 12,072.0                    | 2,591.4            | -96.0            | 2,592.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,000.0                    | 90.00              | 359.44           | 12,072.0                    | 2,691.4            | -97.0            | 2,692.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,100.0                    | 90.00              | 359.44           | 12,072.0                    | 2,791.4            | -97.9            | 2,792.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,200.0                    | 90.00              | 359.44           | 12,072.0                    | 2,891.4            | -98.9            | 2,892.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,300.0                    | 90.00              | 359.44           | 12,072.0                    | 2,991.4            | -99.9            | 2,992.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,400.0                    | 90.00              | 359.44           | 12,072.0                    | 3,091.4            | -100.9           | 3,092.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,500.0                    | 90.00              | 359.44           | 12,072.0                    | 3,191.4            | -101.8           | 3,192.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,600.0                    | 90.00              | 359.44           | 12,072.0                    | 3,291.4            | -102.8           | 3,292.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,700.0                    | 90.00              | 359.44           | 12,072.0                    | 3,391.4            | -103.8           | 3,392.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,800.0                    | 90.00              | 359.44           | 12,072.0                    | 3,491.4            | -104.8           | 3,492.6                       | 0.00                          | 0.00                         | 0.00                        |
| 15,900.0                    | 90.00              | 359.44           | 12,072.0                    | 3,591.4            | -105.7           | 3,592.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,000.0                    | 90.00              | 359.44           | 12,072.0                    | 3,691.4            | -106.7           | 3,692.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,100.0                    | 90.00              | 359.44           | 12,072.0                    | 3,791.4            | -107.7           | 3,792.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,200.0                    | 90.00              | 359.44           | 12,072.0                    | 3,891.4            | -108.7           | 3,892.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,300.0                    | 90.00              | 359.44           | 12,072.0                    | 3,991.4            | -109.6           | 3,992.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,400.0                    | 90.00              | 359.44           | 12,072.0                    | 4,091.4            | -110.6           | 4,092.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,500.0                    | 90.00              | 359.44           | 12,072.0<br>12,072.0        | 4,191.3            | -111.6           | 4,192.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,600.0                    | 90.00              | 359.44           | ,                           | 4,291.3            | -112.6           | 4,292.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,700.0                    | 90.00              | 359.44           | 12,072.0                    | 4,391.3            | -113.5           | 4,392.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,800.0                    | 90.00              | 359.44           | 12,072.0                    | 4,491.3            | -114.5           | 4,492.6                       | 0.00                          | 0.00                         | 0.00                        |
| 16,900.0                    | 90.00              | 359.44           | 12,072.0                    | 4,591.3            | -115.5           | 4,592.6                       | 0.00                          | 0.00                         | 0.00                        |
| 17,000.0                    | 90.00              | 359.44           | 12,072.0                    | 4,691.3            | -116.5           | 4,692.6                       | 0.00                          | 0.00                         | 0.00                        |
| 17,100.0                    | 90.00              | 359.44           | 12,072.0                    | 4,791.3            | -117.4           | 4,792.6                       | 0.00                          | 0.00                         | 0.00                        |
| 17,200.0                    | 90.00              | 359.44           | 12,072.0                    | 4,891.3            | -118.4           | 4,892.6                       | 0.00                          | 0.00                         | 0.00                        |
| 17,300.0                    | 90.00              | 359.44           | 12,072.0                    | 4,991.3            | -119.4           | 4,992.6                       | 0.00                          | 0.00                         | 0.00                        |
| 17,400.0                    | 90.00<br>90.00     | 359.44<br>359.44 | 12,072.0<br>12,072.0        | 5,091.3            | -120.4<br>-121.3 | 5,092.6                       | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00                        |
| 17,500.0<br>17,600.0        | 90.00              | 359.44<br>359.44 | 12,072.0                    | 5,191.3<br>5,291.3 | -121.3<br>-122.3 | 5,192.6<br>5,292.6            | 0.00                          | 0.00                         | 0.00<br>0.00                |
|                             |                    |                  |                             |                    |                  |                               |                               |                              |                             |
| 17,700.0<br>17,800.0        | 90.00<br>90.00     | 359.44<br>359.44 | 12,072.0<br>12,072.0        | 5,391.3<br>5,491.3 | -123.3<br>-124.2 | 5,392.6<br>5,492.6            | 0.00<br>0.00                  | 0.00<br>0.00                 | 0.00<br>0.00                |
| 17,800.0                    | 90.00              | 359.44<br>359.44 | 12,072.0                    | 5,491.3            | -124.2<br>-125.2 | 5,492.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,000.0                    | 90.00              | 359.44           | 12,072.0                    | 5,691.3            | -126.2           | 5,692.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,100.0                    | 90.00              | 359.44           | 12,072.0                    | 5,791.3            | -127.2           | 5,792.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,200.0                    | 90.00              | 359.44           | 12.072.0                    | 5,891.3            | -128.1           | 5,892.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,300.0                    | 90.00              | 359.44           | 12,072.0                    | 5,991.3            | -120.1           | 5,992.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,400.0                    | 90.00              | 359.44           | 12,072.0                    | 6,091.3            | -130.1           | 6,092.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,500.0                    | 90.00              | 359.44           | 12,072.0                    | 6,191.3            | -131.1           | 6,192.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,600.0                    | 90.00              | 359.44           | 12,072.0                    | 6,291.3            | -132.0           | 6,292.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,700.0                    | 90.00              | 359.44           | 12,072.0                    | 6,391.2            | -133.0           | 6,392.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,800.0                    | 90.00              | 359.44           | 12,072.0                    | 6,491.2            | -134.0           | 6,492.6                       | 0.00                          | 0.00                         | 0.00                        |
| 18,900.0                    | 90.00              | 359.44           | 12,072.0                    | 6,591.2            | -135.0           | 6,592.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,000.0                    | 90.00              | 359.44           | 12,072.0                    | 6,691.2            | -135.9           | 6,692.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,100.0                    | 90.00              | 359.44           | 12,072.0                    | 6,791.2            | -136.9           | 6,792.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,200.0                    | 90.00              | 359.44           | 12,072.0                    | 6,891.2            | -137.9           | 6,892.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,300.0                    | 90.00              | 359.44           | 12,072.0                    | 6,991.2            | -138.9           | 6,992.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,400.0                    | 90.00              | 359.44           | 12,072.0                    | 7,091.2            | -139.8           | 7,092.6                       | 0.00                          | 0.00                         | 0.00                        |
| 19,500.0                    | 90.00              | 359.44           | 12,072.0                    | 7,191.2            | -140.8           | 7,192.5                       | 0.00                          | 0.00                         | 0.00                        |
| 19,600.0                    | 90.00              | 359.44           | 12,072.0                    | 7,291.2            | -141.8           | 7,292.5                       | 0.00                          | 0.00                         | 0.00                        |
| 19,700.0                    | 90.00              | 359.44           | 12,072.0                    | 7,391.2            | -142.8           | 7,392.5                       | 0.00                          | 0.00                         | 0.00                        |
| 19,800.0                    | 90.00              | 359.44           | 12,072.0                    | 7,491.2            | -143.7           | 7,492.5                       | 0.00                          | 0.00                         | 0.00                        |
| 19,900.0                    | 90.00              | 359.44           | 12,072.0                    | 7,591.2            | -144.7           | 7,592.5                       | 0.00                          | 0.00                         | 0.00                        |
| 20,000.0                    | 90.00              | 359.44           | 12,072.0                    | 7,691.2            | -145.7           | 7,692.5                       | 0.00                          | 0.00                         | 0.00                        |
| 20,100.0                    | 90.00              | 359.44           | 12,072.0                    | 7,791.2            | -146.7           | 7,792.5                       | 0.00                          | 0.00                         | 0.00                        |
| 20,200.0                    | 90.00              | 359.44           | 12,072.0                    | 7,891.2            | -147.6           | 7,892.5                       | 0.00                          | 0.00                         | 0.00                        |

Planning Report



Database: EDM5000

Company: Ameredev Operating, LLC.
Project: TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid Minimum Curvature

| 20,300.0 90.00 359.44 12,072.0 8,091.2 -148.6 7,992.5 0.00 0.00 0.0 0.20,480.4 90.00 359.44 12,072.0 8,191.2 -150.6 8,192.5 0.00 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0  | ned Survey   |            |        |          |          |        |          |      |      |      |
|--|--------------|------------|--------|----------|----------|--------|----------|------|------|------|
| 20,400.0 90.00 359.44 12,072.0 8,091.2 -149.6 8,092.5 0.00 0.00 0.0 0.0 0.0 20,458.4 90.0 359.44 12,072.0 8,149.6 -150.1 8,150.9 0.00 0.00 0.00 0.0 0.0 0.0 0.0 0.0 0  | Depth        |            |        | Depth    |          |        | Section  | Rate | Rate |      |
| 20,458.4 90.00 359.44 12,072.0 8,149.6 -150.1 8,150.9 0.00 0.00 0.00  Total into NMNN105564 20,500.0 90.00 359.44 12,072.0 8,191.2 -150.6 8,192.5 0.00 0.00 0.00 20,600.0 90.00 359.44 12,072.0 8,291.2 -151.5 8,292.5 0.00 0.00 0.00 20,800.0 90.00 359.44 12,072.0 8,391.2 -152.5 8,392.5 0.00 0.00 0.00 20,800.0 90.00 359.44 12,072.0 8,491.1 -153.5 8,492.5 0.00 0.00 0.00 21,000.0 90.00 359.44 12,072.0 8,591.1 -156.4 8,592.5 0.00 0.00 0.00 21,100.0 90.00 359.44 12,072.0 8,691.1 -155.4 8,692.5 0.00 0.00 0.00 21,100.0 90.00 359.44 12,072.0 8,891.1 -156.4 8,792.5 0.00 0.00 0.00 21,200.0 90.00 359.44 12,072.0 8,891.1 -156.4 8,792.5 0.00 0.00 0.00 21,300.0 90.00 359.44 12,072.0 8,991.1 -156.4 8,792.5 0.00 0.00 0.00 21,300.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.00 21,300.0 90.00 359.44 12,072.0 9,991.1 -159.3 9,092.5 0.00 0.00 0.00 21,400.0 90.00 359.44 12,072.0 9,991.1 -159.3 9,092.5 0.00 0.00 0.00 21,500.0 90.00 359.44 12,072.0 9,991.1 -160.3 9,192.5 0.00 0.00 0.00 21,600.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,292.5 0.00 0.00 0.00 21,600.0 90.00 359.44 12,072.0 9,391.1 -160.3 9,292.5 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,391.1 -160.3 9,292.5 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,391.1 -160.3 9,292.5 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,391.1 -161.3 9,292.5 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,391.1 -161.3 9,292.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 9,591.1 -161.3 9,592.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 9,591.1 -166.1 9,792.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 9,591.1 -168.2 9,592.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 9,591.1 -168.1 9,592.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 9,591.1 -168.1 9,592.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 10,111 -170.0 10,192.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 10,111 -170.0 10,192.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 10,111 -170.0 10,192.5 0.00 0.00 0.00 22,200.0 90.00 359.44 12,072.0 10,111 -170.0 10,192.5 0.00 0.00 0.00 22,200.0 90.00 359.44  | 20,300.0     | 90.00      | 359.44 | 12,072.0 | 7,991.2  | -148.6 | 7,992.5  | 0.00 | 0.00 | 0.00 |
| TO124 into NMNM105564  20,500.0 90.00 359.44 12,072.0 8,191.2 -150.6 8,192.5 0.00 0.00 0.00  20,600.0 90.00 359.44 12,072.0 8,291.2 -151.5 8,292.5 0.00 0.00 0.00  20,800.0 90.00 359.44 12,072.0 8,491.1 -153.5 8,492.5 0.00 0.00 0.00  20,800.0 90.00 359.44 12,072.0 8,491.1 -153.5 8,492.5 0.00 0.00 0.00  21,000.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.00  21,100.0 90.00 359.44 12,072.0 8,791.1 -156.4 8,792.5 0.00 0.00 0.00  21,100.0 90.00 359.44 12,072.0 8,791.1 -156.4 8,792.5 0.00 0.00 0.00  21,200.0 90.00 359.44 12,072.0 8,891.1 -157.4 8,892.5 0.00 0.00 0.00  21,200.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.00  21,300.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.00  21,400.0 90.00 359.44 12,072.0 9,991.1 -158.3 9,992.5 0.00 0.00 0.00  21,500.0 90.00 359.44 12,072.0 9,911.1 -160.3 9,192.5 0.00 0.00 0.00  21,600.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00  21,600.0 90.00 359.44 12,072.0 9,291.1 -161.3 9,292.5 0.00 0.00 0.00  21,800.0 90.00 359.44 12,072.0 9,391.1 -162.3 9,392.5 0.00 0.00 0.00  21,800.0 90.00 359.44 12,072.0 9,391.1 -162.3 9,392.5 0.00 0.00 0.00  21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00  21,800.0 90.00 359.44 12,072.0 9,391.1 -163.2 9,492.5 0.00 0.00 0.00  21,800.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 9,691.1 -166.1 9,792.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,792.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,992.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,992.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 10,991.1 -168.1 9,992.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 10,991.1 -168.1 9,992.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 10,991.1 -170.0 10,192.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 10,991.1 -170.0 10,192.5 0.00 0.00 0.00  22,200.0 90.00 359.44 12,072.0 10,991.1 -170.0 10,192.5 0.00 0.00 0.00  22,600.0 90.00 359.44 12,072.0 10,591.0 -174.9 10,692.5 | 20,400.0     | 90.00      | 359.44 | 12,072.0 | 8,091.2  | -149.6 | 8,092.5  | 0.00 | 0.00 | 0.00 |
| 20,500.0 90.00 359.44 12,072.0 8,191.2 -150.6 8,192.5 0.00 0.00 0.0 20,700.0 90.00 359.44 12,072.0 8,291.2 -151.5 8,292.5 0.00 0.00 0.0 20,700.0 90.00 359.44 12,072.0 8,391.2 -152.5 8,392.5 0.00 0.00 0.0 20,800.0 90.00 359.44 12,072.0 8,591.1 -152.5 8,492.5 0.00 0.00 0.0 21,000.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.0 21,000.0 90.00 359.44 12,072.0 8,591.1 -155.4 8,692.5 0.00 0.00 0.0 21,100.0 90.00 359.44 12,072.0 8,691.1 -155.4 8,892.5 0.00 0.00 0.0 21,200.0 90.00 359.44 12,072.0 8,891.1 -155.4 8,892.5 0.00 0.00 0.0 21,200.0 90.00 359.44 12,072.0 8,891.1 -157.4 8,892.5 0.00 0.00 0.0 21,200.0 90.00 359.44 12,072.0 8,891.1 -157.4 8,892.5 0.00 0.00 0.0 21,300.0 90.00 359.44 12,072.0 9,891.1 -158.3 8,992.5 0.00 0.00 0.0 21,500.0 90.00 359.44 12,072.0 9,091.1 -158.3 8,992.5 0.00 0.00 0.0 21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.0 21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.0 21,600.0 90.00 359.44 12,072.0 9,291.1 -160.3 9,192.5 0.00 0.00 0.0 21,700.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.0 21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.0 21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.0 21,900.0 90.00 359.44 12,072.0 9,591.1 -163.2 9,492.5 0.00 0.00 0.0 22,200.0 90.00 359.44 12,072.0 9,591.1 -166.2 9,592.5 0.00 0.00 0.0 22,200.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,592.5 0.00 0.00 0.0 22,200.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,592.5 0.00 0.00 0.00 0.0 22,200.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,592.5 0.00 0.00 0.00 0.0 22,200.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,592.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0   | 20,458.4     | 90.00      | 359.44 | 12,072.0 | 8,149.6  | -150.1 | 8,150.9  | 0.00 | 0.00 | 0.00 |
| 20,600.0 90.00 359.44 12,072.0 8,291.2 -151.5 8,292.5 0.00 0.00 0.00 0.20,700.0 90.00 359.44 12,072.0 8,391.2 -152.5 8,392.5 0.00 0.00 0.00 0.20,800.0 90.00 359.44 12,072.0 8,491.1 -153.5 8,492.5 0.00 0.00 0.00 0.21,000.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.00 0.21,000.0 90.00 359.44 12,072.0 8,591.1 -155.4 8,692.5 0.00 0.00 0.00 0.21,000.0 90.00 359.44 12,072.0 8,791.1 -155.4 8,692.5 0.00 0.00 0.00 0.21,200.0 90.00 359.44 12,072.0 8,791.1 -155.4 8,692.5 0.00 0.00 0.00 0.21,200.0 90.00 359.44 12,072.0 8,791.1 -156.4 8,792.5 0.00 0.00 0.00 0.21,300.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.00 0.21,400.0 90.00 359.44 12,072.0 9,091.1 -158.3 8,992.5 0.00 0.00 0.00 0.21,400.0 90.00 359.44 12,072.0 9,091.1 -156.3 9,092.5 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,592.5 0.00 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,891.1 -166.2 9,692.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0  | TO124 into N | IMNM105564 |        |          |          |        |          |      |      |      |
| 20,700.0 90.00 359.44 12,072.0 8,391.2 -152.5 8,392.5 0.00 0.00 0.00 0.00 20,800.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.00 0.00 21,000.0 90.00 359.44 12,072.0 8,691.1 -155.4 8,692.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0   | 20,500.0     | 90.00      | 359.44 | 12,072.0 | 8,191.2  | -150.6 | 8,192.5  | 0.00 | 0.00 | 0.00 |
| 20,800.0 90.00 359.44 12,072.0 8,491.1 -153.5 8,492.5 0.00 0.00 0.00 0.00 20,900.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0   | 20,600.0     | 90.00      | 359.44 | 12,072.0 | 8,291.2  | -151.5 | 8,292.5  | 0.00 | 0.00 | 0.00 |
| 20,900.0 90.00 359.44 12,072.0 8,591.1 -154.4 8,592.5 0.00 0.00 0.00 0.10 0.10 0.00 0.10 0.00 0. | 20,700.0     | 90.00      | 359.44 | 12,072.0 | 8,391.2  | -152.5 | 8,392.5  | 0.00 | 0.00 | 0.00 |
| 21,000.0 90.00 359.44 12,072.0 8,691.1 -155.4 8,692.5 0.00 0.00 0.00 0.21,100.0 90.00 359.44 12,072.0 8,791.1 -156.4 8,792.5 0.00 0.00 0.00 0.21,200.0 90.00 359.44 12,072.0 8,891.1 -157.4 8,892.5 0.00 0.00 0.00 0.00 0.21,300.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.00 0.00 0.21,400.0 90.00 359.44 12,072.0 9,091.1 -159.3 9,092.5 0.00 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.00 0.00 0.21,700.0 90.00 359.44 12,072.0 9,291.1 -161.3 9,292.5 0.00 0.00 0.00 0.00 0.21,700.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.00 0.21,900.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.00 0.00 0.21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0  |              |            |        |          |          |        |          |      | 0.00 | 0.00 |
| 21,100.0 90.00 359.44 12,072.0 8,791.1 -156.4 8,792.5 0.00 0.00 0.0   21,200.0 90.00 359.44 12,072.0 8,991.1 -158.3 8,992.5 0.00 0.00 0.0   21,300.0 90.00 359.44 12,072.0 9,091.1 -159.3 9,092.5 0.00 0.00 0.0   21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.0   21,600.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.0   21,600.0 90.00 359.44 12,072.0 9,191.1 -161.3 9,292.5 0.00 0.00 0.0   21,700.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.0   21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.0   21,900.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.0   21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.0   22,000.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.0   22,000.0 90.00 359.44 12,072.0 9,591.1 -166.2 9,692.5 0.00 0.00 0.0   22,000.0 90.00 359.44 12,072.0 9,591.1 -166.1 9,792.5 0.00 0.00 0.0   22,000.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,792.5 0.00 0.00 0.0   22,000.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,792.5 0.00 0.00 0.0   22,200.0 90.00 359.44 12,072.0 9,891.1 -166.1 9,792.5 0.00 0.00 0.0   22,200.0 90.00 359.44 12,072.0 9,991.1 -166.1 9,892.5 0.00 0.00 0.0   22,200.0 90.00 359.44 12,072.0 10,91.1 -166.1 9,992.5 0.00 0.00 0.0   22,400.0 90.00 359.44 12,072.0 10,91.1 -167.1 9,892.5 0.00 0.00 0.0   22,500.0 90.00 359.44 12,072.0 10,91.1 -168.1 9,992.5 0.00 0.00 0.0   22,500.0 90.00 359.44 12,072.0 10,91.1 -168.1 9,992.5 0.00 0.00 0.0   22,600.0 90.00 359.44 12,072.0 10,91.1 -170.0 10,192.5 0.00 0.00 0.0   22,600.0 90.00 359.44 12,072.0 10,91.1 -170.0 10,192.5 0.00 0.00 0.0   22,600.0 90.00 359.44 12,072.0 10,91.1 -170.0 10,192.5 0.00 0.00 0.0   22,600.0 90.00 359.44 12,072.0 10,91.1 -170.0 10,192.5 0.00 0.00 0.0   22,600.0 90.00 359.44 12,072.0 10,591.0 -173.9 10,592.5 0.00 0.00 0.0   22,900.2 90.00 359.44 12,072.0 10,687.2 -174.9 10,688.7 0.00 0.00 0.0   22,996.2 90.00 359.44 12,072.0 10,687.2 -174.9 10,688.7 0.00 0.00 0.0   0.00 0.00 0.00 0.00 0  |              |            |        |          | 8,591.1  |        |          |      |      | 0.00 |
| 21,200.0       90.00       359.44       12,072.0       8,891.1       -157.4       8,892.5       0.00       0.00       0.00         21,300.0       90.00       359.44       12,072.0       8,991.1       -158.3       8,992.5       0.00       0.00       0.00         21,400.0       90.00       359.44       12,072.0       9,091.1       -159.3       9,092.5       0.00       0.00       0.0         21,500.0       90.00       359.44       12,072.0       9,191.1       -160.3       9,192.5       0.00       0.00       0.0         21,600.0       90.00       359.44       12,072.0       9,291.1       -161.3       9,292.5       0.00       0.00       0.0         21,700.0       90.00       359.44       12,072.0       9,391.1       -162.2       9,392.5       0.00       0.00       0.0         21,800.0       90.00       359.44       12,072.0       9,491.1       -163.2       9,492.5       0.00       0.00       0.0         22,000.0       90.00       359.44       12,072.0       9,591.1       -166.2       9,592.5       0.00       0.0       0.0         22,100.0       90.00       359.44       12,072.0       9,791.1       -166   | 21,000.0     | 90.00      | 359.44 | 12,072.0 | 8,691.1  | -155.4 | 8,692.5  | 0.00 | 0.00 | 0.00 |
| 21,300.0 90.00 359.44 12,072.0 9,991.1 -158.3 8,992.5 0.00 0.00 0.00 0.21,400.0 90.00 359.44 12,072.0 9,191.1 -159.3 9,092.5 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.21,700.0 90.00 359.44 12,072.0 9,291.1 -161.3 9,292.5 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.21,800.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.00 0.21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.22,000.0 90.00 359.44 12,072.0 9,691.1 -165.2 9,692.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0  | 21,100.0     | 90.00      | 359.44 | 12,072.0 | 8,791.1  | -156.4 | 8,792.5  | 0.00 | 0.00 | 0.00 |
| 21,400.0       90.00       359.44       12,072.0       9,091.1       -159.3       9,092.5       0.00       0.00       0.00         21,500.0       90.00       359.44       12,072.0       9,191.1       -160.3       9,192.5       0.00       0.00       0.00         21,600.0       90.00       359.44       12,072.0       9,291.1       -161.3       9,292.5       0.00       0.00       0.00         21,700.0       90.00       359.44       12,072.0       9,391.1       -162.2       9,392.5       0.00       0.00       0.00         21,800.0       90.00       359.44       12,072.0       9,491.1       -163.2       9,492.5       0.00       0.00       0.00         21,900.0       90.00       359.44       12,072.0       9,591.1       -164.2       9,592.5       0.00       0.00       0.00         22,000.0       90.00       359.44       12,072.0       9,691.1       -165.2       9,692.5       0.00       0.00       0.00         22,100.0       90.00       359.44       12,072.0       9,791.1       -166.1       9,792.5       0.00       0.00       0.00         22,200.0       90.00       359.44       12,072.0       9,891.1       <   | 21,200.0     |            | 359.44 |          | 8,891.1  | -157.4 |          |      | 0.00 | 0.00 |
| 21,500.0 90.00 359.44 12,072.0 9,191.1 -160.3 9,192.5 0.00 0.00 0.00 0.00 21,600.0 90.00 359.44 12,072.0 9,391.1 -161.3 9,292.5 0.00 0.00 0.00 0.00 21,700.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.00 0.00 21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0   |              |            |        |          |          |        |          |      |      | 0.00 |
| 21,600.0 90.00 359.44 12,072.0 9,291.1 -161.3 9,292.5 0.00 0.00 0.00 21,700.0 90.00 359.44 12,072.0 9,391.1 -162.2 9,392.5 0.00 0.00 0.00 0.00 21,800.0 90.00 359.44 12,072.0 9,491.1 -163.2 9,492.5 0.00 0.00 0.00 0.00 21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0  |              |            |        |          |          |        |          |      |      | 0.00 |
| 21,700.0       90.00       359.44       12,072.0       9,391.1       -162.2       9,392.5       0.00       0.00       0.00         21,800.0       90.00       359.44       12,072.0       9,491.1       -163.2       9,492.5       0.00       0.00       0.00         21,900.0       90.00       359.44       12,072.0       9,591.1       -164.2       9,592.5       0.00       0.00       0.00         22,100.0       90.00       359.44       12,072.0       9,691.1       -166.2       9,692.5       0.00       0.00       0.00         22,200.0       90.00       359.44       12,072.0       9,791.1       -166.1       9,792.5       0.00       0.00       0.00         22,300.0       90.00       359.44       12,072.0       9,891.1       -168.1       9,792.5       0.00       0.00       0.00         22,400.0       90.00       359.44       12,072.0       9,991.1       -168.1       9,992.5       0.00       0.00       0.00         22,500.0       90.00       359.44       12,072.0       10,091.1       -169.1       10,092.5       0.00       0.00       0.00         22,600.0       90.00       359.44       12,072.0       10,291.1  | 21,500.0     | 90.00      | 359.44 | 12,072.0 | 9,191.1  | -160.3 | 9,192.5  | 0.00 | 0.00 | 0.00 |
| 21,800.0       90.00       359.44       12,072.0       9,491.1       -163.2       9,492.5       0.00       0.00       0.00         21,900.0       90.00       359.44       12,072.0       9,591.1       -164.2       9,592.5       0.00       0.00       0.00         22,000.0       90.00       359.44       12,072.0       9,691.1       -165.2       9,692.5       0.00       0.00       0.00         22,100.0       90.00       359.44       12,072.0       9,791.1       -166.1       9,792.5       0.00       0.00       0.00         22,200.0       90.00       359.44       12,072.0       9,891.1       -167.1       9,892.5       0.00       0.00       0.00         22,300.0       90.00       359.44       12,072.0       9,991.1       -168.1       9,992.5       0.00       0.00       0.00         22,400.0       90.00       359.44       12,072.0       10,091.1       -169.1       10,092.5       0.00       0.00       0.00         22,500.0       90.00       359.44       12,072.0       10,191.1       -170.0       10,192.5       0.00       0.00       0.00         22,600.0       90.00       359.44       12,072.0       10,291.1  |              |            |        |          | 9,291.1  |        |          |      |      | 0.00 |
| 21,900.0 90.00 359.44 12,072.0 9,591.1 -164.2 9,592.5 0.00 0.00 0.00 0.00 22,000.0 90.00 359.44 12,072.0 9,691.1 -165.2 9,692.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0   |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,000.0       90.00       359.44       12,072.0       9,691.1       -165.2       9,692.5       0.00       0.00       0.00         22,100.0       90.00       359.44       12,072.0       9,791.1       -166.1       9,792.5       0.00       0.00       0.00         22,200.0       90.00       359.44       12,072.0       9,891.1       -167.1       9,892.5       0.00       0.00       0.00         22,300.0       90.00       359.44       12,072.0       9,991.1       -168.1       9,992.5       0.00       0.00       0.00         22,400.0       90.00       359.44       12,072.0       10,091.1       -169.1       10,092.5       0.00       0.00       0.00         22,500.0       90.00       359.44       12,072.0       10,191.1       -170.0       10,192.5       0.00       0.00       0.00         22,600.0       90.00       359.44       12,072.0       10,291.1       -171.0       10,292.5       0.00       0.00       0.00         22,700.0       90.00       359.44       12,072.0       10,391.1       -172.0       10,392.5       0.00       0.00       0.00         22,800.0       90.00       359.44       12,072.0       10,491.1 <td>,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td>   | ,            |            |        |          |          |        |          |      |      | 0.00 |
| 22,100.0 90.00 359.44 12,072.0 9,791.1 -166.1 9,792.5 0.00 0.00 0.00 0.22,200.0 90.00 359.44 12,072.0 9,891.1 -167.1 9,892.5 0.00 0.00 0.00 0.22,400.0 90.00 359.44 12,072.0 9,991.1 -168.1 9,992.5 0.00 0.00 0.00 0.22,500.0 90.00 359.44 12,072.0 10,091.1 -169.1 10,092.5 0.00 0.00 0.00 0.22,500.0 90.00 359.44 12,072.0 10,191.1 -170.0 10,192.5 0.00 0.00 0.00 0.00 0.00 0.22,500.0 90.00 359.44 12,072.0 10,191.1 -170.0 10,192.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0  | ,            |            |        | ,        |          |        |          |      |      | 0.00 |
| 22,200.0       90.00       359.44       12,072.0       9,891.1       -167.1       9,892.5       0.00       0.00       0.00         22,300.0       90.00       359.44       12,072.0       9,991.1       -168.1       9,992.5       0.00       0.00       0.00         22,400.0       90.00       359.44       12,072.0       10,091.1       -169.1       10,092.5       0.00       0.00       0.00         22,500.0       90.00       359.44       12,072.0       10,191.1       -170.0       10,192.5       0.00       0.00       0.00         22,600.0       90.00       359.44       12,072.0       10,291.1       -171.0       10,292.5       0.00       0.00       0.00         22,700.0       90.00       359.44       12,072.0       10,391.1       -172.0       10,392.5       0.00       0.00       0.00         22,800.0       90.00       359.44       12,072.0       10,491.1       -173.0       10,492.5       0.00       0.00       0.00         22,900.0       90.00       359.44       12,072.0       10,591.0       -173.9       10,592.5       0.00       0.00       0.00         22,996.2       90.00       359.44       12,072.0       10,687.2  | 22,000.0     | 90.00      | 359.44 | 12,072.0 | 9,691.1  | -165.2 | 9,692.5  | 0.00 | 0.00 | 0.00 |
| 22,300.0       90.00       359.44       12,072.0       9,991.1       -168.1       9,992.5       0.00   |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,400.0       90.00       359.44       12,072.0       10,091.1       -169.1       10,092.5       0.00   |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,500.0       90.00       359.44       12,072.0       10,191.1       -170.0       10,192.5       0.00       0.00       0.00         22,600.0       90.00       359.44       12,072.0       10,291.1       -171.0       10,292.5       0.00       0.00       0.00         22,700.0       90.00       359.44       12,072.0       10,391.1       -172.0       10,392.5       0.00       0.00       0.00         22,800.0       90.00       359.44       12,072.0       10,491.1       -173.0       10,492.5       0.00       0.00       0.00         22,990.0       90.00       359.44       12,072.0       10,591.0       -173.9       10,592.5       0.00       0.00       0.00         TO124 LTP         23,000.0       90.00       359.44       12,072.0       10,691.0       -174.9       10,692.5       0.00       0.00       0.00  |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,600.0 90.00 359.44 12,072.0 10,291.1 -171.0 10,292.5 0.00 0.00 0.0  |              |            |        |          | ,        |        |          |      |      | 0.00 |
| 22,700.0       90.00       359.44       12,072.0       10,391.1       -172.0       10,392.5       0.00   | 22,500.0     | 90.00      | 359.44 | 12,072.0 | 10,191.1 | -170.0 | 10,192.5 | 0.00 | 0.00 | 0.00 |
| 22,800.0       90.00       359.44       12,072.0       10,491.1       -173.0       10,492.5       0.00       0.00       0.         22,900.0       90.00       359.44       12,072.0       10,591.0       -173.9       10,592.5       0.00       0.00       0.         22,996.2       90.00       359.44       12,072.0       10,687.2       -174.9       10,688.7       0.00       0.00       0.         TO124 LTP         23,000.0       90.00       359.44       12,072.0       10,691.0       -174.9       10,692.5       0.00       0.00       0.00       0.   |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,900.0 90.00 359.44 12,072.0 10,591.0 -173.9 10,592.5 0.00 0.00 0.<br>22,996.2 90.00 359.44 12,072.0 10,687.2 -174.9 10,688.7 0.00 0.00 0.<br>TO124 LTP  23,000.0 90.00 359.44 12,072.0 10,691.0 -174.9 10,692.5 0.00 0.00 0.0   |              |            |        |          |          |        |          |      |      | 0.00 |
| 22,996.2 90.00 359.44 12,072.0 10,687.2 -174.9 10,688.7 0.00 0.00 0.<br>TO124 LTP  23,000.0 90.00 359.44 12,072.0 10,691.0 -174.9 10,692.5 0.00 0.00 0.0   |              | 90.00      |        |          |          |        |          |      |      | 0.00 |
| <b>TO124 LTP</b> 23,000.0 90.00 359.44 12,072.0 10,691.0 -174.9 10,692.5 0.00 0.00 0.  |              |            |        |          |          |        |          |      |      | 0.00 |
| 23,000.0 90.00 359.44 12,072.0 10,691.0 -174.9 10,692.5 0.00 0.00 0.   |              | 90.00      | 359.44 | 12,072.0 | 10,687.2 | -174.9 | 10,688.7 | 0.00 | 0.00 | 0.00 |
|  | TO124 LTP    |            |        |          |          |        |          |      |      |      |
| 00 040 0 00 00 00 44 40 070 0 40 707 0 475 4 40 700 7 0 0 0 0 0  |              |            |        |          |          |        |          |      |      | 0.00 |
| 23,046.2 90.00 359.44 12,072.0 10,737.3 -175.4 10,738.7 0.00 0.00 0.   | 23,046.2     | 90.00      | 359.44 | 12,072.0 | 10,737.3 | -175.4 | 10,738.7 | 0.00 | 0.00 | 0.00 |



Planning Report

Database: EDM5000

Company: Ameredev Operating, LLC.

 Project:
 TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

| Design Targets                                  |                        |                       |                          |                        |                        |                    |                   |                 |                   |
|---|------------------------|-----------------------|--------------------------|------------------------|------------------------|--------------------|-------------------|-----------------|-------------------|
| Target Name<br>- hit/miss target<br>- Shape     | Dip Angle<br>(°)       | Dip Dir.<br>(°)       | TVD<br>(usft)            | +N/-S<br>(usft)        | +E/-W<br>(usft)        | Northing<br>(usft) | Easting<br>(usft) | Latitude        | Longitude         |
| TO124 KOP - plan hits target cent - Point       | 0.00<br>er             | 0.00                  | 11,575.0                 | -408.9                 | -286.3                 | 393,669.86         | 870,117.48        | 32° 4' 40.193 N | 103° 16' 18.627 W |
| TO124 FTP<br>- plan misses target o<br>- Point  | 0.00<br>center by 21.3 | 0.00<br>Busft at 1264 | 12,072.0<br>1.2usft MD ( | 329.3<br>(12067.8 TVD, | -75.4<br>334.7 N, -95. | 394,408.04<br>6 E) | 870,328.36        | 32° 4' 47.477 N | 103° 16' 16.092 W |
| TO124 BHL<br>- plan hits target cent<br>- Point | 0.00<br>er             | 0.00                  | 12,072.0                 | 10,737.3               | -175.4                 | 404,816.01         | 870,228.42        | 32° 6′ 30.469 N | 103° 16' 16.062 W |
| TO124 EOC<br>- plan hits target cent<br>- Point | 0.00<br>er             | 0.00                  | 12,072.0                 | 479.6                  | -75.4                  | 394,558.35         | 870,328.36        | 32° 4' 48.964 N | 103° 16' 16.075 W |
| TO124 LTP<br>- plan hits target cent<br>- Point | 0.00<br>eer            | 0.00                  | 12,072.0                 | 10,687.2               | -174.9                 | 404,765.98         | 870,228.87        | 32° 6′ 29.974 N | 103° 16' 16.063 W |

| Plan Annotations     |                 |                  |                  |  |
|----------------------|-----------------|------------------|------------------|--|
| Measured             | Vertical        | Local Coor       | dinates          |  |
| Depth<br>(usft)      | Depth<br>(usft) | +N/-S<br>(usft)  | +E/-W<br>(usft)  | Comment  |
| 12,532.6<br>20,458.4 | ,               | 229.7<br>8,149.6 | -122.5<br>-150.1 | TO124 into NMNM136233<br>TO124 into NMNM105564 |



TO/FIR TO/FIR #5S Tea Olive 124H Wellbore #1

Plan: Design #1

### **Lease Penetration Section Line Foot**

30 June, 2020

# **AMEREDEV**

#### **Ameredev Operating, LLC**

#### Lease Penetration Section Line Footages

Company: Ameredev Operating, LLC.

TO/FIR Project: TO/FIR #5S Site: Well: Tea Olive 124H Wellbore: Wellbore #1 Design: Design #1

Well Tea Olive 124H Local Co-ordinate Reference: KB @ 3020.0usft **TVD Reference:** KB @ 3020.0usft MD Reference:

North Reference: Grid

**Survey Calculation Method:** Minimum Curvature EDM5000

Database:

**Project** TO/FIR

Map System: US State Plane 1983 North American Datum 1983 Geo Datum: Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site TO/FIR #5S

394,078.35 usft Northing: Site Position: Latitude: 32° 4' 44.211 N Easting: 870,363.80 usft 103° 16' 15.718 W From: Lat/Long Longitude: 13-3/16" 0.56 **Position Uncertainty:** 0.0 usft Slot Radius: **Grid Convergence:** 

Well Tea Olive 124H 32° 4' 44.211 N **Well Position** +N/-S 0.0 usft Northing: 394,078.75 usft Latitude: +E/-W 0.0 usft 870,403.78 usft 103° 16' 15.253 W Easting: Longitude: **Position Uncertainty** 0.0 usft Wellhead Elevation: Ground Level: 2,993.0 usft

Wellbore Wellbore #1 Declination Magnetics **Model Name** Sample Date Dip Angle Field Strength (°) (°) (nT) 47,741.20978403 IGRF2015 11/14/2018 6.65 59.96

Design #1 Design **Audit Notes:** PROTOTYPE 0.0 Version: Phase: Tie On Depth: Vertical Section: Depth From (TVD) +E/-W Direction +N/-S (usft) (usft) (usft) (°) 359.06 0.0 0.0 0.0

**Survey Tool Program** 4/16/2019 From То (usft) (usft) Survey (Wellbore) **Tool Name** Description 0.0 23,046.2 Design #1 (Wellbore #1) MWD OWSG MWD - Standard

| Planned Survey |            |                      |               |                     |                     |                 |                   |
|----------------|------------|----------------------|---------------|---------------------|---------------------|-----------------|-------------------|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
| 0.0            | 0.00       | 0.00                 | 0.0           | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 100.0          | 0.00       | 0.00                 | 100.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 200.0          | 0.00       | 0.00                 | 200.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 300.0          | 0.00       | 0.00                 | 300.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 400.0          | 0.00       | 0.00                 | 400.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 500.0          | 0.00       | 0.00                 | 500.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 600.0          | 0.00       | 0.00                 | 600.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 700.0          | 0.00       | 0.00                 | 700.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 800.0          | 0.00       | 0.00                 | 800.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 900.0          | 0.00       | 0.00                 | 900.0         | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 1,000.0        | 0.00       | 0.00                 | 1,000.0       | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |
| 1,100.0        | 0.00       | 0.00                 | 1,100.0       | -229.6              | 2,390.0             | 32° 4' 44.211 N | 103° 16' 15.253 W |

**AMEREDEV** 

#### **Ameredev Operating, LLC**



Company: Ameredev Operating, LLC.

Project: TO/FIR Site: TO/FIR #5S Well: Tea Olive 124H Wellbore: Wellbore #1 Design: Design #1

Local Co-ordinate Reference:

Well Tea Olive 124H KB @ 3020.0usft TVD Reference: MD Reference: KB @ 3020.0usft Grid

North Reference: **Survey Calculation Method:** Minimum Curvature

Database: EDM5000

| ned Survey         |              |                      |                    |                     |                     |                                    |                                  |
|--------------------|--------------|----------------------|--------------------|---------------------|---------------------|------------------------------------|----------------------------------|
| MD<br>(usft)       | Inc<br>(°)   | Azi (azimuth)<br>(°) | TVD<br>(usft)      | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude                           | Longitude                        |
| 1,200.0            | 0.00         | 0.00                 | 1,200.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.253                  |
| 1,300.0            | 0.00         | 0.00                 | 1,300.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.253                  |
| 1,400.0            | 0.00         | 0.00                 | 1,400.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.253                  |
| 1,500.0            | 0.00         | 0.00                 | 1,500.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 1,600.0            | 0.00         | 0.00                 | 1,600.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 1,700.0            | 0.00         | 0.00                 | 1,700.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 1,800.0            | 0.00         | 0.00                 | 1,800.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 1,900.0            | 0.00         | 0.00                 | 1,900.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 2,000.0            | 0.00         | 0.00                 | 2,000.0            | -229.6              | 2,390.0             | 32° 4' 44.211 N                    | 103° 16' 15.25                   |
| 2,100.0            | 2.00         | 215.00               | 2,100.0            | -231.0              | 2,389.0             | 32° 4' 44.197 N                    | 103° 16' 15.26                   |
| 2,200.0            | 4.00         | 215.00               | 2,199.8            | -235.3              | 2,386.0             | 32° 4' 44.155 N                    | 103° 16' 15.30                   |
| 2,300.0            | 6.00         | 215.00               | 2,299.5            | -242.5              | 2,381.0             | 32° 4' 44.085 N                    | 103° 16' 15.35                   |
| 2,400.0            | 6.00         | 215.00               | 2,398.9            | -251.0              | 2,375.0             | 32° 4' 44.001 N                    | 103° 16' 15.43                   |
| 2,500.0            | 6.00         | 215.00               | 2,498.4            | -259.6              | 2,369.0             | 32° 4' 43.917 N                    | 103° 16' 15.50                   |
| 2,600.0            | 6.00         | 215.00               | 2,597.8            | -268.1              | 2,363.0             | 32° 4' 43.833 N                    | 103° 16' 15.57                   |
| 2,700.0            | 6.00         | 215.00               | 2,697.3            | -276.7              | 2,357.0             | 32° 4' 43.748 N                    | 103° 16' 15.64                   |
| 2,800.0            | 6.00         | 215.00               | 2,796.7            | -285.3              | 2,351.0             | 32° 4' 43.664 N                    | 103° 16' 15.71                   |
| 2,900.0            | 6.00         | 215.00               | 2,896.2            | -293.8              | 2,345.0             | 32° 4' 43.580 N                    | 103° 16' 15.78                   |
| 3.000.0            | 6.00         | 215.00               | 2,995.6            | -302.4              | 2,339.0             | 32° 4' 43.496 N                    | 103° 16' 15.85                   |
| 3,100.0            | 6.00         | 215.00               | 3,095.1            | -311.0              | 2,333.0             | 32° 4' 43.412 N                    | 103° 16' 15.92                   |
| 3,200.0            | 6.00         | 215.00               | 3,194.5            | -319.5              | 2,327.0             | 32° 4' 43.328 N                    | 103° 16' 15.99                   |
| 3,300.0            | 6.00         | 215.00               | 3,294.0            | -328.1              | 2,321.0             | 32° 4' 43.244 N                    | 103° 16' 16.06                   |
| 3,400.0            | 6.00         | 215.00               | 3,393.4            | -336.6              | 2,315.0             | 32° 4' 43.160 N                    | 103° 16' 16.13                   |
| 3,500.0            | 6.00         | 215.00               | 3,492.9            | -345.2              | 2,309.0             | 32° 4' 43.075 N                    | 103° 16' 16.20                   |
| 3,600.0            | 6.00         | 215.00               | 3,592.3            | -353.8              | 2,303.0             | 32° 4' 42.991 N                    | 103° 16' 16.27                   |
| 3,700.0            | 6.00         | 215.00               | 3,691.8            | -362.3              | 2,297.0             | 32° 4' 42.907 N                    | 103° 16' 16.34                   |
| 3,800.0            | 6.00         | 215.00               | 3,791.2            | -370.9              | 2,291.1             | 32° 4' 42.823 N                    | 103° 16' 16.4                    |
| 3,900.0            | 6.00         | 215.00               | 3,890.7            | -379.5              | 2,285.1             | 32° 4' 42.739 N                    | 103° 16' 16.49                   |
| 4,000.0            | 6.00         | 215.00               | 3,990.1            | -388.0              | 2,279.1             | 32° 4' 42.655 N                    | 103° 16' 16.56                   |
| 4,100.0            | 6.00         | 215.00               | 4,089.6            | -396.6              | 2,273.1             | 32° 4' 42.571 N                    | 103° 16' 16.63                   |
| 4,200.0            | 6.00         | 215.00               | 4,189.0            | -405.1              | 2,267.1             | 32° 4' 42.486 N                    | 103° 16' 16.70                   |
| 4,300.0            | 6.00         | 215.00               | 4,288.5            | -413.7              | 2,261.1             | 32° 4' 42.402 N                    | 103° 16' 16.77                   |
| 4,400.0            | 6.00         | 215.00               | 4,387.9            | -422.3              | 2,255.1             | 32° 4' 42.318 N                    | 103° 16' 16.84                   |
| 4,500.0            | 6.00         | 215.00               | 4,487.4            | -430.8              | 2,249.1             | 32° 4' 42.234 N                    | 103° 16' 16.91                   |
| 4,600.0            | 6.00         | 215.00               | 4,586.9            | -439.4              | 2,249.1             | 32° 4' 42.150 N                    | 103° 16' 16.98                   |
| 4,700.0            | 6.00         | 215.00               | 4,686.3            | -448.0              | 2,243.1             | 32° 4' 42.066 N                    | 103° 16' 17.05                   |
| 4,800.0            | 6.00         | 215.00               | 4,785.8            | -446.0<br>-456.5    | 2,231.1             | 32° 4' 41.982 N                    | 103 16 17.03                     |
| 4,900.0            | 6.00         | 215.00               | 4,885.2            | -465.1              | 2,225.1             | 32° 4' 41.897 N                    | 103° 16' 17.12                   |
|                    |              |                      |                    |                     |                     |                                    |                                  |
| 5,000.0            | 6.00         | 215.00               | 4,984.7            | -473.6              | 2,219.1             | 32° 4' 41.813 N                    | 103° 16' 17.26                   |
| 5,100.0            | 6.00         | 215.00               | 5,084.1            | -482.2              | 2,213.1             | 32° 4' 41.729 N                    | 103° 16' 17.33                   |
| 5,200.0            | 6.00         | 215.00               | 5,183.6            | -490.8              | 2,207.1             | 32° 4' 41.645 N                    | 103° 16' 17.40                   |
| 5,300.0<br>5,400.0 | 6.00<br>6.00 | 215.00<br>215.00     | 5,283.0<br>5,382.5 | -499.3<br>-507.9    | 2,201.1<br>2,195.1  | 32° 4' 41.561 N<br>32° 4' 41.477 N | 103° 16' 17.47<br>103° 16' 17.55 |
|                    |              |                      |                    |                     |                     |                                    |                                  |
| 5,500.0            | 6.00         | 215.00               | 5,481.9            | -516.5              | 2,189.1             | 32° 4' 41.393 N                    | 103° 16' 17.62                   |



Lease Penetration Section Line Footages

Company: Ameredev Operating, LLC.

 Project:
 TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

Minimum Curvature

Database: EDM5000

| esign: Design | <i>π</i> ι |                      | Database:     |                     | EDM5000             |                 |                   |
|---------------|------------|----------------------|---------------|---------------------|---------------------|-----------------|-------------------|
| anned Survey  |            |                      |               |                     |                     |                 |                   |
| MD<br>(usft)  | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
| 5,600.0       | 6.00       | 215.00               | 5,581.4       | -525.0              | 2,183.1             | 32° 4′ 41.308 N | 103° 16' 17.691 V |
| 5,700.0       | 6.00       | 215.00               | 5,680.8       | -533.6              | 2,177.1             | 32° 4' 41.224 N | 103° 16' 17.762 V |
| 5,800.0       | 6.00       | 215.00               | 5,780.3       | -542.1              | 2,171.1             | 32° 4' 41.140 N | 103° 16' 17.832 V |
| 5,900.0       | 6.00       | 215.00               | 5,879.7       | -550.7              | 2,165.1             | 32° 4′ 41.056 N | 103° 16' 17.903 V |
| 6,000.0       | 6.00       | 215.00               | 5,979.2       | -559.3              | 2,159.2             | 32° 4' 40.972 N | 103° 16' 17.974 V |
| 6,100.0       | 6.00       | 215.00               | 6,078.6       | -567.8              | 2,153.2             | 32° 4' 40.888 N | 103° 16' 18.044 V |
| 6,200.0       | 6.00       | 215.00               | 6,178.1       | -576.4              | 2,147.2             | 32° 4' 40.804 N | 103° 16' 18.115 V |
| 6,300.0       | 6.00       | 215.00               | 6,277.5       | -585.0              | 2,141.2             | 32° 4′ 40.720 N | 103° 16' 18.186 V |
| 6,400.0       | 6.00       | 215.00               | 6,377.0       | -593.5              | 2,135.2             | 32° 4' 40.635 N | 103° 16' 18.256 V |
| 6,500.0       | 6.00       | 215.00               | 6,476.4       | -602.1              | 2,129.2             | 32° 4' 40.551 N | 103° 16' 18.327 \ |
| 6,600.0       | 6.00       | 215.00               | 6,575.9       | -610.6              | 2,123.2             | 32° 4' 40.467 N | 103° 16' 18.398 \ |
| 6,700.0       | 6.00       | 215.00               | 6,675.3       | -619.2              | 2,117.2             | 32° 4' 40.383 N | 103° 16' 18.468 ' |
| 6,775.1       | 6.00       | 215.00               | 6,750.0       | -625.6              | 2,112.7             | 32° 4' 40.320 N | 103° 16' 18.521 ' |
| 6,800.0       | 5.50       | 215.00               | 6,774.8       | -627.7              | 2,111.3             | 32° 4' 40.300 N | 103° 16' 18.538 ' |
| 6,900.0       | 3.50       | 215.00               | 6,874.5       | -634.1              | 2,106.7             | 32° 4' 40.237 N | 103° 16' 18.591 ' |
| 7,000.0       | 1.50       | 215.00               | 6,974.4       | -637.7              | 2,104.2             | 32° 4' 40.201 N | 103° 16' 18.621   |
| 7,075.1       | 0.00       | 0.00                 | 7,049.5       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,100.0       | 0.00       | 0.00                 | 7,074.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,200.0       | 0.00       | 0.00                 | 7,174.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,300.0       | 0.00       | 0.00                 | 7,274.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,400.0       | 0.00       | 0.00                 | 7,374.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,500.0       | 0.00       | 0.00                 | 7,474.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,600.0       | 0.00       | 0.00                 | 7,574.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,700.0       | 0.00       | 0.00                 | 7,674.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,800.0       | 0.00       | 0.00                 | 7,774.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 7,900.0       | 0.00       | 0.00                 | 7,874.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,000.0       | 0.00       | 0.00                 | 7,974.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,100.0       | 0.00       | 0.00                 | 8,074.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,200.0       | 0.00       | 0.00                 | 8,174.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,300.0       | 0.00       | 0.00                 | 8,274.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,400.0       | 0.00       | 0.00                 | 8.374.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,500.0       | 0.00       | 0.00                 | 8,474.4       | -638.5              | 2,103.7             |                 | 103° 16' 18.627   |
| 8,600.0       | 0.00       | 0.00                 | 8,574.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,700.0       | 0.00       | 0.00                 | 8,674.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,800.0       | 0.00       | 0.00                 | 8,774.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 8,900.0       | 0.00       | 0.00                 | 8,874.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,000.0       | 0.00       | 0.00                 | 8,974.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,100.0       | 0.00       | 0.00                 | 9,074.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,200.0       | 0.00       | 0.00                 | 9,174.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,300.0       | 0.00       | 0.00                 | 9,274.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,400.0       | 0.00       | 0.00                 | 9,374.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,500.0       | 0.00       | 0.00                 | 9,474.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,600.0       | 0.00       | 0.00                 | 9,574.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N | 103° 16' 18.627   |
| 9,700.0       | 0.00       | 0.00                 | 9,674.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N |                   |

#### **Ameredev Operating, LLC**



Company: Ameredev Operating, LLC.

Project: TO/FIR Site: TO/FIR #5S Well: Tea Olive 124H Wellbore: Wellbore #1 Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well Tea Olive 124H KB @ 3020.0usft KB @ 3020.0usft

Grid

Minimum Curvature

|              | Vveilbore #1<br>Design #1 |                      | Database:     | iculation Method:   | EDM5000             | acure .          |                 |
|--------------|---------------------------|----------------------|---------------|---------------------|---------------------|------------------|-----------------|
| anned Survey |                           |                      |               |                     |                     |                  |                 |
| MD<br>(usft) | Inc<br>(°)                | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude         | Longitude       |
| 9,800        | .0 0.00                   | 0.00                 | 9,774.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 9,900        | 0.00                      | 0.00                 | 9,874.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,000       | 0.00                      | 0.00                 | 9,974.4       | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,100       | 0.00                      | 0.00                 | 10,074.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,200       | .0 0.00                   | 0.00                 | 10,174.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,300       |                           |                      | 10,274.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,400       | 0.00                      | 0.00                 | 10,374.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,500       | 0.00                      | 0.00                 | 10,474.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,600       | 0.00                      | 0.00                 | 10,574.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,700       | .0 0.00                   | 0.00                 | 10,674.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,800       | .0 0.00                   | 0.00                 | 10,774.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 10,900       | 0.00                      | 0.00                 | 10,874.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,000       | 0.00                      | 0.00                 | 10,974.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,100       | 0.00                      | 0.00                 | 11,074.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,200       | 0.00                      | 0.00                 | 11,174.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,300       | 0.00                      | 0.00                 | 11,274.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,400       | 0.00                      | 0.00                 | 11,374.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,500       | 0.00                      | 0.00                 | 11,474.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| 11,600       | .0 0.00                   | 0.00                 | 11,574.4      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.62  |
| 11,600       | 0.00                      | 0.00                 | 11,575.0      | -638.5              | 2,103.7             | 32° 4' 40.193 N  | 103° 16' 18.627 |
| TO124 KOF    | •                         |                      |               |                     |                     |                  |                 |
| 11,700       | .0 11.93                  | 3 14.38              | 11,673.7      | -628.5              | 2,106.2             | 32° 4' 40.292 N  | 103° 16' 18.596 |
| 11,800       | .0 23.93                  | 3 14.38              | 11,768.6      | -598.7              | 2,113.9             | 32° 4' 40.586 N  | 103° 16' 18.504 |
| 11,900       | .0 35.93                  | 3 14.38              | 11,855.2      | -550.5              | 2,126.2             | 32° 4' 41.062 N  | 103° 16' 18.355 |
| 12,000       | .0 47.93                  | 3 14.38              | 11,929.4      | -485.9              | 2,142.8             | 32° 4' 41.699 N  | 103° 16' 18.155 |
| 12,100       | .0 59.93                  | 14.38                | 11,988.2      | -407.8              | 2,162.9             | 32° 4' 42.471 N  | 103° 16' 17.91  |
| 12,200       | .0 71.93                  | 14.38                | 12,028.9      | -319.5              | 2,185.5             | 32° 4′ 43.342 N  | 103° 16' 17.64  |
| 12,300       | .0 83.93                  | 3 14.38              | 12,049.8      | -224.9              | 2,209.7             | 32° 4' 44.275 N  | 103° 16' 17.347 |
| 12,326       | 5.5 87.10                 | 14.38                | 12,051.9      | -199.4              | 2,216.3             | 32° 4' 44.527 N  | 103° 16' 17.268 |
| 12,400       | .0 87.10                  | 14.38                | 12,055.6      | -128.2              | 2,234.5             | 32° 4' 45.230 N  | 103° 16' 17.048 |
| 12,500       | .0 87.10                  | 14.38                | 12,060.6      | -31.5               | 2,259.4             | 32° 4' 46.184 N  | 103° 16' 16.749 |
| 12,532       | 87.10                     | 14.38                | 12,062.3      | 0.0                 | 2,267.4             | 32° 4' 46.496 N  | 103° 16' 16.65′ |
|              | NMNM136233                |                      |               |                     |                     |                  |                 |
| 12,600       |                           |                      | 12,065.7      | 65.2                | 2,284.2             | 32° 4' 47.139 N  | 103° 16' 16.449 |
| 12,641       |                           | 14.38                | 12,067.8      | 105.1               | 2,294.4             | 32° 4' 47.532 N  | 103° 16' 16.326 |
| TO124 FTP    |                           | 14 20                | 12.069.9      | 124.5               | 2 200 4             | 20° 4' 47 704 N  | 102° 16' 16 26' |
| 12,661       |                           |                      | 12,068.8      | 124.5               | 2,299.4             | 32° 4' 47.724 N  | 103° 16' 16.266 |
| 12,700       |                           |                      | 12,070.4      | 162.3               | 2,307.5             | 32° 4' 48.098 N  | 103° 16' 16.167 |
| 12,788       |                           | 359.44               | 12,072.0      | 250.0               | 2,314.6             | 32° 4' 48.964 N  | 103° 16' 16.07  |
| TO124 EOC    |                           | 050.44               | 40.070.0      | 004.0               | 0.044.5             | 200 41 40 000 11 | 1020 401 40 07  |
| 12,800       |                           |                      | 12,072.0      | 261.9               | 2,314.5             | 32° 4' 49.082 N  | 103° 16' 16.075 |
| 12,900       |                           |                      | 12,072.0      | 361.9               | 2,313.5             | 32° 4' 50.072 N  | 103° 16' 16.075 |
| 13,000       |                           |                      | 12,072.0      | 461.9               | 2,312.5             | 32° 4' 51.061 N  | 103° 16' 16.075 |
| 13,100       | .0 90.00                  | 359.44               | 12,072.0      | 561.9               | 2,311.5             | 32° 4' 52.051 N  | 103° 16' 16.075 |
| 13,200       | .0 90.00                  | 359.44               | 12,072.0      | 661.9               | 2,310.6             | 32° 4' 53.040 N  | 103° 16' 16.074 |

#### **Ameredev Operating, LLC**



Company: Ameredev Operating, LLC.

Project: TO/FIR Site: TO/FIR #5S Well: Tea Olive 124H Wellbore: Wellbore #1 Design: Design #1

Local Co-ordinate Reference:

Well Tea Olive 124H KB @ 3020.0usft TVD Reference: MD Reference: KB @ 3020.0usft Grid North Reference:

**Survey Calculation Method:** Minimum Curvature

Database: EDM5000

| ned Survey   |            |                      |               |                     |                     |                 |                 |
|--------------|------------|----------------------|---------------|---------------------|---------------------|-----------------|-----------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude       |
| 13,300.0     | 90.00      | 359.44               | 12,072.0      | 761.9               | 2,309.6             | 32° 4' 54.030 N | 103° 16' 16.074 |
| 13,400.0     | 90.00      | 359.44               | 12,072.0      | 861.9               | 2,308.6             | 32° 4' 55.019 N | 103° 16' 16.07  |
| 13,500.0     | 90.00      | 359.44               | 12,072.0      | 961.9               | 2,307.6             | 32° 4' 56.009 N | 103° 16' 16.07  |
| 13,600.0     | 90.00      | 359.44               | 12,072.0      | 1,061.9             | 2,306.7             | 32° 4' 56.998 N | 103° 16' 16.07  |
| 13,700.0     | 90.00      | 359.44               | 12,072.0      | 1,161.9             | 2,305.7             | 32° 4' 57.988 N | 103° 16' 16.07  |
| 13,800.0     | 90.00      | 359.44               | 12,072.0      | 1,261.9             | 2,304.7             | 32° 4′ 58.977 N | 103° 16' 16.07  |
| 13,900.0     | 90.00      | 359.44               | 12,072.0      | 1,361.9             | 2,303.7             | 32° 4' 59.967 N | 103° 16' 16.07  |
| 14,000.0     | 90.00      | 359.44               | 12,072.0      | 1,461.9             | 2,302.8             | 32° 5′ 0.956 N  | 103° 16' 16.07  |
| 14,100.0     | 90.00      | 359.44               | 12,072.0      | 1,561.9             | 2,301.8             | 32° 5′ 1.946 N  | 103° 16' 16.07  |
| 14,200.0     | 90.00      | 359.44               | 12,072.0      | 1,661.9             | 2,300.8             | 32° 5′ 2.935 N  | 103° 16' 16.07  |
| 14,300.0     | 90.00      | 359.44               | 12,072.0      | 1,761.8             | 2,299.8             | 32° 5′ 3.925 N  | 103° 16' 16.07  |
| 14,400.0     | 90.00      | 359.44               | 12,072.0      | 1,861.8             | 2,298.9             | 32° 5′ 4.914 N  | 103° 16' 16.07  |
| 14,500.0     | 90.00      | 359.44               | 12,072.0      | 1,961.8             | 2,297.9             | 32° 5′ 5.904 N  | 103° 16' 16.07  |
| 14,600.0     | 90.00      | 359.44               | 12,072.0      | 2,061.8             | 2,296.9             | 32° 5′ 6.893 N  | 103° 16' 16.07  |
| 14,700.0     | 90.00      | 359.44               | 12,072.0      | 2,161.8             | 2,295.9             | 32° 5' 7.883 N  | 103° 16' 16.07  |
| 14,800.0     | 90.00      | 359.44               | 12,072.0      | 2,261.8             | 2,295.0             | 32° 5′ 8.872 N  | 103° 16' 16.07  |
| 14,900.0     | 90.00      | 359.44               | 12,072.0      | 2,361.8             | 2,294.0             | 32° 5′ 9.862 N  | 103° 16' 16.07  |
| 15,000.0     | 90.00      | 359.44               | 12,072.0      | 2,461.8             | 2,293.0             | 32° 5' 10.851 N | 103° 16' 16.07  |
| 15,100.0     | 90.00      | 359.44               | 12,072.0      | 2,561.8             | 2,292.0             | 32° 5' 11.841 N | 103° 16' 16.07  |
| 15,200.0     | 90.00      | 359.44               | 12,072.0      | 2,661.8             | 2,291.1             | 32° 5' 12.830 N | 103° 16' 16.07  |
| 15,300.0     | 90.00      | 359.44               | 12,072.0      | 2,761.8             | 2,290.1             | 32° 5′ 13.820 N | 103° 16' 16.07  |
| 15,400.0     | 90.00      | 359.44               | 12,072.0      | 2,861.8             | 2,289.1             | 32° 5' 14.809 N | 103° 16' 16.07  |
| 15,500.0     | 90.00      | 359.44               | 12,072.0      | 2,961.8             | 2,288.1             | 32° 5' 15.799 N | 103° 16' 16.07  |
| 15,600.0     | 90.00      | 359.44               | 12,072.0      | 3,061.8             | 2,287.2             | 32° 5′ 16.788 N | 103° 16' 16.07  |
| 15,700.0     | 90.00      | 359.44               | 12,072.0      | 3,161.8             | 2,286.2             | 32° 5' 17.778 N | 103° 16' 16.07  |
| 15,800.0     | 90.00      | 359.44               | 12,072.0      | 3,261.8             | 2,285.2             | 32° 5′ 18.767 N | 103° 16' 16.07  |
| 15,900.0     | 90.00      | 359.44               | 12,072.0      | 3,361.8             | 2,284.3             | 32° 5′ 19.757 N | 103° 16' 16.07  |
| 16,000.0     | 90.00      | 359.44               | 12,072.0      | 3,461.8             | 2,283.3             | 32° 5′ 20.746 N | 103° 16' 16.07  |
| 16,100.0     | 90.00      | 359.44               | 12,072.0      | 3,561.8             | 2,282.3             | 32° 5′ 21.736 N | 103° 16' 16.07  |
| 16,200.0     | 90.00      | 359.44               | 12,072.0      | 3,661.8             | 2,281.3             | 32° 5′ 22.725 N | 103° 16' 16.07  |
| 16,300.0     | 90.00      | 359.44               | 12,072.0      | 3,761.8             | 2,280.4             | 32° 5′ 23.715 N | 103° 16' 16.07  |
| 16,400.0     | 90.00      | 359.44               | 12,072.0      | 3,861.7             | 2,279.4             | 32° 5′ 24.704 N | 103° 16' 16.07  |
| 16,500.0     | 90.00      | 359.44               | 12,072.0      | 3,961.7             | 2,278.4             | 32° 5′ 25.694 N | 103° 16' 16.07  |
| 16,600.0     | 90.00      | 359.44               | 12,072.0      | 4,061.7             | 2,277.4             | 32° 5′ 26.683 N | 103° 16' 16.07  |
| 16,700.0     | 90.00      | 359.44               | 12,072.0      | 4,161.7             | 2,276.5             | 32° 5′ 27.673 N | 103° 16' 16.07  |
| 16,800.0     | 90.00      | 359.44               | 12,072.0      | 4,261.7             | 2,275.5             | 32° 5′ 28.662 N | 103° 16' 16.07  |
| 16,900.0     | 90.00      | 359.44               | 12,072.0      | 4,361.7             | 2,274.5             | 32° 5′ 29.652 N | 103° 16' 16.07  |
| 17,000.0     | 90.00      | 359.44               | 12,072.0      | 4,461.7             | 2,273.5             | 32° 5′ 30.641 N | 103° 16' 16.07  |
| 17,100.0     | 90.00      | 359.44               | 12,072.0      | 4,561.7             | 2,272.6             | 32° 5′ 31.631 N | 103° 16' 16.07  |
| 17,200.0     | 90.00      | 359.44               | 12,072.0      | 4,661.7             | 2,271.6             | 32° 5′ 32.620 N | 103° 16' 16.06  |
| 17,300.0     | 90.00      | 359.44               | 12,072.0      | 4,761.7             | 2,270.6             | 32° 5′ 33.610 N | 103° 16' 16.06  |
| 17,400.0     | 90.00      | 359.44               | 12,072.0      | 4,861.7             | 2,269.6             | 32° 5′ 34.599 N | 103° 16' 16.06  |
| 17,500.0     | 90.00      | 359.44               | 12,072.0      | 4,961.7             | 2,268.7             | 32° 5′ 35.589 N | 103° 16' 16.06  |
| 17,600.0     | 90.00      | 359.44               | 12,072.0      | 5,061.7             | 2,267.7             | 32° 5' 36.578 N | 103° 16' 16.06  |

#### **Ameredev Operating, LLC**



Company: Ameredev Operating, LLC.

Project: TO/FIR Site: TO/FIR #5S Well: Tea Olive 124H Wellbore: Wellbore #1 Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Tea Olive 124H KB @ 3020.0usft

KB @ 3020.0usft

Grid Minimum Curvature

EDM5000

| ned Survey     |            |                      |               |                     |                     |                 |                 |
|----------------|------------|----------------------|---------------|---------------------|---------------------|-----------------|-----------------|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude       |
| 17,700.0       | 90.00      | 359.44               | 12,072.0      | 5,161.7             | 2,266.7             | 32° 5′ 37.568 N | 103° 16' 16.069 |
| 17,800.0       | 90.00      | 359.44               | 12,072.0      | 5,261.7             | 2,265.7             | 32° 5′ 38.557 N | 103° 16' 16.069 |
| 17,900.0       | 90.00      | 359.44               | 12,072.0      | 5,361.7             | 2,264.8             | 32° 5′ 39.547 N | 103° 16' 16.069 |
| 18,000.0       | 90.00      | 359.44               | 12,072.0      | 5,461.7             | 2,263.8             | 32° 5′ 40.536 N | 103° 16' 16.068 |
| 18,100.0       | 90.00      | 359.44               | 12,072.0      | 5,561.7             | 2,262.8             | 32° 5′ 41.526 N | 103° 16' 16.068 |
| 18,200.0       | 90.00      | 359.44               | 12,072.0      | 5,661.7             | 2,261.8             | 32° 5′ 42.515 N | 103° 16' 16.068 |
| 18,300.0       | 90.00      | 359.44               | 12,072.0      | 5,761.7             | 2,260.9             | 32° 5′ 43.505 N | 103° 16' 16.068 |
| 18,400.0       | 90.00      | 359.44               | 12,072.0      | 5,861.7             | 2,259.9             | 32° 5′ 44.494 N | 103° 16' 16.06  |
| 18,500.0       | 90.00      | 359.44               | 12,072.0      | 5,961.6             | 2,258.9             | 32° 5′ 45.484 N | 103° 16' 16.06  |
| 18,600.0       | 90.00      | 359.44               | 12,072.0      | 6,061.6             | 2,257.9             | 32° 5′ 46.473 N | 103° 16' 16.06  |
| 18,700.0       | 90.00      | 359.44               | 12,072.0      | 6,161.6             | 2,257.0             | 32° 5' 47.463 N | 103° 16' 16.06  |
| 18,800.0       | 90.00      | 359.44               | 12,072.0      | 6,261.6             | 2,256.0             | 32° 5' 48.452 N | 103° 16' 16.06  |
| 18,900.0       | 90.00      | 359.44               | 12,072.0      | 6,361.6             | 2,255.0             | 32° 5' 49.442 N | 103° 16' 16.06  |
| 19,000.0       | 90.00      | 359.44               | 12,072.0      | 6,461.6             | 2,254.0             | 32° 5' 50.431 N | 103° 16' 16.06  |
| 19,100.0       | 90.00      | 359.44               | 12,072.0      | 6,561.6             | 2,253.1             | 32° 5' 51.421 N | 103° 16' 16.06  |
| 19,200.0       | 90.00      | 359.44               | 12,072.0      | 6,661.6             | 2,252.1             | 32° 5' 52.410 N | 103° 16' 16.06  |
| 19,300.0       | 90.00      | 359.44               | 12,072.0      | 6,761.6             | 2,251.1             | 32° 5' 53.400 N | 103° 16' 16.06  |
| 19,400.0       | 90.00      | 359.44               | 12,072.0      | 6,861.6             | 2,250.2             | 32° 5' 54.389 N | 103° 16' 16.06  |
| 19,500.0       | 90.00      | 359.44               | 12,072.0      | 6,961.6             | 2,249.2             | 32° 5' 55.379 N | 103° 16' 16.06  |
| 19,600.0       | 90.00      | 359.44               | 12,072.0      | 7,061.6             | 2,248.2             | 32° 5' 56.368 N | 103° 16' 16.06  |
| 19,700.0       | 90.00      | 359.44               | 12,072.0      | 7,161.6             | 2,247.2             | 32° 5' 57.358 N | 103° 16' 16.06  |
| 19,800.0       | 90.00      | 359.44               | 12,072.0      | 7,261.6             | 2,246.3             | 32° 5' 58.348 N | 103° 16' 16.06  |
| 19,900.0       | 90.00      | 359.44               | 12,072.0      | 7,361.6             | 2,245.3             | 32° 5' 59.337 N | 103° 16' 16.06  |
| 20,000.0       | 90.00      | 359.44               | 12,072.0      | 7,461.6             | 2,244.3             | 32° 6' 0.327 N  | 103° 16' 16.06  |
| 20,100.0       | 90.00      | 359.44               | 12,072.0      | 7,561.6             | 2,243.3             | 32° 6' 1.316 N  | 103° 16' 16.06  |
| 20,200.0       | 90.00      | 359.44               | 12,072.0      | 7,661.6             | 2,242.4             | 32° 6' 2.306 N  | 103° 16' 16.06  |
| 20,300.0       | 90.00      | 359.44               | 12,072.0      | 7,761.6             | 2,241.4             | 32° 6' 3.295 N  | 103° 16' 16.06  |
| 20,400.0       | 90.00      | 359.44               | 12,072.0      | 7,861.6             | 2,240.4             | 32° 6' 4.285 N  | 103° 16' 16.06  |
| 20,458.4       | 90.00      | 359.44               | 12,072.0      | 7,920.0             | 2,239.8             | 32° 6' 4.862 N  | 103° 16' 16.06  |
| TO124 into NMN | IM105564   |                      |               |                     |                     |                 |                 |
| 20,500.0       | 90.00      | 359.44               | 12,072.0      | 7,961.6             | 2,239.4             | 32° 6′ 5.274 N  | 103° 16' 16.06  |
| 20,600.0       | 90.00      | 359.44               | 12,072.0      | 8,061.5             | 2,238.5             | 32° 6′ 6.264 N  | 103° 16' 16.06  |
| 20,700.0       | 90.00      | 359.44               | 12,072.0      | 8,161.5             | 2,237.5             | 32° 6′ 7.253 N  | 103° 16' 16.06  |
| 20,800.0       | 90.00      | 359.44               | 12,072.0      | 8,261.5             | 2,236.5             | 32° 6′ 8.243 N  | 103° 16' 16.06  |
| 20,900.0       | 90.00      | 359.44               | 12,072.0      | 8,361.5             | 2,235.5             | 32° 6′ 9.232 N  | 103° 16' 16.06  |
| 21,000.0       | 90.00      | 359.44               | 12,072.0      | 8,461.5             | 2,234.6             | 32° 6' 10.222 N | 103° 16' 16.06  |
| 21,100.0       | 90.00      | 359.44               | 12,072.0      | 8,561.5             | 2,233.6             | 32° 6′ 11.211 N | 103° 16' 16.06  |
| 21,200.0       | 90.00      | 359.44               | 12,072.0      | 8,661.5             | 2,232.6             | 32° 6′ 12.201 N | 103° 16' 16.06  |
| 21,300.0       | 90.00      | 359.44               | 12,072.0      | 8,761.5             | 2,231.6             | 32° 6′ 13.190 N | 103° 16' 16.06  |
| 21,400.0       | 90.00      | 359.44               | 12,072.0      | 8,861.5             | 2,230.7             | 32° 6′ 14.180 N | 103° 16' 16.06  |
| 21,500.0       | 90.00      | 359.44               | 12,072.0      | 8,961.5             | 2,229.7             | 32° 6' 15.169 N | 103° 16' 16.06  |
| 21,600.0       | 90.00      | 359.44               | 12,072.0      | 9,061.5             | 2,228.7             | 32° 6' 16.159 N | 103° 16' 16.06  |
| 21,700.0       | 90.00      | 359.44               | 12,072.0      | 9,161.5             | 2,227.7             | 32° 6′ 17.148 N | 103° 16' 16.06  |
| 21,800.0       | 90.00      | 359.44               | 12,072.0      | 9,261.5             | 2,226.8             | 32° 6′ 18.138 N | 103° 16' 16.06  |
| 21,900.0       | 90.00      | 359.44               | 12,072.0      | 9,361.5             | 2,225.8             |                 | 103° 16' 16.06  |

#### Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company: Ameredev Operating, LLC.

 Project:
 TO/FIR

 Site:
 TO/FIR #5S

 Well:
 Tea Olive 124H

 Wellbore:
 Wellbore #1

 Design:
 Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

KB @ 3020.0usft Grid

Survey Calculation Method:

Minimum Curvature

Well Tea Olive 124H

KB @ 3020.0usft

Database: EDM5000

| nned Survey  |            |                      |               |                     |                     |                 |                   |
|--------------|------------|----------------------|---------------|---------------------|---------------------|-----------------|-------------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
| 22,000.0     | 90.00      | 359.44               | 12,072.0      | 9,461.5             | 2,224.8             | 32° 6′ 20.117 N | 103° 16' 16.063 V |
| 22,100.0     | 90.00      | 359.44               | 12,072.0      | 9,561.5             | 2,223.8             | 32° 6′ 21.106 N | 103° 16' 16.063 V |
| 22,200.0     | 90.00      | 359.44               | 12,072.0      | 9,661.5             | 2,222.9             | 32° 6′ 22.096 N | 103° 16' 16.063 V |
| 22,300.0     | 90.00      | 359.44               | 12,072.0      | 9,761.5             | 2,221.9             | 32° 6′ 23.085 N | 103° 16' 16.063 V |
| 22,400.0     | 90.00      | 359.44               | 12,072.0      | 9,861.5             | 2,220.9             | 32° 6′ 24.075 N | 103° 16' 16.063 V |
| 22,500.0     | 90.00      | 359.44               | 12,072.0      | 9,961.5             | 2,220.0             | 32° 6′ 25.064 N | 103° 16' 16.063 V |
| 22,600.0     | 90.00      | 359.44               | 12,072.0      | 10,061.5            | 2,219.0             | 32° 6′ 26.054 N | 103° 16' 16.063 \ |
| 22,700.0     | 90.00      | 359.44               | 12,072.0      | 10,161.4            | 2,218.0             | 32° 6′ 27.043 N | 103° 16' 16.062 \ |
| 22,800.0     | 90.00      | 359.44               | 12,072.0      | 10,261.4            | 2,217.0             | 32° 6′ 28.033 N | 103° 16' 16.062 \ |
| 22,900.0     | 90.00      | 359.44               | 12,072.0      | 10,361.4            | 2,216.1             | 32° 6′ 29.022 N | 103° 16' 16.062 V |
| 22,996.2     | 90.00      | 359.44               | 12,072.0      | 10,457.6            | 2,215.1             | 32° 6′ 29.974 N | 103° 16' 16.062 \ |
| TO124 LTP    |            |                      |               |                     |                     |                 |                   |
| 23,000.0     | 90.00      | 359.44               | 12,072.0      | 10,461.4            | 2,215.1             | 32° 6′ 30.012 N | 103° 16' 16.062 \ |
| 23,046.2     | 90.00      | 359.44               | 12,072.0      | 10,507.7            | 2,214.6             | 32° 6′ 30.469 N | 103° 16' 16.062 \ |
| TO124 BHL    |            |                      |               |                     |                     |                 |                   |

| Pla | n Annotations               |                             |                                |                            |  |  |
|-----|-----------------------------|-----------------------------|--------------------------------|----------------------------|--|--|
|     | Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coord<br>+N/-S<br>(usft) | linates<br>+E/-W<br>(usft) | Comment  |  |
|     | 12,532.6<br>20,458.4        | 12,062.3<br>12,072.0        | 229.7<br>8,149.6               | -122.5<br>-150.1           | TO124 into NMNM136233<br>TO124 into NMNM105564 |  |

| +). | Checked By: | Approved By: | Date: |  |
|-----|-------------|--------------|-------|--|
|-----|-------------|--------------|-------|--|

#### State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

#### NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

# **Section 1 – Plan Description**

|   |                  | <u>Eff</u>      | ective May 25, 2        | <u>021</u>               |                          |  |
|---|------------------|-----------------|-------------------------|--------------------------|--------------------------|--|
| <b>Operator:</b>                                      | _Ameredev II, LI | LC              | _OGRID:                 | 372224                   | Date:                    | 09/26/2022_                            |
| . Type: ⊠ Original □                                  | Amendment due to | o □ 19.15.27.9. | D(6)(a) NMAC [          | □ 19.15.27.9.D(6         | 5)(b) NMAC □ C           | Other.                                 |
| Other, please describe: _                             |                  |                 |                         |                          |                          |  |
| I. Well(s): Provide the for recompleted from a single |                  |                 |                         |                          | rells proposed to        | be drilled or propo                    |
| Well Name   | API              | ULSTR           | Footages                | Anticipated<br>Oil BBL/D | Anticipated<br>Gas MCF/D | Anticipated<br>Produced Water<br>BBL/D |
| Tea Olive Fed Com 25<br>36 33 105H                    |                  |                 | 100' FSL &<br>315' FWL  | 900                      | 5000                     | 2700                                   |
| Tea Olive Fed Com 25<br>36 33 124H                    | 30-025-50745     |                 | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |
| Tea Olive Fed Com 25<br>36 33 122H                    |                  |                 | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |
| Tea Olive Fed Com 25<br>36 33 115H                    |                  |                 | 100' FSL &<br>1700' FWL | 900                      | 5000                     | 2700                                   |
| Tea Olive Fed Com 25<br>36 33 102H                    |                  |                 | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |
| Tea Olive Fed Com 25<br>36 33 121H                    |                  |                 | 230' FNL &<br>800' FWL  | 900                      | 5000                     | 2700                                   |

| IV. Central Delivery Point Name: | [See 19.15.27.9(D)(1) NMAC] |
|----------------------------------|-----------------------------|
|----------------------------------|-----------------------------|

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                          | API          | Spud Date  | TD Reached<br>Date | Completion<br>Commencement Date | Initial Flow<br>Back Date | First Production<br>Date |
|------------------------------------|--------------|------------|--------------------|---------------------------------|---------------------------|--------------------------|
| Tea Olive Fed Com 25<br>36 33 105H |              | 10/06/2023 | 10/28/2023         | 03/13/2024                      | 04/01/2024                | 04/04/2024               |
| Tea Olive Fed Com 25<br>36 33 124H | 30-025-50745 | 09/25/2023 | 10/17/2023         | 12/24/2023                      | 01/12/2024                | 01/15/2024               |
| Tea Olive Fed Com 25<br>36 33 122H |              | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |
| Tea Olive Fed Com 25<br>36 33 115H |              | 10/30/2023 | 11/21/2023         | 03/13/2024                      | 04/01/2024                | 04/04/2024               |
| Tea Olive Fed Com 25<br>36 33 102H |              | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |
| Tea Olive Fed Com 25<br>36 33 121H |              | 11/22/2022 | 12/14/2022         | 06/29/2023                      | 07/19/2023                | 07/22/2023               |

VI. Separation Equipment: 
☐ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: 

Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: 

Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

# Section 2 – Enhanced Plan EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

🗵 Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

| IX. Anticipated Nat | tural Gas Production: |
|---------------------|-----------------------|
|---------------------|-----------------------|

| Well                                    | API | Anticipated Average<br>Natural Gas Rate MCF/D | Anticipated Volume of Natural<br>Gas for the First Year MCF |  |  |  |  |
|---|-----|---|---|--|--|--|--|
|   |     |   |   |  |  |  |  |
|   |     |   |   |  |  |  |  |
| X. Natural Gas Gathering System (NGGS): |     |   |   |  |  |  |  |

| Operator | System | ULSTR of Tie-in | Anticipated Gathering<br>Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|----------|--------|-----------------|-------------------------------------|---|
|          |        |                 |                                     |   |
|          |        |                 |                                     |   |

| XI. Map. $\square$ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the |
|---|
| production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of       |
| the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.   |

| XII. Line Capacity. The natural gas gathering system $\square$ will $\square$ will not have capacity to gather 100% of the | anticipated natural ga | 15 |
|--|------------------------|----|
| production volume from the well prior to the date of first production.   |                        |    |

| XIII. Line Pressure. Operator $\square$ does $\square$ does not anticipate that its existing well(s) connected to the same segment, or process of the same segment. | ortion, c | of the |
|---|-----------|--------|
| natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the  | new wel   | ll(s). |

|  | Attach O | perator's | olan to | o manage | product | ion in re | sponse to | the | increased | line | pressure |
|--|----------|-----------|---------|----------|---------|-----------|-----------|-----|-----------|------|----------|
|--|----------|-----------|---------|----------|---------|-----------|-----------|-----|-----------|------|----------|

| XIV. Confidentiality:  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provide           | d in  |
|--|-------|
| Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific informa | ation |
| for which confidentiality is asserted and the basis for such assertion.  |       |

(i)

# Section 3 - Certifications Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal: 🖂 Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or ☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. If Operator checks this box, Operator will select one of the following: Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or Venting and Flaring Plan.  $\square$  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including: power generation on lease; (a) power generation for grid; **(b)** compression on lease; (c) liquids removal on lease; (d) reinjection for underground storage; (e) reinjection for temporary storage; **(f)** reinjection for enhanced oil recovery; (g) fuel cell production; and (h)

#### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

other alternative beneficial uses approved by the division.

- (a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or
- (b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
- 2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

| Signature: Cesca Gu                                   |
|---|
| Printed Name: Cesca Yu                                |
| Title: Engineer                                       |
| E-mail Address: cyu@ameredev.com                      |
| Date: 09/26/2022                                      |
| Phone: 512-775-1417                                   |
| OIL CONSERVATION DIVISION                             |
| (Only applicable when submitted as a standalone form) |
| Approved By:  |
| Title:  |
| Approval Date:  |
| Conditions of Approval:                               |
|   |
|   |
|   |
|   |

#### Natural Gas Management Plan

# VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment is sized to allow for retention time and velocity to adequately separate oil, gas, and water at anticipated peak rates.
- All central tank battery equipment is designed to efficiently capture the remaining gas from the liquid phase.
- Valves and meters are designed to service without flow interruption or venting of gas.

# VII. <u>Operational Practices: Attach a complete description of the actions Operator will</u> take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

#### 19.15.27.8 (A)

Ameredev's field operations are designed with the goal of minimizing flaring and preventing venting of natural gas. If capturing the gas is not possible then the gas is combusted/flared using properly sized flares or combustors in accordance with state air permit rules.

#### 19.15.27.8 (B) Venting and Flaring during drilling operations

- A properly-sized flare stack will be located at a minimum 100' from the nearest surface hole location on the pad.
- All natural gas produced during drilling operations will be flared. Venting will only occur if there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety, public health, or the environment.

#### 19.15.27.8 (C) Venting and Flaring during completions or recompletions operations.

- During all phases of flowback, wells will flow through a sand separator, or other appropriate flowback separation equipment, and the well stream will be directed to a central tank battery (CTB) through properly sized flowlines
- The CTB will have properly sized separation equipment for maximum anticipated flowrates
- Multiple stages of separation will be used to separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet.

#### 19.15.27.8 (D) Venting and Flaring during production operations.

• During production, the well stream will be routed to the CTB where multiple stages of separation will separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks with a closed

loop system that will recover any residual gas from the tanks and route such gas to a sales outlet, minimizing tank emissions.

- Flares are equipped with auto-ignition systems and continuous pilot operations.
- Automatic gauging equipment is installed on all tanks.

#### 19.15.27.8 (E) Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- Automatic gauging equipment is installed on all tanks to minimize venting
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- •Flares are equipped with continuous pilots and auto-ignitors along with remote monitoring of the pilot status
- Weekly AVOs and monthly LDAR inspections will be performed on all wells and facilities that produce more than 60 Mcfd.
- Gas/H2S detectors will be installed throughout the facilities and wellheads to detect leaks and enable timely repairs.

#### 19.15.27.8 (F) Measurement or estimation of vented and flared natural gas

- All high pressure flared gas is measured by equipment conforming to API 14.10.
- No meter bypasses are installed.
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated through flare flow curves with the assistance of air emissions consultants, as necessary.

# VIII. <u>Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.</u>

- Ameredev will use best management practices to vent as minimally as possible during well intervention operations and downhole well maintenance
- All natural gas is routed into the gas gathering system and directed to one of Ameredev's multiple gas sales outlets.
- All venting events will be recorded and all start-up, shutdown, maintenance logs will be kept for control equipment
- All control equipment will be maintained to provide highest run-time possible
- All procedures are drafted to keep venting and flaring to the absolute minimum



#### H<sub>2</sub>S Drilling Operation Plan

## 1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:

- a. Characteristics of H<sub>2</sub>S
- b. Physical effects and hazards
- c. Principal and operation of H<sub>2</sub>s detectors, warning system and briefing areas
- d. Evacuation procedure, routes and first aid
- e. Proper use of safety equipment and life support systems
- f. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

#### 2. Briefing Area:

- a. Two perpendicular areas will be designated by signs and readily accessible.
- **b.** Upon location entry there will be a designated area to establish all safety compliance criteria (1.) has been met.

#### 3. H<sub>2</sub>S Detection and Alarm Systems:

- a.  $H_2S$  sensors/detectors shall be located on the drilling rig floor, in the base of the sub structure/cellar area, and on the mud pits in the shale shaker area. Additional  $H_2S$  detectors may be placed as deemed necessary. All detectors will be set to initiate visual alarm at 10 ppm and visual with audible at 14 ppm and all equipment will be calibrated every 30 days or as needed.
- **b.** An audio alarm will be installed on the derrick floor and in the top doghouse.

#### 4. Protective Equipment for Essential Personnel:

#### a. Breathing Apparatus:

- i. Rescue Packs (SCBA) 1 Unit shall be placed at each briefing area.
- ii. Two (SCBA) Units will be stored in safety trailer on location.
- iii. Work/Escape packs 1 Unit will be available on rig floor in doghouse for emergency evacuation for driller.

#### b. Auxiliary Rescue Equipment:

- i. Stretcher
- ii. 2 OSHA full body harnesses
- iii. 100 ft. 5/8" OSHA approved rope
- iv. 1 20# class ABC fire extinguisher

#### 5. Windsock and/or Wind Streamers:

- a. Windsock at mud pit area should be high enough to be visible.
- **b.** Windsock on the rig floor should be high enough to be visible.

#### 6. Communication:

- a. While working under mask scripting boards will be used for communication where applicable.
- **b.** Hand signals will be used when script boards are not applicable.



#### H<sub>2</sub>S Drilling Operation Plan

- c. Two way radios will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at Drilling Foreman's Office.
- 7. <u>Drill Stem Testing:</u> No Planned DST at this time.

#### 8. Mud program:

a. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

#### 9. Metallurgy:

- a. All drill strings, casing, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- **b.** Drilling Contractor supervisor will be required to be familiar with the effect H<sub>2</sub>S has on tubular goods and other mechanical equipment provided through contractor.



#### H<sub>2</sub>S Contingency Plan

#### **Emergency Procedures**

In the event of a release of H<sub>2</sub>S, the first responder(s) must:

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response.
- Take precautions to avoid personal injury during this operation.
- Contact Operator and/or local officials the aid in operation. See list of phone numbers attached.
- Have received training in the:
  - o Detection of H₂S and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

#### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

#### Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

| Common Name      | Chemical<br>Formula | Specific<br>Gravity | Threshold<br>Limit | Hazardous<br>Limit | Lethal<br>Concentration |
|------------------|---------------------|---------------------|--------------------|--------------------|-------------------------|
| Hydrogen Sulfide | H <sub>2</sub> S    | 1.189 Air=1         | 10 ppm             | 100 ppm/hr         | 600 ppm                 |
| Sulfur Dioxide   | SO <sub>2</sub>     | 2.21 Air=1          | 2 ppm              | N/A                | 1000 ppm                |

#### **Contacting Authorities**

Ameredev Operating LLC personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including direction to site. The following call list of essential and potential responders has been prepared for use during a release. Ameredev Operating LLC's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER)



### H<sub>2</sub>S Contingency Plan

| Ameredev Operating LLC – Emergency Phone 737-300-4799 |                         |              |              |  |  |  |  |  |
|---|-------------------------|--------------|--------------|--|--|--|--|--|
| Key Personnel:  | Key Personnel:          |              |              |  |  |  |  |  |
| Name Title Office Mobile                              |                         |              |              |  |  |  |  |  |
| Floyd Hammond   | Chief Operating officer | 737-300-4724 | 512-783-6810 |  |  |  |  |  |
| Shane McNeely   | Operations Engineer     | 737-300-4729 | 432-413-8593 |  |  |  |  |  |
| Blake Estrada Construction Foreman 432-385-5831       |                         |              |              |  |  |  |  |  |

| <u>Artesia</u>  |                    |
|---|--------------------|
| Ambulance   | 911                |
| State Police  | 575-746-2703       |
| City Police   | 575-746-2703       |
| Sheriff's Office  | 575-746-9888       |
| Fire Department   | 575-746-2701       |
| Local Emergency Planning Committee                            | 575-746-2122       |
| New Mexico Oil Conservation Division                          | 575-748-1283       |
| Carlsbad  |                    |
| Ambulance   | 911                |
| State Police  | 575-885-3137       |
| City Police   | 575-885-2111       |
| Sheriff's Office  | 575-887-7551       |
| Fire Department   | 575-887-3798       |
| Local Emergency Planning Committee                            | 575-887-6544       |
| US Bureau of Land Management                                  | 575-887-6544       |
| <u>Santa Fe</u>   |                    |
| New Mexico Emergency Response Commission (Santa Fe)           | 505-476-9600       |
| New Mexico Emergency Response Commission (Santa Fe) 24        | Hrs 505-827-9126   |
| New Mexico State Emergency Operations Center                  | 505-476-9635       |
| <u>National</u>   |                    |
| National Emergency Response Center (Washington, D.C.)         | 800-424-8802       |
| Medical   |                    |
| Flight for Life - 4000 24th St.; Lubbock, TX                  | 806-743-9911       |
| Aerocare - R3, Box 49F; Lubbock, TX                           | 806-747-8923       |
| Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque,   | NM 505-842-4433    |
| .'SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque | e, NM 505-842-4949 |



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

SUPO Data Report

**APD ID:** 10400061860

Operator Name: AMEREDEV OPERATING LLC

Well Name: TEA OLIVE FED COM 25 36 33

Well Type: OIL WELL

Submission Date: 09/15/2020

Well Number: 124H

Well Work Type: Drill

Highlighted data reflects the most recent changes Show Final Text

# Section 1 - Existing Roads

Will existing roads be used? YES

**Existing Road Map:** 

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_WELL\_PAD\_ACCESS\_MAP\_20200915165113.pdf

Existing Road Purpose: ACCESS Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

**Existing Road Improvement Description:** 

**Existing Road Improvement Attachment:** 

#### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

#### **Section 3 - Location of Existing Wells**

**Existing Wells Map?** YES

Attach Well map:

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_1\_MI\_RADIUS\_WELLS\_20200915165144.pdf

#### Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

**Production Facilities description:** Production from the proposed well will be transported to an existing production facility named Firethorn CTB, southwest of the well pad, via a 4" buried Shawcor FP301 flowline (750 psi maximum) that runs approximately 528'. Should any type of production facilities be located on the well pad, they will be strategically placed to allow for maximum interim reclamation, re-contouring, and revegetation of the well location.

#### **Production Facilities map:**

BO\_FIRETHORN\_FED\_COM\_BATTERY\_SITE\_REV2\_S\_20200915165219.pdf EP\_TO\_FIR\_MULTI\_USE\_EASEMENT\_T26S\_R36E\_SEC\_4\_REV1\_S\_20220908143215.pdf

#### Section 5 - Location and Types of Water Supply

#### **Water Source Table**

Water source type: GW WELL

Water source use type: DUST CONTROL

SURFACE CASING

INTERMEDIATE/PRODUCTION

CASING STIMULATION

Source latitude: Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

**PIPELINE** 

Source land ownership: PRIVATE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 20000 Source volume (acre-feet): 2.57786193

Source volume (gal): 840000

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

#### Water source and transportation

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_WATER\_WELLS\_LIST\_20200915165245.pdf

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_WATER\_MAP\_20200915165248.pdf

Water source comments:

New water well? N

#### **New Water Well Info**

Well latitude: Well Longitude: Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft): Est thickness of aquifer:

**Aquifer comments:** 

Aquifer documentation:

Well depth (ft): Well casing type:

Well casing outside diameter (in.): Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method: Drill material:

Grout material: Grout depth:

Casing length (ft.): Casing top depth (ft.):

Well Production type: Completion Method:

Water well additional information:

State appropriation permit:

**Additional information attachment:** 

#### **Section 6 - Construction Materials**

Using any construction materials: YES

**Construction Materials description:** NM One Call (811) will be notified before construction start. Top 6" of soil and brush will be stockpiled south of the pad. Closed loop drilling system will be used. Caliche will be hauled from an existing caliche pit on private (Dinwiddie Cattle Company) land in W2 08-25S-36E or an existing caliche pit on private (Dinwiddie Cattle Company) land in E2 17-25S-36E.

**Construction Materials source location** 

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_CALICHE\_MAP\_20200915165321.pdf

Received by OCD: 9/28/2022 5:31:24 PM

Operator Name: AMEREDEV OPERATING LLC

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

#### **Section 7 - Methods for Handling**

Waste type: DRILLING

Waste content description: Drill cuttings, mud, salts, and other chemicals

Amount of waste: 2000 gallons

Waste disposal frequency: Daily

Safe containment description: Steel Tanks on pad

Safe containment attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: R360's State approved (NM-01-0006) disposal site at Halfway, NM

#### **Reserve Pit**

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

#### **Cuttings Area**

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Steel tanks on pad

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.) Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

**WCuttings** area liner

Cuttings area liner specifications and installation description

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

#### Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

**Ancillary Facilities** 

#### Comments:

#### Section 9 - Well Site

#### **Well Site Layout Diagram:**

BO\_TO\_FIR\_5S\_PAD\_SITE\_REV1\_S\_20200915165410.pdf TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_WELLSITE\_20200915165413.pdf Comments:

#### Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance Multiple Well Pad Name: TO/FIR

Multiple Well Pad Number: 5S

Recontouring

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_WELLSITE\_20200915165440.pdf

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well pad proposed disturbance Well pad interim reclamation (acres): Well pad long term disturbance

(acres): 4.59 (acres): 3.8

Road proposed disturbance (acres): Road interim reclamation (acres): 0 Road long term disturbance (acres): 0

Powerline interim reclamation (acres): Powerline long term disturbance Powerline proposed disturbance (acres): 0 (acres): 0

Pipeline proposed disturbance Pipeline interim reclamation (acres): 0 Pipeline long term disturbance (acres): 0.36

(acres): 0.36

Other proposed disturbance (acres): 0 Other interim reclamation (acres): 0 Other long term disturbance (acres): 0

Total interim reclamation: 0.79 Total proposed disturbance: 4.95 Total long term disturbance: 4.16

#### **Disturbance Comments:**

Reconstruction method: If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on location has been completed or plugged. Ameredev will gain written permission from the BLM if more time is needed. Interim reclamation will be completed within 6 months of completing the well. Interim reclamation will consist of shrinking the pad 17% (.79 acre) by removing caliche and reclaiming 40' wide swaths on the south and east sides of the pad. This will leave 3.8 acres for producing six wells, with tractor-trailer turn around. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the surface owner's requirements. All topsoil for the battery will be reseeded in place for the life of the battery.

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

**Topsoil redistribution:** Enough stockpiled topsoil will be retained to cover the remainder of the pad when the well is plugged. New road will be similarly reclaimed within 6 months of plugging. Noxious weeds will be controlled.

Soil treatment: None

Existing Vegetation at the well pad: Sparse low brush and intermittent grasses

Existing Vegetation at the well pad

Existing Vegetation Community at the road: Sparse low brush and intermittent grasses

**Existing Vegetation Community at the road** 

Existing Vegetation Community at the pipeline: Sparse low brush and intermittent grasses

**Existing Vegetation Community at the pipeline** 

Existing Vegetation Community at other disturbances: Sparse low brush and intermittent grasses

**Existing Vegetation Community at other disturbances** 

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

**Seed Table** 

**Seed Summary** 

Total pounds/Acre:

Seed Type

Pounds/Acre

Seed reclamation

**Operator Contact/Responsible Official** 

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

First Name: Christie Last Name: Hanna

Phone: (737)300-4723 Email: channa@ameredev.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

**Existing invasive species treatment** 

Weed treatment plan description: To BLM standards

Weed treatment plan

Monitoring plan description: To BLM standards

Monitoring plan

Success standards: To BLM satisfaction

Pit closure description: No pit

Pit closure attachment:

#### **Section 11 - Surface**

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

**BIA Local Office:** 

**BOR Local Office:** 

**COE Local Office:** 

**DOD Local Office:** 

**NPS Local Office:** 

**State Local Office:** 

**Military Local Office:** 

**USFWS Local Office:** 

Other Local Office:

**USFS** Region:

**USFS** Forest/Grassland:

**USFS** Ranger District:

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Fee Owner: EOG RESOURCES Fee Owner Address: PO BOX 2267

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: AMEREDEV AND EOG HAVE A SURFACE USE AGREEMENT

IN PLACE.

**Surface Access Bond BLM or Forest Service:** 

**BLM Surface Access Bond number:** 

**USFS Surface access bond number:** 

Disturbance type: PIPELINE

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

**BIA Local Office:** 

**BOR Local Office:** 

**COE Local Office:** 

**DOD Local Office:** 

**NPS Local Office:** 

**State Local Office:** 

**Military Local Office:** 

**USFWS Local Office:** 

**Other Local Office:** 

**USFS** Region:

**USFS Forest/Grassland:** 

**USFS** Ranger District:

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Fee Owner: EOG RESOURCES Fee Owner Address: PO BOX 2267

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: AMEREDEV AND EOG HAVE A SURFACE USE AGREEMENT

IN PLACE.

**Surface Access Bond BLM or Forest Service:** 

**BLM Surface Access Bond number:** 

**USFS Surface access bond number:** 

**Section 12 - Other** 

Right of Way needed? N

Use APD as ROW?

ROW Type(s):

**ROW** 

**SUPO Additional Information:** 

Use a previously conducted onsite? Y

**Previous Onsite information:** An on-site meeting for Ameredevs Tea Olive Fed Com 25 36 33 124H was held on 1/30/2018 (NOS ID #10400026455). Attendees included Jeff Robertson (BLM), Shane McNeely (Ameredev), and Ged Adams (Topographic). Ameredev made a donation with the MOU fund in lieu of an archaeology report.

**Other SUPO** 

TEA\_OLIVE\_FED\_COM\_25\_36\_33\_124H\_\_\_SURFACE\_USE\_PLAN\_REV2\_20220908143623.pdf



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

PWD Data Report

PWD disturbance (acres):

**APD ID:** 10400061860 **Submission Date:** 09/15/2020

Operator Name: AMEREDEV OPERATING LLC

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Well Type: OIL WELL Well Work Type: Drill

#### **Section 1 - General**

Would you like to address long-term produced water disposal? NO

#### **Section 2 - Lined**

Would you like to utilize Lined Pit PWD options? N

**Produced Water Disposal (PWD) Location:** 

PWD surface owner:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

**Lined pit Monitor description:** 

**Lined pit Monitor** 

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

#### **Section 3 - Unlined**

Would you like to utilize Unlined Pit PWD options? N

**Produced Water Disposal (PWD) Location:** 

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

**Unlined pit Monitor** 

Do you propose to put the produced water to beneficial use?

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic

State

**Unlined Produced Water Pit Estimated** 

Unlined pit: do you have a reclamation bond for the pit?

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

**Produced Water Disposal (PWD) Location:** 

PWD surface owner: PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: Injection well name:

Assigned injection well API number? Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

**Underground Injection Control (UIC) Permit?** 

**UIC Permit** 

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

**Produced Water Disposal (PWD) Location:** 

PWD surface owner: PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

**Surface Discharge NPDES Permit?** 

**Surface Discharge NPDES Permit attachment:** 

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

**Produced Water Disposal (PWD) Location:** 

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Well Name: TEA OLIVE FED COM 25 36 33 Well Number: 124H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



#### **Wellbore Schematic**

Well: Tea Olive Fed Com 25-36-33 124H
SHL: Sec. 04 26S-36E 230' FNL & 2390' FWL
BHL: Sec. 28 25S-36E 50' FNL & 2318' FWL

Lea, NM

Wellhead: A - 13-5/8" 10M x 13-5/8" SOW

B - 13-5/8" 10M x 13-5/8" 10M C - 13-5/8" 10M x 13-5/8" 10M

Tubing Spool - 7-1/16" 15M x 13-3/8" 10M

Xmas Tree: 2-9/16" 10M

**Tubing:** 2-7/8" L-80 6.5# 8rd EUE

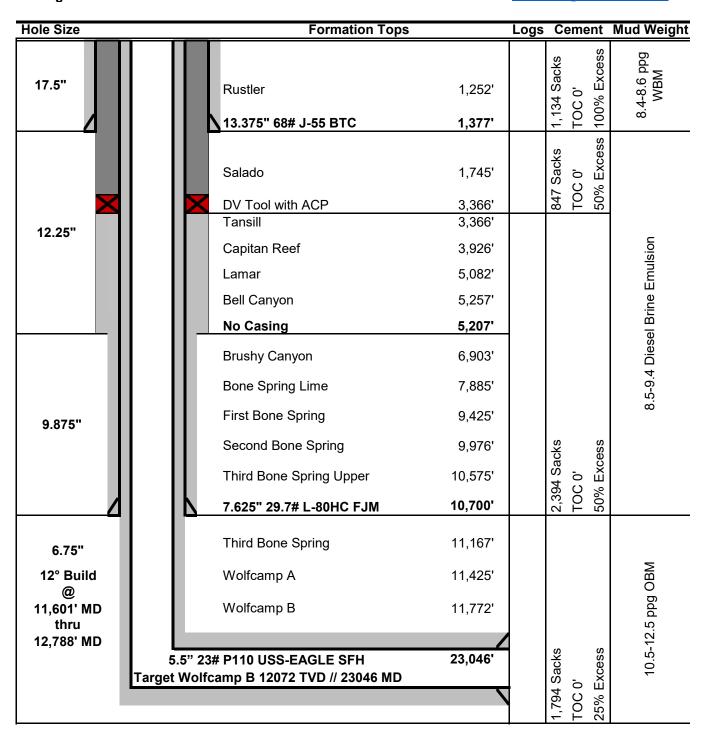
Field: Delaware
Objective: Wolfcamp B
TVD: 12,072'

MD:

Rig: TBD KB 27'

23,046'

E-Mail: Wellsite2@ameredev.com





# 5M Annular Preventer Variance Request and Well Control Procedures

Note: A copy of the Well Control Plan must be available at multiple locations on the rig for review by rig personnel, as well as review by the BLM PET/PE, and a copy must be maintained on the rig floor.

## Dual Isolation Design for 5M Annular Exception

Ameredev will utilize 13-5/8" 10M (5M Annular) BOPE System consisting of:

- 13-5/8" 5M Annular
- 13-5/8" 10M Upper Pipe Rams
  - o 3-1/2" 5-1/2" Variable Bore Ram
- 13-5/8" 10M Blind Rams
- 13-5/8" 10M Drilling Spool /w 2 4" 10M Outlets Double 10M Isolation Valves
- 13-5/8" 10M Lower Blind Rams
  - o 3-1/2" 5-1/2" Variable Bore Ram

All drilling components and casing associated to exposure > 5000 psi BHP requiring a 10M system will have a double isolation (secondary barrier) below the 5M Annular that would provide a barrier to flow. The mud system will always be primary barrier, it will be maintained by adjusting values based on tourly mud tests and monitoring a PVT System to maintain static wellbore conditions, displacement procedures will be followed and recorded on daily drilling reports during tripping operations. Surge and swab pressure values will be calculated and maintained and static flow check will be monitored at previous casing shoe and verified static well conditions prior to tripping out of hole and again prior to pulling last joint of drill pipe through BOPE. The below table, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

| Drill Components  | Size          | Primary Barrier | Secondary Barrier | Third Barrier   |
|-------------------|---------------|-----------------|-------------------|-----------------|
| Drillpipe         | 3-1/2"-5-1/2" | Drilling Fluid  | Upper Pipe Rams   | Lower Pipe Rams |
| HWDP Drillpipe    | 3-1/2"-5-1/2" | Drilling Fluid  | Upper Pipe Rams   | Lower Pipe Rams |
| Drill Collars     | 3-1/2"-5-1/2" | Drilling Fluid  | Upper Pipe Rams   | Lower Pipe Rams |
| Production Casing | 3-1/2"-5-1/2" | Drilling Fluid  | Upper Pipe Rams   | Lower Pipe Rams |
| Open Hole         | 13-5/8        | Drilling Fluid  | Blind Rams        |                 |

All Drilling Components in 10M Environment will have OD that will allow full Operational RATED WORKING PRESSURE for system design. Kill line with minimum 2" ID will be available outside substructure with 10M Check Valve for OOH Kill Operations

#### **Well Control Procedures**

Proper well control procedures are dependent to differentiating well conditions, to cover the basic well control operations there are will be standard drilling ahead, tripping pipe, tripping BHA, running casing, and pipe out of the hole/open hole scenarios that will be defined by procedures below. Initial Shut In Pressure can be taken against the Uppermost BOPE component the 5M Annular, pressure control can be transferred from the lesser 5M Annular to the 10M Upper Pipe Rams if needed. Shut In Pressures may be equal to or less than the Rated Working Pressure but at no time will the pressure on the annular preventer exceed the Rated Working Pressure of the annular. The annular will be tested to 5,000 psi. This will be the Rated Working Pressure of the annular preventer. All scenarios will be written such as shut in will be performed by closing the 10,000 psi Upper Pipe Rams for faster Accumulator pressure recovery to allow safer reaction to controlling wellbore pressure.

#### **Shutting In While Drilling**

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Space out drill string to allow FOSV installation
- 3. Shut down pumps
- 4. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
- 5. Install open, full open safety valve and close valve, Close Chokes
- 6. Verify well is shut-in and flow has stopped
- 7. Notify supervisory personnel
- 8. Record data (SIDP, SICP, Pit Gain, and Time)
- 9. Hold pre-job safety meeting and discuss kill procedure

#### **Shutting In While Tripping**

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Space out drill string to allow FOSV installation
- 3. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
- 4. Install open, full open safety valve and close valve, Close Chokes
- 5. Verify well is shut-in and flow has stopped
- 6. Notify supervisory personnel
- 7. Record data (SIDP, SICP, Pit Gain, and Time)
- 8. Hold pre-job safety meeting and discuss kill procedure

#### **Shutting In While Running Casing**

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Space out casing to allow circulating swedge installation
- 3. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
- 4. Install circulating swedge, Close high pressure, low torque valves, Close Chokes
- 5. Verify well is shut-in and flow has stopped
- 6. Notify supervisory personnel
- 7. Record data (SIDP, SICP, Pit Gain, and Time)
- 8. Hold Pre-job safety meeting and discuss kill procedure

#### Shutting in while out of hole

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Shut-in well: close blind rams and open HCR against Open Chokes and Valves Open to working pressure gauge
- 3. Close Chokes, Verify well is shut-in and monitor pressures
- 4. Notify supervisory personnel
- 5. Record data (SIDP, SICP, Pit Gain, and Time)
- 6. Hold Pre-job safety meeting and discuss kill procedure

#### Shutting in prior to pulling BHA through stack

Prior to pulling last joint of drill pipe thru the stack space out and check flow If flowing see steps below.

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Shut in upper pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
- 3. Install open, full open safety valve and close valve, Close Chokes
- 4. Verify well is shut-in and flow has stopped
- 5. Notify supervisory personnel
- 6. Record data (SIDP, SICP, Pit Gain, and Time)
- 7. Hold pre-job safety meeting and discuss kill procedure

#### Shutting in while BHA is in the stack and ram preventer and combo immediately available

- 1. Sound alarm signaling well control event to Rig Crew
- 2. Space out BHA with upset just beneath the compatible pipe ram
- 3. Shut in upper compatible pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
- 4. Install open, full open safety valve and close valve, Close Chokes
- 5. Verify well is shut-in and flow has stopped
- 6. Notify supervisory personnel
- 7. Record data (SIDP, SICP, Pit Gain, and Time)
- 8. Hold pre-job safety meeting and discuss kill procedure

#### Shutting in while BHA is in the stack and no ram preventer or combo immediately available

- 1. Sound alarm signaling well control event to Rig Crew
- 2. If possible pick up high enough, to pull string clear and follow "Open Hole" scenario

#### If not possible to pick up high enough:

- 3. Stab Crossover, make up one joint/stand of drill pipe, and install open, full open safety valve (Leave Open)
- 4. Space out drill string with upset just beneath the compatible pipe ram.
- 5. Shut in upper compatible pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
- 6. Close FOSV, Close Chokes, Verify well is shut-in and flow has stopped
- 7. Notify supervisory personnel
- 8. Record data (SIDP, SICP, Pit Gain, and Time)
- 9. Hold pre-job safety meeting and discuss kill procedure

<sup>\*</sup>FOSV will be on rig floor in open position with operating handle for each type of connection utilized and tested to 10,000 psi



#### **Pressure Control Plan**

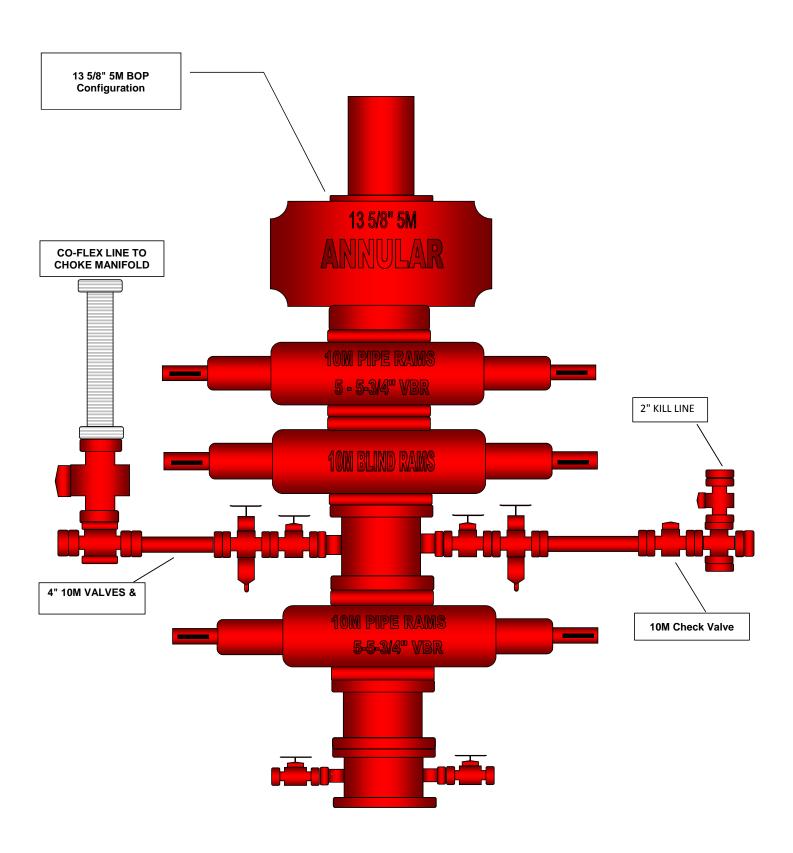
#### **Pressure Control Equipment**

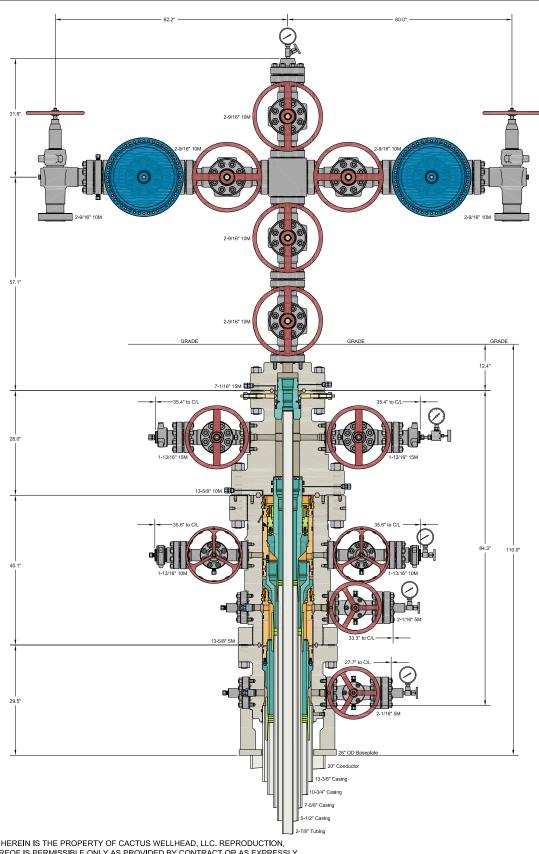
- Following setting of 13-3/8" Surface Casing Ameredev will install 13-5/8 MB4 Multi Bowl Casing Head by welding on a 13-5/8 SOW x 13-5/8" 5M in combination with 13-5/8 5M x 13-5/8 10M B-Sec to Land Intm #1 and a 13-5/8 10M x 13-5/8 10M shouldered to land C-Sec to Land Intm #2 (Installation procedure witnessed and verified by a manufacturer's representative).
- Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.
- Ameredev will install a 5M System Blowout Preventer (BOPE) with a 5M Annular Preventer and related equipment (BOPE). Full testing will be performed utilizing a full isolation test plug and limited to 5,000 psi MOP of MB4 Multi Bowl Casing Head. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 50% of approved working pressure (2,500 psi). Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.</p>
- Setting of 9-5/8" (7-5/8" as applicable) Intermediate will be done by landing a wellhead hanger in the 13-5/8" 5M Bowl, Cementing and setting Well Head Packing seals and testing same. (Installation procedure witnessed and verified by a manufacturer's representative) Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.</li>
- Full testing will be performed utilizing a full isolation test plug to 10,000 psi MOP of MB4 Multi Bowl B-Section. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 100% of approved working pressure (5,000 psi).
- Before drilling >20ft of new formation under the 9-5/8" (7-5/8" as applicable) Casing Shoe a
  pressure integrity test of the Casing Shoe will be performed to minimum of the MWE anticipated
  to control formation pressure to the next casing depth.
- Following setting of 5-1/2" Production Casing and adequate WOC time Ameredev will break 10M System Blowout Preventer (BOP) from 10M DOL-2 Casing Head, install annulus casing slips and test same (Installation procedure witnessed and verified by a manufacturer's representative) and install 11" 10M x 5-1/8" 15M Tubing Head (Installation procedure witnessed and verified by a manufacturer's representative). Ameredev will test head to 70% casing design and install Dry Hole cap with needle valve and pressure gauge to monitor well awaiting completion.



#### **Pressure Control Plan**

- Slow pump speeds will be taken daily by each crew and recorded on Daily Drilling Report after mudding up.
- A choke manifold and accumulator with floor and remote operating stations will be functional and in place after installation of BOPE, as well as full functioning mud gas separator.
- Weekly BOPE pit level drills will be conducted by each crew and recorded on Daily Drilling Report.
- BOP will be fully operated when out of hole and will be documented on the daily drilling log.
- All B.O.P.s and associated equipment will be tested in accordance with Onshore Order #2
- All B.O.P. testing will be done by an independent service company.
- The B.O.P. will be tested within 21 days of the original test if drilling takes more time than planned.
- Ameredev requests a variance to connect the B.O.P. choke outlet to the choke manifold using a
  co-flex hose with a 10,000 psi working pressure that has been tested to 15,000psi and is built to
  API Spec 16C. Once the flex line is installed it will be tied down with safety clamps. (certifications
  will be sent to Carlsbad BLM Office prior to install)
- Ameredev requests a variance to install a 5M Annular Preventer on the 10M System to drill the Production Hole below the 9-5/8" (7-5/8" as applicable) Intermediate Section. 5M Annular will be tested to 100% working pressure (5,000 psi). A full well control procedure will be included to isolate well bore.





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ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC 20" x 13-3/8" x 10-3/4" x 7-5/8" x 5-1/2" x 2-7/8" MBU-4T-SOW Sys. With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 2-9/16" 10M x 2-9/16" 10M Production Tree Assembly AMEREDEV DELAWARE DRAWN APPRV DRAWN APPRV DRAWNG NO. HBE0000176

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

#### **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

CONDITIONS

Action 147109

#### **CONDITIONS**

| Operator:               | OGRID:  |
|-------------------------|---|
| AMEREDEV OPERATING, LLC | 372224  |
| 2901 Via Fortuna        | Action Number:  |
| Austin, TX 78746        | 147109  |
|                         | Action Type:  |
|                         | [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

#### CONDITIONS

| Created<br>By | Condition  | Condition Date |
|---------------|--|----------------|
| pkautz        | Will require a File As Drilled C-102 and a Directional Survey with the C-104   | 10/14/2022     |
| pkautz        | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string | 10/14/2022     |
| pkautz        | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system                  | 10/14/2022     |
| pkautz        | Cement is required to circulate on both surface and intermediate1 strings of casing  | 10/14/2022     |