

**District I**

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

**District II**

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

**District III**

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

**District IV**

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

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

Form C-101

August 1, 2011

Permit 306882

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

|                                                                                                 |                                                |                               |
|-------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------|
| 1. Operator Name and Address<br>AMEREDEV OPERATING, LLC<br>2901 Via Fortuna<br>Austin, TX 78746 |                                                | 2. OGRID Number<br>372224     |
|                                                                                                 |                                                | 3. API Number<br>30-025-49726 |
| 4. Property Code<br>320762                                                                      | 5. Property Name<br>RED BUD 25 36 32 STATE COM | 6. Well No.<br>118H           |

**7. Surface Location**

|               |               |                 |              |              |                  |               |                  |               |               |
|---------------|---------------|-----------------|--------------|--------------|------------------|---------------|------------------|---------------|---------------|
| UL - Lot<br>P | Section<br>32 | Township<br>25S | Range<br>36E | Lot Idn<br>P | Feet From<br>200 | N/S Line<br>S | Feet From<br>932 | E/W Line<br>E | County<br>Lea |
|---------------|---------------|-----------------|--------------|--------------|------------------|---------------|------------------|---------------|---------------|

**8. Proposed Bottom Hole Location**

|               |               |                 |              |              |                 |               |                  |               |               |
|---------------|---------------|-----------------|--------------|--------------|-----------------|---------------|------------------|---------------|---------------|
| UL - Lot<br>A | Section<br>29 | Township<br>25S | Range<br>36E | Lot Idn<br>A | Feet From<br>50 | N/S Line<br>N | Feet From<br>280 | E/W Line<br>E | County<br>Lea |
|---------------|---------------|-----------------|--------------|--------------|-----------------|---------------|------------------|---------------|---------------|

**9. Pool Information**

|                    |       |
|--------------------|-------|
| JAL;WOLFCAMP, WEST | 33813 |
|--------------------|-------|

**Additional Well Information**

|                           |                             |                                        |                         |                                    |
|---------------------------|-----------------------------|----------------------------------------|-------------------------|------------------------------------|
| 11. Work Type<br>New Well | 12. Well Type<br>OIL        | 13. Cable/Rotary                       | 14. Lease Type<br>State | 15. Ground Level Elevation<br>3003 |
| 16. Multiple<br>N         | 17. Proposed Depth<br>21803 | 18. Formation<br>Wolfcamp              | 19. Contractor          | 20. Spud Date<br>5/1/2022          |
| Depth to Ground water     |                             | Distance from nearest fresh water well |                         | Distance to nearest surface water  |

☒ We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf | 17.5      | 13.375      | 68               | 1370          | 1128            | 0             |
| Int1 | 9.875     | 7.625       | 29.7             | 10709         | 2396            | 0             |
| Prod | 6.75      | 5.5         | 23               | 21803         | 1697            | 0             |

**Casing/Cement Program: Additional Comments**

|  |
|--|
|  |
|--|

**22. Proposed Blowout Prevention Program**

| Type       | Working Pressure | Test Pressure | Manufacturer |
|------------|------------------|---------------|--------------|
| Double Ram | 5000             | 2500          | TBD          |

|                                                                                                                                                                                                                                                                                                    |                                  |                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------|
| 23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. | <b>OIL CONSERVATION DIVISION</b> |                                 |
| Signature:                                                                                                                                                                                                                                                                                         |                                  |                                 |
| Printed Name: Electronically filed by Christie Hanna                                                                                                                                                                                                                                               | Approved By: Paul F Kautz        |                                 |
| Title:                                                                                                                                                                                                                                                                                             | Title: Geologist                 |                                 |
| Email Address: channa@ameredev.com                                                                                                                                                                                                                                                                 | Approved Date: 1/21/2022         | Expiration Date: 1/21/2024      |
| Date: 1/18/2022                                                                                                                                                                                                                                                                                    | Phone: 737-300-4723              | Conditions of Approval Attached |

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

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                                 |                                                                 |                                        |                                                      |
|-------------------------------------------------|-----------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| <sup>1</sup> API Number<br><b>30-025- 49726</b> |                                                                 | <sup>2</sup> Pool Code<br><b>33813</b> | <sup>3</sup> Pool Name<br><b>Jal; Wolfcamp, West</b> |
| <sup>4</sup> Property Code<br><b>320762</b>     | <sup>5</sup> Property Name<br><b>RED BUD 25 36 32 STATE COM</b> |                                        | <sup>6</sup> Well Number<br><b>118H</b>              |
| <sup>7</sup> OGRID No.<br><b>372224</b>         | <sup>8</sup> Operator Name<br><b>AMEREDEV OPERATING, LLC.</b>   |                                        | <sup>9</sup> Elevation<br><b>3003'</b>               |

<sup>10</sup>Surface Location

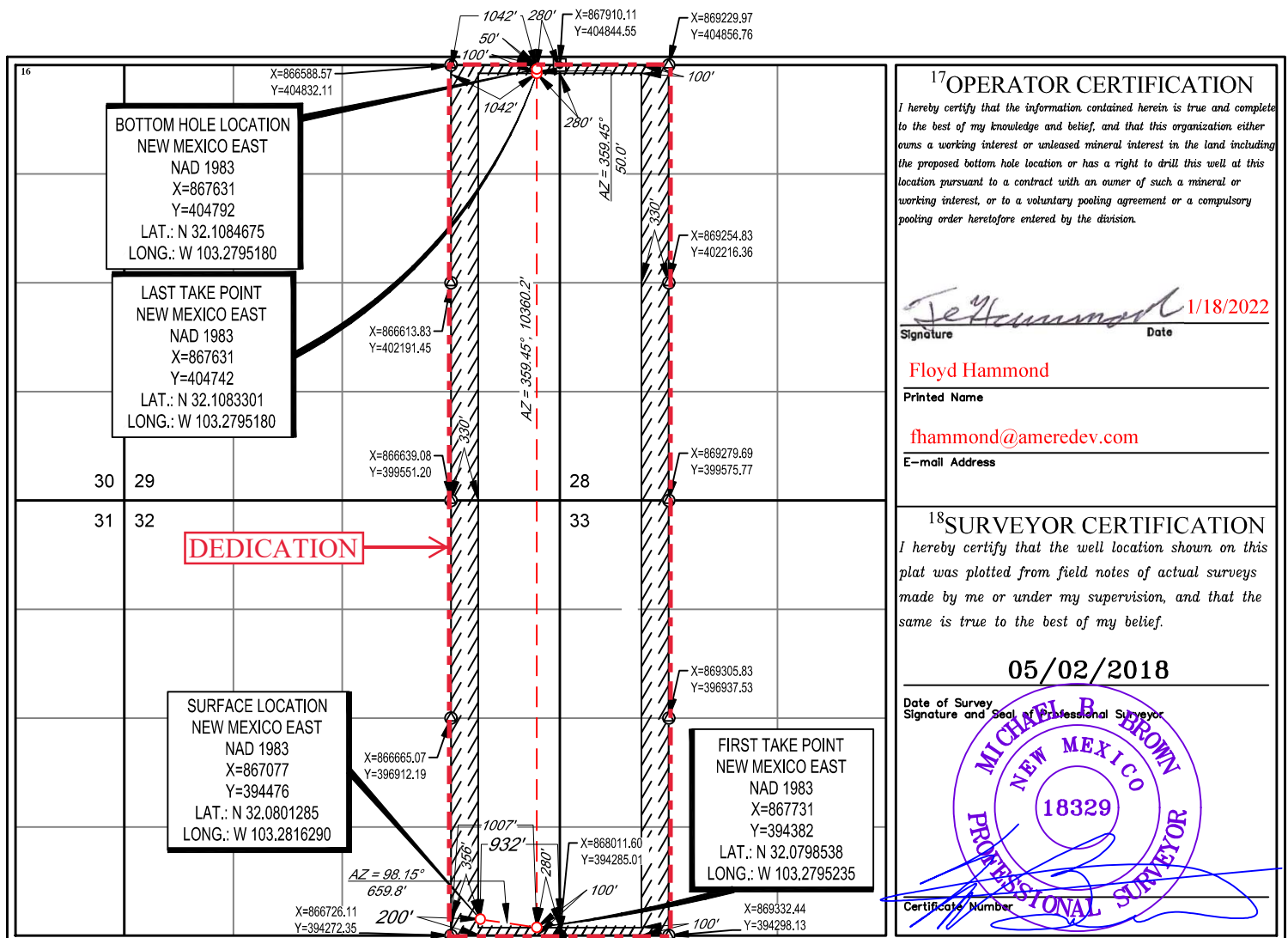
| UL or lot no. | Section   | Township    | Range       | Lot Idn  | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|-----------|-------------|-------------|----------|---------------|------------------|---------------|----------------|------------|
| <b>P</b>      | <b>32</b> | <b>25-S</b> | <b>36-E</b> | <b>-</b> | <b>200'</b>   | <b>SOUTH</b>     | <b>932'</b>   | <b>EAST</b>    | <b>LEA</b> |

<sup>11</sup>Bottom Hole Location If Different From Surface

| UL or lot no. | Section   | Township    | Range       | Lot Idn  | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|-----------|-------------|-------------|----------|---------------|------------------|---------------|----------------|------------|
| <b>A</b>      | <b>29</b> | <b>25-S</b> | <b>36-E</b> | <b>-</b> | <b>50'</b>    | <b>NORTH</b>     | <b>280'</b>   | <b>EAST</b>    | <b>LEA</b> |

|                                             |                               |                                              |                         |
|---------------------------------------------|-------------------------------|----------------------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br><b>640</b> | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code<br><b>C</b> | <sup>15</sup> Order No. |
|---------------------------------------------|-------------------------------|----------------------------------------------|-------------------------|

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



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**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form APD Conditions

Permit 306882

**PERMIT CONDITIONS OF APPROVAL**

|                                                                                                        |                                           |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Operator Name and Address:<br>AMEREDEV OPERATING, LLC [372224]<br>2901 Via Fortuna<br>Austin, TX 78746 | API Number:<br>30-025-49726               |
|                                                                                                        | Well:<br>RED BUD 25 36 32 STATE COM #118H |

| OCD<br>Reviewer | Condition                                                                                                                                                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pkautz          | Notify OCD 24 hours prior to casing & cement                                                                                                                                                                                                                         |
| pkautz          | Will require a File As Drilled C-102 and a Directional Survey with the C-104                                                                                                                                                                                         |
| pkautz          | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |
| pkautz          | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system                  |
| pkautz          | 1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --                                                                                                                       |
| pkautz          | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud                                                                                                                                                                   |



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

1. **All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:**
  - a. Characteristics of H<sub>2</sub>S
  - b. Physical effects and hazards
  - c. Principal and operation of H<sub>2</sub>S detectors, warning system and briefing areas
  - d. Evacuation procedure, routes and first aid
  - e. Proper use of safety equipment and life support systems
  - f. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.
2. **Briefing Area:**
  - a. Two perpendicular areas will be designated by signs and readily accessible.
  - b. Upon location entry there will be a designated area to establish all safety compliance criteria (1.) has been met.
3. **H<sub>2</sub>S Detection and Alarm Systems:**
  - a. H<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/Escapes packs - 1 Unit will be available on rig floor in doghouse for emergency evacuation for driller.
  - b. **Auxiliary Rescue Equipment:**
    - i. Stretcher
    - ii. 2 - OSHA full body harnesses
    - iii. 100 ft. 5/8" OSHA approved rope
    - iv. 1 - 20# class ABC fire extinguisher
5. **Windsock and/or Wind Streamers:**
  - a. Windsock at mud pit area should be high enough to be visible.
  - b. Windsock on the rig floor should be high enough to be visible.
6. **Communication:**
  - a. While working under mask scripting boards will be used for communication where applicable.
  - b. Hand signals will be used when script boards are not applicable.



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

- c. Two way radios will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at Drilling Foreman's Office.
- 7. **Drill Stem Testing:** - No Planned DST at this time.
- 8. **Mud program:**
  - a. If H<sub>2</sub>S 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 H<sub>2</sub>S 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:
  - Detection of H<sub>2</sub>S and
  - 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 Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|------------------|------------------|------------------|-----------------|-----------------|----------------------|
| Hydrogen Sulfide | H <sub>2</sub> S | 1.189 Air=1      | 10 ppm          | 100 ppm/hr      | 600 ppm              |
| Sulfur Dioxide   | SO <sub>2</sub>  | 2.21 Air=1       | 2 ppm           | N/A             | 1000 ppm             |

### Contacting Authorities

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



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

| <b>Ameredev Operating LLC – Emergency Phone 737-300-4799</b> |                         |              |              |
|--------------------------------------------------------------|-------------------------|--------------|--------------|
| Key Personnel:                                               |                         |              |              |
| Name                                                         | Title                   | Office       | Mobile       |
| Floyd Hammond                                                | Chief Operating officer | 737-300-4724 | 512-783-6810 |
| Shane McNeely                                                | Operations Engineer     | 737-300-4729 | 432-413-8593 |
| Joe Bob Jones                                                | Construction Foreman    |              | 432-260-9261 |

| <b><u>Artesia</u></b>                                            |  |  |              |
|------------------------------------------------------------------|--|--|--------------|
| 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 |
| <b><u>Carlsbad</u></b>                                           |  |  |              |
| 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 |
| <b><u>Santa Fe</u></b>                                           |  |  |              |
| New Mexico Emergency Response Commission (Santa Fe)              |  |  | 505-476-9600 |
| New Mexico Emergency Response Commission (Santa Fe) 24 Hrs       |  |  | 505-827-9126 |
| New Mexico State Emergency Operations Center                     |  |  | 505-476-9635 |
| <b><u>National</u></b>                                           |  |  |              |
| National Emergency Response Center (Washington, D.C.)            |  |  | 800-424-8802 |
| <b><u>Medical</u></b>                                            |  |  |              |
| Flight for Life - 4000 24th St.; Lubbock, TX                     |  |  | 806-743-9911 |
| Aerocare - R3, Box 49F; Lubbock, TX                              |  |  | 806-747-8923 |
| Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM   |  |  | 505-842-4433 |
| 'SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM |  |  | 505-842-4949 |



Ameredev II, LLC

## Wellbore Schematic

**Well:** Red Bud 25 36 32 State Com 118H  
**SHL:** Sec. 32 25S-36E 200' FSL & 932' FEL  
**BHL:** Sec. 29 25S-36E 50' FNL & 280' FEL  
 Lea, NM  
**Wellhead:** A - 13-5/8" 10M x 13-5/8" SOW  
 B - 13-5/8" 10M x 13-5/8" 10M  
 C - 13-5/8" 10M x 13-5/8" 10M  
 Tubing Spool - 7-1/16" 15M x 13-3/8" 10M  
**Xmas Tree:** 2-9/16" 10M  
**Tubing:** 2-7/8" L-80 6.5# 8rd EUE

**Co. Well ID:** xxxxxx  
**AFE No.:** xxxx-xxx  
**API No.:** xxxxxxxxxxxx  
**GL:** 3,003'  
**Field:** Delaware  
**Objective:** Wolfcamp A  
**TVD:** 11,640'  
**MD:** 21,803'  
**Rig:** TBD **KB 27'**  
**E-Mail:** [Wellsite2@ameredev.com](mailto:Wellsite2@ameredev.com)

| Hole Size | Formation Tops                                                                                                                                                                         | Logs                  | Cement      | Mud Weight                    |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|-------------------------------|
| 17.5"     | Rustler 1,245'<br><b>13.375" 68# J-55 BTC 1,370'</b>                                                                                                                                   | 1,128 Sacks<br>TOC 0' | 100% Excess | 8.4-8.6 ppg WBM               |
| 12.25"    | Salado 1,687'<br>DV Tool with ACP 3,370'<br>Tansill 3,370'<br>Capitan Reef 3,775'<br>Lamar 5,085'<br>Bell Canyon 5,185'<br><b>No Casing 5,210'</b>                                     | 848 Sacks<br>TOC 0'   | 50% Excess  | 7.5-9.4 Diesel Brine Emulsion |
| 9.875"    | Brushy Canyon 6,900'<br>Bone Spring Lime 7,979'<br>First Bone Spring 9,506'<br>Second Bone Spring 10,023'<br>Third Bone Spring Upper 10,584'<br><b>7.625" 29.7# L-80HC FJM 10,709'</b> | 2,396 Sacks<br>TOC 0' | 50% Excess  |                               |
| 6.75"     | Third Bone Spring 11,195'<br>Wolfcamp 11,464'<br><b>5.5" 23# P-110 USS Eagle SFH 21,803'</b><br><b>Target Wolfcamp A 11640 TVD // 21803 MD</b>                                         | 1,697 Sacks<br>TOC 0' | 25% Excess  | 10.5-12.5 ppg OBM             |

## Casing Design and Safety Factor Check

| <b>Casing Specifications</b> |         |         |        |        |        |          |
|------------------------------|---------|---------|--------|--------|--------|----------|
| Segment                      | Hole ID | Depth   | OD     | Weight | Grade  | Coupling |
| Surface                      | 17.5    | 1,370'  | 13.375 | 68     | J-55   | BTC      |
| Intermediate                 | 9.875   | 10,709' | 7.625  | 29.7   | HCL-80 | FJM      |
| Prod Segment A               | 6.75    | 10,847' | 5.5    | 23     | P-110  | SFH      |
| Prod Segment B               | 6.75    | 21,803' | 5.5    | 23     | P-110  | SFH      |

| <b>Check Surface Casing</b>         |                 |                 |            |            |
|-------------------------------------|-----------------|-----------------|------------|------------|
| OD Cplg                             | Body            | Joint           | Collapse   | Burst      |
| <i>inches</i>                       | <i>1000 lbs</i> | <i>1000 lbs</i> | <i>psi</i> | <i>psi</i> |
| 14.375                              | 1,069           | 915             | 4,100      | 3,450      |
| <b>Safety Factors</b>               |                 |                 |            |            |
| 1.56                                | 11.48           | 9.82            | 6.69       | 0.66       |
| <b>Check Intermediate Casing</b>    |                 |                 |            |            |
| OD Cplg                             | Body            | Joint           | Collapse   | Burst      |
| <i>inches</i>                       | <i>1000 lbs</i> | <i>1000 lbs</i> | <i>psi</i> | <i>psi</i> |
| 7.625                               | 940             | 558             | 6700       | 9460       |
| <b>Safety Factors</b>               |                 |                 |            |            |
| 1.13                                | 2.96            | 2.00            | 1.28       | 1.25       |
| <b>Check Prod Casing, Segment A</b> |                 |                 |            |            |
| OD Cplg                             | Body            | Joint           | Collapse   | Burst      |
| <i>inches</i>                       | <i>1000 lbs</i> | <i>1000 lbs</i> | <i>psi</i> | <i>psi</i> |
| 5.777                               | 728             | 655             | 12780      | 14360      |
| <b>Safety Factors</b>               |                 |                 |            |            |
| 0.49                                | 2.72            | 2.45            | 1.81       | 1.90       |
| <b>Check Prod Casing, Segment B</b> |                 |                 |            |            |
| OD Cplg                             | Body            | Joint           | Collapse   | Burst      |
| <i>inches</i>                       | <i>1000 lbs</i> | <i>1000 lbs</i> | <i>psi</i> | <i>psi</i> |
| 5.777                               | 728             | 655             | 12780      | 14360      |
| <b>Safety Factors</b>               |                 |                 |            |            |
| 0.49                                | 39.91           | 35.91           | 1.69       | 1.90       |

State of New Mexico  
Energy, Minerals and Natural Resources  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit Electronically  
Via E-permitting

## NATURAL GAS MANAGEMENT PLAN

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

### Section 1 – Plan Description Effective May 25, 2021

**I. Operator:** AMEREDEV OPERATING, LLC **OGRID:** 372224 **Date:** 1/18/2022

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                       | API          | ULSTR          | Footages            | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|---------------------------------|--------------|----------------|---------------------|-----------------------|-----------------------|----------------------------------|
| Red Bud 25 36 32 State Com 118H | 30-025-_____ | P-32-25-S-36-E | 200' FSL & 932' FEL | +/- 1750              | +/- 3400              | +/- 2200                         |

**IV. Central Delivery Point Name:** Red Bud CTB [See 19.15.27.9(D)(1) NMAC]

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

| Well Name                       | API          | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---------------------------------|--------------|-----------|-----------------|------------------------------|------------------------|-----------------------|
| Red Bud 25 36 32 State Com 118H | 30-025-_____ | 5/1/2022  | 6/5/2022        | 1/8/2023                     | 3/19/2023              | 3/21/2023             |

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

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**  
**EFFECTIVE APRIL 1, 2022**

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

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

**IX. Anticipated Natural Gas Production:**

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

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

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

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

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

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

**Section 3 - Certifications****Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

**Section 4 - Notices**

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

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

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

|                                                                                                  |                        |
|--------------------------------------------------------------------------------------------------|------------------------|
| Signature:                                                                                       | <i>Christie Hanna</i>  |
| Printed Name:                                                                                    | Christie Hanna         |
| Title:                                                                                           | Regulatory Coordinator |
| E-mail Address:                                                                                  | channa@ameredev.com    |
| Date:                                                                                            | 1/18/2022              |
| Phone:                                                                                           | 737-300-4723           |
| <b>OIL CONSERVATION DIVISION</b><br><b>(Only applicable when submitted as a standalone form)</b> |                        |
| Approved By:                                                                                     |                        |
| Title:                                                                                           |                        |
| Approval Date:                                                                                   |                        |
| Conditions of Approval:                                                                          |                        |

## Natural Gas Management Plan

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

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

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

#### **19.15.27.8 (A)**

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

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

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

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

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

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

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

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

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

#### **19.15.27.8 (E) Performance Standards**

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- Automatic gauging equipment is installed on all tanks to minimize venting
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- Flares are equipped with continuous pilots and auto-ignitors along with remote monitoring of the pilot status
- Weekly AVOs and monthly LDAR inspections will be performed on all wells and facilities that produce more than 60 Mcfd.
- Gas/H<sub>2</sub>S detectors will be installed throughout the facilities and wellheads to detect leaks and enable timely repairs.

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

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

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

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



American Resource Development LLC.

## **Ameredev Operating TZ**

**Lea County, NM (N83-NME)**

**Red Bud\_Holly**

**Red Bud State Com 25-36-32 118H**

**118H**

**Plan: Prelim 01 - 359.45**

## **Standard Planning Report**

**23 October, 2021**



American Resource Development LLC.

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, NM (N83-NME)  |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone   |                      |                |

| Site                  | Red Bud_Holly |              |                 |            |               |
|-----------------------|---------------|--------------|-----------------|------------|---------------|
| Site Position:        |               | Northing:    | 394,038.95 usft | Latitude:  | 32.07894640   |
| From:                 | Lat/Long      | Easting:     | 866,383.48 usft | Longitude: | -103.28388310 |
| Position Uncertainty: | 0.00 usft     | Slot Radius: | 13-3/16 "       |            |               |

| Well                 | Red Bud State Com 25-36-32 118H |           |                     |                 |               |               |
|----------------------|---------------------------------|-----------|---------------------|-----------------|---------------|---------------|
| Well Position        | +N/-S                           | 0.00 usft | Northing:           | 394,475.80 usft | Latitude:     | 32.08012849   |
|                      | +E/-W                           | 0.00 usft | Easting:            | 867,077.47 usft | Longitude:    | -103.28162904 |
| Position Uncertainty |                                 | 0.00 usft | Wellhead Elevation: | usft            | Ground Level: | 3,002.00 usft |
| Grid Convergence:    |                                 | 0.56 °    |                     |                 |               |               |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | 118H              |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2020          | 10/23/2021         | 6.36                   | 59.80                | 47,403.38314837            |

|                          |                                |                     |                     |                      |      |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| <b>Design</b>            | Prelim 01 - 359.45             |                     |                     |                      |      |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |      |
| <b>Version:</b>          |                                | <b>Phase:</b>       | PLAN                | <b>Tie On Depth:</b> | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                           | 0.00                | 0.00                | 359.45               |      |

|                                 |                        |                                     |                     |                |  |
|---------------------------------|------------------------|-------------------------------------|---------------------|----------------|--|
| <b>Plan Survey Tool Program</b> | <b>Date</b>            | 10/23/2021                          |                     |                |  |
| <b>Depth From (usft)</b>        | <b>Depth To (usft)</b> | <b>Survey (Wellbore)</b>            | <b>Tool Name</b>    | <b>Remarks</b> |  |
| 1                               | 0.00                   | 21,803.06 Prelim 01 - 359.45 (118H) | OWSG MWD Rev 5      |                |  |
|                                 |                        |                                     | OWSG MWD - Standard |                |  |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                    |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|--------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target             |
| 0.00                  | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                    |
| 2,000.00              | 0.00            | 0.00        | 2,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                    |
| 2,333.33              | 5.00            | 120.00      | 2,332.91              | -7.27        | 12.59        | 1.50                    | 1.50                   | 0.00                  | 120.00  |                    |
| 6,550.47              | 5.00            | 120.00      | 6,534.00              | -191.04      | 330.89       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                    |
| 6,883.80              | 0.00            | 0.00        | 6,866.91              | -198.31      | 343.48       | 1.50                    | -1.50                  | 0.00                  | 180.00  |                    |
| 7,516.89              | 0.00            | 0.00        | 7,500.00              | -198.31      | 343.48       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                    |
| 7,850.23              | 5.00            | 120.00      | 7,832.91              | -205.58      | 356.07       | 1.50                    | 1.50                   | 0.00                  | 120.00  |                    |
| 10,847.42             | 5.00            | 120.00      | 10,818.70             | -336.19      | 582.29       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                    |
| 11,364.07             | 60.00           | 7.74        | 11,247.92             | -102.51      | 637.41       | 12.00                   | 10.65                  | -21.73                | -114.80 |                    |
| 11,611.93             | 88.68           | 359.45      | 11,314.24             | 133.04       | 650.97       | 12.00                   | 11.57                  | -3.35                 | -16.89  |                    |
| 12,385.05             | 88.68           | 359.45      | 11,332.04             | 905.92       | 643.53       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 01-T01-01(RB-118H) |
| 12,389.32             | 88.60           | 359.45      | 11,332.14             | 910.19       | 643.49       | 2.00                    | -2.00                  | 0.04                  | 178.90  |                    |
| 13,384.87             | 88.60           | 359.45      | 11,356.55             | 1,905.39     | 633.93       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 02-T02-02(RB-118H) |
| 13,405.16             | 89.00           | 359.45      | 11,356.98             | 1,925.68     | 633.73       | 2.00                    | 2.00                   | 0.00                  | 0.00    |                    |
| 14,384.54             | 89.00           | 359.45      | 11,374.06             | 2,904.86     | 624.33       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 03-T03-03(RB-118H) |
| 14,401.37             | 89.34           | 359.45      | 11,374.30             | 2,921.70     | 624.17       | 2.00                    | 2.00                   | 0.00                  | -0.10   |                    |
| 15,384.11             | 89.34           | 359.45      | 11,385.67             | 3,904.32     | 614.72       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 04-T04-04(RB-118H) |
| 15,390.79             | 89.47           | 359.45      | 11,385.74             | 3,911.00     | 614.65       | 2.00                    | 2.00                   | 0.01                  | 0.25    |                    |
| 16,383.67             | 89.47           | 359.45      | 11,394.90             | 4,903.79     | 605.12       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 05-T05-05(RB-118H) |
| 16,398.42             | 89.18           | 359.45      | 11,395.08             | 4,918.54     | 604.98       | 2.00                    | -2.00                  | 0.00                  | -180.00 |                    |
| 17,383.29             | 89.18           | 359.45      | 11,409.24             | 5,903.26     | 595.52       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 06-T06-06(RB-118H) |
| 17,432.41             | 88.19           | 359.45      | 11,410.37             | 5,952.37     | 595.05       | 2.00                    | -2.00                  | 0.00                  | -179.97 |                    |
| 18,383.29             | 88.19           | 359.45      | 11,440.34             | 6,902.73     | 585.91       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 07-T07-07(RB-118H) |
| 18,452.92             | 86.80           | 359.45      | 11,443.38             | 6,972.29     | 585.24       | 2.00                    | -2.00                  | 0.00                  | 179.97  |                    |
| 19,384.33             | 86.80           | 359.45      | 11,495.36             | 7,902.20     | 576.31       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 08-T08-08(RB-118H) |
| 19,421.05             | 86.07           | 359.45      | 11,497.64             | 7,938.85     | 575.96       | 2.00                    | -2.00                  | 0.00                  | -180.00 |                    |
| 20,386.19             | 86.07           | 359.45      | 11,563.85             | 8,901.67     | 566.71       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 09-T09-09(RB-118H) |
| 20,393.36             | 86.21           | 359.45      | 11,564.33             | 8,908.83     | 566.64       | 2.00                    | 2.00                   | -0.01                 | -0.23   |                    |
| 21,387.89             | 86.21           | 359.45      | 11,630.07             | 9,901.14     | 557.10       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 10-T10-10(RB-118H) |
| 21,535.44             | 89.16           | 359.45      | 11,636.03             | 10,048.54    | 555.68       | 2.00                    | 2.00                   | 0.00                  | 0.02    |                    |
| 21,803.06             | 89.16           | 359.45      | 11,639.95             | 10,316.12    | 553.12       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 12-PBHL-280 FEL(RE |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
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| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey        |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.00                  | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 100.00                | 0.00            | 0.00        | 100.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 200.00                | 0.00            | 0.00        | 200.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 300.00                | 0.00            | 0.00        | 300.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 400.00                | 0.00            | 0.00        | 400.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 500.00                | 0.00            | 0.00        | 500.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 600.00                | 0.00            | 0.00        | 600.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 700.00                | 0.00            | 0.00        | 700.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 800.00                | 0.00            | 0.00        | 800.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 900.00                | 0.00            | 0.00        | 900.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,000.00              | 0.00            | 0.00        | 1,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,100.00              | 0.00            | 0.00        | 1,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.00              | 0.00            | 0.00        | 1,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,221.00              | 0.00            | 0.00        | 1,221.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Rustler</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,300.00              | 0.00            | 0.00        | 1,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.00              | 0.00            | 0.00        | 1,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.00              | 0.00            | 0.00        | 1,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,600.00              | 0.00            | 0.00        | 1,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,680.00              | 0.00            | 0.00        | 1,680.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Salado</b>         |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,700.00              | 0.00            | 0.00        | 1,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,800.00              | 0.00            | 0.00        | 1,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,900.00              | 0.00            | 0.00        | 1,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00              | 0.00            | 0.00        | 2,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00              | 1.50            | 120.00      | 2,099.99              | -0.65        | 1.13         | -0.67                   | 1.50                    | 1.50                   | 0.00                  |
| 2,200.00              | 3.00            | 120.00      | 2,199.91              | -2.62        | 4.53         | -2.66                   | 1.50                    | 1.50                   | 0.00                  |
| 2,300.00              | 4.50            | 120.00      | 2,299.69              | -5.89        | 10.20        | -5.99                   | 1.50                    | 1.50                   | 0.00                  |
| 2,333.33              | 5.00            | 120.00      | 2,332.91              | -7.27        | 12.59        | -7.39                   | 1.50                    | 1.50                   | 0.00                  |
| 2,400.00              | 5.00            | 120.00      | 2,399.32              | -10.17       | 17.62        | -10.34                  | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00              | 5.00            | 120.00      | 2,498.94              | -14.53       | 25.17        | -14.77                  | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00              | 5.00            | 120.00      | 2,598.56              | -18.89       | 32.72        | -19.20                  | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00              | 5.00            | 120.00      | 2,698.18              | -23.25       | 40.26        | -23.63                  | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00              | 5.00            | 120.00      | 2,797.80              | -27.60       | 47.81        | -28.06                  | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00              | 5.00            | 120.00      | 2,897.42              | -31.96       | 55.36        | -32.49                  | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00              | 5.00            | 120.00      | 2,997.04              | -36.32       | 62.91        | -36.92                  | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00              | 5.00            | 120.00      | 3,096.66              | -40.68       | 70.46        | -41.35                  | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00              | 5.00            | 120.00      | 3,196.28              | -45.04       | 78.00        | -45.78                  | 0.00                    | 0.00                   | 0.00                  |
| 3,270.99              | 5.00            | 120.00      | 3,267.00              | -48.13       | 83.36        | -48.93                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Tansill</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,300.00              | 5.00            | 120.00      | 3,295.90              | -49.39       | 85.55        | -50.21                  | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00              | 5.00            | 120.00      | 3,395.52              | -53.75       | 93.10        | -54.64                  | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00              | 5.00            | 120.00      | 3,495.14              | -58.11       | 100.65       | -59.07                  | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00              | 5.00            | 120.00      | 3,594.76              | -62.47       | 108.19       | -63.50                  | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00              | 5.00            | 120.00      | 3,694.38              | -66.82       | 115.74       | -67.93                  | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00              | 5.00            | 120.00      | 3,794.00              | -71.18       | 123.29       | -72.36                  | 0.00                    | 0.00                   | 0.00                  |
| 3,804.02              | 5.00            | 120.00      | 3,798.00              | -71.36       | 123.59       | -72.54                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Capitan</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,900.00              | 5.00            | 120.00      | 3,893.62              | -75.54       | 130.84       | -76.79                  | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00              | 5.00            | 120.00      | 3,993.24              | -79.90       | 138.39       | -81.22                  | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00              | 5.00            | 120.00      | 4,092.85              | -84.26       | 145.93       | -85.65                  | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00              | 5.00            | 120.00      | 4,192.47              | -88.61       | 153.48       | -90.08                  | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00              | 5.00            | 120.00      | 4,292.09              | -92.97       | 161.03       | -94.51                  | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00              | 5.00            | 120.00      | 4,391.71              | -97.33       | 168.58       | -98.94                  | 0.00                    | 0.00                   | 0.00                  |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey          |                 |             |                       |              |              |                         |                         |                        |                       |
|-------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)   | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,500.00                | 5.00            | 120.00      | 4,491.33              | -101.69      | 176.13       | -103.37                 | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00                | 5.00            | 120.00      | 4,590.95              | -106.04      | 183.67       | -107.80                 | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00                | 5.00            | 120.00      | 4,690.57              | -110.40      | 191.22       | -112.23                 | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00                | 5.00            | 120.00      | 4,790.19              | -114.76      | 198.77       | -116.66                 | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00                | 5.00            | 120.00      | 4,889.81              | -119.12      | 206.32       | -121.09                 | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                | 5.00            | 120.00      | 4,989.43              | -123.48      | 213.87       | -125.52                 | 0.00                    | 0.00                   | 0.00                  |
| 5,099.95                | 5.00            | 120.00      | 5,089.00              | -127.83      | 221.41       | -129.95                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Lamar</b>            |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,100.00                | 5.00            | 120.00      | 5,089.05              | -127.83      | 221.41       | -129.95                 | 0.00                    | 0.00                   | 0.00                  |
| 5,179.25                | 5.00            | 120.00      | 5,168.00              | -131.29      | 227.40       | -133.46                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Bell Canyon</b>      |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,200.00                | 5.00            | 120.00      | 5,188.67              | -132.19      | 228.96       | -134.38                 | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00                | 5.00            | 120.00      | 5,288.29              | -136.55      | 236.51       | -138.81                 | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                | 5.00            | 120.00      | 5,387.91              | -140.91      | 244.06       | -143.24                 | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00                | 5.00            | 120.00      | 5,487.53              | -145.26      | 251.60       | -147.67                 | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                | 5.00            | 120.00      | 5,587.15              | -149.62      | 259.15       | -152.10                 | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                | 5.00            | 120.00      | 5,686.77              | -153.98      | 266.70       | -156.53                 | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                | 5.00            | 120.00      | 5,786.39              | -158.34      | 274.25       | -160.96                 | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                | 5.00            | 120.00      | 5,886.00              | -162.70      | 281.80       | -165.39                 | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                | 5.00            | 120.00      | 5,985.62              | -167.05      | 289.34       | -169.82                 | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                | 5.00            | 120.00      | 6,085.24              | -171.41      | 296.89       | -174.25                 | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                | 5.00            | 120.00      | 6,184.86              | -175.77      | 304.44       | -178.68                 | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                | 5.00            | 120.00      | 6,284.48              | -180.13      | 311.99       | -183.11                 | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                | 5.00            | 120.00      | 6,384.10              | -184.48      | 319.54       | -187.54                 | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                | 5.00            | 120.00      | 6,483.72              | -188.84      | 327.08       | -191.97                 | 0.00                    | 0.00                   | 0.00                  |
| 6,550.47                | 5.00            | 120.00      | 6,534.00              | -191.04      | 330.89       | -194.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                | 4.26            | 120.00      | 6,583.37              | -193.04      | 334.35       | -196.24                 | 1.50                    | -1.50                  | 0.00                  |
| 6,700.00                | 2.76            | 120.00      | 6,683.18              | -196.10      | 339.65       | -199.35                 | 1.50                    | -1.50                  | 0.00                  |
| 6,800.00                | 1.26            | 120.00      | 6,783.11              | -197.85      | 342.69       | -201.13                 | 1.50                    | -1.50                  | 0.00                  |
| 6,883.80                | 0.00            | 0.00        | 6,866.91              | -198.31      | 343.48       | -201.60                 | 1.50                    | -1.50                  | 0.00                  |
| 6,900.00                | 0.00            | 0.00        | 6,883.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 6,917.89                | 0.00            | 0.00        | 6,901.00              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Brushy Canyon</b>    |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,000.00                | 0.00            | 0.00        | 6,983.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00                | 0.00            | 0.00        | 7,083.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00                | 0.00            | 0.00        | 7,183.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00                | 0.00            | 0.00        | 7,283.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,400.00                | 0.00            | 0.00        | 7,383.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00                | 0.00            | 0.00        | 7,483.11              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,516.89                | 0.00            | 0.00        | 7,500.00              | -198.31      | 343.48       | -201.60                 | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00                | 1.25            | 120.00      | 7,583.10              | -198.76      | 344.26       | -202.06                 | 1.50                    | 1.50                   | 0.00                  |
| 7,700.00                | 2.75            | 120.00      | 7,683.04              | -200.50      | 347.28       | -203.83                 | 1.50                    | 1.50                   | 0.00                  |
| 7,800.00                | 4.25            | 120.00      | 7,782.85              | -203.55      | 352.56       | -206.93                 | 1.50                    | 1.50                   | 0.00                  |
| 7,850.23                | 5.00            | 120.00      | 7,832.91              | -205.58      | 356.07       | -208.99                 | 1.50                    | 1.50                   | 0.00                  |
| 7,900.00                | 5.00            | 120.00      | 7,882.49              | -207.75      | 359.83       | -211.19                 | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                | 5.00            | 120.00      | 7,982.11              | -212.10      | 367.37       | -215.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,001.89                | 5.00            | 120.00      | 7,984.00              | -212.19      | 367.52       | -215.70                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring Lime</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,100.00                | 5.00            | 120.00      | 8,081.73              | -216.46      | 374.92       | -220.05                 | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                | 5.00            | 120.00      | 8,181.35              | -220.82      | 382.47       | -224.48                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00                | 5.00            | 120.00      | 8,280.97              | -225.18      | 390.02       | -228.91                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00                | 5.00            | 120.00      | 8,380.59              | -229.53      | 397.57       | -233.34                 | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00                | 5.00            | 120.00      | 8,480.21              | -233.89      | 405.11       | -237.77                 | 0.00                    | 0.00                   | 0.00                  |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey                                |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)                         | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 8,600.00                                      | 5.00            | 120.00      | 8,579.83              | -238.25      | 412.66       | -242.20                 | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00                                      | 5.00            | 120.00      | 8,679.45              | -242.61      | 420.21       | -246.63                 | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00                                      | 5.00            | 120.00      | 8,779.07              | -246.97      | 427.76       | -251.06                 | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00                                      | 5.00            | 120.00      | 8,878.69              | -251.32      | 435.31       | -255.49                 | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                                      | 5.00            | 120.00      | 8,978.31              | -255.68      | 442.85       | -259.92                 | 0.00                    | 0.00                   | 0.00                  |
| 9,100.00                                      | 5.00            | 120.00      | 9,077.93              | -260.04      | 450.40       | -264.35                 | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00                                      | 5.00            | 120.00      | 9,177.55              | -264.40      | 457.95       | -268.78                 | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00                                      | 5.00            | 120.00      | 9,277.17              | -268.75      | 465.50       | -273.21                 | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00                                      | 5.00            | 120.00      | 9,376.79              | -273.11      | 473.04       | -277.64                 | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00                                      | 5.00            | 120.00      | 9,476.41              | -277.47      | 480.59       | -282.07                 | 0.00                    | 0.00                   | 0.00                  |
| 9,529.71                                      | 5.00            | 120.00      | 9,506.00              | -278.76      | 482.83       | -283.39                 | 0.00                    | 0.00                   | 0.00                  |
| First Bone Spring                             |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,600.00                                      | 5.00            | 120.00      | 9,576.03              | -281.83      | 488.14       | -286.50                 | 0.00                    | 0.00                   | 0.00                  |
| 9,700.00                                      | 5.00            | 120.00      | 9,675.65              | -286.19      | 495.69       | -290.93                 | 0.00                    | 0.00                   | 0.00                  |
| 9,800.00                                      | 5.00            | 120.00      | 9,775.26              | -290.54      | 503.24       | -295.36                 | 0.00                    | 0.00                   | 0.00                  |
| 9,900.00                                      | 5.00            | 120.00      | 9,874.88              | -294.90      | 510.78       | -299.79                 | 0.00                    | 0.00                   | 0.00                  |
| 10,000.00                                     | 5.00            | 120.00      | 9,974.50              | -299.26      | 518.33       | -304.22                 | 0.00                    | 0.00                   | 0.00                  |
| 10,048.68                                     | 5.00            | 120.00      | 10,023.00             | -301.38      | 522.01       | -306.38                 | 0.00                    | 0.00                   | 0.00                  |
| Second Bone Spring                            |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,100.00                                     | 5.00            | 120.00      | 10,074.12             | -303.62      | 525.88       | -308.65                 | 0.00                    | 0.00                   | 0.00                  |
| 10,200.00                                     | 5.00            | 120.00      | 10,173.74             | -307.97      | 533.43       | -313.08                 | 0.00                    | 0.00                   | 0.00                  |
| 10,300.00                                     | 5.00            | 120.00      | 10,273.36             | -312.33      | 540.98       | -317.51                 | 0.00                    | 0.00                   | 0.00                  |
| 10,400.00                                     | 5.00            | 120.00      | 10,372.98             | -316.69      | 548.52       | -321.94                 | 0.00                    | 0.00                   | 0.00                  |
| 10,500.00                                     | 5.00            | 120.00      | 10,472.60             | -321.05      | 556.07       | -326.37                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00                                     | 5.00            | 120.00      | 10,572.22             | -325.41      | 563.62       | -330.80                 | 0.00                    | 0.00                   | 0.00                  |
| 10,611.83                                     | 5.00            | 120.00      | 10,584.00             | -325.92      | 564.51       | -331.33                 | 0.00                    | 0.00                   | 0.00                  |
| Upper Third Bone Spring                       |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,700.00                                     | 5.00            | 120.00      | 10,671.84             | -329.76      | 571.17       | -335.23                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00                                     | 5.00            | 120.00      | 10,771.46             | -334.12      | 578.72       | -339.66                 | 0.00                    | 0.00                   | 0.00                  |
| 10,847.42                                     | 5.00            | 120.00      | 10,818.70             | -336.19      | 582.29       | -341.76                 | 0.00                    | 0.00                   | 0.00                  |
| KOP: 10847.42' MD, -341.76' VS, 10818.70' TVD |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,850.00                                     | 4.88            | 116.70      | 10,821.27             | -336.29      | 582.49       | -341.87                 | 11.99                   | -4.72                  | -128.09               |
| 10,875.00                                     | 4.70            | 80.20       | 10,846.19             | -336.60      | 584.45       | -342.19                 | 12.00                   | -0.73                  | -146.00               |
| 10,900.00                                     | 6.19            | 52.19       | 10,871.08             | -335.60      | 586.52       | -341.21                 | 12.00                   | 5.96                   | -112.00               |
| 10,925.00                                     | 8.51            | 37.14       | 10,895.87             | -333.30      | 588.70       | -338.93                 | 12.00                   | 9.30                   | -60.20                |
| 10,950.00                                     | 11.16           | 28.83       | 10,920.51             | -329.70      | 590.99       | -335.36                 | 12.00                   | 10.60                  | -33.24                |
| 10,975.00                                     | 13.95           | 23.74       | 10,944.91             | -324.82      | 593.37       | -330.50                 | 12.00                   | 11.17                  | -20.36                |
| 11,000.00                                     | 16.81           | 20.34       | 10,969.01             | -318.67      | 595.84       | -324.38                 | 12.00                   | 11.45                  | -13.61                |
| 11,025.00                                     | 19.72           | 17.91       | 10,992.75             | -311.27      | 598.39       | -317.00                 | 12.00                   | 11.61                  | -9.73                 |
| 11,050.00                                     | 22.64           | 16.08       | 11,016.06             | -302.63      | 601.02       | -308.38                 | 12.00                   | 11.71                  | -7.31                 |
| 11,075.00                                     | 25.59           | 14.65       | 11,038.87             | -292.78      | 603.72       | -298.56                 | 12.00                   | 11.77                  | -5.71                 |
| 11,100.00                                     | 28.54           | 13.50       | 11,061.13             | -281.75      | 606.48       | -287.55                 | 12.00                   | 11.82                  | -4.60                 |
| 11,125.00                                     | 31.50           | 12.55       | 11,082.78             | -269.56      | 609.30       | -275.40                 | 12.00                   | 11.85                  | -3.80                 |
| 11,150.00                                     | 34.47           | 11.75       | 11,103.74             | -256.25      | 612.16       | -262.12                 | 12.00                   | 11.87                  | -3.21                 |
| 11,175.00                                     | 37.44           | 11.06       | 11,123.98             | -241.87      | 615.06       | -247.76                 | 12.00                   | 11.89                  | -2.76                 |
| 11,200.00                                     | 40.42           | 10.46       | 11,143.42             | -226.43      | 617.99       | -232.36                 | 12.00                   | 11.90                  | -2.41                 |
| 11,225.00                                     | 43.40           | 9.93        | 11,162.03             | -210.00      | 620.94       | -215.95                 | 12.00                   | 11.92                  | -2.13                 |
| 11,250.00                                     | 46.38           | 9.45        | 11,179.74             | -192.61      | 623.91       | -198.59                 | 12.00                   | 11.92                  | -1.91                 |
| 11,272.70                                     | 49.09           | 9.06        | 11,195.00             | -176.03      | 626.61       | -182.04                 | 12.00                   | 11.93                  | -1.73                 |
| Third Bone Spring                             |                 |             |                       |              |              |                         |                         |                        |                       |
| 11,275.00                                     | 49.36           | 9.02        | 11,196.50             | -174.31      | 626.88       | -180.32                 | 12.00                   | 11.93                  | -1.66                 |
| 11,300.00                                     | 52.35           | 8.62        | 11,212.28             | -155.16      | 629.86       | -161.19                 | 12.00                   | 11.94                  | -1.58                 |
| 11,325.00                                     | 55.33           | 8.26        | 11,227.03             | -135.19      | 632.82       | -141.26                 | 12.00                   | 11.94                  | -1.46                 |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey                                      |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)                               | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 11,350.00                                           | 58.32           | 7.92        | 11,240.71             | -114.48      | 635.76       | -120.57                 | 12.00                   | 11.95                  | -1.36                 |
| 11,364.07                                           | 60.00           | 7.74        | 11,247.92             | -102.51      | 637.41       | -108.62                 | 12.00                   | 11.95                  | -1.29                 |
| 11,374.27                                           | 61.17           | 7.33        | 11,252.93             | -93.70       | 638.57       | -99.83                  | 12.00                   | 11.49                  | -3.98                 |
| <b>100FLL: 11374.27' MD, 61.17°INC, 7.33°AZ</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 11,375.00                                           | 61.26           | 7.31        | 11,253.29             | -93.07       | 638.65       | -99.19                  | 12.00                   | 11.49                  | -3.93                 |
| 11,400.00                                           | 64.13           | 6.35        | 11,264.75             | -71.01       | 641.29       | -77.17                  | 12.00                   | 11.51                  | -3.83                 |
| <b>00-FTP-280 FEL(RB-118H)</b>                      |                 |             |                       |              |              |                         |                         |                        |                       |
| 11,425.00                                           | 67.02           | 5.44        | 11,275.09             | -48.37       | 643.63       | -54.55                  | 12.00                   | 11.53                  | -3.64                 |
| 11,450.00                                           | 69.90           | 4.56        | 11,284.27             | -25.21       | 645.65       | -31.41                  | 12.00                   | 11.55                  | -3.49                 |
| 11,475.00                                           | 72.80           | 3.72        | 11,292.26             | -1.59        | 647.36       | -7.80                   | 12.00                   | 11.57                  | -3.37                 |
| 11,500.00                                           | 75.69           | 2.91        | 11,299.05             | 22.43        | 648.75       | 16.20                   | 12.00                   | 11.58                  | -3.26                 |
| 11,525.00                                           | 78.59           | 2.11        | 11,304.61             | 46.78        | 649.82       | 40.54                   | 12.00                   | 11.59                  | -3.18                 |
| 11,550.00                                           | 81.49           | 1.33        | 11,308.94             | 71.39        | 650.56       | 65.14                   | 12.00                   | 11.60                  | -3.11                 |
| 11,575.00                                           | 84.39           | 0.57        | 11,312.01             | 96.19        | 650.97       | 89.94                   | 12.00                   | 11.61                  | -3.07                 |
| 11,600.00                                           | 87.30           | 359.81      | 11,313.82             | 121.12       | 651.05       | 114.87                  | 12.00                   | 11.61                  | -3.04                 |
| 11,611.93                                           | 88.68           | 359.45      | 11,314.24             | 133.04       | 650.97       | 126.79                  | 12.00                   | 11.61                  | -3.02                 |
| <b>EOC: 11611.93' MD, 126.79° VS, 11314.24' TVD</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 11,700.00                                           | 88.68           | 359.45      | 11,316.27             | 221.09       | 650.13       | 214.84                  | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00                                           | 88.68           | 359.45      | 11,318.57             | 321.06       | 649.16       | 314.81                  | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00                                           | 88.68           | 359.45      | 11,320.87             | 421.02       | 648.20       | 414.78                  | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00                                           | 88.68           | 359.45      | 11,323.18             | 520.99       | 647.24       | 514.76                  | 0.00                    | 0.00                   | 0.00                  |
| 12,100.00                                           | 88.68           | 359.45      | 11,325.48             | 620.96       | 646.27       | 614.73                  | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00                                           | 88.68           | 359.45      | 11,327.78             | 720.93       | 645.31       | 714.70                  | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00                                           | 88.68           | 359.45      | 11,330.08             | 820.90       | 644.35       | 814.68                  | 0.00                    | 0.00                   | 0.00                  |
| 12,385.05                                           | 88.68           | 359.45      | 11,332.04             | 905.92       | 643.53       | 899.70                  | 0.00                    | 0.00                   | 0.00                  |
| <b>01-T01-01(RB-118H)</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,389.32                                           | 88.60           | 359.45      | 11,332.14             | 910.19       | 643.49       | 903.98                  | 2.00                    | -2.00                  | 0.04                  |
| 12,400.00                                           | 88.60           | 359.45      | 11,332.41             | 920.87       | 643.39       | 914.65                  | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00                                           | 88.60           | 359.45      | 11,334.86             | 1,020.83     | 642.43       | 1,014.62                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00                                           | 88.60           | 359.45      | 11,337.31             | 1,120.80     | 641.47       | 1,114.59                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00                                           | 88.60           | 359.45      | 11,339.76             | 1,220.76     | 640.50       | 1,214.56                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00                                           | 88.60           | 359.45      | 11,342.21             | 1,320.73     | 639.54       | 1,314.53                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00                                           | 88.60           | 359.45      | 11,344.67             | 1,420.69     | 638.58       | 1,414.50                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00                                           | 88.60           | 359.45      | 11,347.12             | 1,520.66     | 637.62       | 1,514.47                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00                                           | 88.60           | 359.45      | 11,349.57             | 1,620.63     | 636.66       | 1,614.44                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00                                           | 88.60           | 359.45      | 11,352.02             | 1,720.59     | 635.70       | 1,714.41                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00                                           | 88.60           | 359.45      | 11,354.47             | 1,820.56     | 634.74       | 1,814.38                | 0.00                    | 0.00                   | 0.00                  |
| 13,384.87                                           | 88.60           | 359.45      | 11,356.55             | 1,905.39     | 633.93       | 1,899.22                | 0.00                    | 0.00                   | 0.00                  |
| <b>02-T02-02(RB-118H)</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 13,405.16                                           | 89.00           | 359.45      | 11,356.98             | 1,925.68     | 633.73       | 1,919.50                | 2.00                    | 2.00                   | 0.00                  |
| 13,500.00                                           | 89.00           | 359.45      | 11,358.63             | 2,020.50     | 632.82       | 2,014.33                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00                                           | 89.00           | 359.45      | 11,360.38             | 2,120.48     | 631.86       | 2,114.32                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00                                           | 89.00           | 359.45      | 11,362.12             | 2,220.46     | 630.90       | 2,214.30                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00                                           | 89.00           | 359.45      | 11,363.87             | 2,320.44     | 629.94       | 2,314.29                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00                                           | 89.00           | 359.45      | 11,365.61             | 2,420.42     | 628.98       | 2,414.27                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00                                           | 89.00           | 359.45      | 11,367.35             | 2,520.40     | 628.02       | 2,514.26                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00                                           | 89.00           | 359.45      | 11,369.10             | 2,620.38     | 627.06       | 2,614.24                | 0.00                    | 0.00                   | 0.00                  |
| 14,200.00                                           | 89.00           | 359.45      | 11,370.84             | 2,720.36     | 626.10       | 2,714.23                | 0.00                    | 0.00                   | 0.00                  |
| 14,300.00                                           | 89.00           | 359.45      | 11,372.59             | 2,820.34     | 625.14       | 2,814.21                | 0.00                    | 0.00                   | 0.00                  |
| 14,384.54                                           | 89.00           | 359.45      | 11,374.06             | 2,904.86     | 624.33       | 2,898.74                | 0.00                    | 0.00                   | 0.00                  |
| <b>03-T03-03(RB-118H)</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 14,401.37                                           | 89.34           | 359.45      | 11,374.30             | 2,921.70     | 624.17       | 2,915.57                | 2.00                    | 2.00                   | 0.00                  |
| 14,500.00                                           | 89.34           | 359.45      | 11,375.44             | 3,020.31     | 623.22       | 3,014.19                | 0.00                    | 0.00                   | 0.00                  |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredeve Operating TZ          | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey            |                 |             |                       |              |              |                         |                         |                        |                       |
|---------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)     | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 14,600.00                 | 89.34           | 359.45      | 11,376.60             | 3,120.30     | 622.26       | 3,114.19                | 0.00                    | 0.00                   | 0.00                  |
| 14,700.00                 | 89.34           | 359.45      | 11,377.76             | 3,220.29     | 621.30       | 3,214.18                | 0.00                    | 0.00                   | 0.00                  |
| 14,800.00                 | 89.34           | 359.45      | 11,378.91             | 3,320.28     | 620.33       | 3,314.17                | 0.00                    | 0.00                   | 0.00                  |
| 14,900.00                 | 89.34           | 359.45      | 11,380.07             | 3,420.27     | 619.37       | 3,414.17                | 0.00                    | 0.00                   | 0.00                  |
| 15,000.00                 | 89.34           | 359.45      | 11,381.23             | 3,520.26     | 618.41       | 3,514.16                | 0.00                    | 0.00                   | 0.00                  |
| 15,100.00                 | 89.34           | 359.45      | 11,382.38             | 3,620.25     | 617.45       | 3,614.15                | 0.00                    | 0.00                   | 0.00                  |
| 15,200.00                 | 89.34           | 359.45      | 11,383.54             | 3,720.23     | 616.49       | 3,714.15                | 0.00                    | 0.00                   | 0.00                  |
| 15,300.00                 | 89.34           | 359.45      | 11,384.69             | 3,820.22     | 615.53       | 3,814.14                | 0.00                    | 0.00                   | 0.00                  |
| 15,384.11                 | 89.34           | 359.45      | 11,385.67             | 3,904.32     | 614.72       | 3,898.24                | 0.00                    | 0.00                   | 0.00                  |
| <b>04-T04-04(RB-118H)</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 15,390.79                 | 89.47           | 359.45      | 11,385.74             | 3,911.00     | 614.65       | 3,904.92                | 2.00                    | 2.00                   | 0.01                  |
| 15,400.00                 | 89.47           | 359.45      | 11,385.82             | 3,920.21     | 614.57       | 3,914.13                | 0.00                    | 0.00                   | 0.00                  |
| 15,500.00                 | 89.47           | 359.45      | 11,386.74             | 4,020.20     | 613.61       | 4,014.13                | 0.00                    | 0.00                   | 0.00                  |
| 15,600.00                 | 89.47           | 359.45      | 11,387.67             | 4,120.19     | 612.65       | 4,114.12                | 0.00                    | 0.00                   | 0.00                  |
| 15,700.00                 | 89.47           | 359.45      | 11,388.59             | 4,220.19     | 611.69       | 4,214.12                | 0.00                    | 0.00                   | 0.00                  |
| 15,800.00                 | 89.47           | 359.45      | 11,389.51             | 4,320.18     | 610.72       | 4,314.11                | 0.00                    | 0.00                   | 0.00                  |
| 15,900.00                 | 89.47           | 359.45      | 11,390.44             | 4,420.17     | 609.76       | 4,414.11                | 0.00                    | 0.00                   | 0.00                  |
| 16,000.00                 | 89.47           | 359.45      | 11,391.36             | 4,520.16     | 608.80       | 4,514.11                | 0.00                    | 0.00                   | 0.00                  |
| 16,100.00                 | 89.47           | 359.45      | 11,392.28             | 4,620.15     | 607.84       | 4,614.10                | 0.00                    | 0.00                   | 0.00                  |
| 16,200.00                 | 89.47           | 359.45      | 11,393.21             | 4,720.14     | 606.88       | 4,714.10                | 0.00                    | 0.00                   | 0.00                  |
| 16,300.00                 | 89.47           | 359.45      | 11,394.13             | 4,820.13     | 605.92       | 4,814.09                | 0.00                    | 0.00                   | 0.00                  |
| 16,383.67                 | 89.47           | 359.45      | 11,394.90             | 4,903.79     | 605.12       | 4,897.76                | 0.00                    | 0.00                   | 0.00                  |
| <b>05-T05-05(RB-118H)</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 16,398.42                 | 89.18           | 359.45      | 11,395.08             | 4,918.54     | 604.98       | 4,912.51                | 2.00                    | -2.00                  | 0.00                  |
| 16,400.00                 | 89.18           | 359.45      | 11,395.10             | 4,920.12     | 604.96       | 4,914.09                | 0.00                    | 0.00                   | 0.00                  |
| 16,500.00                 | 89.18           | 359.45      | 11,396.54             | 5,020.11     | 604.00       | 5,014.08                | 0.00                    | 0.00                   | 0.00                  |
| 16,600.00                 | 89.18           | 359.45      | 11,397.97             | 5,120.09     | 603.04       | 5,114.07                | 0.00                    | 0.00                   | 0.00                  |
| 16,700.00                 | 89.18           | 359.45      | 11,399.41             | 5,220.08     | 602.08       | 5,214.06                | 0.00                    | 0.00                   | 0.00                  |
| 16,800.00                 | 89.18           | 359.45      | 11,400.85             | 5,320.06     | 601.12       | 5,314.05                | 0.00                    | 0.00                   | 0.00                  |
| 16,900.00                 | 89.18           | 359.45      | 11,402.29             | 5,420.05     | 600.16       | 5,414.04                | 0.00                    | 0.00                   | 0.00                  |
| 17,000.00                 | 89.18           | 359.45      | 11,403.73             | 5,520.03     | 599.20       | 5,514.03                | 0.00                    | 0.00                   | 0.00                  |
| 17,100.00                 | 89.18           | 359.45      | 11,405.16             | 5,620.02     | 598.24       | 5,614.02                | 0.00                    | 0.00                   | 0.00                  |
| 17,200.00                 | 89.18           | 359.45      | 11,406.60             | 5,720.00     | 597.28       | 5,714.01                | 0.00                    | 0.00                   | 0.00                  |
| 17,300.00                 | 89.18           | 359.45      | 11,408.04             | 5,819.99     | 596.32       | 5,814.00                | 0.00                    | 0.00                   | 0.00                  |
| 17,383.29                 | 89.18           | 359.45      | 11,409.24             | 5,903.26     | 595.52       | 5,897.27                | 0.00                    | 0.00                   | 0.00                  |
| <b>06-T06-06(RB-118H)</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 17,400.00                 | 88.84           | 359.45      | 11,409.53             | 5,919.97     | 595.36       | 5,913.98                | 2.00                    | -2.00                  | 0.00                  |
| 17,432.41                 | 88.19           | 359.45      | 11,410.37             | 5,952.37     | 595.05       | 5,946.39                | 2.00                    | -2.00                  | 0.00                  |
| 17,500.00                 | 88.19           | 359.45      | 11,412.50             | 6,019.92     | 594.40       | 6,013.94                | 0.00                    | 0.00                   | 0.00                  |
| 17,600.00                 | 88.19           | 359.45      | 11,415.65             | 6,119.87     | 593.44       | 6,113.89                | 0.00                    | 0.00                   | 0.00                  |
| 17,700.00                 | 88.19           | 359.45      | 11,418.80             | 6,219.81     | 592.48       | 6,213.84                | 0.00                    | 0.00                   | 0.00                  |
| 17,800.00                 | 88.19           | 359.45      | 11,421.95             | 6,319.76     | 591.51       | 6,313.79                | 0.00                    | 0.00                   | 0.00                  |
| 17,900.00                 | 88.19           | 359.45      | 11,425.11             | 6,419.71     | 590.55       | 6,413.74                | 0.00                    | 0.00                   | 0.00                  |
| 18,000.00                 | 88.19           | 359.45      | 11,428.26             | 6,519.65     | 589.59       | 6,513.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,100.00                 | 88.19           | 359.45      | 11,431.41             | 6,619.60     | 588.63       | 6,613.64                | 0.00                    | 0.00                   | 0.00                  |
| 18,200.00                 | 88.19           | 359.45      | 11,434.56             | 6,719.54     | 587.67       | 6,713.59                | 0.00                    | 0.00                   | 0.00                  |
| 18,300.00                 | 88.19           | 359.45      | 11,437.72             | 6,819.49     | 586.71       | 6,813.54                | 0.00                    | 0.00                   | 0.00                  |
| 18,383.29                 | 88.19           | 359.45      | 11,440.34             | 6,902.73     | 585.91       | 6,896.79                | 0.00                    | 0.00                   | 0.00                  |
| <b>07-T07-07(RB-118H)</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 18,400.00                 | 87.86           | 359.45      | 11,440.92             | 6,919.43     | 585.75       | 6,913.49                | 2.00                    | -2.00                  | 0.00                  |
| 18,452.92                 | 86.80           | 359.45      | 11,443.38             | 6,972.29     | 585.24       | 6,966.35                | 2.00                    | -2.00                  | 0.00                  |
| 18,500.00                 | 86.80           | 359.45      | 11,446.01             | 7,019.30     | 584.79       | 7,013.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,600.00                 | 86.80           | 359.45      | 11,451.59             | 7,119.14     | 583.83       | 7,113.20                | 0.00                    | 0.00                   | 0.00                  |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Planned Survey                                                                                       |                 |             |                       |              |              |                         |                         |                        |                       |
|------------------------------------------------------------------------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)                                                                                | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 18,700.00                                                                                            | 86.80           | 359.45      | 11,457.17             | 7,218.98     | 582.87       | 7,213.05                | 0.00                    | 0.00                   | 0.00                  |
| 18,800.00                                                                                            | 86.80           | 359.45      | 11,462.75             | 7,318.82     | 581.91       | 7,312.89                | 0.00                    | 0.00                   | 0.00                  |
| 18,804.48                                                                                            | 86.80           | 359.45      | 11,463.00             | 7,323.29     | 581.87       | 7,317.36                | 0.00                    | 0.00                   | 0.00                  |
| <b>Wolfcamp</b>                                                                                      |                 |             |                       |              |              |                         |                         |                        |                       |
| 18,900.00                                                                                            | 86.80           | 359.45      | 11,468.33             | 7,418.65     | 580.95       | 7,412.74                | 0.00                    | 0.00                   | 0.00                  |
| 19,000.00                                                                                            | 86.80           | 359.45      | 11,473.91             | 7,518.49     | 579.99       | 7,512.58                | 0.00                    | 0.00                   | 0.00                  |
| 19,100.00                                                                                            | 86.80           | 359.45      | 11,479.49             | 7,618.33     | 579.04       | 7,612.42                | 0.00                    | 0.00                   | 0.00                  |
| 19,200.00                                                                                            | 86.80           | 359.45      | 11,485.07             | 7,718.17     | 578.08       | 7,712.27                | 0.00                    | 0.00                   | 0.00                  |
| 19,300.00                                                                                            | 86.80           | 359.45      | 11,490.65             | 7,818.01     | 577.12       | 7,812.11                | 0.00                    | 0.00                   | 0.00                  |
| 19,384.33                                                                                            | 86.80           | 359.45      | 11,495.36             | 7,902.20     | 576.31       | 7,896.31                | 0.00                    | 0.00                   | 0.00                  |
| <b>08-T08-08(RB-118H)</b>                                                                            |                 |             |                       |              |              |                         |                         |                        |                       |
| 19,400.00                                                                                            | 86.49           | 359.45      | 11,496.28             | 7,917.85     | 576.16       | 7,911.95                | 2.00                    | -2.00                  | 0.00                  |
| 19,421.05                                                                                            | 86.07           | 359.45      | 11,497.64             | 7,938.85     | 575.96       | 7,932.96                | 2.00                    | -2.00                  | 0.00                  |
| 19,500.00                                                                                            | 86.07           | 359.45      | 11,503.06             | 8,017.62     | 575.20       | 8,011.72                | 0.00                    | 0.00                   | 0.00                  |
| 19,600.00                                                                                            | 86.07           | 359.45      | 11,509.92             | 8,117.37     | 574.24       | 8,111.49                | 0.00                    | 0.00                   | 0.00                  |
| 19,700.00                                                                                            | 86.07           | 359.45      | 11,516.78             | 8,217.13     | 573.28       | 8,211.25                | 0.00                    | 0.00                   | 0.00                  |
| 19,800.00                                                                                            | 86.07           | 359.45      | 11,523.64             | 8,316.89     | 572.33       | 8,311.02                | 0.00                    | 0.00                   | 0.00                  |
| 19,900.00                                                                                            | 86.07           | 359.45      | 11,530.50             | 8,416.65     | 571.37       | 8,410.78                | 0.00                    | 0.00                   | 0.00                  |
| 20,000.00                                                                                            | 86.07           | 359.45      | 11,537.36             | 8,516.41     | 570.41       | 8,510.55                | 0.00                    | 0.00                   | 0.00                  |
| 20,100.00                                                                                            | 86.07           | 359.45      | 11,544.22             | 8,616.17     | 569.45       | 8,610.31                | 0.00                    | 0.00                   | 0.00                  |
| 20,200.00                                                                                            | 86.07           | 359.45      | 11,551.08             | 8,715.93     | 568.49       | 8,710.08                | 0.00                    | 0.00                   | 0.00                  |
| 20,300.00                                                                                            | 86.07           | 359.45      | 11,557.94             | 8,815.69     | 567.53       | 8,809.84                | 0.00                    | 0.00                   | 0.00                  |
| 20,386.19                                                                                            | 86.07           | 359.45      | 11,563.85             | 8,901.67     | 566.71       | 8,895.82                | 0.00                    | 0.00                   | 0.00                  |
| <b>09-T09-09(RB-118H)</b>                                                                            |                 |             |                       |              |              |                         |                         |                        |                       |
| 20,393.36                                                                                            | 86.21           | 359.45      | 11,564.33             | 8,908.83     | 566.64       | 8,902.98                | 2.00                    | 2.00                   | -0.01                 |
| 20,400.00                                                                                            | 86.21           | 359.45      | 11,564.77             | 8,915.46     | 566.58       | 8,909.61                | 0.00                    | 0.00                   | 0.00                  |
| 20,500.00                                                                                            | 86.21           | 359.45      | 11,571.38             | 9,015.23     | 565.62       | 9,009.39                | 0.00                    | 0.00                   | 0.00                  |
| 20,600.00                                                                                            | 86.21           | 359.45      | 11,577.99             | 9,115.01     | 564.66       | 9,109.17                | 0.00                    | 0.00                   | 0.00                  |
| 20,700.00                                                                                            | 86.21           | 359.45      | 11,584.60             | 9,214.79     | 563.70       | 9,208.95                | 0.00                    | 0.00                   | 0.00                  |
| 20,800.00                                                                                            | 86.21           | 359.45      | 11,591.21             | 9,314.56     | 562.74       | 9,308.73                | 0.00                    | 0.00                   | 0.00                  |
| 20,900.00                                                                                            | 86.21           | 359.45      | 11,597.82             | 9,414.34     | 561.78       | 9,408.51                | 0.00                    | 0.00                   | 0.00                  |
| 21,000.00                                                                                            | 86.21           | 359.45      | 11,604.43             | 9,514.12     | 560.82       | 9,508.29                | 0.00                    | 0.00                   | 0.00                  |
| 21,100.00                                                                                            | 86.21           | 359.45      | 11,611.04             | 9,613.89     | 559.86       | 9,608.07                | 0.00                    | 0.00                   | 0.00                  |
| 21,200.00                                                                                            | 86.21           | 359.45      | 11,617.65             | 9,713.67     | 558.90       | 9,707.86                | 0.00                    | 0.00                   | 0.00                  |
| 21,300.00                                                                                            | 86.21           | 359.45      | 11,624.26             | 9,813.45     | 557.94       | 9,807.64                | 0.00                    | 0.00                   | 0.00                  |
| 21,387.89                                                                                            | 86.21           | 359.45      | 11,630.07             | 9,901.14     | 557.10       | 9,895.34                | 0.00                    | 0.00                   | 0.00                  |
| <b>10-T10-10(RB-118H)</b>                                                                            |                 |             |                       |              |              |                         |                         |                        |                       |
| 21,400.00                                                                                            | 86.45           | 359.45      | 11,630.85             | 9,913.22     | 556.98       | 9,907.42                | 2.00                    | 2.00                   | 0.00                  |
| 21,500.00                                                                                            | 88.45           | 359.45      | 11,635.29             | 10,013.12    | 556.02       | 10,007.32               | 2.00                    | 2.00                   | 0.00                  |
| 21,535.44                                                                                            | 89.16           | 359.45      | 11,636.03             | 10,048.54    | 555.68       | 10,042.75               | 2.00                    | 2.00                   | 0.00                  |
| 21,600.00                                                                                            | 89.16           | 359.45      | 11,636.98             | 10,113.10    | 555.06       | 10,107.30               | 0.00                    | 0.00                   | 0.00                  |
| 21,700.00                                                                                            | 89.16           | 359.45      | 11,638.44             | 10,213.08    | 554.10       | 10,207.29               | 0.00                    | 0.00                   | 0.00                  |
| 21,753.05                                                                                            | 89.16           | 359.45      | 11,639.22             | 10,266.12    | 553.59       | 10,260.34               | 0.00                    | 0.00                   | 0.00                  |
| <b>100FLL: 21753.05' MD, 89.16°INC, 359.45°AZ - 11-LTP-280 FEL(RB-118H)</b>                          |                 |             |                       |              |              |                         |                         |                        |                       |
| 21,803.06                                                                                            | 89.16           | 359.45      | 11,639.95             | 10,316.12    | 553.12       | 10,310.34               | 0.00                    | 0.00                   | 0.00                  |
| <b>TD: 21803.06' MD, 10310.34' VS, 11639.95' TVD - 12-PBHL-280 FEL(RB-118H) - 13-T11-11(RB-118H)</b> |                 |             |                       |              |              |                         |                         |                        |                       |



American Resource Development LLC.

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Design Targets                                                                                                                        |           |          |           |           |        |            |            |             |               |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|-----------|-----------|--------|------------|------------|-------------|---------------|
| Target Name                                                                                                                           |           |          |           |           |        |            |            |             |               |
| - hit/miss target                                                                                                                     | Dip Angle | Dip Dir. | TVD       | +N/-S     | +E/-W  | Northing   | Easting    | Latitude    | Longitude     |
| - Shape                                                                                                                               | (°)       | (°)      | (usft)    | (usft)    | (usft) | (usft)     | (usft)     |             |               |
| 00-FTP-280 FEL(RB-118H)<br>- plan misses target center by 51.00usft at 11400.00usft MD (11264.75 TVD, -71.01 N, 641.29 E)<br>- Point  | 0.00      | 359.45   | 11,308.95 | -93.55    | 653.14 | 394,382.24 | 867,730.61 | 32.07985385 | -103.27952354 |
| 01-T01-01(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,332.04 | 905.92    | 643.53 | 395,381.72 | 867,721.00 | 32.08260116 | -103.27952303 |
| 02-T02-02(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,356.55 | 1,905.39  | 633.93 | 396,381.19 | 867,711.40 | 32.08534846 | -103.27952250 |
| 03-T03-03(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,374.06 | 2,904.86  | 624.33 | 397,380.66 | 867,701.80 | 32.08809575 | -103.27952196 |
| 04-T04-04(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,385.67 | 3,904.32  | 614.72 | 398,380.12 | 867,692.19 | 32.09084303 | -103.27952145 |
| 05-T05-05(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,394.90 | 4,903.79  | 605.12 | 399,379.59 | 867,682.59 | 32.09359033 | -103.27952091 |
| 06-T06-06(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,409.24 | 5,903.26  | 595.52 | 400,379.06 | 867,672.99 | 32.09633762 | -103.27952037 |
| 07-T07-07(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,440.34 | 6,902.73  | 585.91 | 401,378.53 | 867,663.38 | 32.09908492 | -103.27951986 |
| 08-T08-08(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,495.36 | 7,902.20  | 576.31 | 402,378.00 | 867,653.78 | 32.10183222 | -103.27951931 |
| 09-T09-09(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,563.85 | 8,901.67  | 566.71 | 403,377.47 | 867,644.18 | 32.10457951 | -103.27951876 |
| 10-T10-10(RB-118H)<br>- plan hits target center<br>- Point                                                                            | 0.00      | 0.00     | 11,630.07 | 9,901.14  | 557.10 | 404,376.94 | 867,634.57 | 32.10732680 | -103.27951824 |
| 11-LTP-280 FEL(RB-118H)<br>- plan misses target center by 0.01usft at 21753.05usft MD (11639.22 TVD, 10266.12 N, 553.59 E)<br>- Point | 0.00      | 0.00     | 11,639.21 | 10,266.13 | 553.60 | 404,741.92 | 867,631.07 | 32.10833005 | -103.27951803 |
| 12-PBHL-280 FEL(RB-118H)<br>- plan hits target center<br>- Point                                                                      | 0.00      | 0.00     | 11,639.95 | 10,316.12 | 553.12 | 404,791.92 | 867,630.59 | 32.10846748 | -103.27951800 |
| 13-T11-11(RB-118H)<br>- plan misses target center by 584.58usft at 21803.06usft MD (11639.95 TVD, 10316.12 N, 553.11 E)<br>- Point    | 0.00      | 0.00     | 11,648.50 | 10,900.61 | 547.50 | 405,376.41 | 867,624.97 | 32.11007410 | -103.27951768 |



American Resource Development LLC

## Planning Report

|                  |                                 |                                     |                                      |
|------------------|---------------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | EDM 5000.14 Single User Db      | <b>Local Co-ordinate Reference:</b> | Well Red Bud State Com 25-36-32 118H |
| <b>Company:</b>  | Ameredev Operating TZ           | <b>TVD Reference:</b>               | 3002+25 @ 3027.00usft                |
| <b>Project:</b>  | Lea County, NM (N83-NME)        | <b>MD Reference:</b>                | 3002+25 @ 3027.00usft                |
| <b>Site:</b>     | Red Bud_Holly                   | <b>North Reference:</b>             | Grid                                 |
| <b>Well:</b>     | Red Bud State Com 25-36-32 118H | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | 118H                            |                                     |                                      |
| <b>Design:</b>   | Prelim 01 - 359.45              |                                     |                                      |

| Formations            |                       |                         |           |         |                   |  |
|-----------------------|-----------------------|-------------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name                    | Lithology | Dip (°) | Dip Direction (°) |  |
| 1,221.00              | 1,221.00              | Rustler                 |           |         |                   |  |
| 1,680.00              | 1,680.00              | Salado                  |           |         |                   |  |
| 3,270.99              | 3,267.00              | Tansill                 |           |         |                   |  |
| 3,804.02              | 3,798.00              | Capitan                 |           |         |                   |  |
| 5,099.95              | 5,089.00              | Lamar                   |           |         |                   |  |
| 5,179.25              | 5,168.00              | Bell Canyon             |           |         |                   |  |
| 6,917.89              | 6,901.00              | Brushy Canyon           |           |         |                   |  |
| 8,001.89              | 7,984.00              | Bone Spring Lime        |           |         |                   |  |
| 9,529.71              | 9,506.00              | First Bone Spring       |           |         |                   |  |
| 10,048.68             | 10,023.00             | Second Bone Spring      |           |         |                   |  |
| 10,611.83             | 10,584.00             | Upper Third Bone Spring |           |         |                   |  |
| 11,272.70             | 11,195.00             | Third Bone Spring       |           |         |                   |  |
| 18,804.48             | 11,463.00             | Wolfcamp                |           |         |                   |  |

| Plan Annotations      |                       |                   |              |                                               |  |
|-----------------------|-----------------------|-------------------|--------------|-----------------------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              |                                               |  |
|                       |                       | +N/-S (usft)      | +E/-W (usft) | Comment                                       |  |
| 10,847.42             | 10,818.70             | -336.19           | 582.29       | KOP: 10847.42' MD, -341.76' VS, 10818.70' TVD |  |
| 11,374.27             | 11,252.93             | -93.70            | 638.57       | 100FLL: 11374.27' MD, 61.17°INC, 7.33°AZ      |  |
| 11,611.93             | 11,314.24             | 133.04            | 650.97       | EOC: 11611.93' MD, 126.79' VS, 11314.24' TVD  |  |
| 21,753.05             | 11,639.22             | 10,266.12         | 553.59       | 100FLL: 21753.05' MD, 89.16°INC, 359.45°AZ    |  |
| 21,803.06             | 11,639.95             | 10,316.12         | 553.12       | TD: 21803.06' MD, 10310.34' VS, 11639.95' TVD |  |