

OCD - HOBBS  
06/17/2020  
RECEIVED

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
		8. Lease Name and Well No. <b>[322777]</b>
2. Name of Operator <b>[372224]</b>		9. API Well No. <b>30-025-47293</b>
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory <b>[98234]</b> <b>XX XXX</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**GCP Rec 06/17/2020**

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(Continued on page 2)

**APPROVED WITH CONDITIONS**  
Approval Date: 06/17/2020

KZ  
06/18/2020

\*(Instructions on page 2)

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

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

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

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

## **Additional Operator Remarks**

### **Location of Well**

1. SHL: LOT N / 230 FSL / 2288 FWL / TWSP: 25S / RANGE: 36E / SECTION: 31 / LAT: 32.0802 / LONG: -103.30533 ( TVD: 0 feet, MD: 0 feet )  
PPP: NENW / 0 FNL / 2255 FWL / TWSP: 26S / RANGE: 36E / SECTION: 6 / LAT: 32.07958 / LONG: -103.30545 ( TVD: 11945 feet, MD: 12430 feet )  
PPP: NENW / 0 FNL / 2372 FWL / TWSP: 26S / RANGE: 36E / SECTION: 7 / LAT: 32.06506 / LONG: -103.30523 ( TVD: 11959 feet, MD: 17725 feet )  
BHL: LOT N / 50 FSL / 2318 FWL / TWSP: 26S / RANGE: 36E / SECTION: 7 / LAT: 32.05066 / LONG: -103.30522 ( TVD: 11959 feet, MD: 22963 feet )

## **BLM Point of Contact**

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: 5752345972

Email: gmickwee@blm.gov

## **Review and Appeal Rights**

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

## **Geologic Conditions of Approval**

:

The operator proposes to set surface casing to 1,888', which is below all usable water zones, however this will potentially be 400'-600' into the salt. BLM recommends setting casing to the anhydrite below the Magenta dolomite at approximately 1,100. If salt is encountered, set casing a minimum of 25 feet above the salt. The operator proposes to set the first intermediate casing string to a depth of 10,670', this will be in the 3rd Bone Spring Limestone, which is an acceptable set point. Due to low geologic formation data density, ensure GR and CNL logs are run from TD to surface. BLM generally recommends a 4 string casing design when drilling in the Capitan Reef Complex, recently drilled surrounding wells have 4 string casing designs and in other APDs submitted in this area by the operator, a contingency plan to convert to a 4 string design if needed is included. Because the surface hole Location is on a Reef/Basin Contact Geological Formation Tops may be difficult to differentiate.

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Ameredev Operating LLC
<b>WELL NAME &amp; NO.:</b>	Golden Bell Fed Com 26 36 06 114H
<b>LOCATION:</b>	Sec 31-25S-36E-NMP
<b>COUNTY:</b>	County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

### A. HYDROGEN SULFIDE

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

### B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 1100 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

- b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### **C. PRESSURE CONTROL**

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

- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

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

##### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

### **GENERAL REQUIREMENTS**

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

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

☒ Eddy County

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

☒ Lea County

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

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

- rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
- b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
  2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
  3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.



4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall

have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

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

#### D. WASTE MATERIAL AND FLUIDS

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

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

# PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ameredev Operating, LLC.
LEASE NO.:	NMN137469 & NMNM119762
LOCATION:	Section 31, T. 25 S., R. 36 E. Section 6, T. 26 S., R. 36 E.
COUNTY:	Lea

**Pad 1:**

**Nandina Fed Com 25 36 31 104H:**

Surface Hole Location: 230' FSL & 2328' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FNL & 2318' FWL, Section 30, T. 25 S., R. 36 E.

**Nandina Fed Com 25 36 31 114H:**

Surface Hole Location: 230' FSL & 2348' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FNL & 2318' FWL, Section 30, T. 25 S., R. 36 E.

**Nandina Fed Com 25 36 31 124H:**

Surface Hole Location: 230' FSL & 2368' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FNL & 2318' FWL, Section 30, T. 25 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 104H:**

Surface Hole Location: 230' FSL & 2268' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FSL & 2318' FWL, Section 7, T. 26 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 114H:**

Surface Hole Location: 230' FSL & 2288' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FSL & 2318' FWL, Section 7, T. 26 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 124H:**

Surface Hole Location: 230' FSL & 2308' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 50' FSL & 2318' FWL, Section 7, T. 26 S., R. 36 E.

**Pad 2:**

**Nandina Fed Com 25 36 31 106H:**

Surface Hole Location: 230' FSL & 390' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Nandina Fed Com 25 36 31 116H:**

Surface Hole Location: 230' FSL & 410' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Nandina Fed Com 25 36 31 126H:**

Surface Hole Location: 230' FSL & 430' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 200' FNL & 380' FWL, Section 30, T. 25 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 106H:**

Surface Hole Location: 230' FSL & 370' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 116H:**

Surface Hole Location: 230' FSL & 350' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 126H:**

Surface Hole Location: 230' FSL & 370' FWL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Pad 3:**

**Golden Bell Fed Com 26 36 06 122H:**

Surface Hole Location: 200' FNL & 1040' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: 50' FSL & 1026' FWL, Section 7, T. 26 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 112H:**

Surface Hole Location: 200' FNL & 1020' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 102H:**

Surface Hole Location: 200' FNL & 1000' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: 50' FSL & 1026' FWL, Section 7, T. 26 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 091H:**

Surface Hole Location: 200' FNL & 980' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell I Fed Com 26 36 06 081H:**

Surface Hole Location: 200' FNL & 960' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 071H:**

Surface Hole Location: 200' FNL & 940' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Pad 4:**

**Nandina Fed Com 25 36 31 077H:**

Surface Hole Location: 230' FSL & 690' FEL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Nandina Fed Com 25 36 31 097H:**

Surface Hole Location: 230' FSL & 670' FEL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined.

**Nandina Fed Com 25 36 31 087H:**

Surface Hole Location: 230' FNL & 650' FEL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: 50' FNL & 660' FEL, Section 30, T. 25 S., R. 36 E.

**Golden Bell Fed Com 26 36 06 097H:**

Surface Hole Location: 230' FSL & 630' FEL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 087H:**

Surface Hole Location: 230' FSL & 610' FEL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined

**Golden Bell Fed Com 26 36 06 077H:**

Surface Hole Location: 230' FSL & 590' FWL, Section 6, T. 26 S., R. 36 E.

Bottom Hole Location: To Be Determined.

**Environmental Assessment DOI-BLM-NM-P020-2019-0888-EA**

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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- ☐ **Archaeology, Paleontology, and Historical Sites**
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## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

#### **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

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

##### **Lesser Prairie Chicken:**

##### **Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

##### **Timing Limitation Exceptions:**

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

##### **Ground-level Abandoned Well Marker to avoid raptor perching:**

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

##### **Watershed:**

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected.



and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

**BURIED/SURFACE LINE(S):**

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

**ELECTRIC LINE(S):**

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

**TEMPORARY USE FRESH WATER FRAC LINE(S):**

Once the temporary use exceeds the timeline of 180 days and/or with a 90 day extension status; further analysis will be required if the applicant pursues to turn the temporary ROW into a permanent ROW.

**VRM IV:**

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008).

**VI. CONSTRUCTION**

**A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

## **B. TOPSOIL**

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

## **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

## **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

## **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

## **F. EXCLOSURE FENCING (CELLARS & PITS)**

### **Exclosure Fencing**

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

## **G. ON LEASE ACCESS ROADS**

### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### **Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

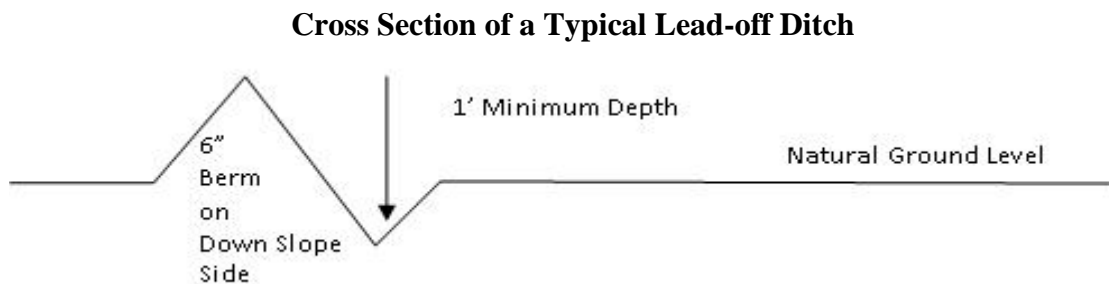
### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### **Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### **Cattle guards**

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

**Fence Requirement**

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

### Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes



Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

#### **Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

## B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

### BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the

Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.



10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

<input type="checkbox"/> seed mixture 1	<input type="checkbox"/> seed mixture 3
<input checked="" type="checkbox"/> seed mixture 2	<input type="checkbox"/> seed mixture 4
<input type="checkbox"/> seed mixture 2/LPC	<input type="checkbox"/> Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

21. Special Stipulations:

**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

**Timing Limitation Exceptions:**

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

## **VIII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **IX. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

### **Seed Mixture 2, for Sandy Sites**

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

#### **Species**

	<u>lb/acre</u>
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed



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

# Operator Certification Data Report

06/17/2020

## Operator Certification

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

**NAME:** Christie Hanna

**Signed on:** 04/24/2019

**Title:** Senior Engineering Technician

**Street Address:** 2901 VIA FORTUNA, SUITE 600

**City:** AUSTIN

**State:** TX

**Zip:** 78746

**Phone:** (737)300-4723

**Email address:** channa@ameredev.com

## Field Representative

**Representative Name:** SHANE MCNEELY

**Street Address:** 2901 VIA FORTUNA STE 600

**City:** AUSTIN

**State:** TX

**Zip:** 78746

**Phone:** (737)300-4729

**Email address:** smcneely@ameredev.com



APD ID: 10400041075

Submission Date: 04/24/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: AMEREDEV OPERATING LLC

Well Name: GOLDEN BELL FED COM 26 36 06

Well Number: 114H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
443925	RUSTLER ANHYDRITE	3017	1009	1009	ANHYDRITE	NONE	N
443936	SALADO	1555	1462	1462	SALT	NONE	N
443929	TANSILL	-370	3387	3387	LIMESTONE	NONE	N
443930	CAPITAN REEF	-763	3780	3780	LIMESTONE	USEABLE WATER	N
443927	LAMAR	-2015	5032	5032	LIMESTONE	NONE	N
443928	BELL CANYON	-2114	5131	5131	SANDSTONE	NATURAL GAS, OIL	N
443931	BRUSHY CANYON	-4241	7258	7258	SANDSTONE	NATURAL GAS, OIL	N
443932	BONE SPRING LIME	-5367	8384	8384	LIMESTONE	NONE	N
443933	BONE SPRING 1ST	-6725	9742	9742	SANDSTONE	NATURAL GAS, OIL	N
443926	BONE SPRING 2ND	-7220	10237	10237	SANDSTONE	NATURAL GAS, OIL	N
443934	BONE SPRING 3RD	-7772	10789	10789	LIMESTONE	NATURAL GAS, OIL	N
443935	BONE SPRING 3RD	-8396	11413	11413	SANDSTONE	NATURAL GAS, OIL	N
443937	WOLFCAMP	-8668	11685	11685	SHALE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

**Pressure Rating (PSI):** 10M

**Rating Depth:** 15000

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

**Requesting Variance?** YES

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

**Testing Procedure:** See attachment

**Choke Diagram Attachment:**

10M\_Choke\_Manifold\_REV\_20190424091014.pdf

**BOP Diagram Attachment:**

5M\_BOP\_System\_20190424091029.pdf

4\_String\_MB\_Ameredev\_Wellhead\_Drawing\_net\_REV\_20190424091038.pdf

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20200401140105.pdf

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20200401140107.pdf

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1134	0	1134	3017		1134	J-55	68	OTHER - BTC	8.09	0.65	DRY	11.87	DRY	13.87
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	10914	0	10914			10914	HCL-80	29.7	OTHER - BTC	1.26	1.22	DRY	2.01	DRY	2.9
3	PRODUCTION	6.75	5.5	NEW	API	N	0	22963	0	11959			22963	P-110	23	OTHER - MS2 Anaconda GT	1.71	1.85	DRY	2.38	DRY	2.65

### Casing Attachments



**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

## Casing Attachments

---

**Casing ID:** 1      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

13.375\_68\_J55\_SEAH\_20200401140217.pdf

Golden\_Bell\_Fed\_Com\_26\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200401140229.pdf

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**Casing ID:** 2      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

7.625\_29.70\_L80HC\_BORUSAN\_20200401140327.pdf

Golden\_Bell\_Fed\_Com\_26\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200401140339.pdf

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**Casing ID:** 3      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

5.5\_23\_\_P\_110\_MS2\_Anaconda\_GT\_DATA\_SHEET\_20200401140504.pdf

Golden\_Bell\_Fed\_Com\_26\_36\_06\_114H\_\_\_Wellbore\_Diagram\_and\_CDA\_20200401140520.pdf

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**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

#### Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	748	742	1.76	13.5	1306.17	100	CLASS C	Bentonite, Accelerator, Kolseal, Defoamer, Celloflake
SURFACE	Tail		748	1134	200	1.34	14.8	268	100	CLASS C	None
INTERMEDIATE	Lead	3387	0	2856	651	3.5	9	2279.1	50	Class C	Salt, Bentonite, Kolseal, Defoamer, Celloflake
INTERMEDIATE	Tail		2856	3387	200	1.33	14.8	266	25	Class C	None
INTERMEDIATE	Lead	3387	3387	9693	2213	2.47	11.9	5466.18	50	CLASS H	Bentonite, Retarder, Kolseal, Defoamer, Celloflake, Anti-settling Expansion Additive
INTERMEDIATE	Tail		9693	10914	200	1.31	14.2	262	25	CLASS H	Salt, Bentonite, Retarder, Dispersant, Fluid Loss
PRODUCTION	Lead		0	22963	1788	1.34	14.2	2395.32	25	CLASS H	Salt, Bentonite, Fluid Loss, Dispersant, Retarder, Defoamer

#### Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

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

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

#### Circulating Medium Table

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1134	WATER-BASED MUD	8.4	8.6							
1134	10914	OTHER : DIESEL BRINE EMULSION	8.5	9.4							
10914	11959	OIL-BASED MUD	10.5	12.5							

## Section 6 - Test, Logging, Coring

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

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

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

DS,MWD,MUDLOG

**Coring operation description for the well:**

No coring will be done on this well.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7773

**Anticipated Surface Pressure:** 5142.02

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

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

H2S\_Plan\_20190424091846.pdf

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

## Section 8 - Other Information

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

GB114\_DR\_20190424091910.pdf

GB114\_LLR\_20190424091911.pdf

5M\_Annular\_Preventer\_Variance\_and\_Well\_Control\_Plan\_20200401141051.pdf

Pressure\_Control\_Plan\_Single\_Well\_MB4\_3String\_Big\_Hole\_BLM\_20200401141053.pdf

### **Other proposed operations facets description:**

4-STRING CONTINGENCY PLAN AND SKID PROCEDURE ATTACHED

### **Other proposed operations facets attachment:**

Wolfcamp\_Contingency\_PDF\_20200401141126.pdf

Rig\_Skid\_Procedure\_20200401141142.pdf

### **Other Variance attachment:**

R616\_\_\_CoC\_for\_hoses\_12\_18\_17\_20190424092013.pdf

Requested\_Exceptions\_\_\_3\_String\_Revised\_01312019\_20190424092014.pdf



# 5M Annular Preventer Variance Request and Well Control Procedures

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

## Dual Isolation Design for 5M Annular Exception

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

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

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

Drill Components	Size	Primary Barrier	Secondary Barrier	Third Barrier
Drillpipe	3-1/2”-5-1/2”	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
HWDP Drillpipe	3-1/2”-5-1/2”	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
Drill Collars	3-1/2”-5-1/2”	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
Production Casing	3-1/2”-5-1/2”	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
Open Hole	13-5/8	Drilling Fluid	Blind Rams	
All Drilling Components in 10M Environment will have OD that will allow full Operational RATED WORKING PRESSURE for system design. Kill line with minimum 2” ID will be available outside substructure with 10M Check Valve for OOH Kill Operations				

# Well Control Procedures

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

## Shutting In While Drilling

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

## Shutting In While Tripping

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

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

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

### **Shutting in while out of hole**

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

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

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

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

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

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

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

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

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

If not possible to pick up high enough:

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



13 5/8" 5M BOP  
Configuration

CO-FLEX LINE TO  
CHOKE MANIFOLD

2" KILL LINE

4" 10M VALVES &

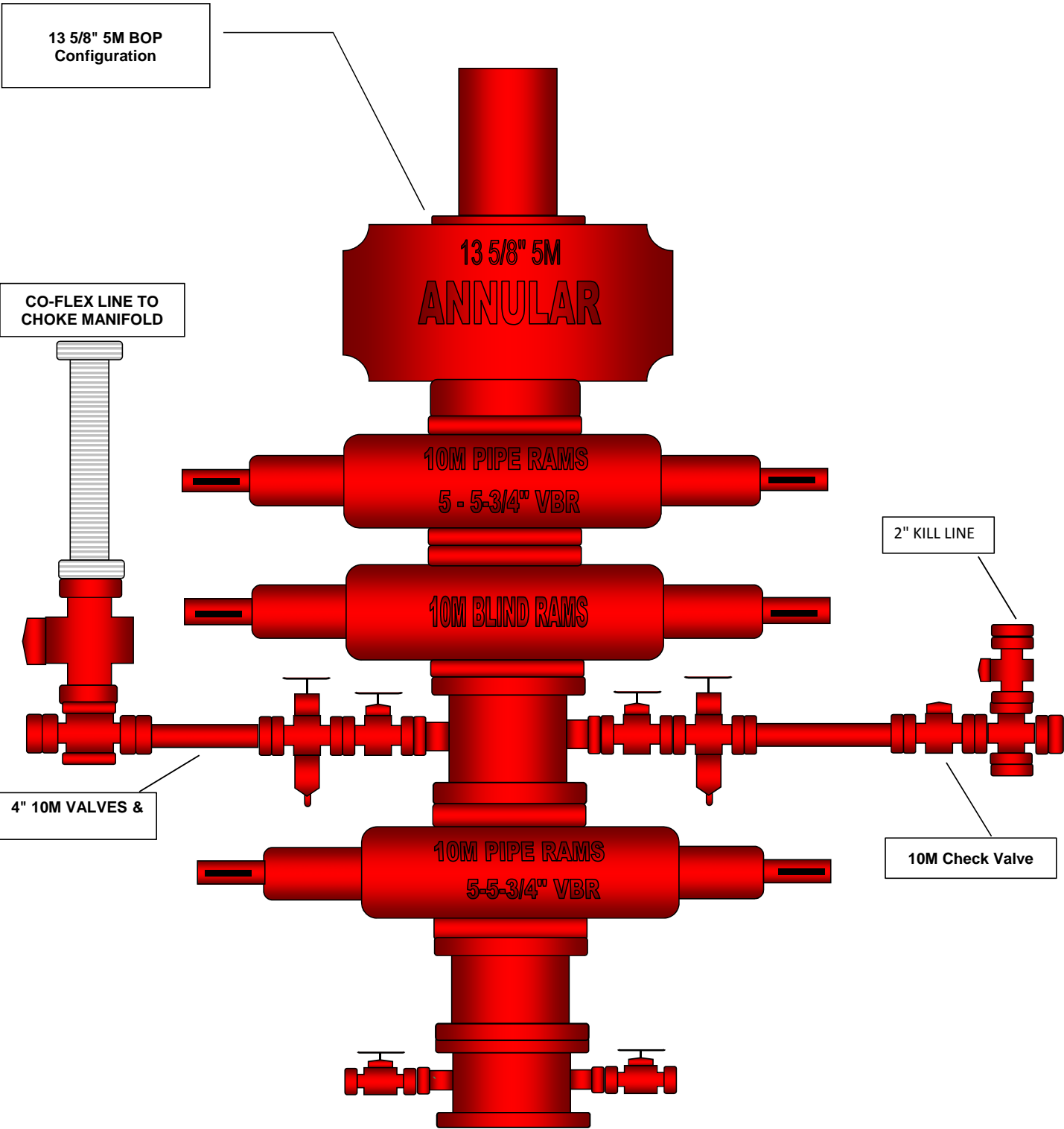
10M Check Valve

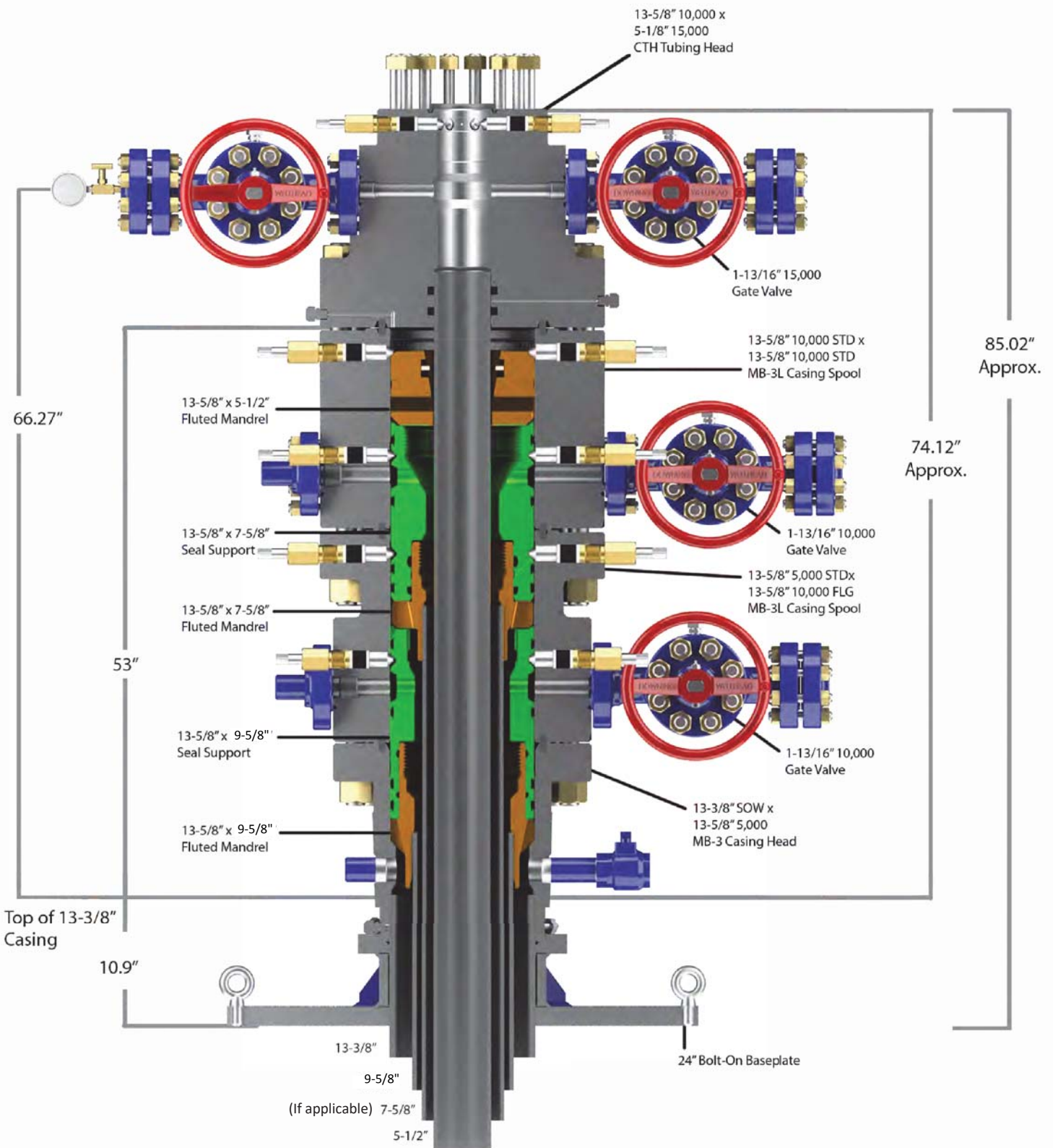
13 5/8" 5M  
ANNULAR

10M PIPE RAMS  
5 - 5-3/4" VBR

10M BLIND RAMS

10M PIPE RAMS  
5-5-3/4" VBR





## Quotation

## Downing Wellhead Equipment

Oklahoma City,  
Oklahoma - USA

Reference Data:

16925 AMEREDEV

### Proprietary and Confidential

The information contained in this drawing is the sole property of Downing Wellhead Equipment, any reproduction in part or in whole without the written permission of Downing Wellhead Equipment is prohibited.

TITLE:

AMEREDEV

DRAWN

CHECKED

APPROVED

SIZE

**A**

DWG. NO.

Scale:

Weight:

REV.

Sheet:



## Pressure Control Plan

### Pressure Control Equipment

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



## Pressure Control Plan

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



Ameredev II, LLC

## Contingency Wellbore Schematic

**Well:** Golden Bell Fed Com 26-36-06 114H  
**SHL:** Sec. 31 25S-36E 230' FSL & 2288' FWL  
**BHL:** Sec. 07 26S-36E 50' FSL & 2318' FWL  
 Lea, NM

**Wellhead:** A - 13-5/8" 10M x 13-5/8" SOW  
 B - 13-5/8" 10M x 13-5/8" 10M  
 C - 13-5/8" 10M x 13-5/8" 10M  
 Tubing Spool - 7-1/16" 15M x 13-3/8" 10M

**Xmas Tree:** 2-9/16" 10M

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

**Co. Well ID:** xxxxxx  
**AFE No.:** xxxx-xxx  
**API No.:** xxxxxxxxxxxx  
**GL:** 3,017'  
**Field:** Delaware  
**Objective:** Wolfcamp A  
**TVD:** 11,959'  
**MD:** 22,963'  
**Rig:** TBD **KB 27'**  
**E-Mail:** [Wellsite2@ameredev.com](mailto:Wellsite2@ameredev.com)

Hole Size	Formation Tops	Logs	Cement	Mud Weight
17.5"	Rustler 1,009'		942 Sacks TOC 0'	8.4-8.6 ppg WBM
	<b>13.375" 68# J-55 BTC</b> 1,134'			
12.25"	Salado 1,462'	851 Sacks TOC 0'	50% Excess	8.5-9.4 Diesel Brine Emulsion
	DV Tool with ACP 3,387'			
	Tansill 3,387'			
	Capitan Reef 3,780'			
	Lamar 5,032'			
	Bell Canyon 5,131'			
	<b>No Casing</b> 5,157'			
9.875"	Brushy Canyon 7,258'			8.5-9.4 Diesel Brine Emulsion
	Bone Spring Lime 8,384'			
	First Bone Spring 9,742'			
	Second Bone Spring 10,237'			
	Third Bone Spring Upper 10,789'			
	<b>7.625" 29.7# L-80HC BTC</b> 10,914'	2,413 Sacks TOC 0'	50% Excess	
6.75"	Third Bone Spring 11,413'			10.5-12.5 ppg OBM
<b>12° Build @</b>	Wolfcamp 11,685'			
<b>11,476' MD thru</b>	<b>5.5" 23# P110MS2 Anaconda GT</b> 22,963'	1,788 Sacks TOC 0'	25% Excess	
<b>12,509' MD</b>	<b>Target Wolfcamp A 11959 TVD // 22963 MD</b>			

## ***Casing Design and Safety Factor Check***

<b><i>Casing Specifications</i></b>						
<b>Segment</b>	<b>Hole ID</b>	<b>Depth</b>	<b>OD</b>	<b>Weight</b>	<b>Grade</b>	<b>Coupling</b>
Surface	17.5	1,134'	13.375	68	J-55	BTC
Intermediate	9.875	10,914'	7.625	40	HCL-80	BTC
Prod Segment A	6.75	11,476'	5.5	20	CYHP-110	BTC
Prod Segment B	6.75	22,963'	5.5	20	CYHP-110	BTC

<b><i>Check Surface Casing</i></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><i>Safety Factors</i></b>				
1.56	13.87	11.87	8.09	0.65
<b><i>Check Intermediate Casing</i></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><i>Safety Factors</i></b>				
1.13	2.90	2.01	1.26	1.22
<b><i>Check Prod Casing, Segment A</i></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><i>Safety Factors</i></b>				
0.49	2.65	2.38	1.71	1.85
<b><i>Check Prod Casing, Segment B</i></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><i>Safety Factors</i></b>				
0.49	65.53	58.96	1.65	1.85

# PERFORMANCE DATA

API BTC

13.375 in

68.00 lbs/ft

J-55

## Technical Data Sheet

### Tubular Parameters

Size	13.375	in	Minimum Yield	55,000	psi
Nominal Weight	68.00	lbs/ft	Minimum Tensile	75,000	psi
Grade	J-55		Yield Load	1,069,000	lbs
PE Weight	66.10	lbs/ft	Tensile Load	1,458,000	lbs
Wall Thickness	0.480	in	Min. Internal Yield Pressure	3,500	psi
Nominal ID	12.415	in	Collapse Pressure	1,950	psi
Drift Diameter	12.259	in			
Nom. Pipe Body Area	19.445	in <sup>2</sup>			

### Connection Parameters

Connection OD	14.375	in
Coupling Length	10.625	in
Threads Per Inch	5.000	in
Standoff Thread Turns	1.000	
Make-Up Loss	4.513	in
Yield Load In Tension	---	lbs
Min. Internal Yield Pressure	3,500	psi

Printed on: February-13-2015

#### NOTE:

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## API 5CT Casing Performance Data Sheet

Manufactured to specifications of API 5CT 9th edition and bears the API monogram.  
Designed for enhanced performance through increased collapse resistance.

Grade	L80HC
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### Pipe Body Mechanical Properties

Minimum Yield Strength	80,000 psi
Maximum Yield Strength	95,000 psi
Minimum Tensile Strength	95,000 psi
Maximum Hardness	23.0 HRC

### Sizes

OD	7 5/8 in
Nominal Wall Thickness	0.375 in
Nominal Weight, T&C	29.70 lb/ft
Nominal Weight, PE	29.06 lb/ft
Nominal ID	6.875 in
Standard Drift	6.750 in
Alternate Drift	N/A

### Minimum Performance

Collapse Pressure	5,780 psi
Internal Pressure Yield	6,880 psi
Pipe body Tension Yield	683,000 lbs
Internal pressure leak resistance STC/LTC connections	6,880 psi
Internal pressure leak resistance BTC connections	6,880 psi

### Inspection and Testing

Visual	OD Longitudinal and independent 3rd party SEA
NDT	Independent 3rd party full body EMI after hydrotest Calibration notch sensitivity: 10% of specified wall thickness

### Color code

Pipe ends	One red, one brown and one blue band
Couplings	Red with one brown band



## 5.5 23# P-110 MS2 Anaconda GT

### Pipe Body Data

Nominal OD	5.500	Inches
Wall Thickness	0.415	Inches
Weight	23.00	lb/ft
PE Weight	22.56	lb/ft
Nominal ID	4.670	Inches
Drift	4.545	Inches
Minimum Yield Strength	110,000	PSI
Minimum Tensile Strength	120,000	PSI
RBW	87.5%	Rating

### Connection Data

Connection OD	5.748	Inches
Connection ID	4.590	Inches
Make-Up loss	5.592	Inches
Tension Efficiency	90%	Rating
Compression Efficiency	90%	Rating
Yield Strength in Tension	656,000	LBS.
Yield Strength in Compression	656,000	LBS.
MIYP (Burst)	14,530	PSI
Collapse Pressure	14,540	PSI
Uniaxial Bending	83	degrees

### Make-Up torques

Yield torque	42,000	FT-LBS.
Max Operating Torque	33,600	FT-LBS.
Max Make-Up	20,000	FT-LBS.
Optimum Make-Up	16,500	FT-LBS.
Minimum Make-Up	13,000	FT-LBS.



Technical Sales Support: Rafael Escamilla Jr., Cell: 281-961-7704, [jescamilla@ofsint.com](mailto:jescamilla@ofsint.com)

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## 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
Zachary Boyd	Operations Superintendent	737-300-4725	432-385-6996
Blake Estrada	Construction Foreman		432-385-5831

<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 Operating, LLC.**

**NAN/GB**

**NAN/GB #5N**

**Golden Bell 114H**

**Wellbore #1**

**Plan: FTP100**

## **Standard Planning Report**

**22 February, 2019**



# Ameredev Operating, LLC

## Planning Report

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

<b>Project</b>	NAN/GB		
<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		NAN/GB #5N			
Site Position:		Northing:	394,434.39 usft	Latitude:	32° 4' 48.750 N
From:	Lat/Long	Easting:	859,774.27 usft	Longitude:	103° 18' 18.744 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55

Well	Golden Bell 114H					
Well Position	+N/-S	-0.4 usft	Northing:	394,434.01 usft	Latitude:	32° 4' 48.750 N
	+E/-W	-40.0 usft	Easting:	859,734.28 usft	Longitude:	103° 18' 19.209 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,017.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	11/5/2018	6.67	59.95	47,740.79974571

<b>Design</b>	FTP100			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	179.27

<b>Plan Survey Tool Program</b>	<b>Date</b>	2/6/2019		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	22,962.9	FTP100 (Wellbore #1)	MWD
				OWSG MWD - Standard



# Ameredev Operating, LLC

## Planning Report

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,300.0	6.00	324.00	2,299.5	12.7	-9.2	2.00	2.00	0.00	324.00	
6,775.1	6.00	324.00	6,750.0	391.1	-284.2	0.00	0.00	0.00	0.00	
7,075.1	0.00	0.00	7,049.5	403.8	-293.4	2.00	-2.00	0.00	180.00	
11,475.6	0.00	0.00	11,450.0	403.8	-293.4	0.00	0.00	0.00	0.00	
12,187.6	85.44	157.56	11,926.0	-2.4	-125.7	12.00	12.00	0.00	157.56	
12,509.2	85.44	157.56	11,951.5	-298.7	-3.3	0.00	0.00	0.00	0.00	
12,695.1	90.00	179.43	11,959.0	-479.6	33.4	12.00	2.45	11.76	78.79	GB114 FTP2
22,962.9	90.00	179.43	11,959.0	-10,746.9	136.2	0.00	0.00	0.00	0.00	GB114 BHL



<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	2.00	324.00	2,100.0	1.4	-1.0	-1.4	2.00	2.00	0.00
2,200.0	4.00	324.00	2,199.8	5.6	-4.1	-5.7	2.00	2.00	0.00
2,300.0	6.00	324.00	2,299.5	12.7	-9.2	-12.8	2.00	2.00	0.00
2,400.0	6.00	324.00	2,398.9	21.2	-15.4	-21.3	0.00	0.00	0.00
2,500.0	6.00	324.00	2,498.4	29.6	-21.5	-29.9	0.00	0.00	0.00
2,600.0	6.00	324.00	2,597.8	38.1	-27.7	-38.4	0.00	0.00	0.00
2,700.0	6.00	324.00	2,697.3	46.5	-33.8	-46.9	0.00	0.00	0.00
2,800.0	6.00	324.00	2,796.7	55.0	-39.9	-55.5	0.00	0.00	0.00
2,900.0	6.00	324.00	2,896.2	63.4	-46.1	-64.0	0.00	0.00	0.00
3,000.0	6.00	324.00	2,995.6	71.9	-52.2	-72.5	0.00	0.00	0.00
3,100.0	6.00	324.00	3,095.1	80.3	-58.4	-81.1	0.00	0.00	0.00
3,200.0	6.00	324.00	3,194.5	88.8	-64.5	-89.6	0.00	0.00	0.00
3,300.0	6.00	324.00	3,294.0	97.3	-70.7	-98.1	0.00	0.00	0.00
3,400.0	6.00	324.00	3,393.4	105.7	-76.8	-106.7	0.00	0.00	0.00
3,500.0	6.00	324.00	3,492.9	114.2	-83.0	-115.2	0.00	0.00	0.00
3,600.0	6.00	324.00	3,592.3	122.6	-89.1	-123.8	0.00	0.00	0.00
3,700.0	6.00	324.00	3,691.8	131.1	-95.2	-132.3	0.00	0.00	0.00
3,800.0	6.00	324.00	3,791.2	139.5	-101.4	-140.8	0.00	0.00	0.00
3,900.0	6.00	324.00	3,890.7	148.0	-107.5	-149.4	0.00	0.00	0.00
4,000.0	6.00	324.00	3,990.1	156.5	-113.7	-157.9	0.00	0.00	0.00
4,100.0	6.00	324.00	4,089.6	164.9	-119.8	-166.4	0.00	0.00	0.00
4,200.0	6.00	324.00	4,189.0	173.4	-126.0	-175.0	0.00	0.00	0.00
4,300.0	6.00	324.00	4,288.5	181.8	-132.1	-183.5	0.00	0.00	0.00
4,400.0	6.00	324.00	4,387.9	190.3	-138.2	-192.0	0.00	0.00	0.00
4,500.0	6.00	324.00	4,487.4	198.7	-144.4	-200.6	0.00	0.00	0.00
4,600.0	6.00	324.00	4,586.9	207.2	-150.5	-209.1	0.00	0.00	0.00
4,700.0	6.00	324.00	4,686.3	215.7	-156.7	-217.6	0.00	0.00	0.00
4,800.0	6.00	324.00	4,785.8	224.1	-162.8	-226.2	0.00	0.00	0.00
4,900.0	6.00	324.00	4,885.2	232.6	-169.0	-234.7	0.00	0.00	0.00
5,000.0	6.00	324.00	4,984.7	241.0	-175.1	-243.2	0.00	0.00	0.00
5,100.0	6.00	324.00	5,084.1	249.5	-181.3	-251.8	0.00	0.00	0.00
5,200.0	6.00	324.00	5,183.6	257.9	-187.4	-260.3	0.00	0.00	0.00
5,300.0	6.00	324.00	5,283.0	266.4	-193.5	-268.8	0.00	0.00	0.00

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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)
5,400.0	6.00	324.00	5,382.5	274.8	-199.7	-277.4	0.00	0.00	0.00
5,500.0	6.00	324.00	5,481.9	283.3	-205.8	-285.9	0.00	0.00	0.00
5,600.0	6.00	324.00	5,581.4	291.8	-212.0	-294.4	0.00	0.00	0.00
5,700.0	6.00	324.00	5,680.8	300.2	-218.1	-303.0	0.00	0.00	0.00
5,800.0	6.00	324.00	5,780.3	308.7	-224.3	-311.5	0.00	0.00	0.00
5,900.0	6.00	324.00	5,879.7	317.1	-230.4	-320.0	0.00	0.00	0.00
6,000.0	6.00	324.00	5,979.2	325.6	-236.6	-328.6	0.00	0.00	0.00
6,100.0	6.00	324.00	6,078.6	334.0	-242.7	-337.1	0.00	0.00	0.00
6,200.0	6.00	324.00	6,178.1	342.5	-248.8	-345.6	0.00	0.00	0.00
6,300.0	6.00	324.00	6,277.5	351.0	-255.0	-354.2	0.00	0.00	0.00
6,400.0	6.00	324.00	6,377.0	359.4	-261.1	-362.7	0.00	0.00	0.00
6,500.0	6.00	324.00	6,476.4	367.9	-267.3	-371.2	0.00	0.00	0.00
6,600.0	6.00	324.00	6,575.9	376.3	-273.4	-379.8	0.00	0.00	0.00
6,700.0	6.00	324.00	6,675.3	384.8	-279.6	-388.3	0.00	0.00	0.00
6,775.1	6.00	324.00	6,750.0	391.1	-284.2	-394.7	0.00	0.00	0.00
6,800.0	5.50	324.00	6,774.8	393.2	-285.6	-396.7	2.00	-2.00	0.00
6,900.0	3.50	324.00	6,874.5	399.5	-290.3	-403.1	2.00	-2.00	0.00
7,000.0	1.50	324.00	6,974.4	403.0	-292.8	-406.7	2.00	-2.00	0.00
7,075.1	0.00	0.00	7,049.5	403.8	-293.4	-407.5	2.00	-2.00	0.00
7,100.0	0.00	0.00	7,074.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,174.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,300.0	0.00	0.00	7,274.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,400.0	0.00	0.00	7,374.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,500.0	0.00	0.00	7,474.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,600.0	0.00	0.00	7,574.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,700.0	0.00	0.00	7,674.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,774.4	403.8	-293.4	-407.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,874.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,000.0	0.00	0.00	7,974.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,100.0	0.00	0.00	8,074.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,200.0	0.00	0.00	8,174.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,300.0	0.00	0.00	8,274.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,400.0	0.00	0.00	8,374.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,500.0	0.00	0.00	8,474.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,600.0	0.00	0.00	8,574.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,700.0	0.00	0.00	8,674.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,800.0	0.00	0.00	8,774.4	403.8	-293.4	-407.5	0.00	0.00	0.00
8,900.0	0.00	0.00	8,874.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,000.0	0.00	0.00	8,974.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,100.0	0.00	0.00	9,074.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,200.0	0.00	0.00	9,174.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,300.0	0.00	0.00	9,274.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,400.0	0.00	0.00	9,374.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,500.0	0.00	0.00	9,474.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,600.0	0.00	0.00	9,574.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,700.0	0.00	0.00	9,674.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,800.0	0.00	0.00	9,774.4	403.8	-293.4	-407.5	0.00	0.00	0.00
9,900.0	0.00	0.00	9,874.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,000.0	0.00	0.00	9,974.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,100.0	0.00	0.00	10,074.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,200.0	0.00	0.00	10,174.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,300.0	0.00	0.00	10,274.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,400.0	0.00	0.00	10,374.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,500.0	0.00	0.00	10,474.4	403.8	-293.4	-407.5	0.00	0.00	0.00

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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)
10,600.0	0.00	0.00	10,574.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,700.0	0.00	0.00	10,674.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,800.0	0.00	0.00	10,774.4	403.8	-293.4	-407.5	0.00	0.00	0.00
10,900.0	0.00	0.00	10,874.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,000.0	0.00	0.00	10,974.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,100.0	0.00	0.00	11,074.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,200.0	0.00	0.00	11,174.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,300.0	0.00	0.00	11,274.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,400.0	0.00	0.00	11,374.4	403.8	-293.4	-407.5	0.00	0.00	0.00
11,475.6	0.00	0.00	11,450.0	403.8	-293.4	-407.5	0.00	0.00	0.00
<b>GB114 KOP</b>									
11,500.0	2.93	157.56	11,474.4	403.3	-293.2	-406.9	12.00	12.00	0.00
11,600.0	14.93	157.56	11,573.0	388.9	-287.2	-392.5	12.00	12.00	0.00
11,700.0	26.93	157.56	11,666.2	356.0	-273.6	-359.4	12.00	12.00	0.00
11,800.0	38.93	157.56	11,750.0	305.8	-252.9	-309.0	12.00	12.00	0.00
11,900.0	50.93	157.56	11,820.7	240.7	-226.0	-243.5	12.00	12.00	0.00
12,000.0	62.93	157.56	11,875.1	163.4	-194.1	-165.8	12.00	12.00	0.00
12,100.0	74.93	157.56	11,911.0	77.3	-158.6	-79.3	12.00	12.00	0.00
12,187.6	85.44	157.56	11,926.0	-2.4	-125.7	0.8	12.00	12.00	0.00
12,200.0	85.44	157.56	11,926.9	-13.8	-121.0	12.3	0.00	0.00	0.00
12,300.0	85.44	157.56	11,934.9	-106.0	-82.9	104.9	0.00	0.00	0.00
12,400.0	85.44	157.56	11,942.8	-198.1	-44.9	197.5	0.00	0.00	0.00
12,430.0	85.44	157.56	11,945.2	-225.7	-33.5	225.3	0.00	0.00	0.00
<b>GB114 into NMNM137471</b>									
12,500.0	85.44	157.56	11,950.8	-290.2	-6.8	290.1	0.00	0.00	0.00
12,509.2	85.44	157.56	11,951.5	-298.7	-3.3	298.7	0.00	0.00	0.00
12,550.0	86.41	162.38	11,954.4	-337.0	10.6	337.1	12.00	2.37	11.79
<b>GB114 FTP</b>									
12,600.0	87.62	168.26	11,957.0	-385.2	23.3	385.5	12.00	2.44	11.77
12,695.1	90.00	179.43	11,959.0	-479.6	33.4	480.0	12.00	2.50	11.74
<b>GB114 FTP2</b>									
12,700.0	90.00	179.43	11,959.0	-484.5	33.5	484.9	0.00	0.00	0.00
12,800.0	90.00	179.43	11,959.0	-584.5	34.5	584.9	0.00	0.00	0.00
12,900.0	90.00	179.43	11,959.0	-684.5	35.5	684.9	0.00	0.00	0.00
13,000.0	90.00	179.43	11,959.0	-784.5	36.5	784.9	0.00	0.00	0.00
13,100.0	90.00	179.43	11,959.0	-884.5	37.5	884.9	0.00	0.00	0.00
13,200.0	90.00	179.43	11,959.0	-984.5	38.5	984.9	0.00	0.00	0.00
13,300.0	90.00	179.43	11,959.0	-1,084.5	39.5	1,084.9	0.00	0.00	0.00
13,400.0	90.00	179.43	11,959.0	-1,184.5	40.5	1,184.9	0.00	0.00	0.00
13,500.0	90.00	179.43	11,959.0	-1,284.5	41.5	1,284.9	0.00	0.00	0.00
13,600.0	90.00	179.43	11,959.0	-1,384.5	42.5	1,384.9	0.00	0.00	0.00
13,700.0	90.00	179.43	11,959.0	-1,484.4	43.5	1,484.9	0.00	0.00	0.00
13,800.0	90.00	179.43	11,959.0	-1,584.4	44.5	1,584.9	0.00	0.00	0.00
13,900.0	90.00	179.43	11,959.0	-1,684.4	45.5	1,684.9	0.00	0.00	0.00
14,000.0	90.00	179.43	11,959.0	-1,784.4	46.5	1,784.9	0.00	0.00	0.00
14,100.0	90.00	179.43	11,959.0	-1,884.4	47.5	1,884.9	0.00	0.00	0.00
14,200.0	90.00	179.43	11,959.0	-1,984.4	48.5	1,984.9	0.00	0.00	0.00
14,300.0	90.00	179.43	11,959.0	-2,084.4	49.5	2,084.9	0.00	0.00	0.00
14,400.0	90.00	179.43	11,959.0	-2,184.4	50.5	2,184.9	0.00	0.00	0.00
14,500.0	90.00	179.43	11,959.0	-2,284.4	51.5	2,284.9	0.00	0.00	0.00
14,600.0	90.00	179.43	11,959.0	-2,384.4	52.5	2,384.9	0.00	0.00	0.00
14,700.0	90.00	179.43	11,959.0	-2,484.4	53.5	2,484.9	0.00	0.00	0.00
14,800.0	90.00	179.43	11,959.0	-2,584.4	54.5	2,584.9	0.00	0.00	0.00

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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)
14,900.0	90.00	179.43	11,959.0	-2,684.4	55.5	2,684.9	0.00	0.00	0.00
15,000.0	90.00	179.43	11,959.0	-2,784.4	56.5	2,784.9	0.00	0.00	0.00
15,100.0	90.00	179.43	11,959.0	-2,884.4	57.5	2,884.9	0.00	0.00	0.00
15,200.0	90.00	179.43	11,959.0	-2,984.4	58.5	2,984.9	0.00	0.00	0.00
15,300.0	90.00	179.43	11,959.0	-3,084.4	59.5	3,084.9	0.00	0.00	0.00
15,400.0	90.00	179.43	11,959.0	-3,184.4	60.5	3,184.9	0.00	0.00	0.00
15,500.0	90.00	179.43	11,959.0	-3,284.4	61.5	3,284.9	0.00	0.00	0.00
15,600.0	90.00	179.43	11,959.0	-3,384.4	62.5	3,384.9	0.00	0.00	0.00
15,700.0	90.00	179.43	11,959.0	-3,484.3	63.5	3,484.9	0.00	0.00	0.00
15,800.0	90.00	179.43	11,959.0	-3,584.3	64.5	3,584.9	0.00	0.00	0.00
15,900.0	90.00	179.43	11,959.0	-3,684.3	65.5	3,684.9	0.00	0.00	0.00
16,000.0	90.00	179.43	11,959.0	-3,784.3	66.5	3,784.9	0.00	0.00	0.00
16,100.0	90.00	179.43	11,959.0	-3,884.3	67.5	3,884.9	0.00	0.00	0.00
16,200.0	90.00	179.43	11,959.0	-3,984.3	68.5	3,984.9	0.00	0.00	0.00
16,300.0	90.00	179.43	11,959.0	-4,084.3	69.5	4,084.9	0.00	0.00	0.00
16,400.0	90.00	179.43	11,959.0	-4,184.3	70.5	4,184.9	0.00	0.00	0.00
16,500.0	90.00	179.43	11,959.0	-4,284.3	71.5	4,284.9	0.00	0.00	0.00
16,600.0	90.00	179.43	11,959.0	-4,384.3	72.5	4,384.9	0.00	0.00	0.00
16,700.0	90.00	179.43	11,959.0	-4,484.3	73.5	4,484.9	0.00	0.00	0.00
16,800.0	90.00	179.43	11,959.0	-4,584.3	74.5	4,584.9	0.00	0.00	0.00
16,900.0	90.00	179.43	11,959.0	-4,684.3	75.5	4,684.9	0.00	0.00	0.00
17,000.0	90.00	179.43	11,959.0	-4,784.3	76.5	4,784.9	0.00	0.00	0.00
17,100.0	90.00	179.43	11,959.0	-4,884.3	77.5	4,884.9	0.00	0.00	0.00
17,200.0	90.00	179.43	11,959.0	-4,984.3	78.5	4,984.9	0.00	0.00	0.00
17,300.0	90.00	179.43	11,959.0	-5,084.3	79.5	5,084.9	0.00	0.00	0.00
17,400.0	90.00	179.43	11,959.0	-5,184.3	80.5	5,184.9	0.00	0.00	0.00
17,500.0	90.00	179.43	11,959.0	-5,284.3	81.5	5,284.9	0.00	0.00	0.00
17,600.0	90.00	179.43	11,959.0	-5,384.3	82.5	5,384.9	0.00	0.00	0.00
17,700.0	90.00	179.43	11,959.0	-5,484.2	83.5	5,484.9	0.00	0.00	0.00
17,725.0	90.00	179.43	11,959.0	-5,509.2	83.8	5,509.9	0.00	0.00	0.00
<b>GB114 into NMNM137472</b>									
17,800.0	90.00	179.43	11,959.0	-5,584.2	84.5	5,584.9	0.00	0.00	0.00
17,900.0	90.00	179.43	11,959.0	-5,684.2	85.5	5,684.9	0.00	0.00	0.00
18,000.0	90.00	179.43	11,959.0	-5,784.2	86.5	5,784.9	0.00	0.00	0.00
18,100.0	90.00	179.43	11,959.0	-5,884.2	87.5	5,884.9	0.00	0.00	0.00
18,200.0	90.00	179.43	11,959.0	-5,984.2	88.5	5,984.9	0.00	0.00	0.00
18,300.0	90.00	179.43	11,959.0	-6,084.2	89.5	6,084.9	0.00	0.00	0.00
18,400.0	90.00	179.43	11,959.0	-6,184.2	90.5	6,184.9	0.00	0.00	0.00
18,500.0	90.00	179.43	11,959.0	-6,284.2	91.5	6,284.9	0.00	0.00	0.00
18,600.0	90.00	179.43	11,959.0	-6,384.2	92.5	6,384.9	0.00	0.00	0.00
18,700.0	90.00	179.43	11,959.0	-6,484.2	93.5	6,484.9	0.00	0.00	0.00
18,800.0	90.00	179.43	11,959.0	-6,584.2	94.5	6,584.9	0.00	0.00	0.00
18,900.0	90.00	179.43	11,959.0	-6,684.2	95.5	6,684.9	0.00	0.00	0.00
19,000.0	90.00	179.43	11,959.0	-6,784.2	96.5	6,784.9	0.00	0.00	0.00
19,100.0	90.00	179.43	11,959.0	-6,884.2	97.5	6,884.9	0.00	0.00	0.00
19,200.0	90.00	179.43	11,959.0	-6,984.2	98.5	6,984.9	0.00	0.00	0.00
19,300.0	90.00	179.43	11,959.0	-7,084.2	99.5	7,084.9	0.00	0.00	0.00
19,400.0	90.00	179.43	11,959.0	-7,184.2	100.6	7,184.9	0.00	0.00	0.00
19,500.0	90.00	179.43	11,959.0	-7,284.2	101.6	7,284.9	0.00	0.00	0.00
19,600.0	90.00	179.43	11,959.0	-7,384.2	102.6	7,384.9	0.00	0.00	0.00
19,700.0	90.00	179.43	11,959.0	-7,484.1	103.6	7,484.9	0.00	0.00	0.00
19,800.0	90.00	179.43	11,959.0	-7,584.1	104.6	7,584.9	0.00	0.00	0.00
19,900.0	90.00	179.43	11,959.0	-7,684.1	105.6	7,684.9	0.00	0.00	0.00
20,000.0	90.00	179.43	11,959.0	-7,784.1	106.6	7,784.9	0.00	0.00	0.00

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

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)
20,100.0	90.00	179.43	11,959.0	-7,884.1	107.6	7,884.9	0.00	0.00	0.00
20,200.0	90.00	179.43	11,959.0	-7,984.1	108.6	7,984.9	0.00	0.00	0.00
20,300.0	90.00	179.43	11,959.0	-8,084.1	109.6	8,084.9	0.00	0.00	0.00
20,400.0	90.00	179.43	11,959.0	-8,184.1	110.6	8,184.9	0.00	0.00	0.00
20,500.0	90.00	179.43	11,959.0	-8,284.1	111.6	8,284.9	0.00	0.00	0.00
20,600.0	90.00	179.43	11,959.0	-8,384.1	112.6	8,384.9	0.00	0.00	0.00
20,700.0	90.00	179.43	11,959.0	-8,484.1	113.6	8,484.9	0.00	0.00	0.00
20,800.0	90.00	179.43	11,959.0	-8,584.1	114.6	8,584.9	0.00	0.00	0.00
20,900.0	90.00	179.43	11,959.0	-8,684.1	115.6	8,684.9	0.00	0.00	0.00
21,000.0	90.00	179.43	11,959.0	-8,784.1	116.6	8,784.9	0.00	0.00	0.00
21,100.0	90.00	179.43	11,959.0	-8,884.1	117.6	8,884.9	0.00	0.00	0.00
21,200.0	90.00	179.43	11,959.0	-8,984.1	118.6	8,984.9	0.00	0.00	0.00
21,300.0	90.00	179.43	11,959.0	-9,084.1	119.6	9,084.9	0.00	0.00	0.00
21,400.0	90.00	179.43	11,959.0	-9,184.1	120.6	9,184.9	0.00	0.00	0.00
21,500.0	90.00	179.43	11,959.0	-9,284.1	121.6	9,284.9	0.00	0.00	0.00
21,600.0	90.00	179.43	11,959.0	-9,384.1	122.6	9,384.9	0.00	0.00	0.00
21,700.0	90.00	179.43	11,959.0	-9,484.0	123.6	9,484.9	0.00	0.00	0.00
21,800.0	90.00	179.43	11,959.0	-9,584.0	124.6	9,584.9	0.00	0.00	0.00
21,900.0	90.00	179.43	11,959.0	-9,684.0	125.6	9,684.9	0.00	0.00	0.00
22,000.0	90.00	179.43	11,959.0	-9,784.0	126.6	9,784.9	0.00	0.00	0.00
22,100.0	90.00	179.43	11,959.0	-9,884.0	127.6	9,884.9	0.00	0.00	0.00
22,200.0	90.00	179.43	11,959.0	-9,984.0	128.6	9,984.9	0.00	0.00	0.00
22,300.0	90.00	179.43	11,959.0	-10,084.0	129.6	10,084.8	0.00	0.00	0.00
22,400.0	90.00	179.43	11,959.0	-10,184.0	130.6	10,184.8	0.00	0.00	0.00
22,500.0	90.00	179.43	11,959.0	-10,284.0	131.6	10,284.8	0.00	0.00	0.00
22,600.0	90.00	179.43	11,959.0	-10,384.0	132.6	10,384.8	0.00	0.00	0.00
22,700.0	90.00	179.43	11,959.0	-10,484.0	133.6	10,484.8	0.00	0.00	0.00
22,800.0	90.00	179.43	11,959.0	-10,584.0	134.6	10,584.8	0.00	0.00	0.00
22,900.0	90.00	179.43	11,959.0	-10,684.0	135.6	10,684.8	0.00	0.00	0.00
<b>GB114 LTP</b>									
22,962.9	90.00	179.43	11,959.0	-10,746.9	136.2	10,747.7	0.00	0.00	0.00
<b>GB114 BHL</b>									



**Ameredev Operating, LLC**  
Planning Report

<b>Database:</b>	EDM5000	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Company:</b>	Ameredev Operating, LLC.	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Project:</b>	NAN/GB	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>North Reference:</b>	Grid
<b>Well:</b>	Golden Bell 114H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	FTP100		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GB114 KOP - plan hits target center - Point	0.00	0.00	11,450.0	403.8	-293.4	394,837.84	859,440.88	32° 4' 52.773 N	103° 18' 22.574 W
GB114 FTP2 - plan hits target center - Point	0.00	0.00	11,959.0	-479.6	33.4	393,954.39	859,767.72	32° 4' 44.001 N	103° 18' 18.873 W
GB114 BHL - plan hits target center - Point	0.00	0.00	11,959.0	-10,746.9	136.2	383,687.13	859,870.49	32° 3' 2.399 N	103° 18' 18.815 W
GB114 FTP - plan misses target center by 24.4usft at 12550.0usft MD (11954.4 TVD, -337.0 N, 10.6 E) - Point	0.00	0.00	11,959.0	-329.7	33.4	394,104.33	859,767.72	32° 4' 45.484 N	103° 18' 18.856 W
GB114 LTP - plan misses target center by 12.9usft at 22900.0usft MD (11959.0 TVD, -10684.0 N, 135.6 E) - Point	0.00	0.01	11,959.0	-10,696.9	135.7	383,737.16	859,870.02	32° 3' 2.894 N	103° 18' 18.815 W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,430.0	11,945.2	-225.7	-33.5	GB114 into NMNM137471
17,725.0	11,959.0	-5,509.2	83.8	GB114 into NMNM137472



## **Ameredev Operating, LLC.**

**NAN/GB**

**NAN/GB #5N**

**Golden Bell 114H**

**Wellbore #1**

**Plan: FTP100**

## **Lease Penetration Section Line Foot**

**22 February, 2019**



**Ameredev Operating, LLC**  
Lease Penetration Section Line Footages

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

<b>Project</b>	NAN/GB		
<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		NAN/GB #5N			
Site Position:		Northing:		394,434.39 usft	
From:		Easting:		859,774.27 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Lat/Long		0.0 usft		13-3/16 "	
				32° 4' 48.750 N	
				103° 18' 18.744 W	
				0.55 °	

Well	Golden Bell 114H					
Well Position	+N/-S	0.0 usft	Northing:	394,434.01 usft	Latitude:	32° 4' 48.750 N
	+E/-W	0.0 usft	Easting:	859,734.28 usft	Longitude:	103° 18' 19.209 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,017.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	11/5/2018	6.67	59.95	47,740.79974571

<b>Design</b>	FTP100			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	179.27

<b>Survey Tool Program</b>	<b>Date</b>	2/6/2019		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	22,962.9	FTP100 (Wellbore #1)	MWD	OWSG MWD - Standard

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
100.0	0.00	0.00	100.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
200.0	0.00	0.00	200.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
300.0	0.00	0.00	300.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
400.0	0.00	0.00	400.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
500.0	0.00	0.00	500.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
600.0	0.00	0.00	600.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
700.0	0.00	0.00	700.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
800.0	0.00	0.00	800.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
900.0	0.00	0.00	900.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,000.0	0.00	0.00	1,000.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,100.0	0.00	0.00	1,100.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W



<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
1,200.0	0.00	0.00	1,200.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,300.0	0.00	0.00	1,300.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,400.0	0.00	0.00	1,400.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,500.0	0.00	0.00	1,500.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,600.0	0.00	0.00	1,600.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,700.0	0.00	0.00	1,700.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,800.0	0.00	0.00	1,800.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
1,900.0	0.00	0.00	1,900.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
2,000.0	0.00	0.00	2,000.0	229.6	2,288.0	32° 4' 48.750 N	103° 18' 19.209 W
2,100.0	2.00	324.00	2,100.0	231.0	2,287.0	32° 4' 48.764 N	103° 18' 19.220 W
2,200.0	4.00	324.00	2,199.8	235.3	2,283.9	32° 4' 48.806 N	103° 18' 19.256 W
2,300.0	6.00	324.00	2,299.5	242.3	2,278.8	32° 4' 48.876 N	103° 18' 19.314 W
2,400.0	6.00	324.00	2,398.9	250.8	2,272.6	32° 4' 48.960 N	103° 18' 19.385 W
2,500.0	6.00	324.00	2,498.4	259.2	2,266.5	32° 4' 49.045 N	103° 18' 19.455 W
2,600.0	6.00	324.00	2,597.8	267.7	2,260.4	32° 4' 49.129 N	103° 18' 19.526 W
2,700.0	6.00	324.00	2,697.3	276.1	2,254.2	32° 4' 49.213 N	103° 18' 19.596 W
2,800.0	6.00	324.00	2,796.7	284.6	2,248.1	32° 4' 49.297 N	103° 18' 19.667 W
2,900.0	6.00	324.00	2,896.2	293.1	2,241.9	32° 4' 49.382 N	103° 18' 19.737 W
3,000.0	6.00	324.00	2,995.6	301.5	2,235.8	32° 4' 49.466 N	103° 18' 19.808 W
3,100.0	6.00	324.00	3,095.1	310.0	2,229.6	32° 4' 49.550 N	103° 18' 19.878 W
3,200.0	6.00	324.00	3,194.5	318.4	2,223.5	32° 4' 49.634 N	103° 18' 19.949 W
3,300.0	6.00	324.00	3,294.0	326.9	2,217.3	32° 4' 49.719 N	103° 18' 20.019 W
3,400.0	6.00	324.00	3,393.4	335.3	2,211.2	32° 4' 49.803 N	103° 18' 20.089 W
3,500.0	6.00	324.00	3,492.9	343.8	2,205.1	32° 4' 49.887 N	103° 18' 20.160 W
3,600.0	6.00	324.00	3,592.3	352.3	2,198.9	32° 4' 49.971 N	103° 18' 20.230 W
3,700.0	6.00	324.00	3,691.8	360.7	2,192.8	32° 4' 50.056 N	103° 18' 20.301 W
3,800.0	6.00	324.00	3,791.2	369.2	2,186.6	32° 4' 50.140 N	103° 18' 20.371 W
3,900.0	6.00	324.00	3,890.7	377.6	2,180.5	32° 4' 50.224 N	103° 18' 20.442 W
4,000.0	6.00	324.00	3,990.1	386.1	2,174.3	32° 4' 50.308 N	103° 18' 20.512 W
4,100.0	6.00	324.00	4,089.6	394.5	2,168.2	32° 4' 50.393 N	103° 18' 20.583 W
4,200.0	6.00	324.00	4,189.0	403.0	2,162.1	32° 4' 50.477 N	103° 18' 20.653 W
4,300.0	6.00	324.00	4,288.5	411.4	2,155.9	32° 4' 50.561 N	103° 18' 20.724 W
4,400.0	6.00	324.00	4,387.9	419.9	2,149.8	32° 4' 50.645 N	103° 18' 20.794 W
4,500.0	6.00	324.00	4,487.4	428.4	2,143.6	32° 4' 50.730 N	103° 18' 20.865 W
4,600.0	6.00	324.00	4,586.9	436.8	2,137.5	32° 4' 50.814 N	103° 18' 20.935 W
4,700.0	6.00	324.00	4,686.3	445.3	2,131.3	32° 4' 50.898 N	103° 18' 21.006 W
4,800.0	6.00	324.00	4,785.8	453.7	2,125.2	32° 4' 50.982 N	103° 18' 21.076 W
4,900.0	6.00	324.00	4,885.2	462.2	2,119.0	32° 4' 51.067 N	103° 18' 21.146 W
5,000.0	6.00	324.00	4,984.7	470.6	2,112.9	32° 4' 51.151 N	103° 18' 21.217 W
5,100.0	6.00	324.00	5,084.1	479.1	2,106.8	32° 4' 51.235 N	103° 18' 21.287 W
5,200.0	6.00	324.00	5,183.6	487.6	2,100.6	32° 4' 51.319 N	103° 18' 21.358 W
5,300.0	6.00	324.00	5,283.0	496.0	2,094.5	32° 4' 51.404 N	103° 18' 21.428 W
5,400.0	6.00	324.00	5,382.5	504.5	2,088.3	32° 4' 51.488 N	103° 18' 21.499 W
5,500.0	6.00	324.00	5,481.9	512.9	2,082.2	32° 4' 51.572 N	103° 18' 21.569 W

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
5,600.0	6.00	324.00	5,581.4	521.4	2,076.0	32° 4' 51.656 N	103° 18' 21.640 W
5,700.0	6.00	324.00	5,680.8	529.8	2,069.9	32° 4' 51.741 N	103° 18' 21.710 W
5,800.0	6.00	324.00	5,780.3	538.3	2,063.7	32° 4' 51.825 N	103° 18' 21.781 W
5,900.0	6.00	324.00	5,879.7	546.8	2,057.6	32° 4' 51.909 N	103° 18' 21.851 W
6,000.0	6.00	324.00	5,979.2	555.2	2,051.5	32° 4' 51.993 N	103° 18' 21.922 W
6,100.0	6.00	324.00	6,078.6	563.7	2,045.3	32° 4' 52.078 N	103° 18' 21.992 W
6,200.0	6.00	324.00	6,178.1	572.1	2,039.2	32° 4' 52.162 N	103° 18' 22.063 W
6,300.0	6.00	324.00	6,277.5	580.6	2,033.0	32° 4' 52.246 N	103° 18' 22.133 W
6,400.0	6.00	324.00	6,377.0	589.0	2,026.9	32° 4' 52.330 N	103° 18' 22.203 W
6,500.0	6.00	324.00	6,476.4	597.5	2,020.7	32° 4' 52.415 N	103° 18' 22.274 W
6,600.0	6.00	324.00	6,575.9	605.9	2,014.6	32° 4' 52.499 N	103° 18' 22.344 W
6,700.0	6.00	324.00	6,675.3	614.4	2,008.5	32° 4' 52.583 N	103° 18' 22.415 W
6,775.1	6.00	324.00	6,750.0	620.8	2,003.8	32° 4' 52.646 N	103° 18' 22.468 W
6,800.0	5.50	324.00	6,774.8	622.8	2,002.4	32° 4' 52.667 N	103° 18' 22.485 W
6,900.0	3.50	324.00	6,874.5	629.1	1,997.8	32° 4' 52.730 N	103° 18' 22.538 W
7,000.0	1.50	324.00	6,974.4	632.7	1,995.2	32° 4' 52.765 N	103° 18' 22.567 W
7,075.1	0.00	0.00	7,049.5	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,100.0	0.00	0.00	7,074.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,200.0	0.00	0.00	7,174.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,300.0	0.00	0.00	7,274.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,400.0	0.00	0.00	7,374.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,500.0	0.00	0.00	7,474.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,600.0	0.00	0.00	7,574.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,700.0	0.00	0.00	7,674.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,800.0	0.00	0.00	7,774.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
7,900.0	0.00	0.00	7,874.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,000.0	0.00	0.00	7,974.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,100.0	0.00	0.00	8,074.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,200.0	0.00	0.00	8,174.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,300.0	0.00	0.00	8,274.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,400.0	0.00	0.00	8,374.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,500.0	0.00	0.00	8,474.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,600.0	0.00	0.00	8,574.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,700.0	0.00	0.00	8,674.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,800.0	0.00	0.00	8,774.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
8,900.0	0.00	0.00	8,874.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,000.0	0.00	0.00	8,974.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,100.0	0.00	0.00	9,074.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,200.0	0.00	0.00	9,174.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,300.0	0.00	0.00	9,274.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,400.0	0.00	0.00	9,374.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,500.0	0.00	0.00	9,474.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,600.0	0.00	0.00	9,574.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,700.0	0.00	0.00	9,674.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
9,800.0	0.00	0.00	9,774.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
9,900.0	0.00	0.00	9,874.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,000.0	0.00	0.00	9,974.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,100.0	0.00	0.00	10,074.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,200.0	0.00	0.00	10,174.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,300.0	0.00	0.00	10,274.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,400.0	0.00	0.00	10,374.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,500.0	0.00	0.00	10,474.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,600.0	0.00	0.00	10,574.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,700.0	0.00	0.00	10,674.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,800.0	0.00	0.00	10,774.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
10,900.0	0.00	0.00	10,874.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,000.0	0.00	0.00	10,974.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,100.0	0.00	0.00	11,074.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,200.0	0.00	0.00	11,174.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,300.0	0.00	0.00	11,274.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,400.0	0.00	0.00	11,374.4	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
11,475.6	0.00	0.00	11,450.0	633.4	1,994.6	32° 4' 52.773 N	103° 18' 22.574 W
<b>GB114 KOP</b>							
11,500.0	2.93	157.56	11,474.4	632.9	1,994.9	32° 4' 52.767 N	103° 18' 22.571 W
11,600.0	14.93	157.56	11,573.0	618.6	2,000.8	32° 4' 52.625 N	103° 18' 22.504 W
11,700.0	26.93	157.56	11,666.2	585.6	2,014.4	32° 4' 52.298 N	103° 18' 22.349 W
11,800.0	38.93	157.56	11,750.0	535.5	2,035.1	32° 4' 51.799 N	103° 18' 22.114 W
11,900.0	50.93	157.56	11,820.7	470.3	2,062.0	32° 4' 51.152 N	103° 18' 21.809 W
12,000.0	62.93	157.56	11,875.1	393.0	2,093.9	32° 4' 50.384 N	103° 18' 21.446 W
12,100.0	74.93	157.56	11,911.0	306.9	2,129.4	32° 4' 49.529 N	103° 18' 21.043 W
12,187.6	85.44	157.56	11,926.0	227.2	2,162.3	32° 4' 48.737 N	103° 18' 20.669 W
12,200.0	85.44	157.56	11,926.9	215.8	2,167.1	32° 4' 48.624 N	103° 18' 20.616 W
12,300.0	85.44	157.56	11,934.9	123.7	2,205.1	32° 4' 47.709 N	103° 18' 20.184 W
12,400.0	85.44	157.56	11,942.8	31.5	2,243.1	32° 4' 46.794 N	103° 18' 19.752 W
12,430.0	85.44	157.56	11,945.2	3.9	2,254.6	32° 4' 46.519 N	103° 18' 19.622 W
<b>GB114 into NMNM137471</b>							
12,500.0	85.44	157.56	11,950.8	-60.6	2,281.2	32° 4' 45.878 N	103° 18' 19.320 W
12,509.2	85.44	157.56	11,951.5	-69.1	2,284.7	32° 4' 45.794 N	103° 18' 19.280 W
12,550.0	86.41	162.38	11,954.4	-107.4	2,298.6	32° 4' 45.414 N	103° 18' 19.122 W
<b>GB114 FTP</b>							
12,600.0	87.62	168.26	11,957.0	-155.6	2,311.3	32° 4' 44.936 N	103° 18' 18.981 W
12,695.1	90.00	179.43	11,959.0	-250.0	2,321.5	32° 4' 44.001 N	103° 18' 18.873 W
<b>GB114 FTP2</b>							
12,700.0	90.00	179.43	11,959.0	-254.9	2,321.5	32° 4' 43.952 N	103° 18' 18.873 W
12,800.0	90.00	179.43	11,959.0	-354.9	2,322.5	32° 4' 42.963 N	103° 18' 18.872 W
12,900.0	90.00	179.43	11,959.0	-454.9	2,323.5	32° 4' 41.973 N	103° 18' 18.872 W
13,000.0	90.00	179.43	11,959.0	-554.9	2,324.5	32° 4' 40.984 N	103° 18' 18.871 W
13,100.0	90.00	179.43	11,959.0	-654.9	2,325.5	32° 4' 39.994 N	103° 18' 18.871 W
13,200.0	90.00	179.43	11,959.0	-754.9	2,326.5	32° 4' 39.005 N	103° 18' 18.870 W

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
13,300.0	90.00	179.43	11,959.0	-854.8	2,327.5	32° 4' 38.015 N	103° 18' 18.870 W
13,400.0	90.00	179.43	11,959.0	-954.8	2,328.5	32° 4' 37.026 N	103° 18' 18.869 W
13,500.0	90.00	179.43	11,959.0	-1,054.8	2,329.5	32° 4' 36.036 N	103° 18' 18.869 W
13,600.0	90.00	179.43	11,959.0	-1,154.8	2,330.5	32° 4' 35.047 N	103° 18' 18.868 W
13,700.0	90.00	179.43	11,959.0	-1,254.8	2,331.5	32° 4' 34.057 N	103° 18' 18.867 W
13,800.0	90.00	179.43	11,959.0	-1,354.8	2,332.5	32° 4' 33.068 N	103° 18' 18.867 W
13,900.0	90.00	179.43	11,959.0	-1,454.8	2,333.5	32° 4' 32.078 N	103° 18' 18.866 W
14,000.0	90.00	179.43	11,959.0	-1,554.8	2,334.5	32° 4' 31.089 N	103° 18' 18.866 W
14,100.0	90.00	179.43	11,959.0	-1,654.8	2,335.5	32° 4' 30.099 N	103° 18' 18.865 W
14,200.0	90.00	179.43	11,959.0	-1,754.8	2,336.5	32° 4' 29.110 N	103° 18' 18.865 W
14,300.0	90.00	179.43	11,959.0	-1,854.8	2,337.5	32° 4' 28.120 N	103° 18' 18.864 W
14,400.0	90.00	179.43	11,959.0	-1,954.8	2,338.5	32° 4' 27.131 N	103° 18' 18.864 W
14,500.0	90.00	179.43	11,959.0	-2,054.8	2,339.5	32° 4' 26.141 N	103° 18' 18.863 W
14,600.0	90.00	179.43	11,959.0	-2,154.8	2,340.5	32° 4' 25.152 N	103° 18' 18.862 W
14,700.0	90.00	179.43	11,959.0	-2,254.8	2,341.5	32° 4' 24.162 N	103° 18' 18.862 W
14,800.0	90.00	179.43	11,959.0	-2,354.8	2,342.5	32° 4' 23.173 N	103° 18' 18.861 W
14,900.0	90.00	179.43	11,959.0	-2,454.8	2,343.5	32° 4' 22.183 N	103° 18' 18.861 W
15,000.0	90.00	179.43	11,959.0	-2,554.8	2,344.5	32° 4' 21.194 N	103° 18' 18.860 W
15,100.0	90.00	179.43	11,959.0	-2,654.8	2,345.5	32° 4' 20.204 N	103° 18' 18.860 W
15,200.0	90.00	179.43	11,959.0	-2,754.8	2,346.5	32° 4' 19.215 N	103° 18' 18.859 W
15,300.0	90.00	179.43	11,959.0	-2,854.7	2,347.5	32° 4' 18.225 N	103° 18' 18.859 W
15,400.0	90.00	179.43	11,959.0	-2,954.7	2,348.5	32° 4' 17.235 N	103° 18' 18.858 W
15,500.0	90.00	179.43	11,959.0	-3,054.7	2,349.5	32° 4' 16.246 N	103° 18' 18.857 W
15,600.0	90.00	179.43	11,959.0	-3,154.7	2,350.5	32° 4' 15.256 N	103° 18' 18.857 W
15,700.0	90.00	179.43	11,959.0	-3,254.7	2,351.5	32° 4' 14.267 N	103° 18' 18.856 W
15,800.0	90.00	179.43	11,959.0	-3,354.7	2,352.5	32° 4' 13.277 N	103° 18' 18.856 W
15,900.0	90.00	179.43	11,959.0	-3,454.7	2,353.5	32° 4' 12.288 N	103° 18' 18.855 W
16,000.0	90.00	179.43	11,959.0	-3,554.7	2,354.5	32° 4' 11.298 N	103° 18' 18.855 W
16,100.0	90.00	179.43	11,959.0	-3,654.7	2,355.5	32° 4' 10.309 N	103° 18' 18.854 W
16,200.0	90.00	179.43	11,959.0	-3,754.7	2,356.5	32° 4' 9.319 N	103° 18' 18.853 W
16,300.0	90.00	179.43	11,959.0	-3,854.7	2,357.5	32° 4' 8.330 N	103° 18' 18.853 W
16,400.0	90.00	179.43	11,959.0	-3,954.7	2,358.5	32° 4' 7.340 N	103° 18' 18.852 W
16,500.0	90.00	179.43	11,959.0	-4,054.7	2,359.5	32° 4' 6.351 N	103° 18' 18.852 W
16,600.0	90.00	179.43	11,959.0	-4,154.7	2,360.5	32° 4' 5.361 N	103° 18' 18.851 W
16,700.0	90.00	179.43	11,959.0	-4,254.7	2,361.5	32° 4' 4.372 N	103° 18' 18.851 W
16,800.0	90.00	179.43	11,959.0	-4,354.7	2,362.5	32° 4' 3.382 N	103° 18' 18.850 W
16,900.0	90.00	179.43	11,959.0	-4,454.7	2,363.5	32° 4' 2.393 N	103° 18' 18.850 W
17,000.0	90.00	179.43	11,959.0	-4,554.7	2,364.5	32° 4' 1.403 N	103° 18' 18.849 W
17,100.0	90.00	179.43	11,959.0	-4,654.7	2,365.5	32° 4' 0.414 N	103° 18' 18.848 W
17,200.0	90.00	179.43	11,959.0	-4,754.7	2,366.5	32° 3' 59.424 N	103° 18' 18.848 W
17,300.0	90.00	179.43	11,959.0	-4,854.6	2,367.5	32° 3' 58.435 N	103° 18' 18.847 W
17,400.0	90.00	179.43	11,959.0	-4,954.6	2,368.5	32° 3' 57.445 N	103° 18' 18.847 W
17,500.0	90.00	179.43	11,959.0	-5,054.6	2,369.5	32° 3' 56.456 N	103° 18' 18.846 W
17,600.0	90.00	179.43	11,959.0	-5,154.6	2,370.5	32° 3' 55.466 N	103° 18' 18.846 W

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
17,700.0	90.00	179.43	11,959.0	-5,254.6	2,371.5	32° 3' 54.477 N	103° 18' 18.845 W
17,725.0	90.00	179.43	11,959.0	-5,279.6	2,371.8	32° 3' 54.229 N	103° 18' 18.845 W
<b>GB114 into NMNM137472</b>							
17,800.0	90.00	179.43	11,959.0	-5,354.6	2,372.5	32° 3' 53.487 N	103° 18' 18.844 W
17,900.0	90.00	179.43	11,959.0	-5,454.6	2,373.5	32° 3' 52.498 N	103° 18' 18.844 W
18,000.0	90.00	179.43	11,959.0	-5,554.6	2,374.6	32° 3' 51.508 N	103° 18' 18.843 W
18,100.0	90.00	179.43	11,959.0	-5,654.6	2,375.6	32° 3' 50.519 N	103° 18' 18.843 W
18,200.0	90.00	179.43	11,959.0	-5,754.6	2,376.6	32° 3' 49.529 N	103° 18' 18.842 W
18,300.0	90.00	179.43	11,959.0	-5,854.6	2,377.6	32° 3' 48.540 N	103° 18' 18.842 W
18,400.0	90.00	179.43	11,959.0	-5,954.6	2,378.6	32° 3' 47.550 N	103° 18' 18.841 W
18,500.0	90.00	179.43	11,959.0	-6,054.6	2,379.6	32° 3' 46.561 N	103° 18' 18.841 W
18,600.0	90.00	179.43	11,959.0	-6,154.6	2,380.6	32° 3' 45.571 N	103° 18' 18.840 W
18,700.0	90.00	179.43	11,959.0	-6,254.6	2,381.6	32° 3' 44.581 N	103° 18' 18.839 W
18,800.0	90.00	179.43	11,959.0	-6,354.6	2,382.6	32° 3' 43.592 N	103° 18' 18.839 W
18,900.0	90.00	179.43	11,959.0	-6,454.6	2,383.6	32° 3' 42.602 N	103° 18' 18.838 W
19,000.0	90.00	179.43	11,959.0	-6,554.6	2,384.6	32° 3' 41.613 N	103° 18' 18.838 W
19,100.0	90.00	179.43	11,959.0	-6,654.6	2,385.6	32° 3' 40.623 N	103° 18' 18.837 W
19,200.0	90.00	179.43	11,959.0	-6,754.6	2,386.6	32° 3' 39.634 N	103° 18' 18.837 W
19,300.0	90.00	179.43	11,959.0	-6,854.5	2,387.6	32° 3' 38.644 N	103° 18' 18.836 W
19,400.0	90.00	179.43	11,959.0	-6,954.5	2,388.6	32° 3' 37.655 N	103° 18' 18.836 W
19,500.0	90.00	179.43	11,959.0	-7,054.5	2,389.6	32° 3' 36.665 N	103° 18' 18.835 W
19,600.0	90.00	179.43	11,959.0	-7,154.5	2,390.6	32° 3' 35.676 N	103° 18' 18.834 W
19,700.0	90.00	179.43	11,959.0	-7,254.5	2,391.6	32° 3' 34.686 N	103° 18' 18.834 W
19,800.0	90.00	179.43	11,959.0	-7,354.5	2,392.6	32° 3' 33.697 N	103° 18' 18.833 W
19,900.0	90.00	179.43	11,959.0	-7,454.5	2,393.6	32° 3' 32.707 N	103° 18' 18.833 W
20,000.0	90.00	179.43	11,959.0	-7,554.5	2,394.6	32° 3' 31.718 N	103° 18' 18.832 W
20,100.0	90.00	179.43	11,959.0	-7,654.5	2,395.6	32° 3' 30.728 N	103° 18' 18.832 W
20,200.0	90.00	179.43	11,959.0	-7,754.5	2,396.6	32° 3' 29.739 N	103° 18' 18.831 W
20,300.0	90.00	179.43	11,959.0	-7,854.5	2,397.6	32° 3' 28.749 N	103° 18' 18.830 W
20,400.0	90.00	179.43	11,959.0	-7,954.5	2,398.6	32° 3' 27.760 N	103° 18' 18.830 W
20,500.0	90.00	179.43	11,959.0	-8,054.5	2,399.6	32° 3' 26.770 N	103° 18' 18.829 W
20,600.0	90.00	179.43	11,959.0	-8,154.5	2,400.6	32° 3' 25.781 N	103° 18' 18.829 W
20,700.0	90.00	179.43	11,959.0	-8,254.5	2,401.6	32° 3' 24.791 N	103° 18' 18.828 W
20,800.0	90.00	179.43	11,959.0	-8,354.5	2,402.6	32° 3' 23.802 N	103° 18' 18.828 W
20,900.0	90.00	179.43	11,959.0	-8,454.5	2,403.6	32° 3' 22.812 N	103° 18' 18.827 W
21,000.0	90.00	179.43	11,959.0	-8,554.5	2,404.6	32° 3' 21.823 N	103° 18' 18.826 W
21,100.0	90.00	179.43	11,959.0	-8,654.5	2,405.6	32° 3' 20.833 N	103° 18' 18.826 W
21,200.0	90.00	179.43	11,959.0	-8,754.5	2,406.6	32° 3' 19.844 N	103° 18' 18.825 W
21,300.0	90.00	179.43	11,959.0	-8,854.4	2,407.6	32° 3' 18.854 N	103° 18' 18.825 W
21,400.0	90.00	179.43	11,959.0	-8,954.4	2,408.6	32° 3' 17.865 N	103° 18' 18.824 W
21,500.0	90.00	179.43	11,959.0	-9,054.4	2,409.6	32° 3' 16.875 N	103° 18' 18.824 W
21,600.0	90.00	179.43	11,959.0	-9,154.4	2,410.6	32° 3' 15.885 N	103° 18' 18.823 W
21,700.0	90.00	179.43	11,959.0	-9,254.4	2,411.6	32° 3' 14.896 N	103° 18' 18.823 W
21,800.0	90.00	179.43	11,959.0	-9,354.4	2,412.6	32° 3' 13.906 N	103° 18' 18.822 W
21,900.0	90.00	179.43	11,959.0	-9,454.4	2,413.6	32° 3' 12.917 N	103° 18' 18.821 W



**Ameredev Operating, LLC**  
Lease Penetration Section Line Footages

<b>Company:</b>	Ameredev Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well Golden Bell 114H
<b>Project:</b>	NAN/GB	<b>TVD Reference:</b>	KB @ 3044.0usft
<b>Site:</b>	NAN/GB #5N	<b>MD Reference:</b>	KB @ 3044.0usft
<b>Well:</b>	Golden Bell 114H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FTP100	<b>Database:</b>	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
22,000.0	90.00	179.43	11,959.0	-9,554.4	2,414.6	32° 3' 11.927 N	103° 18' 18.821 W
22,100.0	90.00	179.43	11,959.0	-9,654.4	2,415.6	32° 3' 10.938 N	103° 18' 18.820 W
22,200.0	90.00	179.43	11,959.0	-9,754.4	2,416.6	32° 3' 9.948 N	103° 18' 18.820 W
22,300.0	90.00	179.43	11,959.0	-9,854.4	2,417.6	32° 3' 8.959 N	103° 18' 18.819 W
22,400.0	90.00	179.43	11,959.0	-9,954.4	2,418.6	32° 3' 7.969 N	103° 18' 18.819 W
22,500.0	90.00	179.43	11,959.0	-10,054.4	2,419.6	32° 3' 6.980 N	103° 18' 18.818 W
22,600.0	90.00	179.43	11,959.0	-10,154.4	2,420.6	32° 3' 5.990 N	103° 18' 18.817 W
22,700.0	90.00	179.43	11,959.0	-10,254.4	2,421.6	32° 3' 5.001 N	103° 18' 18.817 W
22,800.0	90.00	179.43	11,959.0	-10,354.4	2,422.6	32° 3' 4.011 N	103° 18' 18.816 W
22,900.0	90.00	179.43	11,959.0	-10,454.4	2,423.6	32° 3' 3.022 N	103° 18' 18.816 W
<b>GB114 LTP</b>							
22,962.9	90.00	179.43	11,959.0	-10,517.3	2,424.2	32° 3' 2.399 N	103° 18' 18.815 W
<b>GB114 BHL</b>							

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,430.0	11,945.2	-225.7	-33.5	GB114 into NMNM137471
17,725.0	11,959.0	-5,509.2	83.8	GB114 into NMNM137472

Checked By: _____	Approved By: _____	Date: _____
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**APD ID:** 10400041075

**Submission Date:** 04/24/2019

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

**Well Type:** OIL WELL

**Well Work Type:** Drill

## Section 1 - General

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

## Section 2 - Lined Pits

**Would you like to utilize Lined Pit PWD options?** NO

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

**PWD surface owner:**

**PWD disturbance (acres):**

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit specifications:**

**Pit liner description:**

**Pit liner manufacturers information:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule attachment:**

**Lined pit reclamation description:**

**Lined pit reclamation attachment:**

**Leak detection system description:**

**Leak detection system attachment:**

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

**Lined pit Monitor description:**

**Lined pit Monitor attachment:**

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

**Is the reclamation bond a rider under the BLM bond?**

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information attachment:**

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

**Would you like to utilize Unlined Pit PWD options?** NO

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

**PWD disturbance (acres):**

**PWD surface owner:**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule attachment:**

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

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

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

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

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

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



**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**

#### Section 4 - Injection

**Would you like to utilize Injection PWD options?** NO

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

**PWD surface owner:**

**PWD disturbance (acres):**

**Injection PWD discharge volume (bbl/day):**

**Injection well mineral owner:**

**Injection well type:**

**Injection well number:**

**Injection well name:**

**Assigned injection well API number?**

**Injection well API number:**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

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

**UIC Permit attachment:**

#### Section 5 - Surface Discharge

**Would you like to utilize Surface Discharge PWD options?** NO

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

**PWD surface owner:**

**PWD disturbance (acres):**

**Surface discharge PWD discharge volume (bbl/day):**

**Surface Discharge NPDES Permit?**

**Surface Discharge NPDES Permit attachment:**

**Surface Discharge site facilities information:**

**Surface discharge site facilities map:**

#### Section 6 - Other

**Would you like to utilize Other PWD options?** NO

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

**PWD surface owner:**

**PWD disturbance (acres):**

**Other PWD discharge volume (bbl/day):**

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** GOLDEN BELL FED COM 26 36 06

**Well Number:** 114H

**Other PWD type description:**

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**

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

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

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

OCD - HOBBS  
06/17/2020  
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025- 47293</b>	<sup>2</sup> Pool Code <b>98234</b>	<sup>3</sup> Pool Name <b>WC-025 G-09 S263619C; WOLFCAMP</b>
<sup>4</sup> Property Code <b>322777</b>	<sup>5</sup> Property Name <b>GOLDEN BELL 26 36 06 FED COM</b>	
<sup>7</sup> OGRID No. <b>372224</b>	<sup>8</sup> Operator Name <b>AMEREDEV OPERATING, LLC.</b>	<sup>6</sup> Well Number <b>114H</b>
		<sup>9</sup> Elevation <b>3017'</b>

<sup>10</sup>Surface Location

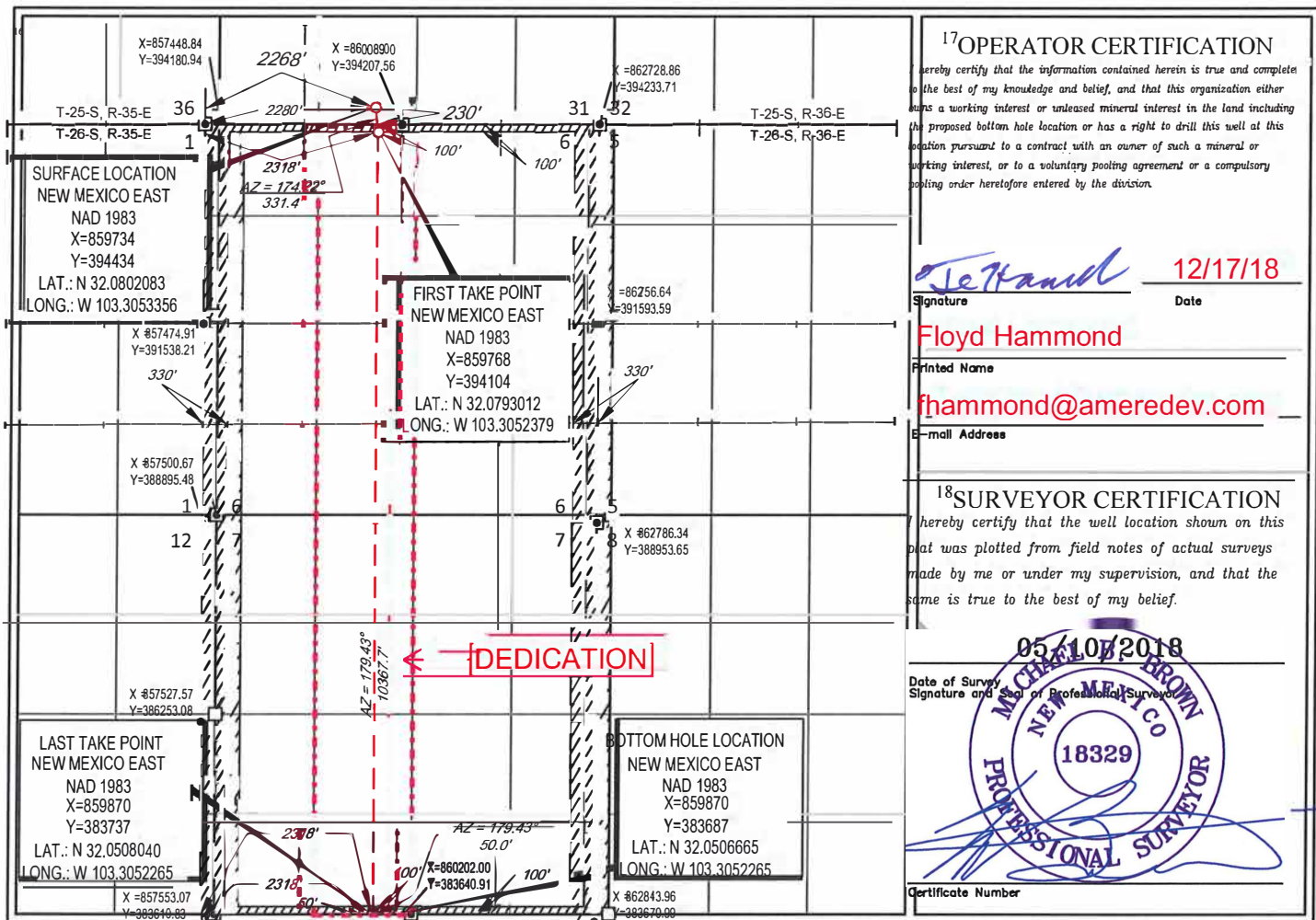
U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>N</b>	<b>31</b>	<b>25-S</b>	<b>36-E</b>	<b>-</b>	<b>230'</b>	<b>SOUTH</b>	<b>2288'</b>	<b>WEST</b>	<b>LEA</b>

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

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>N</b>	<b>7</b>	<b>26-S</b>	<b>36-E</b>	<b>-</b>	<b>50'</b>	<b>SOUTH</b>	<b>2318'</b>	<b>WEST</b>	<b>LEA</b>

<sup>12</sup> Dedicated Acres <b>320</b>	<sup>13</sup> Point or Infill	<sup>14</sup> Consolidation Code <b>C</b>	<sup>15</sup> Order No.
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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.



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original  
to Appropriate  
District Office

OCD – HOBBS  
06/17/2020  
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## GAS CAPTURE PLAN

Date: 3/30/2020

☒ Original

Operator & OGRID No.: Ameredev Operating LLC (372224)

☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

### Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Golden Bell Fed Com 26 36 06 114H	30-025- <b>47293</b>	N-31-25S-36E	230' FSL 2288' FWL	1000	<30 days	Flare until well clean, then connect

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete. Gas produced from the above wells is not dedicated to a gas purchaser. The production facility will be (or is currently) connected to multiple low pressure gathering systems located in Lea County, New Mexico, which are operated by DCP Operating Co., ETC Texas Pipeline, and Lucid Energy Delaware (collectively "Gas Transporters"). Ameredev provides (periodically) to one or more Gas Transporters a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Ameredev and the Gas Transporters have periodic conference calls to discuss changes in drilling and completion schedules. Gas from the well(s) will be processed at one or more of Gas Transporters' processing plants located in several different locations. The actual flow of gas will be based on compression operating parameters and gathering system pressures.

### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines