| Form 3160-3<br>(June 2015)<br>UNITED STATES<br>DEPARTMENT OF THE IN<br>BUREAU OF LAND MANA<br>APPLICATION FOR PERMIT TO D               | _                      | as oct  | 0            |                                     | APPROV<br>o. 1004-0<br>anuary 31 | 0137                |
|---|------------------------|---|--------------|-------------------------------------|----------------------------------|---------------------|
| UNITED STATES<br>DEPARTMENT OF THE II<br>BUREAU OF LAND MAN   | S<br>NTERIO<br>AGEMEN  | OBC - 22020                                       | 5            | 5. Lease Serial No.<br>NMNM127447   |                                  | ·<br>·              |
| APPLICATION FOR PERMIT TO D   | RILL OF                | REENTEREN   | IED          | 6. If Indian, Allotee               | or Tribe                         | Name                |
| 1a. Type of work:   | EENTER                 |   |              | 7. If Unit or CA Ag                 | reement,                         | Name and No.        |
| 1b. Type of Well:   | ther                   | _   |              | 8. Lease Name and                   | Well No.                         |                     |
| Ic. Type of Completion: Hydraulic Fracturing Si   | ingle Zone             | Multiple Zone                                     |              | PAR THREE FED                       | -COM 2<br>27/7                   | 5 36 06<br>Z        |
| 2. Name of Operator<br>AMEREDEV OPERATING LLC (37222 4)   |                        |   |              | 9. API Well No.<br>30-02            | 5-40                             | 5945                |
| 3a. Address<br>5707 Southwest Parkway, Building 1, Suite 275, Austin, TX  |                        | No. (include area cod<br>-4700                    | e)           | 10. Field and Pool,<br>JAL/WOLFCAMP | or Exploi                        |                     |
| 4. Location of Well (Report location clearly and in accordance s  | ı.<br>with any Sta     | te requirements.*)                                |              | 11. Sec., T. R. M. or               | r Blk. and                       | Survey or Area      |
| At surface NENW / 200 FNL / 2348 FWL / LAT 32.166   | 1549 / LON             | IG -103.3051206                                   |              | SEC 6/T25S/R36E                     | E/NMP                            |                     |
| At proposed prod. zone SESW / 50 FSL / 2440 FWL / LA  | AT 32.1377             | 936 / LONG -103.30                                | 48375        |                                     |                                  |                     |
| 14. Distance in miles and direction from nearest town or post offi<br>7 miles   | ice*                   |   |              | 12. County or Paris<br>LEA          | h                                | 13. State<br>NM     |
| 15. Distance from proposed <sup>®</sup> 200 feet  | 16. No of              | acres in lease                                    | 17. Spacin   | ng Unit dedicated to t              | his well                         |                     |
| property or lease line, ft.<br>(Also to nearest drig. unit line, if any)  | 2443.45                |   | 640.52       |                                     |                                  |                     |
| <ol> <li>Distance from proposed location*<br/>to nearest well, drilling, completed,<br/>amplied for on this lease ft</li> </ol>         | 19. Propo              | sed Depth   |              | BIA Bond No. in file<br>IB001478    |                                  |                     |
|   |                        |   |              |                                     |                                  |                     |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3324 feet  | 22. Appro<br>04/01/202 | ximate date work will 20                          | start*       | 23. Estimated durat<br>90 days      | 1011                             |                     |
|   | 24. Att                | achments  |              |                                     |                                  |                     |
| The following, completed in accordance with the requirements of (as applicable)   | f Onshore O            | il and Gas Order No.                              | I, and the H | lydraulic Fracturing r              | ulc per 4                        | 3 CFR 3162.3-3      |
| <ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> </ol>   |                        | 4. Bond to cover the ltem 20 above).              | e operation  | s unless covered by a               | n existing                       | ; bond on file (see |
| 3. A Surface Use Plan (if the location is on National Forest Syster<br>SUPO must be filed with the appropriate Forest Service Office    |                        |   |              | mation and/or plans as              | s may be i                       | requested by the    |
| 25. Signature   | 1                      | ne (Printed/Typed)                                |              |                                     | Date                             |                     |
| (Electronic Submission)   | Chri                   | stie Hanna / Ph: (73                              | 37) 300-47   | 00                                  | 08/26/2                          | 2019                |
| Title<br>Senior Engineering Technician  |                        |   |              |                                     |                                  |                     |
| Approved by (Signature)<br>(Electronic Submission)  |                        | ne <i>(Printed/Typed)</i><br>y Layton / Ph: (575) | 234-5959     |                                     | Date<br>02/26/2                  | 2020                |
| Title<br>Assistant Field Manager Lands & Minerals   | Offi                   |   |              |                                     |                                  |                     |
| Application approval does not warrant or certify that the applicar  |                        |   | hose rights  | in the subject lease w              | hich wou                         | uld entitle the     |
| applicant to conduct operations thereon.<br>Conditions of approval, if any, are attached.   |                        |   |              |                                     |                                  |                     |
| Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, n<br>of the United States any false, fictitious or fraudulent statements |                        |   |              |                                     |                                  |                     |
| GCP Rec 03/02 hozo  |                        |   |              |                                     | 1                                |                     |
|   |                        | ITH CONDIT  | IONS         | KZO3                                | 6/20                             |                     |
| 7L  | vrn W                  | ITH CUADA   |              |                                     |                                  |                     |
| (Continued on page 2)   | 140                    | 02/25/2022  |              | *(In                                | structio                         | ons on page 2)      |
| sppro   | oval Dat               | e: 02/26/2020                                     |              |                                     |                                  |                     |

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

| <b>OPERATOR'S NAME:</b>    | AMEREDEV OPERATING, LLC          |
|----------------------------|----------------------------------|
| WELL NAME & NO.:           | PAR THREE FED COM 25 36 06 114H  |
| SURFACE HOLE FOOTAGE:      | 200'/N & 2328'/W                 |
| <b>BOTTOM HOLE FOOTAGE</b> | 50'/N & 1672'/W                  |
| LOCATION:                  | Section 6, T.25 S., R.36 E., NMP |
| COUNTY:                    | Lea County, New Mexico           |
|                            |                                  |



| H2S                  | C Yes               | © No           |                |
|----------------------|---------------------|----------------|----------------|
| Potash               | 🐼 None              | C Secretary    | C R-111-P      |
| Cave/Karst Potential | C Low               | C Medium       | C High         |
| Cave/Karst Potential | C Critical          |                |                |
| Variance             | C None              | 🕫 Flex Hose    | <b>O</b> Other |
| Wellhead             | Conventional        | C Multibowl    | 🕫 Both         |
| Other                | 4 String Area       | Capitan Reef   | T WIPP         |
| Other                | <b>Fluid</b> Filled | Cement Squeeze | 🗖 Pilot Hole   |
| Special Requirements | 🗖 Water Disposal    | COM            | L Unit         |

# A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

## **B.** CASING

- 1. The 13-3/8 inch surface casing shall be set at approximately 1485 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface. Because the nearest geophysical data is more than two miles away and the proposed project is very near the Central Basin Platform margin the likelihood any gridding is anywhere near projections is highly suspect. Because of this discrepancy, BLM requests that a mudlogger be present for this well on this pad to verify the top of the Rustler Formation and top of the Salt Formation. GR and CNL geophysical logging MUST be run from surface to total depth because of the lack of data. If salt is encountered, set casing a minimum of 25 feet above the salt.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

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survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>8</u> <u>hours</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
  - In <u>Capitan Reef Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
  - Special Capitan Reef requirements. If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
    - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
    - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

# Operator has proposed to pump down 13-3/8" X 9-5/8" annulus. <u>Operator must run</u> a CBL from TD of the 9-5/8" casing to surface. Submit results to BLM.

3. The minimum required fill of cement behind the 7-5/8 inch intermediate casing (alternate design) is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
- Fresh-water based mud is to be used across the Capitan interval
- 4. The minimum required fill of cement behind the 5-1/2 inch production casing is:

Page 2 of 8

• Cement should tie-back at least **50 feet** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.

### C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

### **D. SPECIAL REQUIREMENT (S)**

#### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> on the sign.

# **GENERAL REQUIREMENTS**

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
  - Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).

# b. When the operator proposes to set surface casing with Spudder Rig

- Notify the BLM when moving in and removing the Spudder Rig.
- Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as

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well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

## A. CASING

- Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24 hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

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plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, no tests shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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# C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

# D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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



# **Operator Certification**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

| NAME: Christie Hanna     |                             | Signed on: 08/26/2019 |
|--------------------------|-----------------------------|-----------------------|
| Title: Senior Engineerin | g Technician                |                       |
| Street Address: 5707 S   | OUTHWEST PKWY BLDG 1 STE 27 | 5                     |
| City: AUSTIN             | State: TX                   | <b>Zip:</b> 78735     |
| Phone: (737)300-4723     |                             |                       |
| Email address: channa    | @ameredev.com               |                       |
|                          |                             |                       |
| Field Repres             | entative                    |                       |
| Representative Name:     |                             |                       |
| Street Address: 5707 S   | OUTHWEST PKWY BLDG 1 275    |                       |
| City: AUSTIN             | State: TX                   | <b>Zip:</b> 78735     |
| Phone: (580)940-5054     |                             |                       |
| Email address: zbovd@    | ameredev.com                |                       |

# 

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

# APD ID: 10400046451

**Operator Name: AMEREDEV OPERATING LLC** 

Well Name: PAR THREE FED COM 25 36 06

Well Type: OIL WELL

# **Section 1 - General**

BLM Office: CARLSBAD

APD ID:

Federal/Indian APD: FED

Lease number: NMNM127447

Surface access agreement in place?

10400046451

Agreement in place? NO

Agreement number:

Agreement name:

Keep application confidential? N

Permitting Agent? NO

**Operator letter of designation:** 

# User: Christie Hanna Title: Senior Engineering Technician Is the first lease penetrated for production Federal or Indian? FED Lease Acres: 2443.45 Allotted? Reservation: Federal or Indian agreement:

# APD Operator: AMEREDEV OPERATING LLC

**Operator Info** 

Operator Organization Name: AMEREDEV OPERATING LLC

Operator Address: 5707 Southwest Parkway, Building 1, Suite 275

**Operator PO Box:** 

Operator City: Austin State: TX

**Operator Phone:** (737)300-4700

**Operator Internet Address:** 

# **Section 2 - Well Information**

Well in Master Development Plan? NO

Well in Master SUPO? NO

Well in Master Drilling Plan? NO

Well Name: PAR THREE FED COM 25 36 06

Field/Pool or Exploratory? Field and Pool

Master Development Plan name:

Master SUPO name:

Master Drilling Plan name:

Well Number: 114H

Field Name: JAL

Well API Number:

Pool Name: WOLFCAMP WEST

In the proposed wall in an area containing other mineral resources? LISEARIE MATED MATHDAL GAS (002 OII



Well Number: 114H

Well Work Type: Drill

Tie to previous NOS? Y

Show Final Text

Submission Date: 08/26/2019

**Zip:** 78735

Application Data Report

Well Number: 114H

Is the proposed well in an area containing other mineral resources? USEABLE WATER, NATURAL GAS, CO2, OIL

| Is the propos | sed well in a Helium produc | ction area? N  | Use Existing Well Pada | P N      | New surface disturbance? |
|---------------|-----------------------------|----------------|------------------------|----------|--------------------------|
| Type of Well  | Pad: MULTIPLE WELL          |                | Multiple Weil Pad Name | e: PT    | Number: 5S               |
| Well Class: H | IORIZONTAL                  |                | Number of Legs: 1      |          |                          |
| Well Work Ty  | <b>/pe:</b> Drill           |                |                        |          |                          |
| Well Type: C  | IL WELL                     |                |                        |          |                          |
| Describe We   | II Туре:                    |                |                        |          |                          |
| Well sub-Typ  | be: INFILL                  |                |                        |          |                          |
| Describe sul  | o-type:                     |                |                        |          |                          |
| Distance to t | own: 7 Miles                | Distance to ne | arest well: 4495 FT    | Distanc  | e to lease line: 200 FT  |
| Reservoir we  | ell spacing assigned acres  | Measurement:   | 640.52 Acres           |          |                          |
| Well plat:    | PAR_THREE_5SWELL            | SITE_REV_202   | 00131130519.pdf        |          |                          |
|               | PAR_THREE_FED_COM_2         | 25_36_06_114H  | IVICINITY_MAP_RE       | /_202004 | 131130533.pdf            |
|               | PAR_THREE_FED_COM_2         | 25_36_06_114H  | IBLM_LEASE_MAP_        | REV_202  | 200131130533.pdf         |
|               | PAR_THREE_FED_COM_2         | 25_36_06_114H  | IEXH_2AB_REV_202       | 0013113  | 0534.pdf                 |
|               | PAR_THREE_FED_COM_          | 25_36_06_114H  | IC_102_REV2_SIG_2      | 20200131 | _20200131130534.pdf      |
|               | Par_Three_Fed_Com_25_3      | 36_06_114H     | GAS_CAPTURE_PLAN_      | 2020013  | 1130545.pdf              |
| Well work st  | art Date: 04/01/2020        |                | Duration: 90 DAYS      |          |                          |
|               |                             |                |                        |          |                          |

# **Section 3 - Well Location Table**

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Survey number: 11401

Vertical Datum: NAVD88

Reference Datum: GROUND LEVEL



# Well Name: PAR THREE FED COM 25 36 06

## Well Number: 114H

| Wellbore           | NS-Foot  | NS Indicator | EW-Foot  | EW Indicator | Twsp             | Range | Section | Aliquot/Lot/Tract | Latitude       | Longitude            | County | State             | Meridian          | Lease Type | Lease Number   | Elevation     | MD        | DVT       | Will this well produce<br>from this lease? |
|--------------------|----------|--------------|----------|--------------|------------------|-------|---------|-------------------|----------------|----------------------|--------|-------------------|-------------------|------------|----------------|---------------|-----------|-----------|--|
| KOP<br>Leg<br>#1   | 409      | FSL          | 251<br>1 | FW<br>L      | 24S              | 36E   | 31      | Aliquot<br>SESW   | 32.16782<br>47 | -<br>103.3045<br>744 | LEA    | NEW<br>MEXI<br>CO |                   | F          | FEE            | -<br>812<br>6 | 114<br>83 | 114<br>50 | N  |
| PPP<br>Leg<br>#1-1 | 100      | FNL          | 244<br>0 | FW<br>L      | 258              | 36E   | 6       | Aliquot<br>NENW   | 32.16642<br>94 | -<br>103.3048<br>232 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | FEE            | -<br>861<br>6 | 122<br>75 | 119<br>40 | Y  |
|                    | 264<br>0 | FNL          | 246<br>2 | FW<br>L      | 25S              | 36E   | 6       | Aliquot<br>NESW   | 32.15944<br>5  | -<br>103.3048<br>267 | LEA    | NEW<br>MEXI<br>CO |                   | F          | NMNM<br>127447 | -<br>861<br>6 | 148<br>16 | 119<br>40 | Y  |
|                    | 264<br>0 | FSL          | 251<br>1 | FW<br>L      | 25S              | 36E   | 7       | Aliquot<br>NESW   | 32.14493<br>16 | -<br>103.3048<br>339 | LEA    |                   | NEW<br>MEXI<br>CO | F          | NMNM<br>127448 | -<br>861<br>6 | 200<br>96 | 119<br>40 | Y  |
| EXIT<br>Leg<br>#1  | 50       | FSL          | 244<br>0 | FW<br>L      | 25S              | 36E   | 7       | Aliquot<br>SESW   | 32.13779<br>36 | -<br>103.3048<br>375 | LEA    | NEW<br>MEXI<br>CO |                   | F          | NMNM<br>127448 | -<br>861<br>6 | 226<br>93 | 119<br>40 | Y  |
| BHL<br>Leg<br>#1   | 50       | FSL          | 244<br>0 | FW<br>L      | 25S <sup>-</sup> | 36E   | 7       | Aliquot<br>SESW   | 32.13779<br>36 | -<br>103.3048<br>375 | LEA    | NEW<br>MEXI<br>CO |                   | F          | NMNM<br>127448 | -<br>861<br>6 | 226<br>93 | 119<br>40 | Y  |

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

Drilling Plan Data Report

Submission Date: 08/26/2019

APD ID: 10400046451

Operator Name: AMEREDEV OPERATING LLC

Well Name: PAR THREE FED COM 25 36 06

Well Type: OIL WELL

# **Section 1 - Geologic Formations**

| Formation<br>ID | Formation Name    | Elevation | True Vertical<br>Depth | Measured<br>Depth | Lithologies | Mineral Resources         | Producing |
|-----------------|-------------------|-----------|------------------------|-------------------|-------------|---------------------------|-----------|
| 523290          | RUSTLER ANHYDRITE | 3324      | 1402                   | 1402              | ANHYDRITE   | NONE                      | N         |
| 523291          | SALADO            | 1467      | 1857                   | 1857              | SALT        | NONE                      | N         |
| 523286          | TANSILL           | -267      | 3591                   | 3591              | LIMESTONE   | NONE                      | N         |
| 523287          | CAPITAN REEF      | -671      | 3995                   | 3995              | LIMESTONE   | USEABLE WATER             | · N       |
| 523296          | LAMAR             | -1932     | 5256                   | 5256              | LIMESTONE   | NONE                      | N         |
| 523288          | BELL CANYON       | -2173     | 5497                   | 5497              | SANDSTONE   | NATURAL GAS, OIL          | N         |
| 523289          | BRUSHY CANYON     | -3911     | 7235                   | 7235              | SANDSTONE   | NATURAL GAS, OIL          | N         |
| 523292          | BONE SPRING LIME  | -5194     | 8518                   | 8518              | LIMESTONE   | NONE                      | N         |
| 523297          | BONE SPRING 1ST   | -6469     | 9793                   | 9793              | SANDSTONE   | NATURAL GAS, OIL          | N         |
| 523293          | BONE SPRING 2ND   | -6876     | 10200                  | 10200             | SANDSTONE   | NATURAL GAS, OIL          | N         |
| 523294          | BONE SPRING 3RD   | -7477     | 10801                  | 10801             | LIMESTONE   | NATURAL GAS, NONE,<br>OIL | N         |
| 523295          | BONE SPRING 3RD   | -7976     | 11300                  | 11300             | SANDSTONE   | NATURAL GAS, OIL          | N         |
| 523298          | WOLFCAMP          | -8208     | 11532                  | 11532             | SHALE       | NATURAL GAS, OIL          | Y         |

# Section 2 - Blowout Prevention

Well Number: 114H



02/27/2020

Show Final Text

Well Work Type: Drill

•

Well Name: PAR THREE FED COM 25 36 06

Well Number: 114H

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\_20190826093807.pdf

#### **BOP Diagram Attachment:**

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20190826093818.pdf

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20190826093818.pdf

5M\_BOP\_System\_20190826093818.pdf

4\_String\_MB\_Ameredev\_Wellhead\_Drawing\_net\_REV\_20190826093826.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 | Catculated casing<br>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          | 1527          | 0           | 1527           | 3324        | 1797           | 1527                           | J-55       |        | OTHER -<br>BTC                   | 6.01        | 1        | DRY           | 8.81     | DRY          | 10.3    |
| 2         | INTERMED<br>IATE | 9.87<br>5 | 7.625    | NEW       | API      | N              | 0          | 11059         | 0           | 11059          | 3001        | -7735          | 11059                          | HCL<br>-80 |        | OTHER -<br>BTC                   | 1.24        | 1.22     | DRY           | 1.99     | DRY          | 2.86    |
| 3         | PRODUCTI<br>ON   | 6.75      | 5.5      | NEW       | API -    | N              | 0          | 22693         | 0           | 11940          | 3001        | -8616          | 22693                          | P-<br>110  |        | OTHER -<br>MS2<br>Anaconda<br>GT | 1.71        | 1.85     | DRY           | 2.39     | DRY          | 2.65    |

### **Casing Attachments**

**Operator Name:** AMEREDEV OPERATING LLC **Well Name:** PAR THREE FED COM 25 36 06

Well Number: 114H

#### **Casing Attachments**

Casing ID: 1 String Type:SURFACE

Inspection Document:

Spec Document:

**Tapered String Spec:** 

## Casing Design Assumptions and Worksheet(s):

13.375\_68\_20200131132622.00

Par\_Three\_Fed\_Com\_25\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200131132631.pdf

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

**Tapered String Spec:** 

## Casing Design Assumptions and Worksheet(s):

7.625\_29.70\_L80HC\_BORUSAN\_20200131132725.pdf

Par\_Three\_Fed\_Com\_25\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200131132732.pdf

Casing ID: 3 String Type: PRODUCTION

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

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

5\_20200131132856.5\_23

Par\_Three\_Fed\_Com\_25\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200131132903.pdf

Well Name: PAR THREE FED COM 25 36 06

Well Number: 114H

| Section      | 4 - Ce    | emen                | t      |           |              |       |         |             |         |             |   |
|--------------|-----------|---------------------|--------|-----------|--------------|-------|---------|-------------|---------|-------------|---|
| 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      | 1141      | 1052         | 1.76  | 13.5    | 1851.<br>72 | 100     | CLASS C     | Bentonite, Accelerator,<br>Kolseal, Defoamer,<br>Celloflake                                   |
| SURFACE      | Tail      |                     | 1141   | 1527      | 200          | 1.34  | 14.8    | 268         | 100     | CLASS C     | None  |
| INTERMEDIATE | Lead      | 3663                | 0      | 3132      | 710          | 3.5   | 9       | 2486.<br>48 | 50      | Class C     | Salt, Bentonite, Kolseal,<br>Defoamer, Celloflake   |
| INTERMEDIATE | Tail      |                     | 3132   | 3663      | 200          | 1.33  | 14.8    | 266         | 25      | Class C     | None  |
| INTERMEDIATE | Lead      | 3663                | 3663   | 9838      | 2279         | 2.47  | 11.9    | 5628.<br>82 | 50      | CLASS H     | Bentonite, Retarder,<br>Kolseal, Defoamer,<br>Celloflake, Anti-Settling<br>Expansion Additive |
| INTERMEDIATE | Tail      |                     | 9838   | 1105<br>9 | 200          | 1.31  | 14.2    | 262         | 25      | CLASS H     | Salt, Bentonite,<br>Retarder, Dispersant,<br>Fluid Loss                                       |
| PRODUCTION   | Lead      |                     | 0      | 2269<br>3 | 1767         | 1.34  | 14.2    | 2367.<br>16 | 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: PAR THREE FED COM 25 36 06

## Well Number: 114H

| Top Depth | Bottom Depth | Mud Type                         | Min Weight (Ibs/gal) | Max Weight (Ibs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | На | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|----------------------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 0         | 1527         | WATER-BASED<br>MUD               | 8.4                  | 8.6                  |                     |                             |    |                |                |                 |                            |
| 1527      | 1105<br>9    | OTHER : Diesel<br>Brine Emulsion | 8.5                  | 9.4                  |                     |                             |    |                |                |                 |                            |
| 1105<br>9 | 1194<br>0    | 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:

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

Coring operation description for the well:

No coring will be done on this well.

# **Section 7 - Pressure**

Anticipated Bottom Hole Pressure: 6519

Anticipated Surface Pressure: 3892

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S\_Plan\_20190826094757.pdf

Well Name: PAR THREE FED COM 25 36 06

Well Number: 114H

# **Section 8 - Other Information**

Proposed horizontal/directional/multi-lateral plan submission:

PT114\_DR\_20200131133548.pdf

PT114\_LLR\_20200131133548.pdf

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20200131133556.pdf

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20200131133556.pdf

# Other proposed operations facets description:

4-STRING CONTINGENCY PLAN AND SKID PROCEDURE ATTACHED

## Other proposed operations facets attachment:

Rig\_Skid\_Procedure\_20190826094852.pdf

Wolfcamp\_Contingency\_PDF\_20200131133611.pdf

## **Other Variance attachment:**

R616\_\_\_CoC\_for\_hoses\_12\_18\_17\_20190826095301.pdf Requested\_Exceptions\_\_\_3\_String\_Revised\_01312019\_20200131133625.pdf





# AMEREDEV

# Contingency Wellbore Schematic

| •          |  |
|------------|--|
| Well:      | Par Three Fed Com 25-36-06 114H          |
| SHL:       | Sec. 06 25S-36E 200' FNL & 2348' FWL     |
| BHL:       | Sec. 07 25S-36E 50' FSL & 2440' 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                              |
| Tubina:    | 2-7/8" L-80 6.5# 8rd EUE                 |

| Co. Well ID: | XXXXXX                 |
|--------------|------------------------|
| AFE No.:     | xxxx-xxx               |
| API No.:     | XXXXXXXXXXX            |
| GL:          | 3,324'                 |
| Field:       | Delaware               |
| Objective:   | Wolfcamp A             |
| TVD:         | 11,940'                |
| MD:          | 22,693'                |
| Rig:         | TBD <b>KB</b> 27'      |
| E-Mail:      | Wellsite2@ameredev.com |

| Hole Size            | Formation Tops                     | ·                       | Logs | Cemen                 | t Mud Weight                  |
|----------------------|------------------------------------|-------------------------|------|-----------------------|-------------------------------|
| 17.5"                | Rustler<br>13.375" 68# J-55 BTC    | 1,402'<br><b>1,527'</b> |      | 1,252 Sacks<br>TOC 0' | 8.4-8.6 ppg<br>WBM            |
|                      | Salado<br>DV Tool with ACP         | 2,058'                  |      | 1                     | DU % EXCess                   |
| 12.25"               | Tansill                            | 3,663'                  |      |                       |                               |
| 12.23                | Capitan Reef                       | 4,098'                  | ļ    |                       | E                             |
|                      | Lamar                              | 5,302'                  |      |                       | Ioislu                        |
|                      | Bell Canyon                        | 5,369'                  |      |                       | л<br>Ш                        |
|                      | No Casing                          | 5,427'                  |      |                       | trine                         |
|                      | Brushy Canyon<br>Bone Spring Lime  | 7,238'<br>8,432'        |      |                       | 8.5-9.4 Diesel Brine Emulsion |
|                      | First Bone Spring                  | 9,790'                  |      |                       | 8.5                           |
| 9.875"               | Second Bone Spring                 | 10,318'                 |      |                       |                               |
|                      | Third Bone Spring Upper            | 10,934'                 |      | Sacks<br>)'           | sea                           |
|                      | 7.625" 29.7# L-80HC BTC            | 11,059'                 |      | 2,479 Sacks<br>TOC 0' | DU% EXCess                    |
| 6.75"                | Third Bone Spring                  | 11,530'                 |      |                       | Σ                             |
| 12° Build<br>@       | Wolfcamp                           | 11,752'                 |      |                       | ppg OBM                       |
| 11,483' MD<br>thru 5 | 5.5" 23# P110MS2 Anaconda GT       | 22,693'                 |      | icks                  | Excess<br>10.5-12.5 ppg       |
| 12,275' MD Targe     | t Wolfcamp A 11940 TVD // 22693 MD |                         |      | ,767 Sacks<br>OC 0'   | 10.5                          |
|                      |                                    |                         |      | 1,767 S<br>TOC 0'     | 25% EXCess<br>10.5-12         |



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

- a. H<sub>2</sub>S 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<sub>2</sub>S 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. <u>Auxiliary Rescue Equipment:</u>
  - i. Stretcher
  - ii. 2 OSHA full body harnesses
  - iii. 100 ft. 5/8" OSHA approved rope
  - iv. 1 20# class ABC fire extinguisher

### 5. <u>Windsock and/or Wind Streamers:</u>

- 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. <u>Communication:</u>

- 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. Drill Stem Testing: No Planned DST at this time.
- 8. <u>Mud program:</u>
  - 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 H<sub>2</sub>S 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,
  - 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 | H₂S                 | 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:  |                           |              |              |  |  |  |  |  |
| Name  | Title                     | Office       | Mobile       |  |  |  |  |  |
| Floyd Hammond   | Chief Operating officer   | 737-300-4724 | 512-783-6810 |  |  |  |  |  |
| Zachary Boyd  | Operations Superintendent | 737-300-4725 | 432-385-6996 |  |  |  |  |  |
| Blake Estrada   | Construction Foreman      |              | 432-385-5831 |  |  |  |  |  |

| Artesia  |       | • • •        |
|--|-------|--------------|
| 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 |
| <u>Carlsbad</u>  |       |              |
| 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 |
| Santa Fe   |       |              |
| New Mexico Emergency Response Commission (Santa Fe)          |       | 505-476-9600 |
| New Mexico Emergency Response Commission (Santa Fe) 24       | 4 Hrs | 505-827-9126 |
| New Mexico State Emergency Operations Center                 |       | 505-476-9635 |
| National   |       |              |
| 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.; Albuquerqu | e, NM | 505-842-4949 |



Par Three Par Three #5S Par Three 114H

Wellbore #1

Plan: Design #1

# **Standard Planning Report**

30 January, 2020



**Planning Report** 

|  | EDMS   |   |   |   | Local Co-   | ordinate Refere  | ence: V  | Vell Par Three 1   | 14 <b>H</b>   |                                  |
|--|--|---|---|---|---|--|--|--|---|----------------------------------|
| Company:   | Amer   | edev Operating,   | LLC.  | TVD Reference:  |   |  |  | B @ 3351.0usft   | 1   |                                  |
| Project:   | Par Ti   | Par Three   |   |   |   | MD Reference:  |  |  | t   |                                  |
| Site:  | Par Ti   | hree #5S  |   |   | North Refe  | MD Reference: KB @ 33<br>North Reference: Grid   |  |  |   |                                  |
| Vell:  | Par Ti   | hree 114H   |   |   | Survey Ca   | Iculation Meth   | od: N  | linimum Curvatu  | Jre   |                                  |
| Vellbore:  | Wellb  | ore #1  |   |   |   |  |  |  |   |                                  |
| Design:  | Desig  | n #1  |   |   |   |  |  |  |   |                                  |
| Project  | Par Th   | ree   |   |   |   |  |  |  |   |                                  |
| Map System:  | US State   | e Plane 1983  |   |   | System Dat  | um:  | Me   | an Sea Level   |   |                                  |
| Geo Datum:   | North Ar   | nerican Datum   | 1983  |   |   |  |  |  |   |                                  |
| Map Zone:  | New Me   | xico Eastern Zo   | ne  |   |   |  |  |  |   |                                  |
| Site   | Par Th   | ree #5S   |   |   |   | <u> </u>   |  |  | <u>_</u>  |                                  |
| Site Position:   |  |   | No  | orthing:  | 425,  | 701.97 usft  | Latitude:  |  |   | 32° 9' 58.158                    |
| From:  | Lat  | /Long   | Ea  | sting:  | 859,  | 482.51 usft  | Longitude:   |  |   | 103° 18' 18.667                  |
| Position Uncert  | ainty:   | 0.0   | ) usft <b>S</b> l   | ot Radius:  |   | 13-3/16 *  | Grid Converge  | ence:  |   | 0.55                             |
| Well   | Par Th   | ree 114H  |   |   |   |  |  |  |   |                                  |
| Well Position  | +N/-S  | 0   | .2 usft   | Northing:   |   | 425,702.12   | usft Latit   | ude:   |   | 32° 9' 58.158                    |
|  | +E/-W  | 20  | .0 usft   | Easting:  |   | 859,502.50   | usft <b>Lon</b> g  | gitude:  |   | 103° 18' 18.434                  |
| Position Uncert  | tainty   | 0   | .0 usft   | Wellhead Eleva  | ation:  |  | Grou   | und Level:   |   | 3,324.0 u                        |
| Weilbore   | Wellb  | ore #1  |   |   |   |  |  |  | ·   | · · ·                            |
| Magnetics  |  | odel Name   | Sa  | mple Date   | Declina   |  | Dip A  |  | Field   | Strength                         |
| maynetics  | 1414   | Duei name   | 00  | inple Date  | (°)   |  | (°)  | -  |   | nT)                              |
|  |  | IGRF2015  |   | 7/10/2019   |   | 6.60   |  | 60.02  | 47,7  | 19.85882325                      |
| Design   | Desigr   | n #1  |   |   |   |  | <u></u>  |  |   | · · ·                            |
|  |  |   |   |   |   |  |  |  |   |                                  |
|  |  |   |   |   |   |  |  |  |   |                                  |
| Audit Notes:   |  |   | P   | hase:   | PROTOTYPE   | Tie  | On Depth:  |  | 0.0   |                                  |
| Audit Notes:<br>Version:   |  |   |   |   |   |  | On Depth:  |  |   |                                  |
| Audit Notes:   |  |   | epth From   | n (TVD)   | PROTOTYPE<br>+N/-S<br>(usft)  | +E/  | •  | Dire   | ction   |                                  |
| Audit Notes:<br>Version:   |  |   |   | n (TVD)   | +N/-S   | +E/<br>(US   | -w   | Dire<br>(  |   |                                  |
| Audit Notes:<br>Version:   |  |   | epth From<br>(usft  | n (TVD)   | +N/-S<br>(usft)   | +E/<br>(US   | -W<br>sft)   | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:   | n:   | D   | epth From<br>(usft  | • (TVD)<br>)  | +N/-S<br>(usft)   | +E/<br>(US   | -W<br>sft)   | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fro  | n:<br>bol Program<br>om Dept   | D<br>Date<br>th To  | Depth From<br>(usft)<br>0.0<br>1/30/202   | n (TVD)<br>)<br>0   | +N/-S<br>(usft)<br>0.0  | +E/<br>(US   |  | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fra<br>(usft)  | n:<br>pol Program<br>om Depi<br>(us  | D<br>Date<br>th To<br>sft) Survey   | epth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore   | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name   | +E/<br>(US   | -W<br>sft)   | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fro  | n:<br>pol Program<br>om Depi<br>(us  | D<br>Date<br>th To  | epth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore   | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD  | +E/<br>(us<br>0.   |  | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fra<br>(usft)  | n:<br>pol Program<br>om Depi<br>(us  | D<br>Date<br>th To<br>sft) Survey   | epth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore   | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name   | +E/<br>(us<br>0.   |  | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fra<br>(usft)  | n:<br>pol Program<br>om Depi<br>(us  | D<br>Date<br>th To<br>sft) Survey   | epth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore   | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD  | +E/<br>(us<br>0.   |  | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections   | n:<br>pol Program<br>om Depi<br>(us  | D<br>Date<br>th To<br>sft) Survey   | epth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore   | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD  | +E/<br>{us<br>0.   |  | Dire<br>(  | ction<br>(°)  |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1  | n:<br>pol Program<br>om Depi<br>(ut<br>0.0 22,   | D<br>Date<br>th To<br>sft) Survey<br>692.8 Design   | Vepth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbo  | 0<br>)<br>0   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD  | +E/<br>(us<br>0.   | /-W<br>sft)<br>0<br>Remarks  | Dire<br>(<br>178   | ction<br>(°)  | Target                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)  | n:<br>pol Program<br>om Depi<br>(u:<br>0.0 22,<br>0.0 22,  | Date<br>th To<br>sft) Survey<br>692.8 Design<br>Azimuth<br>(°)  | Vertical<br>Depth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>Vertical<br>Depth<br>(usft)   | +N/-S<br>(usft)   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)  | Aw<br>Sft)<br>0<br>Remarks<br>Build<br>Rate<br>(°/100usft)   | Dire<br>(<br>178<br>Turn<br>Rate<br>(°/100usft)  | rction<br>(°)<br>8.97<br>   | Target                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0   | n:<br>pol Program<br>om Depi<br>(us<br>0.0 22,<br>Inclination<br>(°)<br>0.00   | Date<br>th To<br>5ft) Survey<br>692.8 Design<br>Azimuth<br>(°)<br>0.00  | Vertical<br>Depth From<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>Usft)<br>(usft)   | (TVD)<br>(0<br>(0<br>(0)<br>(0)<br>(0)<br>(0)<br>(0)<br>(0)<br>(0)<br>(0)                                       | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0.0  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00  | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)   | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | TFO<br>(°)<br>0.00  | Target                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0  | n:<br>pol Program<br>om Depi<br>(us<br>0.0 22,<br>0.0 22,<br>Inclination<br>(°)<br>0.00<br>0.00  | Date<br>th To<br>692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00   | Vertical<br>Depth<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbor<br>#1 (Wellbor<br>(usft)<br>0<br>2,000   | (TVD)<br>(TVD)<br>(0<br>(0<br>)<br>(0<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)                   | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0 0.0  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00  | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00   | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | Ction<br>(*)<br>8.97<br>(*)<br>(*)<br>0.00<br>0.00  | Targét                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0   | n:<br>pol Program<br>om Depi<br>(us<br>0.0 22,<br>Inclination<br>(°)<br>0.00<br>0.00<br>6.00   | Date<br>th To<br>5ft) Survey<br>692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00   | Vertical<br>Depth<br>(usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>(usft)<br>0<br>2,000<br>2,295                        | (TVD)<br>(TVD)<br>(0<br>(0<br>)<br>(0<br>)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)                     | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0.0<br>0.0<br>0.0  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00  | Build<br>Remarks<br>(°/100usft)<br>0.00<br>0.00<br>2.00  | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | Ction<br>(*)<br>8.97<br>(*)<br>(*)<br>0.00<br>0.00<br>15.00   | Targét                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0<br>8,031.9                                    | n:<br>pol Program<br>om Dept<br>(ux<br>0.0 22,<br>0.0 22,<br>inclination<br>(°)<br>0.00<br>0.00<br>0.00<br>6.00<br>6.00                                | Date<br>th To<br>5ft) Survey<br>692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00<br>15.00                                      | Vertical<br>Depth<br>(Usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>0<br>2,000<br>2,299<br>8,000                         | (TVD)<br>(TVD)<br>(0<br>(0<br>)<br>(0<br>)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)                     | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00  | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00                           | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | TFO<br>(°)<br>0.00<br>0.00<br>15.00<br>0.00   | Targét                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fra<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0<br>8,031.9<br>8,331.9                        | n:<br>pol Program<br>om Dept<br>(us<br>0.0 22,<br>0.0 22,<br>0.0 0.00<br>0.00<br>6.00<br>6.00<br>0.00  | Date<br>th To<br>5ft) Survey<br>(692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00<br>15.00<br>0.00                             | Vertical<br>Depth<br>(Usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>0<br>2,000<br>2,299<br>8,000<br>8,299                | (TVD)<br>(TVD)<br>(0<br>+N/-S<br>(usft)<br>0.0 0.0<br>0.0 0.0<br>0.5 15.2<br>0.0 593.9<br>0.5 609.1             | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0 0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>159.1<br>163.2  | +E/<br>(us<br>0.<br>0.<br>0.<br>0.<br>5 Standard<br>Cogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>2.00                | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>-2.00                  | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | TFO<br>(°)<br>0.00<br>(°)<br>0.00<br>15.00<br>0.00<br>180.00  | Target                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0<br>8,031.9<br>8,331.9<br>11,482.5             | n:<br>bel Program<br>om Dept<br>(ux<br>0.0 22,<br>0.0 22,<br>0.0 22,<br>0.00<br>0.00<br>6.00<br>6.00<br>6.00<br>0.00<br>0.00<br>0.00                   | Date<br>th To<br>sft) Survey<br>(692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00<br>15.00<br>0.00<br>0.00                     | Vertical<br>Depth<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>(Usft)<br>(Usft)<br>(2,000<br>2,295<br>8,000<br>8,295<br>11,450                   | (TVD)<br>(TVD)<br>(0<br>+N/-S<br>(usft)<br>0.0 0.0<br>0.0 0.0<br>0.0 0.0<br>0.0 593.9<br>0.5 609.1<br>0.0 609.1 | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>159.1<br>163.2<br>163.2  | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>2.00<br>0.00                          | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>-2.00<br>0.00          | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | Ction<br>(*)<br>8.97<br>TFO<br>(*)<br>0.00<br>0.00<br>15.00<br>0.00<br>180.00<br>0.00                                       | Target                           |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0<br>8,031.9<br>8,331.9<br>11,482.5<br>12,132.5 | n:<br>bel Program<br>om Dept<br>(us<br>0.0 22,<br>0.0 22,<br>0.0 22,<br>0.00<br>0.00<br>0.00<br>6.00<br>0.00<br>6.00<br>0.00<br>0.00<br>76.51          | Date<br>th To<br>sft) Survey<br>(692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00<br>15.00<br>15.00<br>0.00<br>0.00<br>18.9.46 | Vertical<br>Depth<br>(Usft)<br>0.0<br>1/30/202<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>2,000<br>2,299<br>8,000<br>8,299<br>11,450<br>11,923 | (TVD)<br>(TVD)<br>(0<br>(0<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)                     | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>OWSG MWD<br>+E/-W<br>(usft)<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>159.1<br>163.2<br>163.2<br>101.9                           | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>2.00<br>0.00<br>2.00<br>0.00<br>11.77 | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>-2.00<br>0.00<br>11.77 | Dire<br>(<br>178<br>178<br>178<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0. | Ction<br>(*)<br>8.97<br>TFO<br>(°)<br>0.00<br>0.00<br>15.00<br>0.00<br>180.00<br>0.00<br>189.46                             |                                  |
| Audit Notes:<br>Version:<br>Vertical Section<br>Plan Survey To<br>Depth Fr<br>(usft)<br>1<br>Plan Sections<br>Measured<br>Depth<br>(usft)<br>0.0<br>2,000.0<br>2,300.0<br>8,031.9<br>8,331.9<br>11,482.5             | n:<br>bel Program<br>om Dept<br>(ux<br>0.0 22,<br>0.0 22,<br>0.0 22,<br>0.00<br>0.00<br>6.00<br>6.00<br>6.00<br>0.00<br>6.00<br>0.00<br>76.51<br>90.00 | Date<br>th To<br>sft) Survey<br>(692.8 Design<br>Azimuth<br>(°)<br>0.00<br>0.00<br>15.00<br>15.00<br>0.00<br>0.00                     | Vertical<br>Depth<br>(Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>#1 (Wellbore<br>(Usft)<br>(Usft)<br>(2,000<br>2,295<br>8,000<br>8,295<br>11,450                   | (TVD)<br>(TVD)<br>(0<br>(0<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)                     | +N/-S<br>(usft)<br>0.0<br>Tool Name<br>MWD<br>OWSG MWD<br>OWSG MWD<br>OWSG MWD<br>OWSG MWD<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>0.0<br>159.1<br>163.2<br>163.2<br>163.2<br>163.2<br>101.9<br>91.1 | +E/<br>(us<br>0.<br>- Standard<br>Dogleg<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>2.00<br>0.00                          | Build<br>Remarks<br>Build<br>Rate<br>(°/100usft)<br>0.00<br>0.00<br>2.00<br>0.00<br>-2.00<br>0.00          | Dire<br>(<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178<br>178              | Ction<br>(*)<br>8.97<br>TFO<br>(*)<br>0.00<br>0.00<br>15.00<br>0.00<br>180.00<br>0.00<br>180.00<br>0.00<br>189.46<br>-37.04 | Target<br>PT114 FTP<br>PT114 BHL |

1/30/2020 2:21:51PM



Planning Report

| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Par Three 114H |
|-----------|--------------------------|------------------------------|---------------------|
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3351.0usft     |
| Project:  | Par Three                | MD Reference:                | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | North Reference:             | Grid                |
| Well:     | Par Three 114H           | Survey Calculation Method:   | Minimum Curvature   |
| Wellbore: | Wellbore #1              |                              |                     |
| Design:   | Design #1                |                              |                     |

#### Planned Survey

| D | asured<br>)epth<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             | ·<br>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                   | 0.00               | 0.00           | 1,700.0                     | 0.0             | 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               | 15.00          | 2,100.0                     | 1.7             | 0.5             | -1.7                          | 2.00                          | 2.00                         | 0.00                        |
|   |                           | 4.00               |                | 2,100.0                     | 6.7             |                 | -6.7                          |                               | 2.00                         | 0.00                        |
|   | 2,200.0                   |                    | 15.00          |                             |                 | 1.8             |                               | 2.00                          |                              |                             |
|   | 2,300.0                   | 6.00               | 15.00          | 2,299.5                     | 15.2            | 4.1             | -15.1                         | 2.00                          | 2.00                         | 0.00                        |
|   | 2,400.0                   | 6.00               | 15.00          | 2,398.9                     | 25.3            | 6.8             | -25.1                         |                               | 0.00                         | 0.00                        |
|   | 2,500.0                   | 6.00               | 15.00          | 2,498.4                     | 35.4            | 9.5             | -35.2                         | 0.00                          | 0.00                         | 0.00                        |
|   | 2,600.0                   | 6.00               | 15.00          | 2,597.8                     | 45.4            | 12.2            | -45.2                         | 0.00                          | 0.00                         | 0.00                        |
|   | 2,700.0                   | 6.00               | 15.00          | 2,697.3                     | 55.5            | 14.9            | -55.3                         | 0.00                          | 0.00                         | 0.00                        |
|   | 2,800.0                   | 6.00               | 15.00          | 2,796.7                     | 65.6            | 17.6            | -65.3                         | 0.00                          | 0.00                         | 0.00                        |
|   | 2,900.0                   | 6.00               | 15.00          | 2,896.2                     | 7 <u>5</u> .7   | 20.3            | -75.4                         | 0.00                          |                              | 0.00                        |
|   | 3,000.0                   | 6.00               | 15.00          | 2,995.6                     | 85.8            | 23.0            | -85.4                         | 0.00                          | 0.00                         | 0.00                        |
|   | 3,100.0                   | 6.00               | 15.00          | 3,095.1                     | 95.9            | 25.7            | -95.5                         | 0.00                          | 0.00                         | 0.00                        |
|   | 3,200.0                   | 6.00               | 15.00          | 3,194.5                     | 106.0           | 28.4            | -105.5                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,300.0                   | 6.00               | 15.00          | 3,294.0                     | 116.1           | 31.1            | -115.5                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,400.0                   | 6.00               | 15.00          | 3,393.4                     | 126.2           | 33.8            | -125.6                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,500.0                   | 6.00               | 15.00          | 3,492.9                     | 136.3           | 36.5            | -135.6                        | 0.00                          | 0.00                         | 0.00                        |
| · | 3,600.0                   | 6.00               | 15.00          | 3,592.3                     | 146.4           | 39.2            | -145.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,700.0                   | 6.00               | 15.00          | 3,691.8                     | 156.5           | 41.9            | -155.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,800.0                   | 6.00               | 15.00          | 3,791.2                     | 166.6           | 44.6            | -165.8                        | 0.00                          | 0.00                         | 0.00                        |
|   | 3,900.0                   | 6.00               | 15.00          | 3,890.7                     | 176.7           | 47.3            | -175.8                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,000.0                   | 6.00               | 15.00          | 3,990.1                     | 186.8           | 50.1            | -185.9                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,100.0                   | 6.00               | 15.00          | 4,089.6                     | 196.9           | 52.8            | -195.9                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,200.0                   | 6.00               | 15.00          | 4,189.0                     | 207.0           | 55.5            | -206.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,300.0                   | 6.00               | 15.00          | 4,288.5                     | 217.1           | 58.2            | -216.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,300.0                   | 6.00               | 15.00          | 4,288.5<br>4,387.9          | 217.1           | 60.9            | -216.0                        | 0.00                          | 0.00                         | 0.00                        |
|   |                           |                    |                | 4,487.4                     |                 | 63.6            | -236.1                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,500.0                   | 6.00               | 15.00          |                             | 237.3           |                 |                               |                               |                              |                             |
|   | 4,600.0                   | 6.00               | 15.00          | 4,586.9                     | 247.4           | 66.3            | -246.1                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,700.0                   | 6.00               | 15.00          | 4,686.3                     | 257.5           | 69.0            | -256.2                        |                               | 0.00                         | 0.00                        |
|   | 4,800.0                   | 6.00               | 15.00          | 4,785.8                     | 267.6           | 71.7            | -266.2                        | 0.00                          | 0.00                         | 0.00                        |
|   | 4,900.0                   | 6.00               | 15.00          | 4,885.2                     | 277.7           | 74.4            | -276.3                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,000.0                   | 6.00               | 15.00          | 4,984.7                     | 287.8           | 77.1            | -286.3                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,100.0                   | 6.00               | 15.00          | 5,084.1                     | 297.9           | 79.8            | -296.4                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,200.0                   | 6.00               | 15.00          | 5,183.6                     | 308.0           | 82.5            | -306.4                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,300.0                   | 6.00               | 15.00          | 5,283.0                     | 318.1           | 85.2            | -316.5                        | 0.00                          | 0.00                         | 0.00                        |



**Planning Report** 

| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Par Three 114H |  |
|-----------|--------------------------|------------------------------|---------------------|--|
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3351.0usft     |  |
| Project:  | Par Three                | MD Reference:                | KB @ 3351.0usft     |  |
| Site:     | Par Three #5S            | North Reference:             | Grid                |  |
| Well:     | Par Three 114H           | Survey Calculation Method:   | Minimum Curvature   |  |
| Wellbore: | Wellbore #1              |                              |                     |  |
| 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               | 15.00          | 5,382.5                     | 328.2           | 87.9              | -326.5                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,500.0                     | 6.00               | 15.00          | 5,481.9                     | 338.3           | 90.6              | -336.6                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,600.0                     | 6.00               | 15.00          | 5,581.4                     | 348.3           | 93.3              | -346.6                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,700.0                     | 6.00               | 15.00          | 5,680.8                     | 358.4           | 96.0              | -356.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,800.0                     | 6.00               | 15.00          | 5,780.3                     | 368.5           | 98.8              | -366.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 5,900.0                     | 6.00               | 15.00          | 5,879.7                     | 378.6           | 101.5             | -376.7                        | 0.00                          | 0.00                         | 0.00                        |
|   |                             |                    |                |                             |                 |                   |                               |                               |                              |                             |
|   | 6,000.0                     | 6.00               | 15.00          | 5,979.2                     | 388.7           | 104.2             | -386.8                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,100.0                     | 6.00               | 15.00          | 6,078.6                     | 398.8           | 106. <del>9</del> | -396.8                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,200.0                     | 6.00               | 15.00          | 6,178.1                     | 408.9           | 109.6             | -406.9                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,300.0                     | 6.00               | 15.00          | 6,277.5                     | 419.0           | 112.3             | -416.9                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,400.0                     | 6.00               | 15.00          | 6,377.0                     | 429.1           | 115.0             | -427.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,500.0                     | 6.00               | 15.00          | 6,476.4                     | 439.2           | 117.7             | -437.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,600.0                     | 6.00               | 15.00          | 6,575.9                     | 449.3           | 120.4             | -447.1                        | 0.00                          | 0.00                         | 0.00                        |
|   | 6,700.0                     | 6.00               | 15.00          | 6,675.3                     | 459.4           | 120.4             | -457.1                        | 0.00                          | 0.00                         | 0.00                        |
|   |                             | 6.00               | 15.00          | 6,774.8                     | 469.5           | 125.8             | -467.2                        |                               | 0.00                         |                             |
|   | 6,800.0<br>6,900.0          |                    |                |                             |                 |                   |                               | 0.00                          |                              | 0.00                        |
|   | 6,900.0                     | 6.00               | 15.00          | 6,874.3                     | 479.6           | 128.5             | -477.2                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,000.0                     | 6.00               | 15.00          | 6,973.7                     | 489.7           | 131.2             | -487.3                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,100.0                     | 6.00               | 15.00          | 7,073.2                     | 499.8           | 133.9             | -497.3                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,200.0                     | 6.00               | 15.00          | 7,172.6                     | 509.9           | 136.6             | -507.3                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,300.0                     | 6.00               | 15.00          | 7,272.1                     | 520.0           | 139.3             | -517.4                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,400.0                     | 6.00               | 15.00          | 7,371.5                     | 530.1           | 142.0             | -527.4                        | 0.00                          | 0.00                         | 0.00                        |
|   |                             |                    |                |                             |                 |                   | 507.5                         |                               |                              |                             |
|   | 7,500.0                     | 6.00               | 15.00          | 7,471.0                     | 540.2           | 144.7             | -537.5                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,600.0                     | 6.00               | 15.00          | 7,570.4                     | 550.3           | 147.4             | -547.5                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,700.0                     | 6.00               | 15.00          | 7,669.9                     | 560.4           | 150.2             | -557.6                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,800.0                     | 6.00               | 15.00          | 7,769.3                     | 570.5           | 152.9             | -567.6                        | 0.00                          | 0.00                         | 0.00                        |
|   | 7,900.0                     | 6.00               | 15.00          | 7,868.8                     | 580.6           | 155.6             | -577.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,000.0                     | 6.00               | 15.00          | 7,968.2                     | 590.7           | 158.3             | -587.7                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,031.9                     | 6.00               | 15.00          | 8,000.0                     | 593.9           | 159.1             | -590.9                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,100.0                     | 4.64               | 15.00          | 8,067.8                     | 600.0           | 160.8             | -597.0                        | 2.00                          | -2.00                        | 0.00                        |
|   | 8,200.0                     | 2.64               | 15.00          | 8,167.6                     | 606.1           | 162.4             | -603.1                        | 2.00                          | -2.00                        | 0.00                        |
|   | 8,300.0                     | 0.64               | 15.00          | 8,267.5                     | 608.9           | 163.1             | -605.8                        | 2.00                          | -2.00                        | 0.00                        |
|   |                             |                    |                |                             |                 |                   |                               |                               |                              |                             |
|   | 8,331.9                     | 0.00               | 0.00           | 8,299.5                     | 609.1           | 163.2             | -606.0                        | 2.00                          | -2.00                        | 0.00                        |
|   | 8,400.0                     | 0.00               | 0.00           | 8,367.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,500.0                     | 0.00               | 0.00           | 8,467.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,600.0                     | 0.00               | 0.00           | 8,567.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,700.0                     | 0.00               | 0.00           | 8,667.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
| 1 | 8,800.0                     | 0.00               | 0.00           | 8,767.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 8,900.0                     | 0.00               | 0.00           | 8,867.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,000.0                     | 0.00               | 0.00           | 8,967.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,100.0                     | 0.00               | 0.00           | 9,067.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,200.0                     | 0.00               | 0.00           | 9,167.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   |                             |                    |                |                             |                 |                   |                               |                               |                              |                             |
|   | 9,300.0                     | 0.00               | 0.00           | 9,267.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,400.0                     | 0.00               | 0.00           | 9,367.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,500.0                     | 0.00               | 0.00           | 9,467.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,600.0                     | 0.00               | 0.00           | 9,567.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,700.0                     | 0.00               | 0.00           | 9,667.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,800.0                     | 0.00               | 0.00           | 9,767.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 9,900.0                     | 0.00               | 0.00           | 9,867.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 10,000.0                    | 0.00               | 0.00           | 9,967.5                     | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 10,000.0                    | 0.00               | 0.00           | 10,067.5                    | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 10,200.0                    | 0.00               | 0.00           | 10,167.5                    | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   |                             |                    |                |                             |                 |                   |                               |                               |                              |                             |
|   | 10,300.0                    | 0.00               | 0.00           | 10,267.5                    | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
| 1 | 10,400.0                    | 0.00               | 0.00           | 10,367.5                    | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |
|   | 10,500.0                    | 0.00               | 0.00           | 10,467.5                    | 609.1           | 163.2             | -606.0                        | 0.00                          | 0.00                         | 0.00                        |



**Planning Report** 

| r         |                          |                              |                     |
|-----------|--------------------------|------------------------------|---------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Par Three 114H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3351.0usft     |
| Project:  | Par Three                | MD Reference:                | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | North Reference:             | Grid                |
| Well:     | Par Three 114H           | Survey Calculation Method:   | Minimum Curvature   |
| Wellbore: | Wellbore #1              |                              | e<br>g              |
| Design:   | Design #1                |                              |                     |

Planned Survey

| Measured<br>Depth | Inclination | Azimuth | Vertical<br>Depth    | +N/-S            | +E/-W          | Vertical<br>Section | Dogleg<br>Rate | Build<br>Rate | Turn<br>Rate |
|-------------------|-------------|---------|----------------------|------------------|----------------|---------------------|----------------|---------------|--------------|
| (usft)            | (°)         | (°)     | (usft)               | (usft)           | (usft)         | (usft)              | (°/100usft)    | (°/100usft)   | (°/100usft)  |
| 10,600.0          | 0.00        | 0.00    | 10,567.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 10,700.0          | 0.00        | 0.00    | 10,667.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 10,800.0          | 0.00        | 0.00    | 10,767.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| •                 | 0.00        | 0.00    | •                    | 609.1            | 163.2          |                     |                |               |              |
| 10,900.0          |             |         | 10,867.5             |                  |                | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,000.0          | 0.00        | 0.00    | 10,967.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,100.0          | 0.00        | 0.00    | 11,067.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,200.0          | 0.00        | 0.00    | 11,167.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,300.0          | 0.00        | 0.00    | 11,267.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,400.0          | 0.00        | 0.00    | 11,367.5             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| 11,482.5          | 0.00        | 0.00    | 11,450.0             | 609.1            | 163.2          | -606.0              | 0.00           | 0.00          | 0.00         |
| PT114 KOP         |             |         |                      |                  |                |                     |                |               |              |
| 11,500.0          | 2.06        | 189.46  | 11,467.5             | 608.7            | 163.1          | -605.7              | 11.77          | 11.77         | 0.00         |
| 11,600.0          | 13.83       | 189.46  | 11,566.4             | 595.1            | 160.9          | -592.1              | 11.77          | 11.77         | 0.00         |
|                   |             |         |                      |                  |                |                     |                |               |              |
| 11,700.0          | 25.60       | 189.46  | 11,660.3             | 561.9            | 155.3          | -559.0              | 11.77          | 11.77         | 0.00         |
| 11,800.0          | 37.37       | 189.46  | 11,745.5             | 510.5            | 146.8          | -507.7              | 11.77          | 11.77         | 0.00         |
| 11,900.0          | 49.15       | 189.46  | 11,818.2             | 443.0            | 135.5          | -440.5              | 11.77          | 11.77         | 0.00         |
| 12,000.0          | 60.92       | 189.46  | 11,875.4             | 362.3            | 122.1          | -360.0              | 11.77          | 11.77         | 0.00         |
| 12,100.0          | 72.69       | 189.46  | 11,914.7             | 271.8            | 107.0          | -269.8              | 11.77          | 11.77         | 0.00         |
| 12,132.5          | 76.51       | 189.46  | 11.923.3             | 240.9            | 101.9          | -239.0              | 11.77          | 11.77         | 0.00         |
| 12,200.0          | 82.90       | 184.64  | 11,935.4             | 175.0            | 93.7           | -173.3              | 11.77          | 9.46          | -7.13        |
| 12,274.6          | 90.00       | 179.48  | 11,940.0             | 100.7            | 91.1           | -99.1               | 11.77          | 9.53          | -6.93        |
| PT114 FTP         |             |         |                      |                  |                | 00.1                |                | 0.00          | 0.00         |
|                   |             | 170 40  | 11 040 0             | 75 3             | 04.0           | 73.6                | 0.00           | 0.00          | 0.00         |
| 12,300.0          | 90.00       | 179.48  | 11,940.0             | 75.3             | 91.3           | -73.6               | 0.00           | 0.00          | 0.00         |
| 12,400.0          | 90.00       | 179.48  | 11,940.0             | -24.7            | 92.2           | 26.4                | 0.00           | 0.00          | 0.00         |
| 12,500.0          | 90.00       | 179.48  | 11,940.0             | -124.7           | 93.1           | 126.3               | 0.00           | 0.00          | 0.00         |
| 12,600.0          | 90.00       | 179.48  | 11,940.0             | -224.7           | 94.0           | 226.3               | 0.00           | 0.00          | 0.00         |
| 12,700.0          | 90.00       | 179.48  | 11,940.0             | -324.7           | 95.0           | 326.3               | 0.00           | 0.00          | 0.00         |
| 12,800.0          | 90.00       | 179.48  | 11,940.0             | -424.7           | 95.9           | 426.3               | 0.00           | 0.00          | 0.00         |
| 12,900.0          | 90.00       | 179.48  | 11,940.0             | -524.7           | 96.8           | 526.3               | 0.00           | 0.00          | 0.00         |
| 13,000.0          | 90.00       | 179.48  | 11,940.0             | -624.7           | 97.7           | 626.3               | 0.00           | 0.00          | 0.00         |
|                   |             |         | 11,940.0             | -624.7<br>-724.7 | 97.7<br>98.6   | 626.3<br>726.3      |                |               |              |
| 13,100.0          | 90.00       | 179.48  | -                    |                  |                |                     | 0.00           | 0.00          | 0.00         |
| 13,200.0          | 90.00       | 179.48  | 11,940.0             | -824.7           | 99.5<br>100.4  | 826.3               | 0.00           | 0.00          | 0.00         |
| 13,300.0          | 90.00       | 179.48  | 11,940.0             | -924.7           | 100.4          | 926.3               | 0.00           | 0.00          | 0.00         |
| 13,400.0          | 90.00       | 179.48  | 11,940.0             | -1,024.7         | 101.3          | 1,026.3             | 0.00           | 0.00          | 0.00         |
| 13,500.0          | 90.00       | 179.48  | 11,940.0             | -1,124.6         | 102.3          | 1,126.3             | 0.00           | 0.00          | 0.00         |
| 13,600.0          | 90.00       | 179.48  | 11,940.0             | -1,224.6         | 103.2          | 1,226.3             | 0.00           | 0.00          | 0.00         |
| 13,700.0          | 90.00       | 179.48  | 11,940.0             | -1,324.6         | 104.1          | 1,326.3             | 0.00           | 0.00          | 0.00         |
| 13,800.0          | 90.00       | 179.48  | 11,940.0             | -1,424.6         | 105.0          | 1,426.3             | 0.00           | 0.00          | 0.00         |
| 13,900.0          | 90.00       | 179.48  | 11,940.0             | -1,524.6         | 105.9          | 1,526.3             | 0.00           | 0.00          | 0.00         |
| 14,000.0          | 90.00       | 179.48  | 11,940.0             | -1,624.6         | 106.8          | 1,626.3             | 0.00           | 0.00          | 0.00         |
|                   |             |         |                      |                  |                |                     |                |               |              |
| 14,100.0          | 90.00       | 179.48  | 11,940.0<br>11,940.0 | -1,724.6         | 107.7<br>108.7 | 1,726.3<br>1,826.3  | 0.00<br>0.00   | 0.00          | 0.00<br>0.00 |
| 14,200.0          | 90.00       | 179.48  |                      | -1,824.6         |                |                     |                | 0.00          | 0.00         |
| 14,300.0          | 90.00       | 179.48  | 11,940.0             | -1,924.6         | 109.6          | 1,926.3             | 0.00           |               |              |
| 14,400.0          | 90.00       | 179.48  | 11,940.0             | -2,024.6         | 110.5          | 2,026.3             | 0.00           | 0.00          | 0.00         |
| 14,500.0          | 90.00       | 179.48  | 11,940.0             | -2,124.6         | 111.4          | 2,126.3             | 0.00           | 0.00          | 0.00         |
| 14,600.0          | 90.00       | 179.48  | 11,940.0             | -2,224.6         | 112.3          | 2,226.3             | 0.00           | 0.00          | 0.00         |
| 14,700.0          | 90.00       | 179.48  | 11,940.0             | -2,324.6         | 113.2          | 2,326.3             | 0.00           | 0.00          | 0.00         |
| 14,800.0          | 90.00       | 179.48  | 11,940.0             | -2,424.6         | 114.1          | 2,426.3             | 0.00           | 0.00          | 0.00         |
| 14,815.6          | 90.00       | 179.48  | 11,940.0             | -2,440.2         | 114.3          | 2,441.9             | 0.00           | 0.00          | 0.00         |
|                   | IMNM127447  |         |                      | _,               |                | _,                  |                |               |              |
| 14,900.0          | 90.00       | 179.48  | 11,940.0             | -2,524.6         | 115.0          | 2,526.3             | 0.00           | 0.00          | 0.00         |
| 15,000.0          | 90.00       | 179.48  | 11,940.0             | -2,624.6         | 116.0          | 2,626.2             | 0.00           | 0.00          | 0.00         |
| 10.000.0          | 90.00       | 179.40  | 11,340.0             | -2,024.0         | 110.0          | £,0£0.2             | 0.00           | 0.00          | 0.00         |



Planning Report

| ,         |                          |                              |                     |
|-----------|--------------------------|------------------------------|---------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Par Three 114H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3351.0usft     |
| Project:  | Par Three                | MD Reference:                | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | North Reference:             | Grid                |
| 'Well:    | Par Three 114H           | Survey Calculation Method:   | Minimum Curvature   |
| Wellbore: | Wellbore #1              |                              |                     |
| 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) |
|-----------------------------|--------------------|----------------|-----------------------------|----------------------|-------------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 15,200.0                    | 90.00              | 179.48         | 11,940.0                    | -2,824.6             | 117.8             | 2,826.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,300.0                    | 90.00              | 179.48         | 11,940.0                    | -2,924.6             | 118.7             | 2,926.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,400.0                    | 90.00              | 179.48         | 11.940.0                    | -3,024.6             |                   | 3,026.2                       |                               |                              |                             |
|                             |                    |                | 11,940.0                    |                      | 119.6             |                               | 0.00                          | 0.00                         | 0.00                        |
| 15,500.0                    | 90.00              | 179.48         |                             | -3,124.6             | 120.5             | 3,126.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,600.0                    | 90.00              | 179.48         | 11,940.0                    | -3,224.6             | 121.4             | 3,226.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,700.0                    | 90.00              | 179.48         | 11,940.0                    | -3,324.6             | 122.3             | 3,326.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,800.0                    | 90.00              | 179.48         | 11,940.0                    | -3,424.6             | 123.3             | 3,426.2                       | 0.00                          | 0.00                         | 0.00                        |
| 15,900.0                    | 90.00              | 179.48         | 11,940.0                    | -3,524.5             | 124.2             | 3,526.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,000.0                    | 90.00              | 179.48         | 11,940.0                    | -3,624.5             | 125.1             | 3,626.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,100.0                    | 90.00              | 179.48         | 11,940.0                    | -3,724.5             | 126.0             | 3,726.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,200.0                    | 90.00              | 179.48         | 11,940.0                    | -3,824.5             | 126.9             | 3,826.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,300.0                    | 90.00              | 179.48         | 11,940.0                    | -3,924.5             | 127.8             | 3,926.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,400.0                    | 90.00              | 179.48         | 1 <b>1,94</b> 0.0           | -4,024.5             | 128.7             | 4,026.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,500.0                    | 90.00              | 179.48         | 11,940.0                    | -4,124.5             | 129.6             | 4,126.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,600.0                    | 90.00              | 179.48         | 11,940.0                    | -4,224.5             | 130.6             | 4,226.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,700.0                    | 90.00              | 179.48         | 11,940.0                    | -4,324.5             | 131.5             | 4,326.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,800.0                    | 90.00              | 179.48         | 11,940.0                    | -4,424.5             | 132.4             | 4,426.2                       | 0.00                          | 0.00                         | 0.00                        |
| 16,900.0                    | 90.00              | 179.48         | 11,940.0                    | -4,524.5             |                   | 4,526.2                       | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                      | 133.3             |                               |                               |                              |                             |
| 17,000.0                    | 90.00              | 179.48         | 11,940.0                    | -4,624.5             | 134.2             | 4,626.2                       | 0.00                          | 0.00                         | 0.00                        |
| 17,100.0                    | 90.00              | 179.48         | 11,940.0                    | -4,724.5             | 135.1             | 4,726.2                       | 0.00                          | 0.00                         | 0.00                        |
| 17,200.0                    | 90.00              | 179.48         | 11,940.0                    | -4,824.5             | 136.0             | 4,826.2                       | 0.00                          | 0.00                         | 0.00                        |
| 17,300.0                    | 90.00              | 179.48         | 11,940.0                    | -4,924.5             | 136.9             | 4,926.2                       | 0.00                          | 0.00                         | 0.00                        |
| 17,400.0                    | 90.00              | 179.48         | 11,940.0                    | -5,024.5             | 137. <del>9</del> | 5,026.2                       | 0.00                          | 0.00                         | 0.00                        |
| 17,500.0                    | 90.00              | 179.48         | 11,940.0                    | -5,124.5             | 138.8             | 5,126.1                       | 0.00                          | 0.00                         | 0.00                        |
| 17,600.0                    | 90.00              | 179.48         | 11,940.0                    | -5,224.5             | 139.7             | 5,226.1                       | 0.00                          | 0.00                         | 0.00                        |
| 17,700.0                    | 90.00              | 179.48         | 11,940.0                    | -5,324.5             | 140.6             | 5,326.1                       | 0.00                          | 0.00                         | 0.00                        |
| 17,800.0                    | 90.00              | 179.48         | 11,940.0                    | -5,424.5             | 141.5             | 5,426.1                       | 0.00                          | 0.00                         | 0.00                        |
| 17,900.0                    | 90.00              | 179.48         | 11,940.0                    | -5,524.5             | 142.4             | 5,526.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,000.0                    | 90.00              | 179.48         | 11,940.0                    | -5,624.5             | 143.3             | 5,626.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,100.0                    | 90.00              | 179.48         | 11,940.0                    | -5,724.5             | 144.2             | 5,726.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,200.0                    | 90.00              | 179.48         | 11,940.0                    | -5,824.5             | 145.2             | 5,826.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,300.0                    |                    | 179.48         | 11,940.0                    | -5,824.5<br>-5,924.4 | 145.2             |                               | 0.00                          | 0.00                         | 0.00                        |
|                             | 90.00              |                |                             |                      |                   | 5,926.1                       |                               |                              |                             |
| 18,400.0                    | 90.00              | 179.48         | 11,940.0                    | -6,024.4             | 147.0             | 6,026.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,500.0                    | 90.00              | 179.48         | 11,940.0                    | -6,124.4             | 147.9             | 6,126.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,600.0                    | 90.00              | 179.48         | 11,940.0                    | -6,224.4             | 148.8             | 6,226.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,700.0                    | 90.00              | 179.48         | 11,940.0                    | -6,324.4             | 149.7             | 6,326.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,800.0                    | 90.00              | 179.48         | 11,940.0                    | -6,424.4             | 150.6             | 6,426.1                       | 0.00                          | 0.00                         | 0.00                        |
| 18,900.0                    | 90.00              | 179.48         | 11,940.0                    | -6,524.4             | 151.6             | 6,526.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,000.0                    | 90.00              | 179.48         | 11,940.0                    | -6,624.4             | 152.5             | 6,626.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,100.0                    | 90.00              | 179.48         | 11,940.0                    | -6,724.4             | 153.4             | 6,726.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,200.0                    | 90.00              | 179.48         | 11,940.0                    | -6,824.4             | 154.3             | 6,826.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,300.0                    | 90.00              | 179.48         | 11,940.0                    | -6,924.4             | 155.2             | 6,926.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,400.0                    | 90.00              | 179.48         | 11,940.0                    | -7,024.4             | 156.1             | 7,026.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,500.0                    | 90.00              | 179.48         | 11,940.0                    | -7,124.4             | 157.0             | 7,126.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,600.0                    | 90.00              | 179.48         | 11,940.0                    | -7,224.4             | 157.9             | 7,226.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,800.0                    | 90.00              | 179.48         | 11,940.0                    | -7,324.4             | 158.9             | 7,326.1                       | 0.00                          | 0.00                         | 0.00                        |
|                             |                    | 179.48         | 11,940.0                    | -7,324.4<br>-7,424.4 | 158.9             | 7,326.1                       | 0.00                          | 0.00                         | 0.00                        |
| 19,800.0                    | 90.00              |                | -                           |                      |                   |                               |                               |                              |                             |
| 19,900.0                    | 90.00              | 179.48         | 11,940.0                    | -7,524.4             | 160.7             | 7,526.1                       | 0.00                          | 0.00                         | 0.00                        |
| 20,000.0                    | 90.00              | 179.48         | 11,940.0                    | -7,624.4             | 161.6             | 7,626.1                       | 0.00                          | 0.00                         | 0.00                        |
| 20,095.8                    | 90.00              | 179.48         | 11,940.0                    | -7,720.2             | 162.5             | 7,721.8                       | 0.00                          | 0.00                         | 0.00                        |
| PT114 into P                | NMNM127448         |                |                             |                      |                   |                               |                               |                              |                             |
| 20,100.0                    | 90.00              | 179.48         | 11,940.0                    | -7,724.4             | 162.5             | 7,726.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,200.0                    | 90.00              | 179.48         | 11,940.0                    | -7,824.4             | 163.4             | 7,826.0                       | 0.00                          | 0.00                         | 0.00                        |



**Planning Report** 

| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Par Three 114H |
|-----------|--------------------------|------------------------------|---------------------|
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3351.0usft     |
| Project:  | Par Three                | MD Reference:                | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | North Reference:             | Grid                |
| Well:     | Par Three 114H           | Survey Calculation Method:   | Minimum Curvature   |
| Wellbore: | Wellbore #1              |                              |                     |
| Design:   | Design #1                |                              |                     |

### Planned Survey

| (usft)    | (°)   | Azimuth<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) |
|-----------|-------|----------------|-----------------------|-----------------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
|           |       |                |                       | (usit)                | (usit)          |                               |                               | ( / 1000311)                 | (11000310)                  |
| 20,300.0  | 90.00 | 179.48         | 11,940.0              | -7,924.4              | 164.3           | 7,926.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,400.0  | 90.00 | 179.48         | 11,940.0              | -8,024.4              | 165.2           | 8,026.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,500.0  | 90.00 | 179.48         | 11,940.0              | -8,124.4              | 166.2           | 8,126.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,600.0  | 90.00 | 179.48         | 11,940.0              | -8,224.4              | 167.1           | 8,226.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,700.0  | 90.00 | 179.48         | 11,940.0              | -8,324.3              | 168.0           | 8,326.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,800.0  | 90.00 | 179.48         | 11,940.0              | -8,424.3              | 168.9           | 8,426.0                       | 0.00                          | 0.00                         | 0.00                        |
| 20,900.0  | 90.00 | 179.48         | 11,940.0              | -8,524.3              | 169.8           | 8,526.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,000.0  | 90.00 | 179.48         | 11,940.0              | -8,624.3              | 170.7           | 8,626.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,100.0  | 90.00 | 179.48         | 11,940.0              | -8,724.3              | 171.6           | 8,726.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,200.0  | 90.00 | 179.48         | 11,940.0              | -8,824.3              | 172.5           | 8,826.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,300.0  | 90.00 | 179.48         | 11,940.0              | -8,924.3              | 173.5           | 8,926.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,400.0  | 90.00 | 179.48         | 11,940.0              | -9,024.3              | 174.4           | 9,026.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,500.0  | 90.00 | 179.48         | 11,940.0              | -9,124.3              | 175.3           | 9,126.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,600.0  | 90.00 | 179.48         | 11,940.0              | -9,224.3              | 176.2           | 9,226.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,700.0  | 90.00 | 179.48         | 11,940.0              | -9,324.3              | 177.1           | 9,326.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,800.0  | 90.00 | 179.48         | 11,940.0              | -9,424.3              | 178.0           | 9,426.0                       | 0.00                          | 0.00                         | 0.00                        |
| 21,900.0  | 90.00 | 179.48         | 11,940.0              | -9,524.3              | 178.9           | 9,526.0                       | 0.00                          | 0.00                         | 0.00                        |
| 22,000.0  | 90.00 | 179.48         | 11,940.0              | -9,624.3              | 179.8           | 9,626.0                       | 0.00                          | 0.00                         | 0.00                        |
| 22,100.0  | 90.00 | 179.48         | 11,940.0              | -9,724.3              | 180.8           | 9,726.0                       | 0.00                          | 0.00                         | 0.00                        |
| 22,200.0  | 90.00 | 179.48         | 11,940.0              | -9,824.3              | 181.7           | 9,826.0                       | 0.00                          | 0.00                         | 0.00                        |
| 22,300.0  | 90.00 | 179.48         | 11,940.0              | - <del>9</del> ,924.3 | 182.6           | 9,926.0                       | 0.00                          | 0.00                         | 0.00                        |
| 22,400.0  | 90.00 | 179.48         | 11,940.0              | -10,024.3             | 183.5           | 10,026.0                      | 0.00                          | 0.00                         | 0.00                        |
| 22,500.0  | 90.00 | 179.48         | 11,940.0              | -10,124.3             | 184.4           | 10,126.0                      | 0.00                          | 0.00                         | 0.00                        |
| 22,600.0  | 90.00 | 179.48         | 11, <del>9</del> 40.0 | -10,224.3             | 185.3           | 10,225.9                      | 0.00                          | 0.00                         | 0.00                        |
| PT114 LTP |       |                |                       |                       |                 |                               |                               |                              |                             |
| 22,692.8  | 90.00 | 179.48         | 11,940.0              | -10,317.1             | 186.2           | 10,318.8                      | 0.00                          | 0.00                         | 0.00                        |

| Design | Targ | ets |
|--------|------|-----|
|--------|------|-----|

| 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         |
|---|-----------------------|----------------------|--------------------------|---------------------------|------------------------|-----------------------|-------------------|-----------------|-------------------|
| PT114 BHL<br>- plan hits target cent<br>- Point | 0.00<br>er            | 0.00                 | 11,940.0                 | -10,317.1                 | 186.2                  | 415,385.05            | 859,688.68        | 32° 8' 16.057 N | 103° 18' 17.415 W |
| PT114 LTP<br>- plan misses target c<br>- Point  | 0.00<br>enter by 42.8 | 0.00<br>usft at 2260 | 11,940.0<br>0.0usft MD ( | -10,267.0<br>11940.0 TVD, | 185.7<br>-10224.3 N, 1 | 415,435.07<br>85.3 E) | 859,688.24        | 32° 8' 16.552 N | 103° 18' 17.415 W |
| PT114 FTP<br>- plan hits target cent<br>- Point | 0.00<br>er            | 0.00                 | 11,940.0                 | 100.7                     | 91.1                   | 425,802.87            | 859,593.58        | 32° 9' 59.146 N | 103° 18' 17.364 W |

| Plan Annotations |   |   |  |  |
|------------------|---|---|--|--|
| Measured         | Vertical  | Local Coor  | dinates  |  |
| Depth<br>(usft)  | Depth<br>(usft)                                     | +N/-S<br>(usft)   | +E/-₩<br>(usft)  | Comment  |
| 11,482.5         | 11,450.0  | 609.1   | 163.2  | PT114 KOP  |
| 14,815.6         | 11,940.0  | -2,440.2  | 114.3  | PT114 into NMNM127447  |
| 20,095.8         | 11,940.0  | -7,720.2  | 162.5  | PT114 into NMNM127448  |
|                  | Measured<br>Depth<br>(usft)<br>11,482.5<br>14,815.6 | Measured         Vertical           Depth         Depth           (usft)         (usft)           11,482.5         11,450.0           14,815.6         11,940.0 | Measured         Vertical         Local Coor           Depth         Depth         +N/-S           (usft)         (usft)         (usft)           11,482.5         11,450.0         609.1           14,815.6         11,940.0         -2,440.2 | Measured         Vertical         Local Coordinates           Depth         Depth         +N/-S         +E/-W           (usft)         (usft)         (usft)         (usft)           11,482.5         11,450.0         609.1         163.2           14,815.6         11,940.0         -2,440.2         114.3 |



Par Three Par Three #5S Par Three 114H Wellbore #1

Plan: Design #1

# **Lease Penetration Section Line Foot**

30 January, 2020



Lease Penetration Section Line Footages

| Company:                                      | Ameredev Operati                              | ing, LLC                             | •                                     |                                      | Local (                  | Co-ordinate Refe                         | erence:                              | Well Par Three                           | 14H   |   |
|---|---|--------------------------------------|---------------------------------------|--------------------------------------|--------------------------|--|--------------------------------------|--|---|---|
| • •   | Par Three                                     | _,                                   |                                       |                                      |                          | eference:                                |                                      | KB @ 3351.0us                            |   |   |
| •   | Par Three #5S                                 |                                      |                                       |                                      |                          | ference:                                 |                                      | KB @ 3351.0us                            |   |   |
|   | Par Three 114H                                |                                      |                                       |                                      |                          | Reference:                               |                                      | Grid                                     | •   |   |
|   | Wellbore #1                                   |                                      |                                       |                                      |                          | Calculation Me                           | thod:                                | Minimum Curvat                           | ure   |   |
|   | Design #1                                     |                                      |                                       |                                      | Databa                   |  |                                      | EDM5000                                  |   |   |
| Project                                       | Par Three                                     |                                      | ·                                     |                                      |                          | ······································   |                                      |  | ······································  |   |
| Map System:                                   | US State Plan                                 |                                      |                                       |                                      | Syste                    | em Datum:                                |                                      | Mean Sea Leve                            |   |   |
| Geo Datum:<br>Map Zone:                       | North America<br>New Mexico E                 |                                      |                                       |                                      |                          |  |                                      |  |   |   |
| Site  | Par Three #5                                  | s                                    |                                       |                                      |                          |  |                                      |  |   |   |
| Site Position:                                |   |                                      | 1                                     | lorthing:                            |                          | 425,701.97 us                            |                                      |  |   | 32° 9' 58.158 N   |
| From:   | Lat/Long                                      |                                      | i E                                   | Easting:                             |                          | 859,482.51 us                            | ft Longi                             | itude:                                   |   | 103° 18' 18.667 W   |
| Position Uncertain                            | ity:  | 0.0 u                                | usft S                                | Slot Radius:                         |                          | 13-3/16*                                 | Grid                                 | Convergence:                             |   | 0.55 °  |
| Well  | Par Three 114                                 | IH .                                 |                                       | -                                    |                          |  |                                      |  |   |   |
| Well Position                                 | +N/-S   |                                      | ).0 usft                              | Northing:                            |                          |  | 2.12 usft                            | Latitude:                                |   | 32° 9' 58.158 N   |
|   | +E/-W   | (                                    | ).0 usft                              | Easting:                             |                          | 859,50                                   | 2.50 usft                            | Longitude:                               |   | 103° 18' 18.434 W   |
| Position Uncertain                            | nty   | (                                    | ).0 usft                              | Wellhead E                           | levation:                |  | usft                                 | Ground Level:                            |   | 3,324.0 usft  |
| Wellbore                                      | Wellbore #1                                   | <br>                                 |                                       |                                      |                          |  |                                      | · · · · · · · · · · · · · · · · · · ·    | - ·····   | ······································  |
| Magnetics                                     | Model Na                                      | ame                                  | S                                     | ample Date                           | C                        | eclination<br>(°)                        |                                      | Dip Angle<br>(°)                         | Field Str<br>(nT  | -   |
|   | IG  | RF2015                               | · · · · · · · · · · · · · · · · · · · | 7/10/201                             | 9                        | 6.6                                      | 0                                    | 60.02                                    | ·   | 9.85882326  |
| Design  | Design #1                                     |                                      |                                       |                                      |                          |  |                                      |  |   |   |
| Audit Notes:                                  |   |                                      |                                       |                                      |                          | • •                                      |                                      |  | · · · ·   | · · · · ·   |
|   |   |                                      |                                       |                                      |                          |  |                                      |  |   |   |
| Version:                                      |   |                                      |                                       | Phase:                               | PROTOT                   | YPE                                      | Tie On Do                            | epth:                                    | 0.0   |   |
| Vertical Section:                             |   |                                      | Depth Fro                             | m (TVD)                              | +                        | I/-S                                     | +E/-W                                |  | Direction   |   |
|   |   |                                      | (us                                   | ft)                                  | (บ                       | sft)                                     | (usft)                               |  | (°)   |   |
|   |   |                                      | 0.0                                   | )                                    | C                        | .0                                       | 0.0                                  |  | 178.97  |   |
| Survey Tool Progr                             |   | Date                                 | 1/30/20                               | 20                                   |                          |  | <u> </u>                             |  |   |   |
| From  | То  |                                      |                                       |                                      |                          |  |                                      |  |   |   |
| (usft)  | (usft)  | Survey                               | (Wellbor                              | e)                                   |                          | Tool Name                                |                                      | Description                              |   |   |
| L   |   |                                      | #1 (Wellb                             |                                      |                          | MWD                                      |                                      | OWSG MWD -                               | Standard  |   |
| Planned Survey                                |   |                                      | •                                     |                                      |                          | 22 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - |                                      |  |   |   |
| _   | <b>1</b>                                      |                                      | ·<br>A=://                            |                                      | TVD                      | +FSL/-FN                                 | 41                                   | +FWL/-FEL                                | Latitude  | - برياني م  |
| MD<br>(usft)                                  | Inc<br>(°)                                    |                                      | Azi (azin<br>(°)                      | nutn)                                | (usft)                   | +FSL/+N<br>(usft)                        | IL.                                  | +FWD-FEL<br>(usft)                       | Latitude  | Longitude   |
| C   | ).0   | 0.00                                 |                                       | 0.00                                 | 0                        | .0                                       | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
| 100   | 0.0   | 0.00                                 |                                       | 0.00                                 | 100                      | .0                                       | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
|   | 0.0   | 0.00                                 |                                       | 0.00                                 | 200                      | .0                                       | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
| 200   |   | 0.00                                 |                                       | 0.00                                 | 300                      | .0                                       | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
| 200<br>300                                    | ).0   |                                      |                                       | 0.00                                 | 400                      |  | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
|   |   | 0.00                                 |                                       |                                      |                          | •  | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
| 300   | ).0   | 0.00<br>0.00                         |                                       | 0.00                                 | 500                      | .0                                       | -199.0                               |  | 02 0 00.100 N   |   |
| 300<br>400<br>500                             | ).0<br>).0                                    | 0.00                                 |                                       | 0.00                                 |                          |  |                                      |  |   |   |
| 300<br>400<br>500<br>600                      | ).0<br>).0<br>).0                             | 0.00<br>0.00                         |                                       | 0.00<br>0.00                         | 600                      | .0                                       | -199.8                               | 2,348.0                                  | 32° 9' 58.158 N   | 103° 18' 18.434 W   |
| 300<br>400<br>500<br>600<br>700               | ).0<br>).0<br>).0                             | 0.00<br>0.00<br>0.00                 |                                       | 0.00<br>0.00<br>0.00                 | 600<br>700               | .0<br>.0                                 | -199.8<br>-199.8                     | 2,348.0<br>2,348.0                       | 32° 9' 58.158 N<br>32° 9' 58.158 N  | 103° 18' 18.434 W<br>103° 18' 18.434 W  |
| 300<br>400<br>500<br>600<br>700<br>800        | ).0<br>).0<br>).0<br>).0                      | 0.00<br>0.00<br>0.00<br>0.00         |                                       | 0.00<br>0.00<br>0.00<br>0.00         | 600<br>700<br>800        | .0<br>.0<br>.0                           | -199.8<br>-199.8<br>-199.8           | 2,348.0<br>2,348.0<br>2,348.0            | 32° 9' 58.158 N<br>32° 9' 58.158 N<br>32° 9' 58.158 N                                       | 103° 18' 18.434 W<br>103° 18' 18.434 W<br>103° 18' 18.434 W   |
| 300<br>400<br>500<br>600<br>700<br>800<br>900 | ).0<br>).0<br>).0<br>).0<br>).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 | 600<br>700<br>800<br>900 | 0<br>0<br>0<br>0                         | -199.8<br>-199.8<br>-199.8<br>-199.8 | 2,348.0<br>2,348.0<br>2,348.0<br>2,348.0 | 32° 9' 58.158 N<br>32° 9' 58.158 N<br>32° 9' 58.158 N<br>32° 9' 58.158 N<br>32° 9' 58.158 N | 103° 18' 18.434 W<br>103° 18' 18.434 W<br>103° 18' 18.434 W<br>103° 18' 18.434 W<br>103° 18' 18.434 W   |
| 300<br>400<br>500<br>600<br>700<br>800        | ).0<br>).0<br>).0<br>).0<br>).0<br>).0<br>).0 | 0.00<br>0.00<br>0.00<br>0.00         |                                       | 0.00<br>0.00<br>0.00<br>0.00         | 600<br>700<br>800        | 0<br>0<br>0<br>0<br>0                    | -199.8<br>-199.8<br>-199.8           | 2,348.0<br>2,348.0<br>2,348.0            | 32° 9' 58.158 N<br>32° 9' 58.158 N<br>32° 9' 58.158 N                                       | 103° 18' 18.434 W<br>103° 18' 18.434 W |

1/30/2020 2:22:02PM



Lease Penetration Section Line Footages

| Company:  | Ameredev Operating, LLC. | Local Co-ordinate Reference: | Well Par Three 114H |  |
|-----------|--------------------------|------------------------------|---------------------|--|
| Project:  | Par Three                | TVD Reference:               | KB @ 3351.0usft     |  |
| Site:     | Par Three #5S            | MD Reference:                | KB @ 3351.0usft     |  |
| Well:     | Par Three 114H           | North Reference:             | Grid                |  |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | MinImum Curvature   |  |
| Design:   | Desian #1                | Database:                    | EDM5000             |  |

Planned 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       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,300.0 | 0.00       | 0.00                 | 1,300.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,400.0 | 0.00       | 0.00                 | 1,400.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,500.0 | 0.00       | 0.00                 | 1,500.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,600.0 | 0.00       | 0.00                 | 1,600.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,700.0 | 0.00       | 0.00                 | 1,700.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,800.0 | 0.00       | 0.00                 | 1,800.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 1,900.0 | 0.00       | 0.00                 | 1,900.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 2,000.0 | 0.00       | 0.00                 | 2,000.0       | -199.8              | 2,348.0             | 32° 9' 58.158 N | 103° 18' 18.434 W |
|                    | 2,100.0 | 2.00       | 15.00                | 2,100.0       | -198.2              | 2,348.4             | 32° 9' 58.174 N | 103° 18' 18.429 W |
|                    | 2,200.0 | 4.00       | 15.00                | 2,199.8       | -193.1              | 2,349.8             | 32° 9' 58.224 N | 103° 18' 18.412 W |
|                    | 2,300.0 | 6.00       | 15.00                | 2,299.5       | -184.7              | 2,352.1             | 32° 9' 58.307 N | 103° 18' 18.385 W |
|                    | 2,400.0 | 6.00       | 15.00                | 2,398.9       | -174.6              | 2,354.8             | 32° 9' 58.407 N | 103° 18' 18.353 W |
|                    | 2,500.0 | 6.00       | 15.00                | 2,498.4       | -164.5              | 2,357.5             | 32° 9' 58.507 N | 103° 18' 18.320 W |
|                    | 2,600.0 | 6.00       | 15.00                | 2,597.8       | -154.4              | 2,360.2             | 32° 9' 58.606 N | 103° 18' 18.287 W |
|                    | 2,700.0 | 6.00       | 15.00                | 2,697.3       | -144.3              | 2,362.9             | 32° 9' 58.706 N | 103° 18' 18.255 W |
|                    | 2,800.0 | 6.00       | 15.00                | 2,796.7       | -134.2              | 2,365.6             | 32° 9' 58.805 N | 103° 18' 18.222 W |
|                    | 2,900.0 | 6.00       | 15.00                | 2,896.2       | -124.1              | 2,368.3             | 32° 9' 58.905 N | 103° 18' 18.190 W |
|                    | 3,000.0 | 6.00       | 15.00                | 2,995.6       | -114.0              | 2,371.0             | 32° 9' 59.005 N | 103° 18' 18.157 W |
| 1                  | 3,100.0 | 6.00       | 15.00                | 3,095.1       | -103.9              | 2,373.7             | 32° 9' 59.104 N | 103° 18' 18.124 W |
| 1                  | 3,200.0 | 6.00       | 15.00                | 3,194.5       | -93.8               | 2,376.4             | 32° 9' 59.204 N | 103° 18' 18.092 W |
|                    | 3,300.0 | 6.00       | 15.00                | 3,294.0       | -83.7               | 2,379.1             | 32° 9' 59.304 N | 103° 18' 18.059 W |
|                    | 3,400.0 | 6.00       | 15.00                | 3,393.4       | -73.6               | 2,381.8             | 32° 9' 59.403 N | 103° 18' 18.027 W |
|                    | 3,500.0 | 6.00       | 15.00                | 3,492.9       | -63.5               | 2,384.5             | 32° 9' 59.503 N | 103° 18' 17.994 W |
|                    | 3,600.0 | 6.00       | 15.00                | 3,592.3       | -53.4               | 2,387.2             | 32° 9' 59.603 N | 103° 18' 17.962 W |
|                    | 3,700.0 | 6.00       | 15.00                | 3,691.8       | -43.3               | 2,389.9             | 32° 9' 59.702 N | 103° 18' 17.929 W |
|                    | 3,800.0 | 6.00       | <b>`15.00</b>        | 3,791.2       | -33.2               | 2,392.6             | 32° 9' 59.802 N | 103° 18' 17.896 W |
|                    | 3,900.0 | 6.00       | 15.00                | 3,890.7       | -23.1               | 2,395.3             | 32° 9' 59.902 N | 103° 18' 17.864 W |
|                    | 4,000.0 | 6.00       | 15.00                | 3,990.1       | -13.0               | 2,398.0             | 32° 10' 0.001 N | 103° 18' 17.831 W |
| 1                  | 4,100.0 | 6.00       | 15.00                | 4,089.6       | -2.9                | 2,400.7             | 32° 10' 0.101 N | 103° 18' 17.799 W |
|                    | 4,200.0 | 6.00       | 15.00                | 4,189.0       | 7.2                 | 2,403.5             | 32° 10' 0.201 N | 103° 18' 17.766 W |
|                    | 4,300.0 | 6.00       | 15.00                | 4,288.5       | 17.2                | 2,406.2             | 32° 10' 0.300 N | 103° 18' 17.733 W |
|                    | 4,400.0 | 6.00       | 15.00                | 4,387.9       | 27.3                | 2,408.9             | 32° 10' 0.400 N | 103° 18' 17.701 W |
|                    | 4,500.0 | 6.00       | 15.00                | 4,487.4       | 37.4                | 2,411.6             | 32° 10' 0.499 N | 103° 18' 17.668 W |
|                    | 4,600.0 | 6.00       | 15.00                | 4,586.9       | 47.5                | 2,414.3             | 32° 10' 0.599 N | 103° 18' 17.636 W |
|                    | 4,700.0 | 6.00       | 15.00                | 4,686.3       | 57.6                | 2,417.0             | 32° 10' 0.699 N | 103° 18' 17.603 W |
|                    | 4,800.0 | 6.00       | 15.00                | 4,785.8       | 67.7                | 2,419.7             | 32° 10' 0.798 N | 103° 18' 17.570 W |
|                    | 4,900.0 | 6.00       | 15.00                | 4,885.2       | 77.8                | 2,422.4             | 32° 10' 0.898 N | 103° 18' 17.538 W |
|                    | 5,000.0 | 6.00       | 15.00                | 4,984.7       | 87.9                | 2,425.1             | 32° 10' 0.998 N | 103° 18' 17.505 W |
|                    | 5,100.0 | 6.00       | 15.00                | 5,084.1       | 98.0                | 2,427.8             | 32° 10' 1.097 N | 103° 18' 17.473 W |
|                    | 5,200.0 | 6.00       | 15.00                | 5,183.6       | 108.1               | 2,430.5             | 32° 10' 1.197 N | 103° 18' 17.440 W |
|                    | 5,300.0 | 6.00       | 15.00                | 5,283.0       | 118.2               | 2,433.2             | 32° 10' 1.297 N | 103° 18' 17.407 W |
|                    | 5,400.0 | 6.00       | 15.00                | 5,382.5       | 128.3               | 2,435.9             | 32° 10' 1.396 N | 103° 18' 17.375 W |
|                    | 5,500.0 | 6.00       | 15.00                | 5,481.9       | 138.4               | 2,438.6             | 32° 10' 1.496 N | 103° 18' 17.342 W |


Lease Penetration Section Line Footages

| Company:  | Ameredev Operating, LLC. | Local Co-ordinate Reference: | Well Par Three 114H |
|-----------|--------------------------|------------------------------|---------------------|
| Project:  | Par Three                | TVD Reference:               | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | MD Reference:                | KB @ 3351.0usft     |
| Well:     | Par Three 114H           | North Reference:             | Grid                |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature   |
| Design:   | Design #1                | Database:                    | EDM5000             |

Planned 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       | 15.00                | 5,581.4       | 148.5               | 2,441.3             | 32° 10' 1.596 N                    | 103° 18' 17.310 W                      |
|   | 5,700.0      | 6.00       | 15.00                | 5,680.8       | 158.6               | 2,444.0             | 32° 10' 1.695 N                    | 103° 18' 17.277 W                      |
|   | 5,800.0      | 6.00       | 15.00                | 5,780.3       | 168.7               | 2,446.7             | 32° 10' 1.795 N                    | 103° 18' 17.244 W                      |
|   | 5,900.0      | 6.00       | 15.00                | 5,879.7       | 178.8               | 2,449.4             | 32° 10' 1.895 N                    | 103° 18' 17.212 W                      |
|   | 6,000.0      | 6.00       | 15.00                | 5,979.2       | 188.9               | 2,452.2             | 32° 10' 1.994 N                    | 103° 18' 17.179 W                      |
|   | 6,100.0      | 6.00       | 15.00                | 6,078.6       | 199.0               | 2,454.9             | 32° 10' 2.094 N                    | 103° 18' 17.147 W                      |
|   | 6,200.0      | 6.00       | 15.00                | 6,178.1       | 209.1               | 2,457.6             | 32° 10' 2.193 N                    | 103° 18' 17.114 W                      |
|   | 6,300.0      | 6.00       | 15.00                | 6,277.5       | 219.2               | 2,460.3             | 32° 10' 2.293 N                    | 103° 18' 17.081 W                      |
|   | 6,400.0      | 6.00       | 15.00                | 6,377.0       | 229.3               | 2,463.0             | 32° 10' 2.393 N                    | 103° 18' 17.049 W                      |
|   | 6,500.0      | 6.00       | 15.00                | 6,476.4       | 239.4               | 2,465.7             | 32° 10' 2.492 N                    | 103° 18' 17.016 W                      |
|   | 6,600.0      | 6.00       | 15.00                | 6,575.9       | 249.5               | 2,468.4             | 32° 10' 2.592 N                    | 103° 18' 16.984 W                      |
|   | 6,700.0      | 6.00       | 15.00                | 6,675.3       | 259.6               | 2,471.1             | 32° 10' 2.692 N                    | 103° 18' 16.951 W                      |
|   | 6,800.0      | 6.00       | 15.00                | 6,774.8       | 269.7               | 2,473.8             | 32° 10' 2.791 N                    | 103° 18' 16.919 W                      |
|   | 6,900.0      | 6.00       | 15.00                | 6,874.3       | 279.8               | 2,476.5             | 32° 10' 2.891 N                    | 103° 18' 16.886 W                      |
|   | 7,000.0      | 6.00       | 15.00                | 6,973.7       | 289.9               | 2,479.2             | 32° 10' 2.991 N                    | 103° 18' 16.853 W                      |
|   | 7,100.0      | 6.00       | 15.00                | 7,073.2       | 300.0               | 2,481.9             | 32° 10' 3.090 N                    | 103° 18' 16.821 W                      |
|   | 7,200.0      | 6.00       | 15.00                | 7,172.6       | 310.1               | 2,484.6             | 32° 10' 3.190 N                    | 103° 18' 16.788 W                      |
|   | 7,300.0      | 6.00       | 15.00                | 7,272.1       | 320.1               | 2,487.3             | 32° 10' 3.290 N                    | 103° 18' 16.756 W                      |
|   | 7,400.0      | 6.00       | 15.00                | 7,371.5       | 330.2               | 2,490.0             | 32° 10' 3.389 N                    | 103° 18' 16.723 W                      |
|   | 7,500.0      | 6.00       | 15.00                | 7,471.0       | 340.3               | 2,492.7             | 32° 10' 3.489 N                    | 103° 18' 16.690 W                      |
|   | 7,600.0      | 6.00       | 15.00                | 7,570.4       | 350.4               | 2,495.4             | 32° 10' 3.588 N                    | 103° 18' 16.658 W                      |
|   | 7,700.0      | 6.00       | 15.00                | 7,669.9       | 360.5               | 2,498.1             | 32° 10' 3.688 N                    | 103° 18' 16.625 W                      |
|   | 7,800.0      | 6.00       | 15.00                | 7,769.3       | 370.6               | 2,500.8             | 32° 10' 3.788 N                    | 103° 18' 16.593 W                      |
|   | 7,900.0      | 6.00       | 15.00                | 7,868.8       | 380.7               | 2,503.6             | 32° 10' 3.887 N                    | 103° 18' 16.560 W                      |
|   |              | 6.00       | 15.00                | 7,968.2       | 390.8               | 2,506.3             | 32° 10' 3.987 N                    | 103° 18' 16.527 W                      |
|   | 8,000.0      |            |                      |               |                     |                     |                                    |  |
|   | 8,031.9      | 6.00       | 15.00                | 8,000.0       | 394.0               | 2,507.1             | 32° 10' 4.019 N                    | 103° 18' 16.517 W                      |
|   | 8,100.0      | 4.64       | 15.00                | 8,067.8       | 400.1               | 2,508.8             | 32° 10' 4.079 N                    | 103° 18' 16.497 W                      |
|   | 8,200.0      | 2.64       | 15.00                | 8,167.6       | 406.3               | 2,510.4             | 32° 10' 4.140 N<br>32° 10' 4.167 N | 103° 18' 16.478 W<br>103° 18' 16.469 W |
|   | 8,300.0      | 0.64       | 15.00                | 8,267.5       | 409.0               | 2,511.1             |                                    |  |
|   | 8,331.9      | 0.00       | 0.00                 | 8,299.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 8,400.0      | 0.00       | 0.00                 | 8,367.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 8,500.0      | 0.00       | 0.00                 | 8,467.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 8,600.0      | 0.00       | 0.00                 | 8,567.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 8,700.0      | 0.00       | 0.00                 | 8,667.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 8,800.0      | 0.00       | 0.00                 | 8,767.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
| 1 | 8,900.0      | 0.00       | 0.00                 | 8,867.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,000.0      | 0.00       | 0.00                 | 8,967.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,100.0      | 0.00       | 0.00                 | 9,067.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,200.0      | 0.00       | 0.00                 | 9,167.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,300.0      | 0.00       | 0.00                 | 9,267.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,400.0      | 0.00       | 0.00                 | 9,367.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,500.0      | 0.00       | 0.00                 | 9,467.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,600.0      | 0.00       | 0.00                 | 9,567.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,700.0      | 0.00       | 0.00                 | 9,667.5       | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |



Lease Penetration Section Line Footages

| Company:  | Ameredev Operating, LLC. | Local Co-ordinate Reference: | Well Par Three 114H | j |
|-----------|--------------------------|------------------------------|---------------------|---|
| Project:  | Par Three                | TVD Reference:               | KB @ 3351.0usft     |   |
| Site:     | Par Three #5S            | MD Reference:                | KB @ 3351.0usft     |   |
| Well:     | Par Three 114H           | North Reference:             | Grid                | i |
| Weilbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature   | ļ |
| Design:   | Design #1                | Database:                    | EDM5000             | ĺ |

Planned Survey

|   | MD<br>(usft)         | Inc<br>(°)     | Azi (azimuth)<br>(°) | TVD<br>(usft)        | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude                           | Longitude                              |
|---|----------------------|----------------|----------------------|----------------------|---------------------|---------------------|------------------------------------|--|
| h | 9,800.0              | 0.00           | 0.00                 | 9,767.5              | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 9,900.0              | 0.00           | 0.00                 | 9,867.5              | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,000.0             | 0.00           | 0.00                 | 9,967.5              | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,100.0             | 0.00           | 0.00                 | 10,067.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,200.0             | 0.00           | 0.00                 | 10,167.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,300.0             | 0.00           | 0.00                 | 10,267.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,400.0             | 0.00           | 0.00                 | 10,367.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,500.0             | 0.00           | 0.00                 | 10,467.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
| ľ | 10,600.0             | 0.00           | 0.00                 | 10,567.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,700.0             | 0.00           | 0.00                 | 10,667.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,800.0             | 0.00           | 0.00                 | 10,767.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 10,900.0             | 0.00           | 0.00                 | 10,867.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,000.0             | 0.00           | 0.00                 | 10,967.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,100.0             | 0.00           | 0.00                 | 11,067.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,200.0             | 0.00           | 0.00                 | 11,167.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,300.0             | 0.00           | 0.00                 | 11,267.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,400.0             | 0.00           | 0.00                 | 11,367.5             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | 11,482.5             | 0.00           | 0.00                 | 11,450.0             | 409.2               | 2,511.2             | 32° 10' 4.169 N                    | 103° 18' 16.468 W                      |
|   | PT114 KOP            |                |                      |                      |                     |                     |                                    |  |
|   | 11,500.0             | 2.06           | 189.46               | 11,467.5             | 408.9               | 2,511.1             | 32° 10' 4.165 N                    | 103° 18' 16.469 W                      |
|   | 11,600.0             | 13.83          | 189.46               | 11,566.4             | 395.3               | 2,508.9             | 32° 10' 4.031 N                    | 103° 18' 16.497 W                      |
|   | 11,700.0             | 25.60          | 189.46               | 11,660.3             | 362.1               | 2,503.3             | 32° 10' 3.703 N                    | 103° 18' 16.565 W                      |
|   | 11,800.0             | 37.37          | 189.46               | 11,745.5             | 310.6               | 2,494.8             | 32° 10' 3.195 N                    | 103° 18' 16.670 W                      |
|   | 11,900.0             | 49.15          | 189.46               | 11,818.2             | 243.2               | 2,483.5             | 32° 10' 2.528 N                    | 103° 18' 16.808 W                      |
|   | 12,000.0             | 60.92          | 189.46               | 11,875.4             | 162.5               | 2,470.1             | 32° 10' 1.731 N                    | 103° 18' 16.974 W                      |
|   | 12,100.0             | 72.69          | 189.46               | 11,914.7             | 72.0                | 2,455.0             | 32° 10' 0.837 N                    | 103° 18' 17.159 W                      |
|   | 12,132.5             | 76.51          | 189.46               | 11,923.3             | 41.1                | 2,449.8             | 32° 10' 0.532 N                    | 103° 18' 17.223 W                      |
|   | 12,200.0             | 82.90          | 184.64               | 11,935.4             | -24.8               | 2,441.7             | 32° 9' 59.881 N                    | 103° 18' 17.324 W                      |
|   | 12,274.6             | 90.00          | 179.48               | 11,940.0             | -99.1               | 2,439.1             | 32° 9' 59.146 N                    | 103° 18' 17.364 W                      |
|   | PT114 FTP            |                | 170.40               |                      |                     | o                   | 00% 01 50 004 N                    | 4000 401 47 004 144                    |
|   | 12,300.0<br>12,400.0 | 90.00<br>90.00 | 179.48<br>179.48     | 11,940.0<br>11,940.0 | -124.5<br>-224.5    | 2,439.3<br>2,440.2  | 32° 9' 58.894 N<br>32° 9' 57.905 N | 103° 18' 17.364 W<br>103° 18' 17.364 W |
|   | 12,500.0             | 90.00          | 179.48               | 11,940.0             | -324.5              | 2,441.1             | 32° 9' 56.915 N                    | 103° 18' 17.365 W                      |
|   | 12,600.0             | 90.00          | 179.48               | 11,940.0             | -424.5              | 2,442.0             | 32° 9' 55.926 N                    | 103° 18' 17.365 W                      |
|   | 12,700.0             | 90.00          | 179.48               | 11,940.0             | -524.5              | 2,442.9             | 32° 9' 54.936 N                    | 103° 18' 17.366 W                      |
|   | 12,800.0             | 90.00          | 179.48               | 11,940.0             | -624.5              | 2,443.9             | 32° 9' 53.947 N                    | 103° 18' 17.366 W                      |
|   | 12,900.0             | 90.00          | 179.48               | 11,940.0             | -724.5              | 2,444.8             | 32° 9' 52.957 N                    | 103° 18' 17.367 W                      |
|   | 13,000.0             | 90.00          | 179.48               | 11,940.0             | -824.5              | 2,445.7             | 32° 9' 51.968 N                    | 103° 18' 17.367 W                      |
|   | 13,100.0             | 90.00          | 179.48               | 11,940.0             | -924.5              | 2,446.6             | 32° 9' 50.978 N                    | 103° 18' 17.368 W                      |
|   | 13,200.0             | 90.00          | 179.48               | 11,940.0             | -1,024.5            | 2,447.5             | 32° 9' 49.989 N                    | 103° 18' 17.368 W                      |
|   | 13,300.0             | 90.00          | 179.48               | 11,940.0             | -1,124.5            | 2,448.4             | 32° 9' 48.999 N                    | 103° 18' 17.369 W                      |
|   | 13,400.0             | 90.00          | 179.48               | 11,940.0             | -1,224.5            | 2,449.3             | 32° 9' 48.010 N                    | 103° 18' 17.369 W                      |
|   | 13,500.0             | 90.00          | 179.48               | 11,940.0             | -1,324.5            | 2,450.3             | 32° 9' 47.020 N                    | 103° 18' 17.370 W                      |
|   | 13,600.0             | 90.00          | 179.48               | 11,940.0             | -1,424.5            | 2,451.2             | 32° 9' 46.031 N                    | 103° 18' 17.370 W                      |
|   | 13,700.0             | 90.00          | 179.48               | 11,940.0             | -1,524.5            | 2,452.1             | 32° 9' 45.041 N                    | 103° 18' 17.371 W                      |

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Lease Penetration Section Line Footages

| Company:  | Ameredev Operating, LLC. | Local Co-ordinate Reference: | Well Par Three 114H |
|-----------|--------------------------|------------------------------|---------------------|
| Project:  | Par Three                | TVD Reference:               | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | MD Reference:                | KB @ 3351.0usft     |
| Well:     | Par Three 114H           | North Reference:             | Grid                |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature   |
| Design:   | Design #1                | Database:                    | EDM5000             |

Planned Survey

|   | MD<br>(usft)    | Inc<br>(°)        | Azi (azimuth)<br>(°) | TVD<br>(usft)         | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
|---|-----------------|-------------------|----------------------|-----------------------|---------------------|---------------------|-----------------|-------------------|
|   | 13,800.0        | 90.00             | 179.48               | 11,940.0              | -1,624.5            | 2,453.0             | 32° 9' 44.052 N | 103° 18' 17.371 W |
|   | 13,900.0        | 90.00             | 179.48               | 11,940.0              | -1,724.5            | 2,453.9             | 32° 9' 43.062 N | 103° 18' 17.372 W |
|   | 14,000.0        | 90.00             | 179.48               | 11,940.0              | -1,824.5            | 2,454.8             | 32° 9' 42.073 N | 103° 18' 17.372 W |
| } | 14,100.0        | 90.00             | 179.48               | 11,940.0              | -1,924.5            | 2,455.7             | 32° 9' 41.083 N | 103° 18' 17.373 W |
|   | 14,200.0        | 90.00             | 179.48               | 11, <del>9</del> 40.0 | -2,024.5            | 2,456.6             | 32° 9' 40.094 N | 103° 18' 17.373 W |
|   | 14,300.0        | 90.00             | 179.48               | 11,940.0              | -2,124.5            | 2,457.6             | 32° 9' 39.104 N | 103° 18' 17.374 W |
|   | 14,400.0        | 90.00             | 179.48               | 11,940.0              | -2,224.5            | 2,458.5             | 32° 9' 38.115 N | 103° 18' 17.374 W |
|   | 14,500.0        | 90.00             | 179.48               | 11,940.0              | -2,324.5            | 2,459.4             | 32° 9' 37.125 N | 103° 18' 17.375 W |
|   | 14,600.0        | 90.00             | 179.48               | 11,940.0              | -2,424.4            | 2,460.3             | 32° 9' 36.136 N | 103° 18' 17.375 W |
|   | 14,700.0        | 90.00             | 179.48               | 11,940.0              | -2,524.4            | 2,461.2             | 32° 9' 35.146 N | 103° 18' 17.376 W |
|   | 14,800.0        | 90.00             | 179.48               | 11,940.0              | -2,624.4            | 2,462.1             | 32° 9' 34.157 N | 103° 18' 17.376 W |
|   | 14,815.6        | 90.00             | 179.48               | 11,940.0              | -2,640.0            | 2,462.3             | 32° 9' 34.002 N | 103° 18' 17.376 W |
|   | PT114 into NMNN | 1127447           |                      |                       |                     |                     |                 |                   |
|   | 14,900.0        | 90.00             | 179.48               | 11,940.0              | -2,724.4            | 2,463.0             | 32° 9' 33.167 N | 103° 18' 17.377 W |
|   | 15,000.0        | 90.00             | 179.48               | 11,940.0              | -2,824.4            | 2,463.9             | 32° 9' 32.178 N | 103° 18' 17.377 W |
|   | 15,100.0        | 90.00             | 179.48               | 11,940.0              | -2,924.4            | 2,464.9             | 32° 9' 31.188 N | 103° 18' 17.378 W |
|   | 15,200.0        | 90.00             | 179.48               | 11,940.0              | -3,024.4            | 2,465.8             | 32° 9' 30.199 N | 103° 18' 17.378 W |
|   | 15,300.0        | 90.00             | 179.48               | 11,940.0              | -3,124.4            | 2,466.7             | 32° 9' 29.209 N | 103° 18' 17.379 W |
|   | 15,400.0        | 90.00             | 179.48               | 11,940.0              | -3,224.4            | 2,467.6             | 32° 9' 28.220 N | 103° 18' 17.379 W |
|   | 15,500.0        | 90.00             | 179.48               | 11,940.0              | -3,324.4            | 2,468.5             | 32° 9' 27.230 N | 103° 18' 17.380 W |
|   | 15,600.0        | 90.00             | 179.48               | 11,940.0              | -3,424.4            | 2,469.4             | 32° 9' 26.241 N | 103° 18' 17.380 W |
|   | 15,700.0        | 90.00             | 179.48               | 11,940.0              | -3,524.4            | 2,470.3             | 32° 9' 25.251 N | 103° 18' 17.381 W |
|   | 15,800.0        | 90.00             | 179.48               | 11,940.0              | -3,624.4            | 2,471.2             | 32° 9' 24.262 N | 103° 18' 17.381 W |
|   | 15,900.0        | 90.00             | 179.48               | 11,940.0              | -3,724.4            | 2,472.2             | 32° 9' 23.272 N | 103° 18' 17.382 W |
|   | 16,000.0        | 90.00             | 179.48               | 11,940.0              | -3,824.4            | 2,473.1             | 32° 9' 22.283 N | 103° 18' 17.382 W |
|   | 16,100.0        | 90.00             | 179.48               | 11,940.0              | -3,924.4            | 2,474.0             | 32° 9' 21.293 N | 103° 18' 17.383 W |
|   | 16,200.0        | 90.00             | 179.48               | 11, <del>9</del> 40.0 | -4,024.4            | 2,474.9             | 32° 9' 20.304 N | 103° 18' 17.383 W |
|   | 16,300.0        | 90.00             | 179.48               | 11,940.0              | -4,124.4            | 2,475.8             | 32° 9' 19.314 N | 103° 18' 17.384 W |
|   | 16,400.0        | 90.00             | 179.48               | 11,940.0              | -4,224.4            | 2,476.7             | 32° 9' 18.325 N | 103° 18' 17.384 W |
|   | 16,500.0        | <del>9</del> 0.00 | 179.48               | 11,940.0              | -4,324.4            | 2,477.6             | 32° 9' 17.335 N | 103° 18' 17.385 W |
|   | 16,600.0        | 90.00             | 179.48               | 11,940.0              | -4,424.4            | 2,478.5             | 32° 9' 16.346 N | 103° 18' 17.385 W |
|   | 16,700.0        | 90.00             | 179.48               | 11,940.0              | -4,524.4            | 2,479.5             | 32° 9' 15.356 N | 103° 18' 17.386 W |
|   | 16,800.0        | 90.00             | 179.48               | 11,940.0              | -4,624.4            | 2,480.4             | 32° 9' 14.367 N | 103° 18' 17,386 W |
|   | 16,900.0        | 90.00             | 179.48               | 11,940.0              | -4,724.4            | 2,481.3             | 32° 9' 13.377 N | 103° 18' 17.387 W |
| 1 | 17,000.0        | 90.00             | 179.48               | 11,940.0              | -4,824.3            | 2,482.2             | 32° 9' 12.388 N | 103° 18' 17.387 W |
|   | 17,100.0        | 90.00             | 179.48               | 11,940.0              | -4,924.3            | 2,483.1             | 32° 9' 11.398 N | 103° 18' 17.388 W |
|   | 17,200.0        | 90.00             | 179.48               | 11,940.0              | -5,024.3            | 2,484.0             | 32° 9' 10.409 N | 103° 18' 17.388 W |
|   | 17,300.0        | 90.00             | 179.48               | 11,940.0              | -5,124.3            | 2,484.9             | 32° 9' 9.419 N  | 103° 18' 17.389 W |
|   | 17,400.0        | 90.00             | 179.48               | 11,940.0              | -5,224.3            | 2,485.9             | 32° 9' 8.430 N  | 103° 18' 17.389 W |
|   | 17,500.0        | 90.00             | 179.48               | 11,940.0              | -5,324.3            | 2,486.8             | 32° 9' 7.440 N  | 103° 18' 17.390 W |
|   | 17,600.0        | 90.00             | 179.48               | 11,940.0              | -5,424.3            | 2,487.7             | 32° 9' 6.451 N  | 103° 18' 17.390 W |
|   | 17,700.0        | 90.00             | 179.48               | 11,940.0              | -5,524.3            | 2,488.6             | 32° 9' 5.461 N  | 103° 18' 17.390 W |
|   | 17,800.0        | 90.00             | 179.48               | 11,940.0              | -5,624.3            | 2,489.5             | 32° 9' 4.471 N  | 103° 18' 17.391 W |
|   | 17,900.0        | 90.00             | 179.48               | 11,940.0              | -5,724.3            | 2,490.4             | 32° 9' 3.482 N  | 103° 18' 17.391 W |



Lease Penetration Section Line Footages

| Company:  | Ameredev Operating, LLC. | Local Co-ordinate Reference: | Well Par Three 114H |
|-----------|--------------------------|------------------------------|---------------------|
| Project:  | Par Three                | TVD Reference:               | KB @ 3351.0usft     |
| Site:     | Par Three #5S            | MD Reference:                | KB @ 3351.0usft     |
| Well:     | Par Three 114H           | North Reference:             | Grid                |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature   |
| Design:   | Design #1                | Database:                    | EDM5000             |

Planned Survey

|   | MD<br>(usft)    | inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft)     | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
|---|-----------------|------------|----------------------|-------------------|---------------------|---------------------|-----------------|-------------------|
| [ | 18,000.0        | 90.00      | 179.48               | 11,940.0          | -5,824.3            | 2,491.3             | 32° 9' 2.492 N  | 103° 18' 17.392 W |
|   | 18,100.0        | 90.00      | 179.48               | 11 <b>,940</b> .0 | -5,924.3            | 2,492.2             | 32° 9' 1.503 N  | 103° 18' 17.392 W |
|   | 18,200.0        | 90.00      | 179.48               | 11,940.0          | -6,024.3            | 2,493.2             | 32° 9' 0.513 N  | 103° 18' 17.393 W |
|   | 18,300.0        | 90.00      | 179.48               | 11,940.0          | -6,124.3            | 2,494.1             | 32° 8' 59.524 N | 103° 18' 17.393 W |
|   | 18,400.0        | 90.00      | 179.48               | 11,940.0          | -6,224.3            | 2,495.0             | 32° 8' 58.534 N | 103° 18' 17.394 W |
|   | 18,500.0        | 90.00      | 179.48               | 11,940.0          | -6,324.3            | 2,495.9             | 32° 8' 57.545 N | 103° 18' 17.394 W |
|   | 18,600.0        | 90.00      | 179.48               | 11,940.0          | -6,424.3            | 2,496.8             | 32° 8' 56.555 N | 103° 18' 17.395 W |
|   | 18,700.0        | 90.00      | 179.48               | 11,940.0          | -6,524.3            | 2,497.7             | 32° 8' 55.566 N | 103° 18' 17.395 W |
|   | 18,800.0        | 90.00      | 179.48               | 11,940.0          | -6,624.3            | 2,498.6             | 32° 8' 54.576 N | 103° 18' 17.396 W |
|   | 18,900.0        | 90.00      | 179.48               | 11,940.0          | -6,724.3            | 2,499.5             | 32° 8' 53.587 N | 103° 18' 17.396 W |
|   | 19,000.0        | 90.00      | 179.48               | 11,940.0          | -6,824.3            | 2,500.5             | 32° 8' 52.597 N | 103° 18' 17.397 W |
|   | 19,100.0        | 90.00      | 179.48               | 11,940.0          | -6,924.3            | 2,501.4             | 32° 8' 51.608 N | 103° 18' 17.397 W |
|   | 19,200.0        | 90.00      | 179.48               | 11,940.0          | -7,024.3            | 2,502.3             | 32° 8' 50.618 N | 103° 18' 17.398 W |
|   | 19,300.0        | 90.00      | 179.48               | 11,940.0          | -7,124.3            | 2,503.2             | 32° 8' 49.629 N | 103° 18' 17.398 W |
|   | 19,400.0        | 90.00      | 179.48               | 11,940.0          | -7,224.2            | 2,504.1             | 32° 8' 48.639 N | 103° 18' 17.399 W |
|   | 19,500.0        | 90.00      | 179.48               | 11,940.0          | -7,324.2            | 2,505.0             | 32° 8' 47.650 N | 103° 18' 17.399 W |
|   | 19,600.0        | 90.00      | 179.48               | 11,940.0          | -7,424.2            | 2,505.9             | 32° 8' 46.660 N | 103° 18' 17.400 W |
|   | 19,700.0        | 90.00      | 179.48               | 11,940.0          | -7,524.2            | 2,506.8             | 32° 8' 45.671 N | 103° 18' 17.400 W |
|   | 19,800.0        | 90.00      | 179.48               | 11,940.0          | -7,624.2            | 2,507.8             | 32° 8' 44.681 N | 103° 18' 17.401 W |
|   | 19,900.0        | 90.00      | 179.48               | 11,940.0          | -7,724.2            | 2,508.7             | 32° 8' 43.692 N | 103° 18' 17.401 W |
| Ì | 20,000.0        | 90.00      | 179.48               | 1 <b>1,94</b> 0.0 | -7,824.2            | 2,509.6             | 32° 8' 42.702 N | 103° 18' 17.402 W |
|   | 20,095.8        | 90.00      | 179.48               | 11,940.0          | -7,920.0            | 2,510.5             | 32° 8' 41.754 N | 103° 18' 17.402 W |
| ł | PT114 into NMNM |            |                      |                   |                     |                     |                 |                   |
|   | 20,100.0        | 90.00      | 179.48               | 11,940.0          | -7,924.2            | 2,510.5             | 32° 8' 41.713 N | 103° 18' 17.402 W |
|   | 20,200.0        | 90.00      | 179.48               | 11,940.0          | -8,024.2            | 2,511.4             | 32° 8' 40.723 N | 103° 18' 17.403 W |
|   | 20,300.0        | 90.00      | 179.48               | 11,940.0          | -8,124.2            | 2,512.3             | 32° 8' 39.734 N | 103° 18' 17.403 W |
|   | 20,400.0        | 90.00      | 179.48               | 11,940.0          | -8,224.2            | 2,513.2             | 32° 8' 38.744 N | 103° 18' 17.404 W |
|   | 20,500.0        | 90.00      | 179.48               | 11,940.0          | -8,324.2            | 2,514.1             | 32° 8' 37.755 N | 103° 18' 17.404 W |
| { | 20,600.0        | 90.00      | 179.48               | 11,940.0          | -8,424.2            | 2,515.1             | 32° 8' 36.765 N | 103° 18' 17.405 W |
|   | 20,700.0        | 90.00      | 179.48               | 11,940.0          | -8,524.2            | 2,516.0             | 32° 8' 35.776 N | 103° 18' 17.405 W |
|   | 20,800.0        | 90.00      | 179.48               | 11,940.0          | -8,624.2            | 2,516.9             | 32° 8' 34.786 N | 103° 18' 17.406 W |
|   | 20,900.0        | 90.00      | 179.48               | 11,940.0          | -8,724.2            | 2,517.8             | 32° 8' 33.797 N | 103° 18' 17.406 W |
| 1 | 21,000.0        | 90.00      | 179.48               | 11,940.0          | -8,824.2            | 2,518.7             | 32° 8' 32.807 N | 103° 18' 17.407 W |
|   | 21,100.0        | 90.00      | 179.48               | 11,940.0          | -8,924.2            | 2,519.6             | 32° 8' 31.818 N | 103° 18' 17.407 W |
|   | 21,200.0        | 90.00      | 179.48               | 11,940.0          | -9,024.2            | 2,520.5             | 32° 8' 30.828 N | 103° 18' 17.408 W |
|   | 21,300.0        | 90.00      | 179.48               | 11,940.0          | -9,124.2            | 2,521.5             | 32° 8' 29.839 N | 103° 18' 17.408 W |
|   | 21,400.0        | 90.00      | 179.48               | 11,940.0          | -9,224.2            | 2,522.4             | 32° 8' 28.849 N | 103° 18' 17.409 W |
|   | 21,500.0        | 90.00      | 179.48               | 11,940.0          | -9,324.2            | 2,523.3             | 32° 8' 27.860 N | 103° 18' 17.409 W |
|   | 21,600.0        | 90.00      | 179.48               | 11,940.0          | -9,424.2            | 2,524.2             | 32° 8' 26.870 N | 103° 18' 17.410 W |
|   | 21,700.0        | 90.00      | 179.48               | 11 <b>,9</b> 40.0 | -9,524.2            | 2,525.1             | 32° 8' 25.881 N | 103° 18' 17.410 W |
| 1 | 21,800.0        | 90.00      | 179.48               | 11,940.0          | -9,624.1            | 2,526.0             | 32° 8' 24.891 N | 103° 18' 17.411 W |
|   | 21,900.0        | 90.00      | 179.48               | 1 <b>1,940.0</b>  | -9,724.1            | 2,526.9             | 32° 8' 23.902 N | 103° 18' 17.411 W |
|   | 22,000.0        | 90.00      | 179.48               | 11,940.0          | -9,824.1            | 2,527.8             | 32° 8' 22.912 N | 103° 18' 17.412 W |
|   | 22,100.0        | 90.00      | 179.48               | 11,940.0          | -9,924.1            | 2,528.8             | 32° 8' 21.923 N | 103° 18' 17.412 W |
|   | 22,200.0        | 90.00      | 179.48               | 11,940.0          | -10,024.1           | 2,529.7             | 32° 8' 20.933 N | 103° 18' 17,413 W |

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Lease Penetration Section Line Footages

| Company:       Ameredev Operating, LLC.         Project:       Par Three         Site:       Par Three #5S         Well:       Par Three 114H         Wellbore:       Wellbore #1         Design:       Design #1 |            | Local Co-ordinate Reference:<br>TVD Reference:<br>MD Reference:<br>North Reference:<br>Survey Calculation Method:<br>Database: |                      | Well Par Three<br>KB @ 3351.0us<br>KB @ 3351.0us<br>Grid<br>Minimum Curva<br>EDM5000 |                     |                     |                 |                   |
|---|------------|--|----------------------|--|---------------------|---------------------|-----------------|-------------------|
| Planned Survey<br>MD<br>(usft)  | inc<br>(°) |  | Azi (azimuth)<br>(°) | TVD<br>(usft)  | +FSL/-FNL<br>(usft) | +FWL/-FEL<br>(usft) | Latitude        | Longitude         |
| 22,30   | 00.0       | 90.00  | 179.48               | 11,940.0   | -10,124.1           | 2,530.6             | 32° 8' 19.944 N | 103° 18' 17.413 V |
| 22,40   | 00.0       | 90.00  | 179.48               | 11,940.0   | -10,224.1           | 2,531.5             | 32° 8' 18.954 N | 103° 18' 17.414 V |
| 22,50   | 00.0       | 90.00  | 179.48               | 11, <del>9</del> 40.0  | -10,324.1           | 2,532.4             | 32° 8' 17.965 N | 103° 18' 17.414 V |
| 22,60   | 00.0       | 90.00  | 179.48               | 11, <del>9</del> 40.0  | -10,424.1           | 2,533.3             | 32° 8' 16.975 N | 103° 18' 17.415 V |
| PT114 LT<br>22,69<br>PT114 Bł   | 92.8       | 90.00  | 179.48               | 11,940.0   | -10,516.9           | 2,534.2             | 32° 8' 16.057 N | 103° 18' 17.415 V |

| Plan Anno | tations  |          |            |         |                       |
|-----------|----------|----------|------------|---------|-----------------------|
|           | Measured | Vertical | Local Coor | dinates |                       |
|           | Depth    | Depth    | +N/-S      | +E/-W   |                       |
|           | (usft)   | (usft)   | (usft)     | (usft)  | Comment               |
|           | 11,482.5 | 11,450.0 | 609.1      | 163.2   | PT114 KOP             |
|           | 14,815.6 | 11,940.0 | -2,440.2   | 114.3   | PT114 into NMNM127447 |
|           | 20,095.8 | 11,940.0 | -7,720.2   | 162.5   | PT114 into NMNM127448 |

Checked By:

Approved By:

Date:



# **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.
- 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.



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



### APD ID: 10400046451

Operator Name: AMEREDEV OPERATING LLC

Well Name: PAR THREE FED COM 25 36 06

Well Type: OIL WELL

Submission Date: 08/26/2019

Well Number: 114H Well Work Type: Drill

**Section 1 - General** 

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

# Section 2 - Lined Pits

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 specifications: Pit liner description: Pit liner manufacturers information: Precipitated solids disposal: Decribe precipitated solids disposal: Precipitated solids disposal permit: Lined pit precipitated solids disposal schedule: Lined pit precipitated solids disposal schedule attachment: Lined pit reclamation description: Lined pit reclamation attachment: Leak detection system description: Look detection evetem attachment

**PWD disturbance (acres):** 

Operator Name: AMEREDEV OPERATING LLC Well Name: PAR THREE FED COM 25 36 06

Well Number: 114H

Lined pit Monitor description: Lined pit Monitor attachment: 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 attachment:

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

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 specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

**Unlined pit Monitor description:** 

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

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 evidence:

State authorization:

**Unlined Produced Water Pit Estimated percolation:** 

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

Operator Name: AMEREDEV OPERATING LLC

Well Name: PAR THREE FED COM 25 36 06

PWD surface owner:

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Well Number: 114H

**PWD disturbance (acres):** 

| Is the reclamation bond a rider under the BLM bond?        |                            |
|--|----------------------------|
| Unlined pit bond number:                                   |                            |
| Unlined pit bond amount:                                   |                            |
| Additional bond information attachment:                    |                            |
| Section 4 Injection  |                            |
| Section 4 - Injection                                      |                            |
| 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 attachment:                             |                            |
| Underground Injection Control (UIC) Permit?                |                            |
| UIC Permit attachment:                                     |                            |
| Section 5 - Surface Discharge                              |                            |
|  |                            |
| 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 - Other  |                            |
|  |                            |
| Would you like to utilize Other PWD options? N             |                            |
| Produced Water Disposal (PWD) Location:                    |                            |

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Operator Name: AMEREDEV OPERATING LLC

Well Name: PAR THREE FED COM 25 36 06

Well Number: 114H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



#### U.S. Department of the interior BUREAU OF LAND MANAGEMENT

APD ID: 10400046451

**Operator Name: AMEREDEV OPERATING LLC** 

Well Name: PAR THREE FED COM 25 36 06

Well Type: OIL WELL

# **Bond Information**

Federal/Indian APD: FED

BLM Bond number: NMB001478

**BIA Bond number:** 

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

**BLM reclamation bond number:** 

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

**Reclamation bond number:** 

**Reclamation bond amount:** 

**Reclamation bond rider amount:** 

Additional reclamation bond information attachment:

Submission Date: 08/26/2019

Well Number: 114H Well Work Type: Drill Show Final Text

02/27/2020 A HERE

Bond Info Data Report