Form 3160-3
(June 2015)

HOBBS OCD

DEC 30 2019

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

5. Lease Serial No.
NMNM137470

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
HOLLY FED COM 26 36 05 123H

2. Name of Operator
AMEREDEV OPERATING LLC (37224)

9. API Well No.
30-025-46665

3a. Address
5707 Southwest Parkway, Building 1, Suite 275 Austin TX

3b. Phone No. *(include area code)*
(737)300-4700

10. Field and Pool, or Exploratory
~~JAL~~/WOLFCAMP ~~WEST~~ WC-025 G-09 S263426P (98238)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface LOT C / 230 FNL / 1750 FWL / LAT 32.07894 / LONG -103.29002

At proposed prod. zone LOT N / 50 FSL / 1672 FWL / LAT 32.05068 / LONG -103.29023

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 5 / T26S / R36E / NMP

14. Distance in miles and direction from nearest town or post office*
6.5 miles

12. County or Parish
LEA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
230 feet

16. No of acres in lease
440

17. Spacing Unit dedicated to this well
640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1347 feet

19. Proposed Depth
12120 feet / 23018 feet

20. BLM/BIA Bond No. in file
FED: NMB001478

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3001 feet

22. Approximate date work will start*
11/01/2019

23. Estimated duration
90 days

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christie Hanna / Ph: (737)300-4723	05/31/2019

Title
Senior Engineering Technician

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	12/20/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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 12/30/19

APPROVED WITH CONDITIONS

Approval Date: 12/20/2019

KZ 01/02/20

(Continued on page 2)

*(Instructions on page 2)

Double Sided

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

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AFMSS

U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed: 12/26/2019 08:31 AM

APD ID: 10400042417	Well Status: AAPD
APD Received Date: 05/31/2019 04:09 PM	Well Name: HOLLY FED COM 26 36 05
Operator: AMEREDEV OPERATING LLC	Well Number: 123H

APD Package Report Contents

- Form 3160-3

- Operator Certification Report

- Application Report
- Application Attachments
  -- Well Plat: 6 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 1 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 4 file(s)
  -- Casing Design Assumptions and Worksheet(s): 6 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 4 file(s)
  -- Other Facets: 1 file(s)
  -- Other Variances: 2 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Production Facilities map: 2 file(s)
  -- Water source and transportation map: 2 file(s)
  -- Construction Materials source location attachment: 1 file(s)
  -- Well Site Layout Diagram: 2 file(s)
  -- Recontouring attachment: 1 file(s)
  -- Other SUPO Attachment: 2 file(s)

- PWD Report
- PWD Attachments
  -- None

- Bond Report
- Bond Attachments
  -- None

AMEREDEV

December 26, 2019

ATTN: Paul Kautz
NMOCD
1625 N. French Drive
Hobbs, NM 88240
(575) 393-6161 ext. 104

Paul,

Enclosed is a copy of the BLM approved APD COA packet for the Holly Fed Com 26 36 05 123H well, for your review and approval. Please let me know if you have any questions.

Best regards,

Christie Hanna
Regulatory Coordinator

Additional Operator Remarks

Location of Well

1. SHL: LOT C / 230 FNL / 1750 FWL / TWSP: 26S / RANGE: 36E / SECTION: 5 / LAT: 32.07894 / LONG: -103.29002 (TVD: 0 feet, MD: 0 feet)
   PPP: NENW / 100 FNL / 1672 FWL / TWSP: 26S / RANGE: 36E / SECTION: 5 / LAT: 32.0793 / LONG: -103.29027 (TVD: 12112 feet, MD: 12612 feet)
   PPP: SESW / 3960 FNL / 1711 FWL / TWSP: 26S / RANGE: 36E / SECTION: 5 / LAT: 32.06869 / LONG: -103.29026 (TVD: 12120 feet, MD: 16465 feet)
   PPP: NENW / 0 FNL / 1726 FWL / TWSP: 26S / RANGE: 36E / SECTION: 8 / LAT: 32.06506 / LONG: -103.29025 (TVD: 12120 feet, MD: 17785 feet)
   BHL: LOT N / 50 FSL / 1672 FWL / TWSP: 26S / RANGE: 36E / SECTION: 8 / LAT: 32.05068 / LONG: -103.29023 (TVD: 12120 feet, MD: 23018 feet)

BLM Point of Contact

Name: Ciji Methola
Title: GIS Support - Adjudicator
Phone: 5752345924
Email: cmethola@blm.gov

Review and Appeal Rights

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

Geologic Conditions of Approval

:

The operator proposes to set surface casing to 1300', which should be below all usable water zones, adequately protecting ground water, this is an acceptable set point. If salt is encountered, set casing a minimum of 25 feet above the salt. The operator proposes to set an intermediate casing string to a depth of 10,765', this will be in the 3rd BoneSpring 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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ameredev Operating LLC
WELL NAME & NO.:	Holly Fed Com 26 36 05 123H
SURFACE HOLE FOOTAGE:	230'/N & 1750'/W
BOTTOM HOLE FOOTAGE	50'/S & 1672'/W
LOCATION:	Section 5, T.26 S., R.36 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ 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

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1300** 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

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.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In **Capitan Reef Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

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

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string and at least **50** feet on top of Capitan Reef Top. Operator shall provide method of verification.

Option 2:

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 should tie-back at least **200 feet** into previous casing string and at least **50** feet on top of Capitan Reef Top. Operator shall provide method of verification.

Alternate Casing Design:

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

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 15% - additional cement might be required.**

In the case of lost circulation, operator has proposed to pump down 9 5/8" X 7 5/8" annulus. Operator must run a CBL from TD of the 7 5/8" casing to surface. Submit results to the BLM.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

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

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string and at least **50** feet on top of Capitan Reef Top. Operator shall provide method of verification.

Option 2:

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.

c. 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.

d. Second stage above DV tool:

- Cement should tie-back at least **200 feet** into previous casing string and at least **50** feet on top of Capitan Reef Top. 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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate 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.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. 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 2nd 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
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.

NMK12192019

Seed Mixture for LPC Sand/Shinnery Sites

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 shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall 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). 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. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

12/26/2019

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:** 05/31/2019

Title: Senior Engineering Technician

Street Address: 5707 SOUTHWEST PKWY BLDG 1 STE 275

City: AUSTIN **State:** TX **Zip:** 78735

Phone: (737)300-4723

Email address: zboyd@ameredev.com

Field Representative

Representative Name:

Street Address: 5707 SOUTHWEST PARKWAY, BLDG 1, STE. 275

City: AUSTIN **State:** TX **Zip:** 78735

Phone: (580)940-5054

Email address: zboyd@ameredev.com

AFMSS

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

Application Data Report

12/26/2019

APD ID: 10400042417 **Submission Date:** 05/31/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

Well Type: OIL WELL **Well Work Type:** Drill

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400042417 **Tie to previous NOS?** **Submission Date:** 05/31/2019

BLM Office: CARLSBAD **User:** Christie Hanna **Title:** Senior Engineering Technician

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM137470 **Lease Acres:** 440

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** AMEREDEV OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: AMEREDEV OPERATING LLC

Operator Address: 5707 Southwest Parkway, Building 1, Suite 275 **Zip:** 78735

Operator PO Box:

Operator City: Austin **State:** TX

Operator Phone: (737)300-4700

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** JAL **Pool Name:** WOLFCAMP WEST

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

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** RB/HOL **Number:** 4S

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 6.5 Miles **Distance to nearest well:** 1347 FT **Distance to lease line:** 230 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: RB_HOL__4S___WELLSITE_20190531154359.pdf

HOLLY_FED_COM_26_36_05_123H___BLM_LEASE_MAP_20190531154542.pdf

HOLLY_FED_COM_26_36_05_123H___C_102_SIG_20190531154546.pdf

HOLLY_FED_COM_26_36_05_123H___EXH_2AB_20190531154548.pdf

HOLLY_FED_COM_26_36_05_123H___VICINITY_MAP_20190531154550.pdf

HOLLY_FED_COM_26_36_05_123H___GAS_CAPTURE_PLAN_20190531154600.pdf

Well work start Date: 11/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 18329 **Reference Datum:**

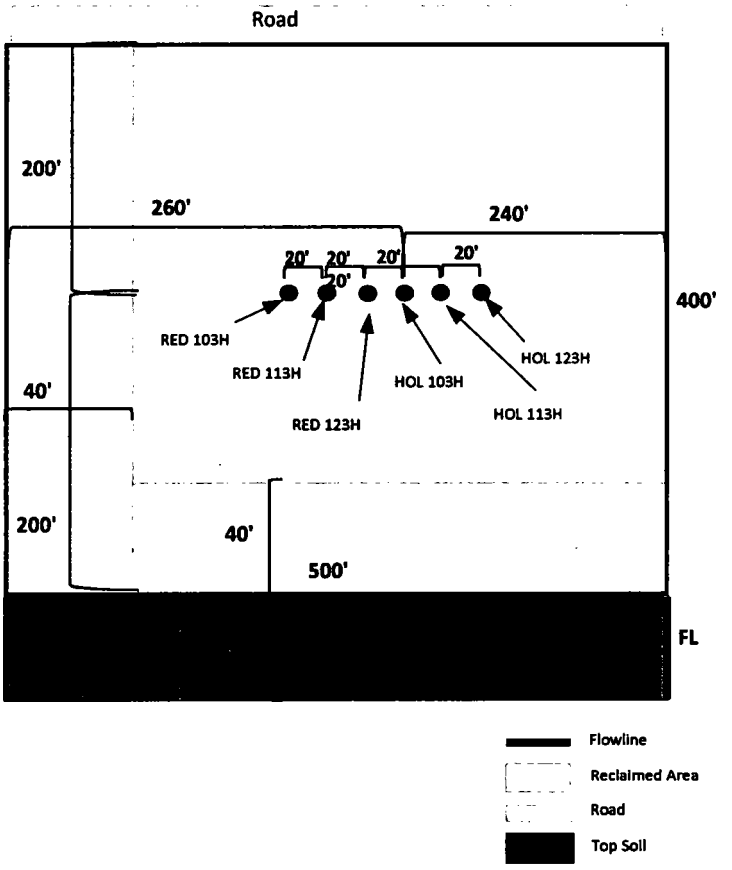
Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	230	FNL	1750	FWL	26S	36E	5	Lot C	32.07894	-103.29002	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137470	3001	0	0	
KOP Leg #1	326	FSL	2233	FWL	25S	36E	32	Aliquot SESW	32.08045	-103.28844	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8599	11638	11600	
PPP Leg #1-1	0	FNL	1726	FWL	26S	36E	8	Aliquot NENW	32.06506	-103.29025	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137473	-9119	17785	12120	
PPP Leg #1-2	3960	FNL	1711	FWL	26S	36E	5	Aliquot SESW	32.06869	-103.29026	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 006727	-9119	16465	12120	
PPP Leg #1-3	100	FNL	1672	FWL	26S	36E	5	Aliquot NENW	32.0793	-103.29027	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137470	-9111	12612	12112	
EXIT Leg #1	50	FSL	1672	FWL	26S	36E	8	Aliquot SESW	32.05068	-103.29023	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137473	-9119	23018	12120	
BHL Leg #1	50	FSL	1672	FWL	26S	36E	8	Lot N	32.05068	-103.29023	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137473	-9119	23018	12120	

Ameredev Operating, LLC
Holly Fed Com 26 36 05 103H
Section 5, Township 26S, Range 36E
Lea County, New Mexico



Holly Fed Com 26 36 05 103H SHL: 26S 36E 230' FNL 1710' FWL

Holly Fed Com 26 36 05 113H SHL: 26S 36E 230' FNL 1730' FWL

Holly Fed Com 26 36 05 123H SHL: 26S 36E 230' FNL 1750' FWL

Red Bud Fed Com 26 36 05 103H SHL: 26S 36E 230' FNL 1650' FWL

Red Bud Fed Com 26 36 05 113H SHL: 26S 36E 230' FNL 1730' FWL

Red Bud Fed Com 26 36 05 123H SHL: 26S 36E 230' FNL 1750' FWL

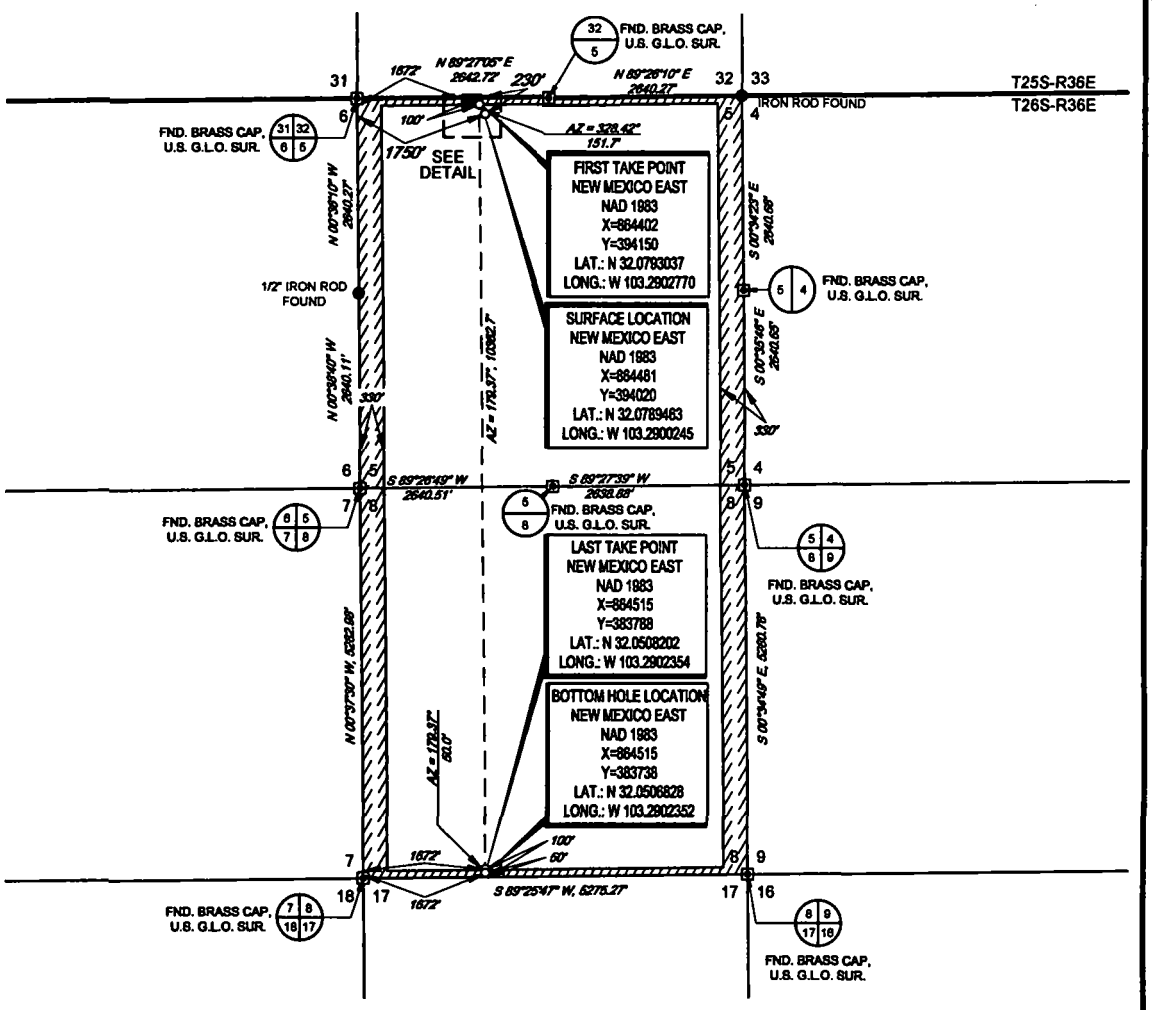
Exhibit 3 – Well Site Diagram

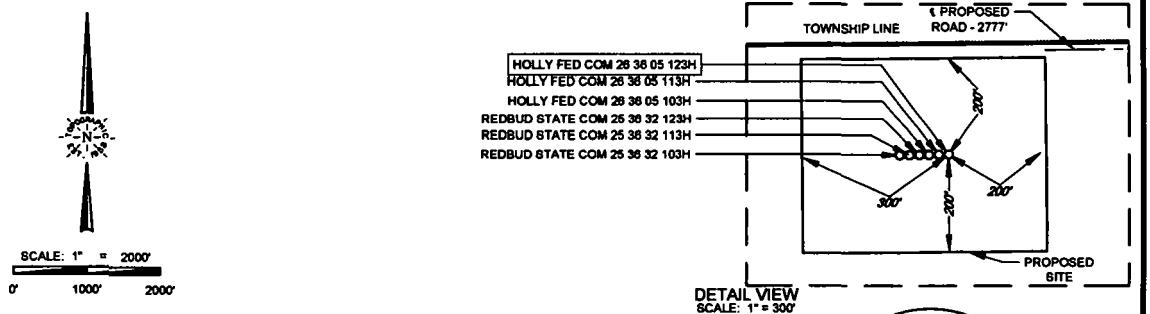
AMEREDEV

AMEREDEV OPERATING, LLC

EXHIBIT 2A

SECTION 5, TOWNSHIP 26-S, RANGE 36-E, N.M.P.M.
LEA COUNTY, NEW MEXICO





SCALE: 1" = 2000'
0' 1000' 2000'

LEASE NAME & WELL NO.: HOLLY FED COM 26 36 05 123H

SECTION 5 TWP 26-S RGE 36-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 230' FNL & 1750' FWL

DISTANCE & DIRECTION

FROM INT. OF E NEVADA AVE & S 3RD ST, HEAD SOUTH ON S 3RD ST ±1.0 MILE, THENCE CONTINUE SOUTH ON NM-205 ±3.9 MILES, THENCE WEST (RIGHT) ON ANTHONY RD ±1.7 MILES, THENCE CONTINUE WEST ON J-3 ±1.7 MILES, THENCE NORTH (RIGHT) ON J-3 ±0.3 MILES, THENCE EAST (RIGHT) ON A LEASE RD. ±0.2 MILES, THENCE NORTH (LEFT) ON A LEASE RD. ±1.0 MILE, THENCE WEST (LEFT) ON A PROPOSED RD. ±2777 FEET TO A POINT ±294 FEET NORTHWEST OF THE LOCATION

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AMEREDEV OPERATING LLC THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

MICHAEL B. BROWN NEW MEXICO 18329 PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
NOVEMBER 29, 2018

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 - FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 - FAX (817) 744-7554
2903 NORTH BIG SPRING - MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 - FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

S:\SURVEY\AMEREDEV_OPERATING_LLC\HOLLY_FED_COM\FINAL_PRODUCTS\LO_HOLLY_FED_COM_26_36_05_123H_REV1.DWG 12/3/2018 8:26:23 PM ccasion

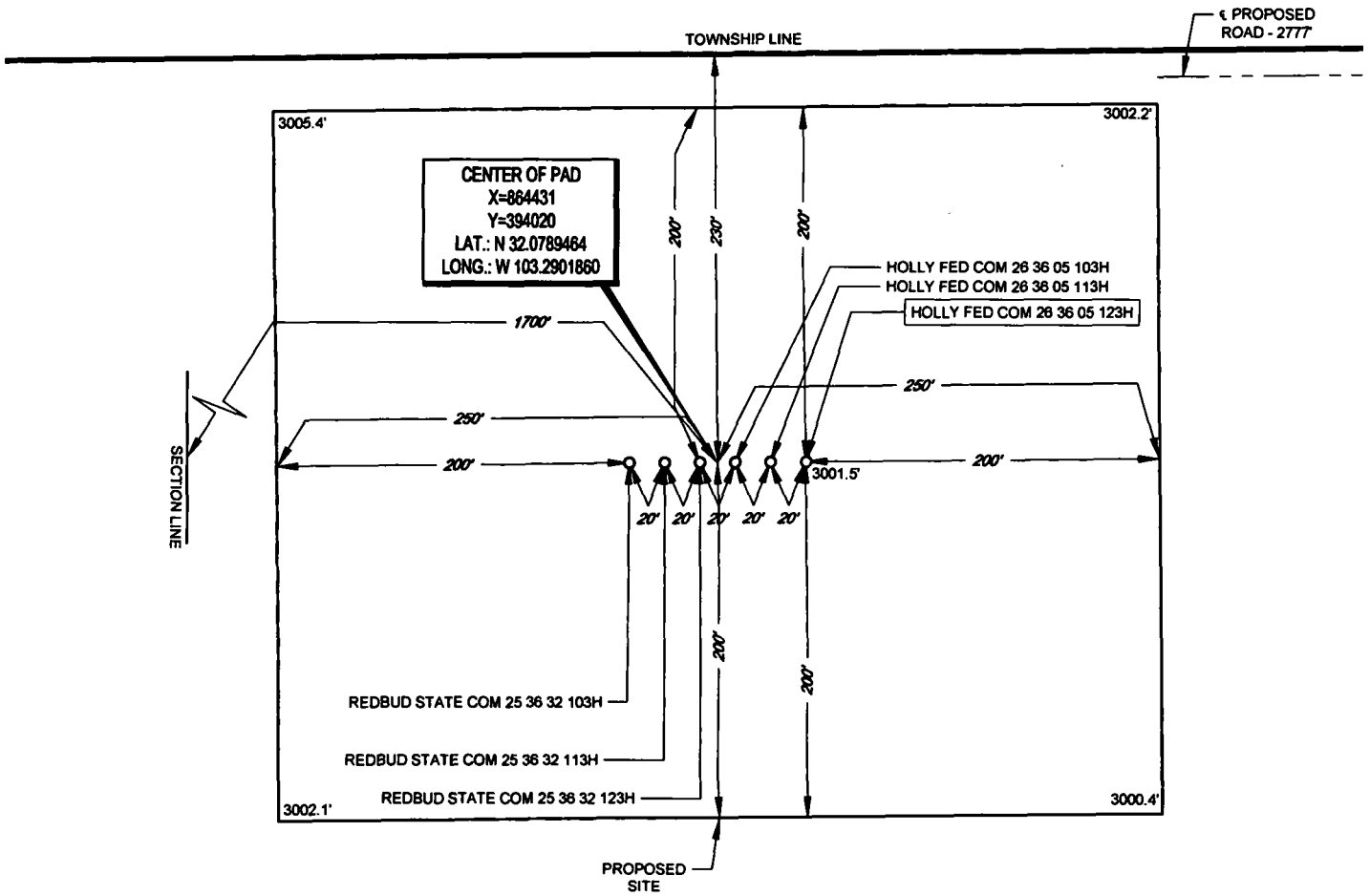
EXHIBIT 2B

AMEREDEV

AMEREDEV OPERATING, LLC

SECTION 5, TOWNSHIP 26-S, RANGE 36-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: HOLLY FED COM 26 36 05 123H

123H LATITUDE N 32.0789463 123H LONGITUDE W 103.2900245

CENTER OF PAD IS 230' FNL & 1700' FWL

-N-

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AMEREDEV OPERATING LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

APD ID: 10400042417 **Submission Date:** 05/31/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

Well Type: OIL WELL **Well Work Type:** Drill

[redacted]

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
469480	RUSTLER ANHYDRITE	3001	1175	1175	ANHYDRITE	NONE	N
469481	SALADO	1387	1614	1614	ANHYDRITE, SALT	NONE	N
469486	TANSILL	-406	3407	3407	LIMESTONE	NONE	N
469487	CAPITAN REEF	-879	3880	3880	LIMESTONE	USEABLE WATER	N
469485	LAMAR	-2082	5083	5083	LIMESTONE	NONE	N
469482	BELL CANYON	-2206	5207	5207	SANDSTONE	NATURAL GAS, OIL	N
469483	BRUSHY CANYON	-4148	7149	7149	SANDSTONE	NATURAL GAS, OIL	N
469488	BONE SPRING LIME	-5175	8176	8176	LIMESTONE	NONE	N
469484	BONE SPRING 1ST	-6563	9564	9564	SANDSTONE	NATURAL GAS, OIL	N
469489	BONE SPRING 2ND	-7084	10085	10085	SANDSTONE	NATURAL GAS, OIL	N
469490	BONE SPRING 3RD	-7639	10640	10640	LIMESTONE	NONE	N
469491	BONE SPRING 3RD	-8238	11239	11239	SANDSTONE	NATURAL GAS, OIL	N
469492	WOLFCAMP	-8516	11517	11517	SHALE	NATURAL GAS, OIL	N
469493	WOLFCAMP	-8819	11820	11820	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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 attached

Choke Diagram Attachment:

10M_Choke_Manifold_REV_20190531155208.pdf

BOP Diagram Attachment:

5M_Annular_Preventer_Variance_and_Well_Control_Plan_20190531155218.pdf

5M_BOP_System_20190531155219.pdf

Pressure_Control_Plan_Single_Well_MB4_3String_Big_Hole_BLM_20190531155219.pdf

4_String_MB_Ameredev_Wellhead_Drawing_net_REV_20190531155316.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	1300	0	1300	3001		1300	J-55	68	OTHER - BTC	7.06	0.66	DRY	10.35	DRY	12.1
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	10765	0	10765			10765	HCL-80	40	OTHER - BTC	1.27	1.2	DRY	2.23	DRY	2.18
3	PRODUCTION	8.5	5.5	NEW	API	N	0	23018	0	12120			23018	OTHER	20	OTHER - BTC	1.69	1.82	DRY	2.7	DRY	3

Casing Attachments

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

13.375_68.00__J55_BTC_20190531155448.pdf

Holly_Fed_Com_26_36_05_123H___Wellbore_Diagram_and_CDA_20190531155525.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

9.625_40_SeAH80HC_4100_Collapse_20190531155456.pdf

Holly_Fed_Com_26_36_05_123H___Wellbore_Diagram_and_CDA_20190531155518.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

5.50_20_USS_P110_HC_BTC_API_20190531155502.pdf

Holly_Fed_Com_26_36_05_123H___Wellbore_Diagram_and_CDA_20190531155510.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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					1.76					
SURFACE	Tail										
INTERMEDIATE	Lead					2.47					
INTERMEDIATE	Tail										
INTERMEDIATE	Lead					2.47					
INTERMEDIATE	Tail										
PRODUCTION	Lead					1.34					

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: HOLLY FED COM 26 36 05 **Well Number:** 123H

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	1300	WATER-BASED MUD	8.4	8.6							
1300	10765	OTHER : DIESEL BRINE EMULSION	8.5	9.4							
10765	12120	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: 6618 **Anticipated Surface Pressure:** 3951.6

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20190531155946.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Hol123_DR_20190531160000.pdf

Hol123_LLR_20190531160001.pdf

5M_Annular_Preventer_Variance_and_Well_Control_Plan_20190531160013.pdf

Pressure_Control_Plan_Single_Well_MB4_3String_Big_Hole_BLM_20190531160013.pdf

Other proposed operations facets description:

4-STRING CONTINGENCY PLAN ATTACHED

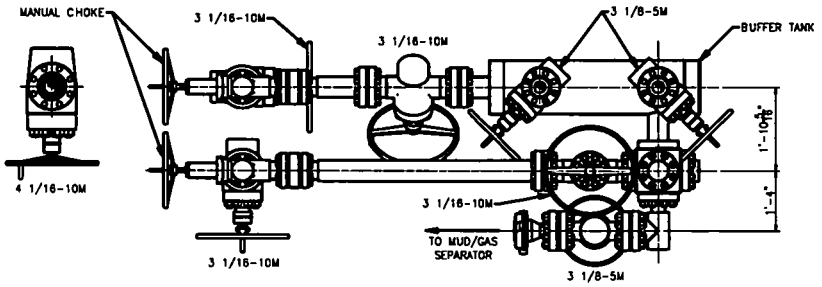
Other proposed operations facets attachment:

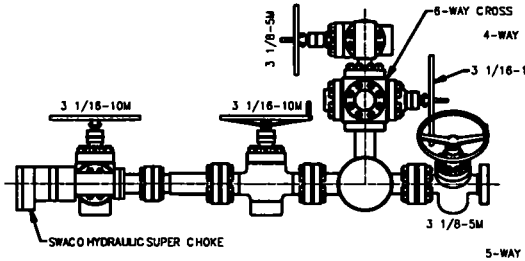
CAPITAN_PROTECTION_CONTINGENCY_PLAN_20190531160024.pdf

Other Variance attachment:

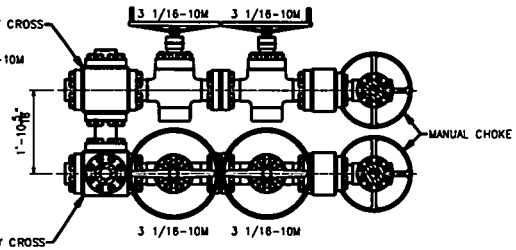
R616___CoC_for_hoses_12_18_17_20190531160039.pdf

Requested_Exceptions___3_String_Revised_01312019_20190531160048.pdf

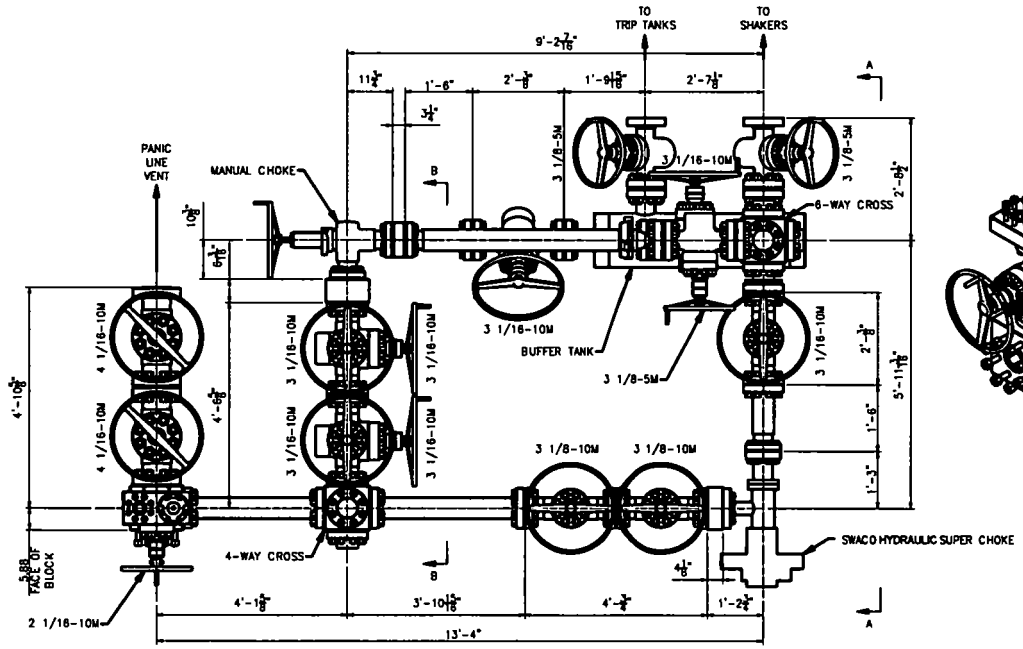




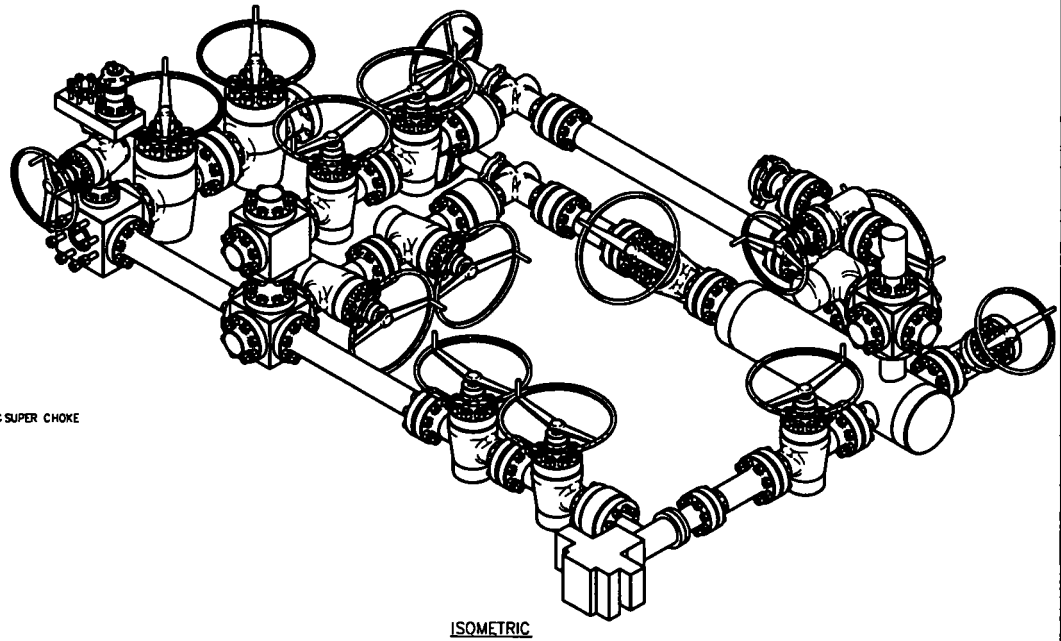
VIEW A-A



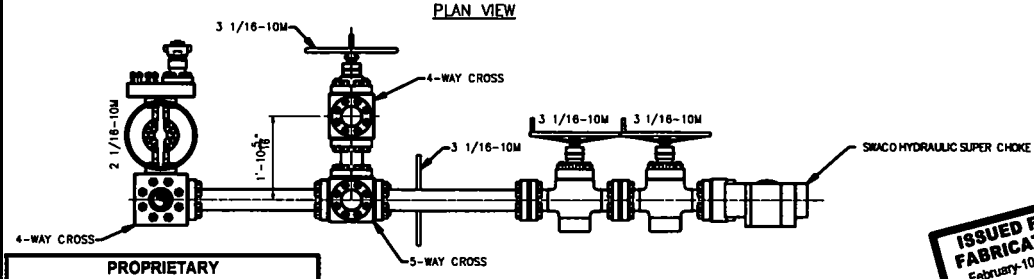
SECTION B-B



PLAN VIEW



ISOMETRIC



ISSUED FOR FABRICATION
Febrasry-10-2014
DRAFTSMAN _____
ENGINEER _____

STANDARD TOLERANCES

1. FABRICATION DIMENSIONS:	4'-0" TO 24"	± 1/16"
	8-24" TO 120"	± 1/8"
	C-OVER 120"	± 1/4"
2. MACHINED DIMENSIONS:	4-ANGULAR	± 30'
	5-LINEAR (EXPRESSED AS FRACTION)	± 0.16
	LINEAR (EXPRESSED TO ONE DECIMAL)	± .1
	LINEAR (EXPRESSED TO TWO DECIMALS)	± 0.15
	LINEAR (EXPRESSED TO THREE DECIMALS)	± 005

REV	DATE	DESCRIPTION	BY
-			

HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

TITLE: 3 CHOKE, 3 LEVEL, 10M CHOKE MANIFOLD G.A.

CUSTOMER: H&P

PROJECT

DRAWN:	DATE:	DWG NO.:	REV:
MWL	2/10/2014	HP-D1254	-

SCALE: 3/4"=1'-0" SHEET: 1 OF 1

AMEREDEV

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

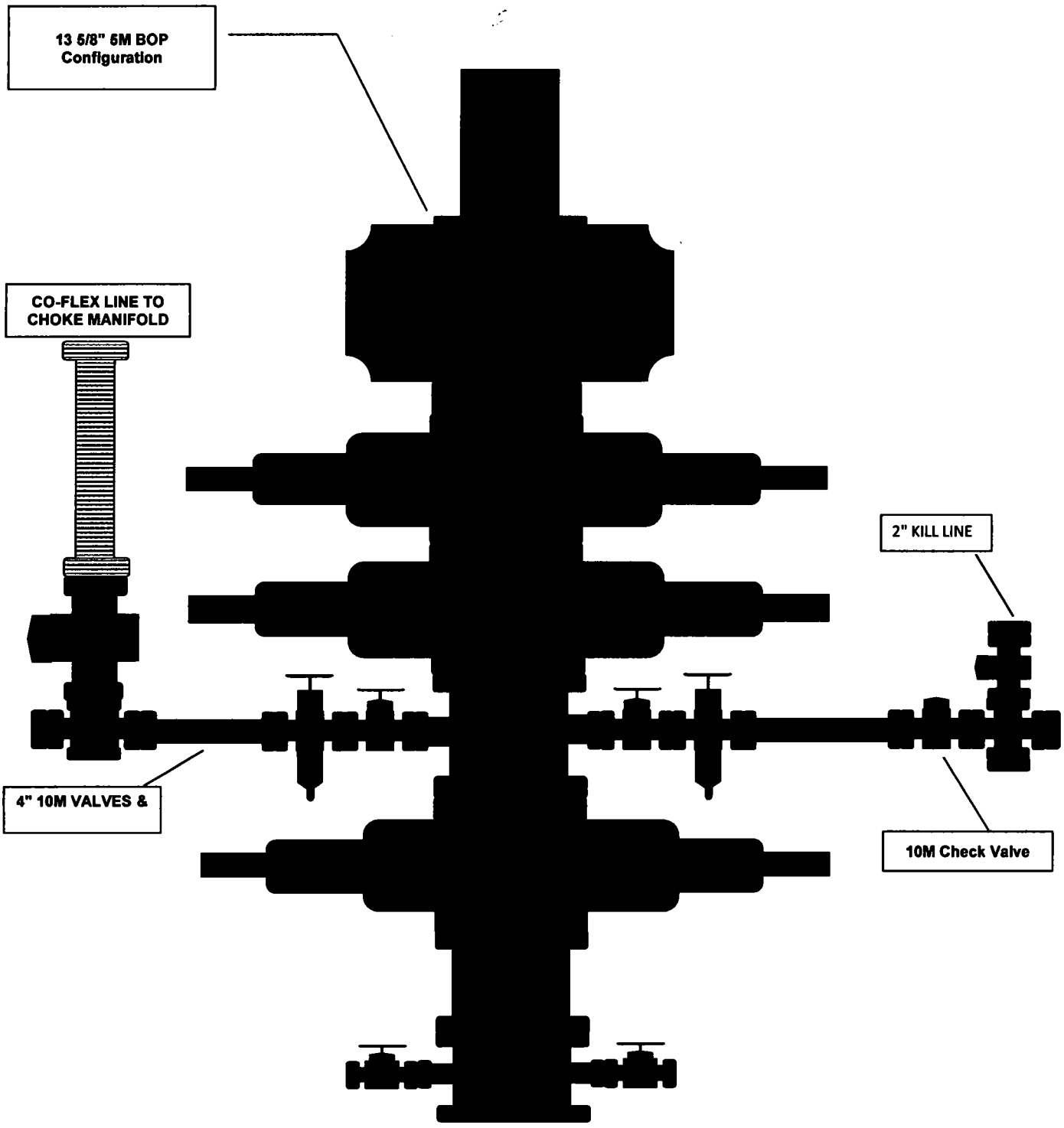
*FOSV will be on rig floor in open position with operating handle for each type of connection utilized and tested to 10,000 psi

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

AMEREDEV

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" 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" 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.

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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.

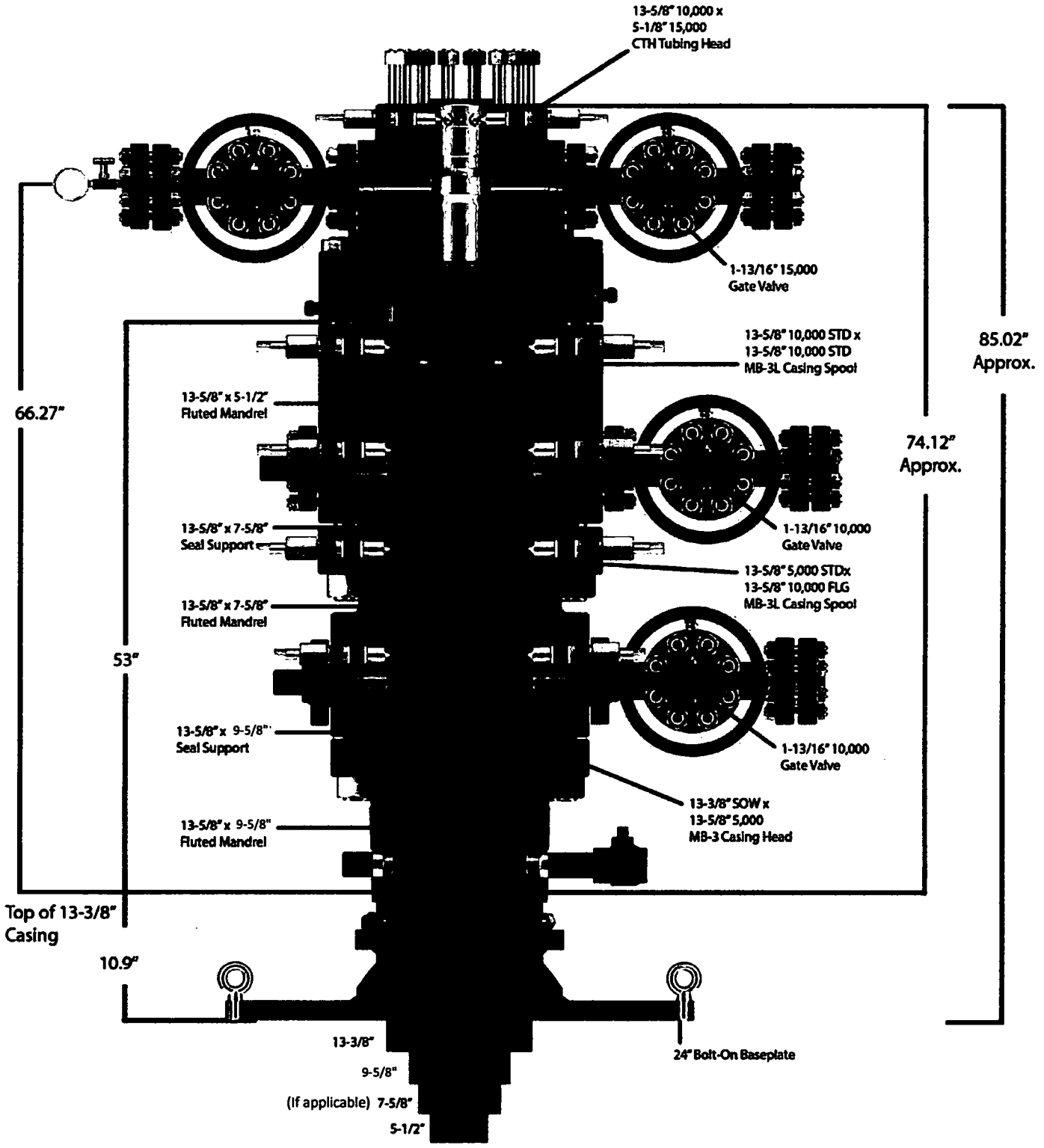
- All B.O.P.s and associated equipment will be tested in accordance with Onshore Order #2

- 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" 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.



Quotation

Downing Wellhead Equipment

Oklahoma City,
Oklahoma - USA

Reference Data:

16925 AMEREDEV

TITLE:

AMEREDEV

DRAWN			SIZE	DWG. NO.	REV.
CHECKED			A		
APPROVED			Scale:	Weight:	Sheet:

SĕAH

9.625" 40# .395" SEAH-80 HIGH COLLAPSE

(SEAH-80 IS A NON HEAT TREATED PRODUCT)

Dimensions (Nominal)

Outside Diameter	**9.625**	**in.**
Wall	**0.395**	**in.**
Inside Diameter	**8.835**	**in.**
Drift	**8.750**	**in.**
Weight, T&C	**40.000**	**lbs./ft.**
Weight, PE	**38.970**	**lbs./ft.**

Performance Properties

Collapse	**4100**	**psi**
Internal Yield Pressure at Minimum Yield		
PE	**5750**	**psi**
LTC	**5750**	**psi**
BTC	**5750**	**psi**
Yield Strength, Pipe Body	**916**	**1000 lbs.**
Joint Strength		
LTC	**717**	**1000 lbs.**
BTC	**915**	**1000 lbs.**

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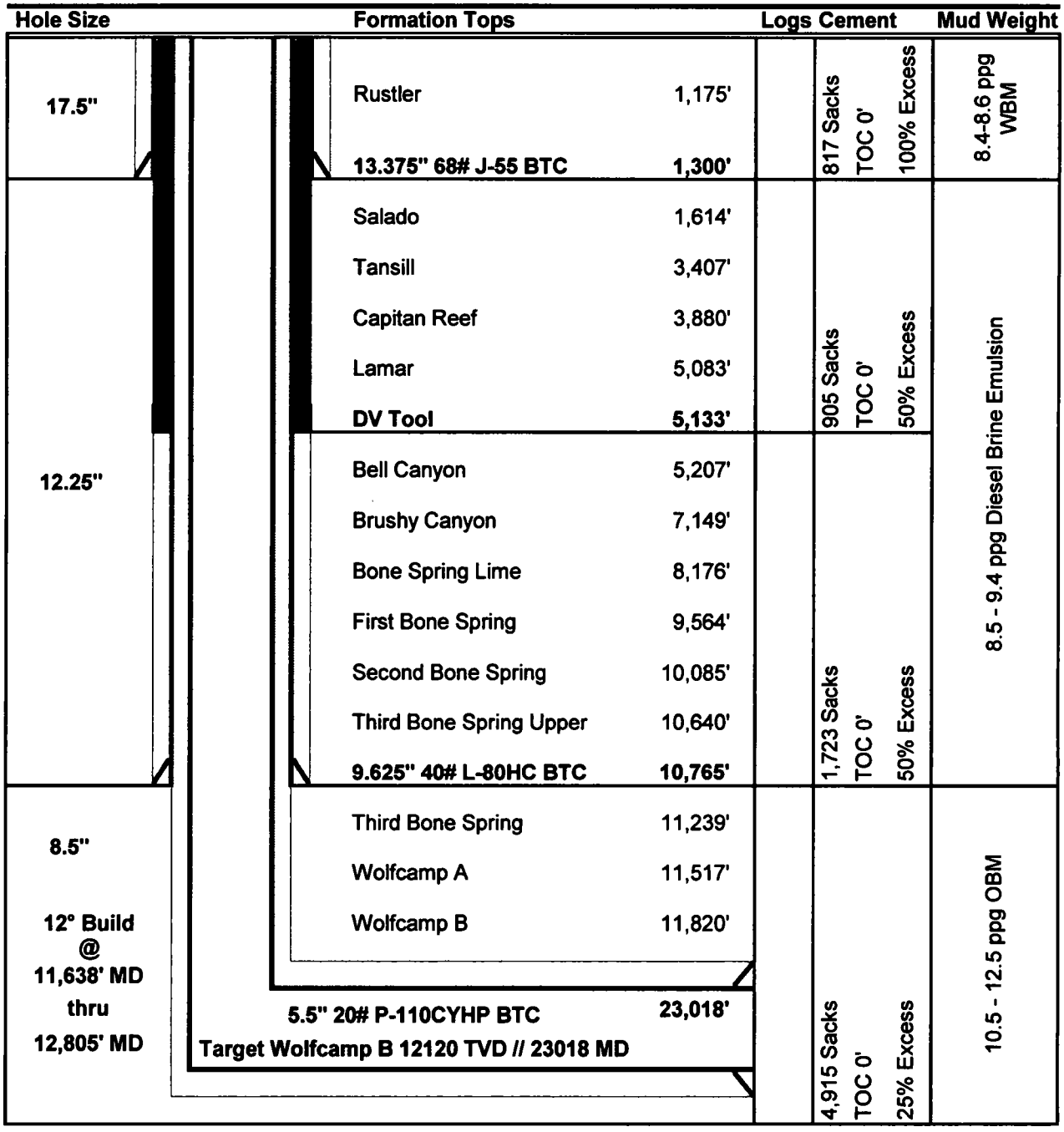
Wellbore Schematic

Well:	Holly Fed Com 26-36-05 123H	**Co. Well ID:**	xxxxx
SHL:	Sec. 05 26S-36E 230' FNL & 1750' FWL	**AFE No.:**	xxxx-xxx
BHL:	Sec. 08 26S-36E 50' FSL & 1672' FWL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3,001'
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Wolfcamp B
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	12,120'
	Tubing Spool - 5-1/8" 15M x 13-3/8" 10M	**MD:**	23,018'
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB:** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	Wellsite2@ameredev.com



Casing Design and Safety Factor Check

Casing Specifications						
Segment	**Hole ID**	**Depth**	**OD**	**Weight**	**Grade**	**Coupling**
Surface	17.5	1,300'	13.375	68	J-55	BTC
Intermediate	12.25	10,765'	9.625	40	HCL-80	BTC
Prod Segment A	8.5	11,638'	5.5	20	CYHP-110	BTC
Prod Segment B	8.5	23,018'	5.5	20	CYHP-110	BTC

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.375	1,069	915	4,100	3,450
Safety Factors				
1.56	12.10	10.35	7.06	0.66
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
7.625	940	558	6700	9460
Safety Factors				
2.31	2.18	2.23	1.27	1.20
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	3.00	2.70	1.69	1.82
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	75.52	67.95	1.62	1.82

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^2			

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

IPSCO

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Wellbore Schematic

Well:	Holly Fed Com 26-36-05 123H	**Co. Well ID:**	xxxxx
SHL:	Sec. 05 26S-36E 230' FNL & 1750' FWL	**AFE No.:**	xxxx-xxx
BHL:	Sec. 08 26S-36E 50' FSL & 1672' FWL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3,001'
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Wolfcamp B
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	12,120'
	Tubing Spool - 5-1/8" 15M x 13-3/8" 10M	**MD:**	23,018'
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB:** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	Wellsite2@ameredev.com

Hole Size	Formation Tops		Logs	Cement	Mud Weight
17.5"	Rustler	1,175'		817 Sacks TOC 0' 100% Excess	8.4-8.6 ppg WBM
	13.375" 68# J-55 BTC	**1,300'**			
12.25"	Salado	1,614'		905 Sacks TOC 0' 50% Excess	8.5 - 9.4 ppg Diesel Brine Emulsion
	Tansill	3,407'			
	Capitan Reef	3,880'			
	Lamar	5,083'			
	DV Tool	**5,133'**			
	Bell Canyon	5,207'		1,723 Sacks TOC 0' 50% Excess	
	Brushy Canyon	7,149'			
	Bone Spring Lime	8,176'			
	First Bone Spring	9,564'			
	Second Bone Spring	10,085'			
	Third Bone Spring Upper	10,640'			
	9.625" 40# L-80HC BTC	**10,765'**			
8.5" 12° Build @ 11,638' MD thru 12,805' MD	Third Bone Spring	11,239'		4,915 Sacks TOC 0' 25% Excess	10.5 - 12.5 ppg OBM
	Wolfcamp A	11,517'			
	Wolfcamp B	11,820'			
	5.5" 20# P-110CYHP BTC	**23,018'**			
	Target Wolfcamp B 12120 TVD // 23018 MD				

Casing Design and Safety Factor Check

Casing Specifications						
Segment	**Hole ID**	**Depth**	**OD**	**Weight**	**Grade**	**Coupling**
Surface	17.5	1,300'	13.375	68	J-55	BTC
Intermediate	12.25	10,765'	9.625	40	HCL-80	BTC
Prod Segment A	8.5	11,638'	5.5	20	CYHP-110	BTC
Prod Segment B	8.5	23,018'	5.5	20	CYHP-110	BTC

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.375	1,069	915	4,100	3,450
Safety Factors				
1.56	12.10	10.35	7.06	0.66
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
7.625	940	558	6700	9460
Safety Factors				
2.31	2.18	2.23	1.27	1.20
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	3.00	2.70	1.69	1.82
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	75.52	67.95	1.62	1.82

U.S. Steel Tubular Products

Product Information
5.5 in. 20 lb/ft (0.361 in. wall) P-110 HC Casing
STAR SEAL - CDC™

Grade(s)	P-110 HC		
MECHANICAL PROPERTIES			
	Yield Strength		
	Minimum	110	ksi
	Maximum	140	ksi
	Tensile Strength		
	Minimum	125	ksi
PIPE PROPERTIES			
Dimensions, Nominal	Pipe Outside Diameter	5.500	in.
	Wall	0.361	in.
	Pipe Inside Diameter	4.778	in.
	Pipe Drift		
	API	4.653	in.
	Special (If Applicable)	N/A	in.
	Weight, T&C	20.00	lbs/ft
	Weight, Plain End	19.83	lbs/ft
	Pipe Cross Sectional Area	5.828	sq. in.
Performance Properties	Minimum Pipe Body Yield Strength	641	1,000 lbs
	Minimum Collapse Pressure	12,200	psi
	Minimum Internal Yield Pressure	12,640	psi
CONNECTION PROPERTIES			
Dimensions, Nominal	Connection Outside Diameter	6.050	in.
	Connection Inside Diameter	4.778	in.
	Connection Drift		
	API	4.653	in.
	Special (If Applicable)	N/A	in.
	Makeup Loss	4.63	in.
	Critical Area	5.828	in.
	Joint Efficiency	100	%
Performance Properties	Joint Strength	667	1,000 lbs
	Compression Rating	400	1,000 lbs
	API Collapse Pressure Rating	12,200	psi
	API Internal Pressure Resistance	12,360	psi
	Maximum Uniaxial Bend Rating	57.2	deg/100 ft
Recommended Torque Values	Minimum Shoulder Torque	5,000	ft-lbs
	Maximum Shoulder Torque	7,500	ft-lbs
	Connection Yield Torque	16,100	ft-lbs

* STAR SEAL - CDC (Casing Drilling Connection) is a Modified API Buttress threaded and coupled connection designed for field proven in drilling with casing applications. Star Seal is a registered trademark of U. S. Steel Corporation.

U.S. Steel Tubular Products, Inc.
600 Grant Street
Pittsburgh, PA 15219

6/9/2009

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Wellbore Schematic

Well:	Holly Fed Com 26-36-05 123H	**Co. Well ID:**	xxxxx
SHL:	Sec. 05 26S-36E 230' FNL & 1750' FWL	**AFE No.:**	xxxx-xxx
BHL:	Sec. 08 26S-36E 50' FSL & 1672' FWL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3,001'
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Wolfcamp B
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	12,120'
	Tubing Spool - 5-1/8" 15M x 13-3/8" 10M	**MD:**	23,018'
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB:** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	Wellsite2@ameredev.com

Hole Size	Formation Tops		Logs	Cement	Mud Weight
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	Capitan Reef	3,880'			
	Lamar	5,083'			
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	Bone Spring Lime	8,176'			
	First Bone Spring	9,564'			
	Second Bone Spring	10,085'			
	Third Bone Spring Upper	10,640'			
	9.625" 40# L-80HC BTC	**10,765'**			
8.5"	Third Bone Spring	11,239'		4,915 Sacks TOC 0' 25% Excess	10.5 - 12.5 ppg OBM
	Wolfcamp A	11,517'			
12° Build @ 11,638' MD thru 12,805' MD	Wolfcamp B	11,820'			
	5.5" 20# P-110CYHP BTC	**23,018'**			
	Target Wolfcamp B 12120 TVD // 23018 MD				

Casing Design and Safety Factor Check

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Prod Segment A	8.5	11,638'	5.5	20	CYHP-110	BTC
Prod Segment B	8.5	23,018'	5.5	20	CYHP-110	BTC

Check Surface Casing				
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inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
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Safety Factors				
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7.625	940	558	6700	9460
Safety Factors				
2.31	2.18	2.23	1.27	1.20
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OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	3.00	2.70	1.69	1.82
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.36	75.52	67.95	1.62	1.82

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H_2S Drilling Operation Plan

1. **All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:**
    a. Characteristics of H_2S
    b. Physical effects and hazards
    c. Principal and operation of H_2s 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_2S Detection and Alarm Systems:**
    a. H_2S sensors/detectors shall be located on the drilling rig floor, in the base of the sub structure/cellar area, and on the mud pits in the shale shaker area. Additional H_2S detectors may be placed as deemed necessary. All detectors will be set to initiate visual alarm at 10 ppm and visual with audible at 14 ppm and all equipment will be calibrated every 30 days or as needed.
    b. An audio alarm will be installed on the derrick floor and in the top doghouse.

4. **Protective Equipment for Essential Personnel:**
    a. **Breathing Apparatus:**
        i. Rescue Packs (SCBA) - 1 Unit shall be placed at each briefing area.
        ii. Two (SCBA) Units will be stored in safety trailer on location.
        iii. Work/Escape packs - 1 Unit will be available on rig floor in doghouse for emergency evacuation for driller.
    b. **Auxiliary Rescue Equipment:**
        i. Stretcher
        ii. 2 - OSHA full body harnesses
        iii. 100 ft. 5/8" OSHA approved rope
        iv. 1 - 20# class ABC fire extinguisher

5. **Windsock and/or Wind Streamers:**
    a. Windsock at mud pit area should be high enough to be visible.
    b. Windsock on the rig floor should be high enough to be visible.

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

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

9. **Metallurgy:**

   a. All drill strings, casing, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.
   b. Drilling Contractor supervisor will be required to be familiar with the effect H_2S has on tubular goods and other mechanical equipment provided through contractor.

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H_2S Contingency Plan

Emergency Procedures

In the event of a release of H_2S, 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_2S 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_2S 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_2). 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_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	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)

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H_2S Contingency Plan

Ameredev Operating LLC – Emergency Phone 737-300-4799			
Key Personnel:			
Name	Title	Office	Mobile
Floyd Hammond	Chief Operating officer	737-300-4724	512-783-6810
Zachary Boyd	Operations Superintendent	737-300-4725	432-385-6996
Blake Estrada	Construction Foreman		432-385-5831

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

AMEREDEV

Ameredev Operating, LLC.

RB/HOL
RB/HOL #4S
Holly 123H

Wellbore #1

Plan: Design #1

Standard Planning Report

21 February, 2019

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	RB/HOL		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	RB/HOL #4S				
Site Position:		**Northing:**	394,020.11 usft	**Latitude:**	32° 4' 44.207 N
From:	Lat/Long	**Easting:**	864,441.19 usft	**Longitude:**	103° 17' 24.553 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.55 °

Well	Holly 123H					
Well Position	**+N/-S**	0.4 usft	**Northing:**	394,020.47 usft	**Latitude:**	32° 4' 44.207 N
	+E/-W	40.0 usft	**Easting:**	864,481.21 usft	**Longitude:**	103° 17' 24.088 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,001.0 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	12/13/2018	6.65	59.95	47,731.02538126

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	179.81	

Plan Survey Tool Program **Date** 2/21/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	23,017.8	Design #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

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Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	41.00	2,299.5	11.8	10.3	2.00	2.00	0.00	41.00	
6,724.8	6.00	41.00	6,700.0	360.9	313.7	0.00	0.00	0.00	0.00	
7,024.8	0.00	0.00	6,999.5	372.8	324.0	2.00	-2.00	0.00	180.00	
8,525.3	0.00	0.00	8,500.0	372.8	324.0	0.00	0.00	0.00	0.00	
8,825.3	6.00	41.00	8,799.5	384.6	334.3	2.00	2.00	0.00	41.00	
10,836.9	6.00	41.00	10,800.0	543.3	472.3	0.00	0.00	0.00	0.00	
11,136.9	0.00	0.00	11,099.5	555.1	482.6	2.00	-2.00	0.00	180.00	
11,637.5	0.00	0.00	11,600.0	555.1	482.6	0.00	0.00	0.00	0.00	
12,308.7	80.09	238.02	12,073.1	344.6	145.3	11.93	11.93	0.00	238.02	
12,804.7	90.00	179.36	12,120.0	-70.4	-79.5	11.93	2.00	-11.83	-84.02	Hol123 FTP2
23,017.8	90.00	179.36	12,120.0	-10,282.8	34.1	0.00	0.00	0.00	0.00	Hol123 BHL

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	41.00	2,100.0	1.3	1.1	-1.3	2.00	2.00	0.00
2,200.0	4.00	41.00	2,199.8	5.3	4.6	-5.3	2.00	2.00	0.00
2,300.0	6.00	41.00	2,299.5	11.8	10.3	-11.8	2.00	2.00	0.00
2,400.0	6.00	41.00	2,398.9	19.7	17.2	-19.7	0.00	0.00	0.00
2,500.0	6.00	41.00	2,498.4	27.6	24.0	-27.5	0.00	0.00	0.00
2,600.0	6.00	41.00	2,597.8	35.5	30.9	-35.4	0.00	0.00	0.00
2,700.0	6.00	41.00	2,697.3	43.4	37.7	-43.3	0.00	0.00	0.00
2,800.0	6.00	41.00	2,796.7	51.3	44.6	-51.1	0.00	0.00	0.00
2,900.0	6.00	41.00	2,896.2	59.2	51.4	-59.0	0.00	0.00	0.00
3,000.0	6.00	41.00	2,995.6	67.1	58.3	-66.9	0.00	0.00	0.00
3,100.0	6.00	41.00	3,095.1	75.0	65.2	-74.7	0.00	0.00	0.00
3,200.0	6.00	41.00	3,194.5	82.8	72.0	-82.6	0.00	0.00	0.00
3,300.0	6.00	41.00	3,294.0	90.7	78.9	-90.5	0.00	0.00	0.00
3,400.0	6.00	41.00	3,393.4	98.6	85.7	-98.3	0.00	0.00	0.00
3,500.0	6.00	41.00	3,492.9	106.5	92.6	-106.2	0.00	0.00	0.00
3,600.0	6.00	41.00	3,592.3	114.4	99.4	-114.1	0.00	0.00	0.00
3,700.0	6.00	41.00	3,691.8	122.3	106.3	-121.9	0.00	0.00	0.00
3,800.0	6.00	41.00	3,791.2	130.2	113.2	-129.8	0.00	0.00	0.00
3,900.0	6.00	41.00	3,890.7	138.1	120.0	-137.7	0.00	0.00	0.00
4,000.0	6.00	41.00	3,990.1	146.0	126.9	-145.5	0.00	0.00	0.00
4,100.0	6.00	41.00	4,089.6	153.8	133.7	-153.4	0.00	0.00	0.00
4,200.0	6.00	41.00	4,189.0	161.7	140.6	-161.3	0.00	0.00	0.00
4,300.0	6.00	41.00	4,288.5	169.6	147.4	-169.1	0.00	0.00	0.00
4,400.0	6.00	41.00	4,387.9	177.5	154.3	-177.0	0.00	0.00	0.00
4,500.0	6.00	41.00	4,487.4	185.4	161.2	-184.9	0.00	0.00	0.00
4,600.0	6.00	41.00	4,586.9	193.3	168.0	-192.7	0.00	0.00	0.00
4,700.0	6.00	41.00	4,686.3	201.2	174.9	-200.6	0.00	0.00	0.00
4,800.0	6.00	41.00	4,785.8	209.1	181.7	-208.5	0.00	0.00	0.00
4,900.0	6.00	41.00	4,885.2	217.0	188.6	-216.3	0.00	0.00	0.00
5,000.0	6.00	41.00	4,984.7	224.8	195.5	-224.2	0.00	0.00	0.00
5,100.0	6.00	41.00	5,084.1	232.7	202.3	-232.1	0.00	0.00	0.00
5,200.0	6.00	41.00	5,183.6	240.6	209.2	-239.9	0.00	0.00	0.00
5,300.0	6.00	41.00	5,283.0	248.5	216.0	-247.8	0.00	0.00	0.00

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Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	41.00	5,382.5	256.4	222.9	-255.7	0.00	0.00	0.00
5,500.0	6.00	41.00	5,481.9	264.3	229.7	-263.5	0.00	0.00	0.00
5,600.0	6.00	41.00	5,581.4	272.2	236.6	-271.4	0.00	0.00	0.00
5,700.0	6.00	41.00	5,680.8	280.1	243.5	-279.3	0.00	0.00	0.00
5,800.0	6.00	41.00	5,780.3	288.0	250.3	-287.1	0.00	0.00	0.00
5,900.0	6.00	41.00	5,879.7	295.8	257.2	-295.0	0.00	0.00	0.00
6,000.0	6.00	41.00	5,979.2	303.7	264.0	-302.9	0.00	0.00	0.00
6,100.0	6.00	41.00	6,078.6	311.6	270.9	-310.7	0.00	0.00	0.00
6,200.0	6.00	41.00	6,178.1	319.5	277.7	-318.6	0.00	0.00	0.00
6,300.0	6.00	41.00	6,277.5	327.4	284.6	-326.5	0.00	0.00	0.00
6,400.0	6.00	41.00	6,377.0	335.3	291.5	-334.3	0.00	0.00	0.00
6,500.0	6.00	41.00	6,476.4	343.2	298.3	-342.2	0.00	0.00	0.00
6,600.0	6.00	41.00	6,575.9	351.1	305.2	-350.1	0.00	0.00	0.00
6,700.0	6.00	41.00	6,675.3	359.0	312.0	-357.9	0.00	0.00	0.00
6,724.8	6.00	41.00	6,700.0	360.9	313.7	-359.9	0.00	0.00	0.00
6,800.0	4.50	41.00	6,774.9	366.1	318.2	-365.0	2.00	-2.00	0.00
6,900.0	2.50	41.00	6,874.7	370.7	322.2	-369.6	2.00	-2.00	0.00
7,000.0	0.50	41.00	6,974.7	372.7	324.0	-371.6	2.00	-2.00	0.00
7,024.8	0.00	0.00	6,999.5	372.8	324.0	-371.7	2.00	-2.00	0.00
7,100.0	0.00	0.00	7,074.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,174.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,274.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,374.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,474.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,574.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,674.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,774.7	372.8	324.0	-371.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,874.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,974.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,100.0	0.00	0.00	8,074.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,200.0	0.00	0.00	8,174.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,274.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,374.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,474.7	372.8	324.0	-371.7	0.00	0.00	0.00
8,525.3	0.00	0.00	8,500.0	372.8	324.0	-371.7	0.00	0.00	0.00
8,600.0	1.49	41.00	8,574.7	373.5	324.7	-372.4	2.00	2.00	0.00
8,700.0	3.49	41.00	8,674.6	376.8	327.5	-375.7	2.00	2.00	0.00
8,800.0	5.49	41.00	8,774.2	382.7	332.7	-381.6	2.00	2.00	0.00
8,825.3	6.00	41.00	8,799.5	384.6	334.3	-383.5	2.00	2.00	0.00
8,900.0	6.00	41.00	8,873.7	390.5	339.4	-389.4	0.00	0.00	0.00
9,000.0	6.00	41.00	8,973.2	398.4	346.3	-397.2	0.00	0.00	0.00
9,100.0	6.00	41.00	9,072.6	406.3	353.2	-405.1	0.00	0.00	0.00
9,200.0	6.00	41.00	9,172.1	414.2	360.0	-413.0	0.00	0.00	0.00
9,300.0	6.00	41.00	9,271.5	422.0	366.9	-420.8	0.00	0.00	0.00
9,400.0	6.00	41.00	9,371.0	429.9	373.7	-428.7	0.00	0.00	0.00
9,500.0	6.00	41.00	9,470.4	437.8	380.6	-436.6	0.00	0.00	0.00
9,600.0	6.00	41.00	9,569.9	445.7	387.4	-444.4	0.00	0.00	0.00
9,700.0	6.00	41.00	9,669.3	453.6	394.3	-452.3	0.00	0.00	0.00
9,800.0	6.00	41.00	9,768.8	461.5	401.2	-460.2	0.00	0.00	0.00
9,900.0	6.00	41.00	9,868.2	469.4	408.0	-468.0	0.00	0.00	0.00
10,000.0	6.00	41.00	9,967.7	477.3	414.9	-475.9	0.00	0.00	0.00
10,100.0	6.00	41.00	10,067.1	485.2	421.7	-483.8	0.00	0.00	0.00
10,200.0	6.00	41.00	10,166.6	493.0	428.6	-491.6	0.00	0.00	0.00
10,300.0	6.00	41.00	10,266.0	500.9	435.5	-499.5	0.00	0.00	0.00

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
10,400.0	6.00	41.00	10,365.5	508.8	442.3	-507.4	0.00	0.00	0.00
10,500.0	6.00	41.00	10,464.9	516.7	449.2	-515.2	0.00	0.00	0.00
10,600.0	6.00	41.00	10,564.4	524.6	456.0	-523.1	0.00	0.00	0.00
10,700.0	6.00	41.00	10,663.8	532.5	462.9	-530.9	0.00	0.00	0.00
10,800.0	6.00	41.00	10,763.3	540.4	469.7	-538.8	0.00	0.00	0.00
10,836.9	6.00	41.00	10,800.0	543.3	472.3	-541.7	0.00	0.00	0.00
10,900.0	4.74	41.00	10,862.8	547.7	476.1	-546.2	2.00	-2.00	0.00
11,000.0	2.74	41.00	10,962.6	552.7	480.4	-551.1	2.00	-2.00	0.00
11,100.0	0.74	41.00	11,062.5	555.0	482.4	-553.3	2.00	-2.00	0.00
11,136.9	0.00	0.00	11,099.5	555.1	482.6	-553.5	2.00	-2.00	0.00
11,200.0	0.00	0.00	11,162.5	555.1	482.6	-553.5	0.00	0.00	0.00
11,300.0	0.00	0.00	11,262.5	555.1	482.6	-553.5	0.00	0.00	0.00
11,400.0	0.00	0.00	11,362.5	555.1	482.6	-553.5	0.00	0.00	0.00
11,500.0	0.00	0.00	11,462.5	555.1	482.6	-553.5	0.00	0.00	0.00
11,600.0	0.00	0.00	11,562.5	555.1	482.6	-553.5	0.00	0.00	0.00
11,637.5	0.00	0.00	11,600.0	555.1	482.6	-553.5	0.00	0.00	0.00
Hol123 KOP									
11,700.0	7.46	238.02	11,662.4	553.0	479.1	-551.4	11.93	11.93	0.00
11,800.0	19.39	238.02	11,759.5	540.7	459.5	-539.2	11.93	11.93	0.00
11,900.0	31.32	238.02	11,849.7	518.1	423.2	-516.7	11.93	11.93	0.00
12,000.0	43.26	238.02	11,929.1	486.0	371.9	-484.8	11.93	11.93	0.00
12,100.0	55.19	238.02	11,994.3	446.0	307.8	-445.0	11.93	11.93	0.00
12,200.0	67.12	238.02	12,042.4	399.7	233.6	-398.9	11.93	11.93	0.00
12,300.0	79.05	238.02	12,071.5	349.1	152.6	-348.6	11.93	11.93	0.00
12,308.7	80.09	238.02	12,073.1	344.6	145.3	-344.1	11.93	11.93	0.00
12,400.0	81.39	227.06	12,087.8	289.9	73.9	-289.6	11.93	1.43	-12.00
12,500.0	83.18	215.16	12,101.3	215.3	8.9	-215.3	11.93	1.78	-11.91
12,600.0	85.25	203.35	12,111.4	128.7	-39.6	-128.8	11.93	2.07	-11.81
12,612.0	85.51	201.94	12,112.3	117.7	-44.2	-117.8	11.93	2.20	-11.77
Hol123 FTP									
12,700.0	87.51	191.61	12,117.7	33.6	-69.5	-33.9	11.93	2.28	-11.73
12,800.0	89.89	179.91	12,120.0	-65.6	-79.5	65.4	11.93	2.37	-11.70
12,804.7	90.00	179.36	12,120.0	-70.4	-79.5	70.1	11.93	2.39	-11.69
Hol123 FTP2									
12,900.0	90.00	179.36	12,120.0	-165.6	-78.4	165.4	0.00	0.00	0.00
13,000.0	90.00	179.36	12,120.0	-265.6	-77.3	265.4	0.00	0.00	0.00
13,100.0	90.00	179.36	12,120.0	-365.6	-76.2	365.4	0.00	0.00	0.00
13,200.0	90.00	179.36	12,120.0	-465.6	-75.1	465.4	0.00	0.00	0.00
13,300.0	90.00	179.36	12,120.0	-565.6	-74.0	565.4	0.00	0.00	0.00
13,400.0	90.00	179.36	12,120.0	-665.6	-72.8	665.4	0.00	0.00	0.00
13,500.0	90.00	179.36	12,120.0	-765.6	-71.7	765.4	0.00	0.00	0.00
13,600.0	90.00	179.36	12,120.0	-865.6	-70.6	865.4	0.00	0.00	0.00
13,700.0	90.00	179.36	12,120.0	-965.6	-69.5	965.4	0.00	0.00	0.00
13,800.0	90.00	179.36	12,120.0	-1,065.6	-68.4	1,065.3	0.00	0.00	0.00
13,900.0	90.00	179.36	12,120.0	-1,165.6	-67.3	1,165.3	0.00	0.00	0.00
14,000.0	90.00	179.36	12,120.0	-1,265.6	-66.2	1,265.3	0.00	0.00	0.00
14,100.0	90.00	179.36	12,120.0	-1,365.6	-65.1	1,365.3	0.00	0.00	0.00
14,200.0	90.00	179.36	12,120.0	-1,465.6	-63.9	1,465.3	0.00	0.00	0.00
14,300.0	90.00	179.36	12,120.0	-1,565.5	-62.8	1,565.3	0.00	0.00	0.00
14,400.0	90.00	179.36	12,120.0	-1,665.5	-61.7	1,665.3	0.00	0.00	0.00
14,500.0	90.00	179.36	12,120.0	-1,765.5	-60.6	1,765.3	0.00	0.00	0.00
14,600.0	90.00	179.36	12,120.0	-1,865.5	-59.5	1,865.3	0.00	0.00	0.00
14,700.0	90.00	179.36	12,120.0	-1,965.5	-58.4	1,965.3	0.00	0.00	0.00

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
14,800.0	90.00	179.36	12,120.0	-2,065.5	-57.3	2,065.3	0.00	0.00	0.00
14,900.0	90.00	179.36	12,120.0	-2,165.5	-56.2	2,165.3	0.00	0.00	0.00
15,000.0	90.00	179.36	12,120.0	-2,265.5	-55.1	2,265.3	0.00	0.00	0.00
15,100.0	90.00	179.36	12,120.0	-2,365.5	-53.9	2,365.3	0.00	0.00	0.00
15,200.0	90.00	179.36	12,120.0	-2,465.5	-52.8	2,465.3	0.00	0.00	0.00
15,300.0	90.00	179.36	12,120.0	-2,565.5	-51.7	2,565.3	0.00	0.00	0.00
15,400.0	90.00	179.36	12,120.0	-2,665.5	-50.6	2,665.3	0.00	0.00	0.00
15,500.0	90.00	179.36	12,120.0	-2,765.5	-49.5	2,765.3	0.00	0.00	0.00
15,600.0	90.00	179.36	12,120.0	-2,865.5	-48.4	2,865.3	0.00	0.00	0.00
15,700.0	90.00	179.36	12,120.0	-2,965.5	-47.3	2,965.3	0.00	0.00	0.00
15,800.0	90.00	179.36	12,120.0	-3,065.5	-46.2	3,065.3	0.00	0.00	0.00
15,900.0	90.00	179.36	12,120.0	-3,165.5	-45.0	3,165.3	0.00	0.00	0.00
16,000.0	90.00	179.36	12,120.0	-3,265.4	-43.9	3,265.3	0.00	0.00	0.00
16,100.0	90.00	179.36	12,120.0	-3,365.4	-42.8	3,365.3	0.00	0.00	0.00
16,200.0	90.00	179.36	12,120.0	-3,465.4	-41.7	3,465.3	0.00	0.00	0.00
16,300.0	90.00	179.36	12,120.0	-3,565.4	-40.6	3,565.3	0.00	0.00	0.00
16,400.0	90.00	179.36	12,120.0	-3,665.4	-39.5	3,665.3	0.00	0.00	0.00
16,465.0	90.00	179.36	12,120.0	-3,730.4	-38.8	3,730.3	0.00	0.00	0.00
Hol123 into NMNM006727									
16,500.0	90.00	179.36	12,120.0	-3,765.4	-38.4	3,765.3	0.00	0.00	0.00
16,600.0	90.00	179.36	12,120.0	-3,865.4	-37.3	3,865.3	0.00	0.00	0.00
16,700.0	90.00	179.36	12,120.0	-3,965.4	-36.1	3,965.3	0.00	0.00	0.00
16,800.0	90.00	179.36	12,120.0	-4,065.4	-35.0	4,065.3	0.00	0.00	0.00
16,900.0	90.00	179.36	12,120.0	-4,165.4	-33.9	4,165.3	0.00	0.00	0.00
17,000.0	90.00	179.36	12,120.0	-4,265.4	-32.8	4,265.3	0.00	0.00	0.00
17,100.0	90.00	179.36	12,120.0	-4,365.4	-31.7	4,365.2	0.00	0.00	0.00
17,200.0	90.00	179.36	12,120.0	-4,465.4	-30.6	4,465.2	0.00	0.00	0.00
17,300.0	90.00	179.36	12,120.0	-4,565.4	-29.5	4,565.2	0.00	0.00	0.00
17,400.0	90.00	179.36	12,120.0	-4,665.4	-28.4	4,665.2	0.00	0.00	0.00
17,500.0	90.00	179.36	12,120.0	-4,765.4	-27.2	4,765.2	0.00	0.00	0.00
17,600.0	90.00	179.36	12,120.0	-4,865.3	-26.1	4,865.2	0.00	0.00	0.00
17,700.0	90.00	179.36	12,120.0	-4,965.3	-25.0	4,965.2	0.00	0.00	0.00
17,785.0	90.00	179.36	12,120.0	-5,050.3	-24.1	5,050.2	0.00	0.00	0.00
Hol123 into NMNM137473									
17,800.0	90.00	179.36	12,120.0	-5,065.3	-23.9	5,065.2	0.00	0.00	0.00
17,900.0	90.00	179.36	12,120.0	-5,165.3	-22.8	5,165.2	0.00	0.00	0.00
18,000.0	90.00	179.36	12,120.0	-5,265.3	-21.7	5,265.2	0.00	0.00	0.00
18,100.0	90.00	179.36	12,120.0	-5,365.3	-20.6	5,365.2	0.00	0.00	0.00
18,200.0	90.00	179.36	12,120.0	-5,465.3	-19.5	5,465.2	0.00	0.00	0.00
18,300.0	90.00	179.36	12,120.0	-5,565.3	-18.3	5,565.2	0.00	0.00	0.00
18,400.0	90.00	179.36	12,120.0	-5,665.3	-17.2	5,665.2	0.00	0.00	0.00
18,500.0	90.00	179.36	12,120.0	-5,765.3	-16.1	5,765.2	0.00	0.00	0.00
18,600.0	90.00	179.36	12,120.0	-5,865.3	-15.0	5,865.2	0.00	0.00	0.00
18,700.0	90.00	179.36	12,120.0	-5,965.3	-13.9	5,965.2	0.00	0.00	0.00
18,800.0	90.00	179.36	12,120.0	-6,065.3	-12.8	6,065.2	0.00	0.00	0.00
18,900.0	90.00	179.36	12,120.0	-6,165.3	-11.7	6,165.2	0.00	0.00	0.00
19,000.0	90.00	179.36	12,120.0	-6,265.3	-10.6	6,265.2	0.00	0.00	0.00
19,100.0	90.00	179.36	12,120.0	-6,365.3	-9.5	6,365.2	0.00	0.00	0.00
19,200.0	90.00	179.36	12,120.0	-6,465.2	-8.3	6,465.2	0.00	0.00	0.00
19,300.0	90.00	179.36	12,120.0	-6,565.2	-7.2	6,565.2	0.00	0.00	0.00
19,400.0	90.00	179.36	12,120.0	-6,665.2	-6.1	6,665.2	0.00	0.00	0.00
19,500.0	90.00	179.36	12,120.0	-6,765.2	-5.0	6,765.2	0.00	0.00	0.00
19,600.0	90.00	179.36	12,120.0	-6,865.2	-3.9	6,865.2	0.00	0.00	0.00
19,700.0	90.00	179.36	12,120.0	-6,965.2	-2.8	6,965.2	0.00	0.00	0.00

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
19,800.0	90.00	179.36	12,120.0	-7,065.2	-1.7	7,065.2	0.00	0.00	0.00
19,900.0	90.00	179.36	12,120.0	-7,165.2	-0.6	7,165.2	0.00	0.00	0.00
20,000.0	90.00	179.36	12,120.0	-7,265.2	0.6	7,265.2	0.00	0.00	0.00
20,100.0	90.00	179.36	12,120.0	-7,365.2	1.7	7,365.2	0.00	0.00	0.00
20,200.0	90.00	179.36	12,120.0	-7,465.2	2.8	7,465.2	0.00	0.00	0.00
20,300.0	90.00	179.36	12,120.0	-7,565.2	3.9	7,565.1	0.00	0.00	0.00
20,400.0	90.00	179.36	12,120.0	-7,665.2	5.0	7,665.1	0.00	0.00	0.00
20,500.0	90.00	179.36	12,120.0	-7,765.2	6.1	7,765.1	0.00	0.00	0.00
20,600.0	90.00	179.36	12,120.0	-7,865.2	7.2	7,865.1	0.00	0.00	0.00
20,700.0	90.00	179.36	12,120.0	-7,965.2	8.3	7,965.1	0.00	0.00	0.00
20,800.0	90.00	179.36	12,120.0	-8,065.1	9.5	8,065.1	0.00	0.00	0.00
20,900.0	90.00	179.36	12,120.0	-8,165.1	10.6	8,165.1	0.00	0.00	0.00
21,000.0	90.00	179.36	12,120.0	-8,265.1	11.7	8,265.1	0.00	0.00	0.00
21,100.0	90.00	179.36	12,120.0	-8,365.1	12.8	8,365.1	0.00	0.00	0.00
21,200.0	90.00	179.36	12,120.0	-8,465.1	13.9	8,465.1	0.00	0.00	0.00
21,300.0	90.00	179.36	12,120.0	-8,565.1	15.0	8,565.1	0.00	0.00	0.00
21,400.0	90.00	179.36	12,120.0	-8,665.1	16.1	8,665.1	0.00	0.00	0.00
21,500.0	90.00	179.36	12,120.0	-8,765.1	17.2	8,765.1	0.00	0.00	0.00
21,600.0	90.00	179.36	12,120.0	-8,865.1	18.4	8,865.1	0.00	0.00	0.00
21,700.0	90.00	179.36	12,120.0	-8,965.1	19.5	8,965.1	0.00	0.00	0.00
21,800.0	90.00	179.36	12,120.0	-9,065.1	20.6	9,065.1	0.00	0.00	0.00
21,900.0	90.00	179.36	12,120.0	-9,165.1	21.7	9,165.1	0.00	0.00	0.00
22,000.0	90.00	179.36	12,120.0	-9,265.1	22.8	9,265.1	0.00	0.00	0.00
22,100.0	90.00	179.36	12,120.0	-9,365.1	23.9	9,365.1	0.00	0.00	0.00
22,200.0	90.00	179.36	12,120.0	-9,465.1	25.0	9,465.1	0.00	0.00	0.00
22,300.0	90.00	179.36	12,120.0	-9,565.1	26.1	9,565.1	0.00	0.00	0.00
22,400.0	90.00	179.36	12,120.0	-9,665.0	27.3	9,665.1	0.00	0.00	0.00
22,500.0	90.00	179.36	12,120.0	-9,765.0	28.4	9,765.1	0.00	0.00	0.00
22,600.0	90.00	179.36	12,120.0	-9,865.0	29.5	9,865.1	0.00	0.00	0.00
22,700.0	90.00	179.36	12,120.0	-9,965.0	30.6	9,965.1	0.00	0.00	0.00
22,800.0	90.00	179.36	12,120.0	-10,065.0	31.7	10,065.1	0.00	0.00	0.00
22,900.0	90.00	179.36	12,120.0	-10,165.0	32.8	10,165.1	0.00	0.00	0.00
22,967.8	90.00	179.36	12,120.0	-10,232.9	33.6	10,232.9	0.00	0.00	0.00
Hol123 LTP									
23,000.0	90.00	179.36	12,120.0	-10,265.0	33.9	10,265.1	0.00	0.00	0.00
23,017.8	90.00	179.36	12,120.0	-10,282.8	34.1	10,282.9	0.00	0.00	0.00
Hol123 BHL									

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Holly 123H
Company:	Ameredev Operating, LLC.	**TVD Reference:**	KB @ 3028.0usft
Project:	RB/HOL	**MD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**North Reference:**	Grid
Well:	Holly 123H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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
Hol123 KOP - plan hits target center - Point	0.00	0.00	11,600.0	555.1	482.6	394,575.60	864,963.78	32° 4' 49.653 N	103° 17' 18.418 W
Hol123 FTP2 - plan hits target center - Point	0.00	0.00	12,120.0	-70.4	-79.5	393,950.11	864,401.74	32° 4' 43.518 N	103° 17' 25.020 W
Hol123 LTP - plan hits target center - Point	0.00	0.00	12,120.0	-10,232.9	33.6	383,787.61	864,514.79	32° 3' 2.953 N	103° 17' 24.847 W
Hol123 BHL - plan hits target center - Point	0.00	0.00	12,120.0	-10,282.8	34.1	383,737.62	864,515.34	32° 3' 2.458 N	103° 17' 24.847 W
Hol123 FTP - plan misses target center by 37.9usft at 12612.0usft MD (12112.3 TVD, 117.7 N, -44.2 E) - Point	0.00	0.00	12,120.0	129.3	-79.5	394,149.73	864,401.74	32° 4' 45.493 N	103° 17' 24.997 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
16,465.0	12,120.0	229.6	199.6	Hol123 into NMNM006727
17,785.0	12,120.0	-3,730.4	-38.8	Hol123 into NMNM137473

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Ameredev Operating, LLC.

RB/HOL
RB/HOL #4S
Holly 123H
Wellbore #1

Plan: Design #1

Lease Penetration Section Line Foot

21 February, 2019

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Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Project	RB/HOL		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	RB/HOL #4S				
Site Position:		**Northing:**	394,020.12 usft	**Latitude:**	32° 4' 44.207 N
From:	Lat/Long	**Easting:**	864,441.19 usft	**Longitude:**	103° 17' 24.553 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16"	**Grid Convergence:**	0.55 °

Well	Holly 123H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	394,020.47 usft	**Latitude:**	32° 4' 44.207 N
	+E/-W	0.0 usft	**Easting:**	864,481.21 usft	**Longitude:**	103° 17' 24.088 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,001.0 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	12/13/2018	6.65	59.95	47,731.02538126

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	179.81	

Survey Tool Program **Date** 2/21/2019

From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.0	23,017.8	Design #1 (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	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
100.0	0.00	0.00	100.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
200.0	0.00	0.00	200.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
300.0	0.00	0.00	300.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
400.0	0.00	0.00	400.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
500.0	0.00	0.00	500.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
600.0	0.00	0.00	600.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
700.0	0.00	0.00	700.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
800.0	0.00	0.00	800.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
900.0	0.00	0.00	900.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,000.0	0.00	0.00	1,000.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,100.0	0.00	0.00	1,100.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W

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Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	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	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,300.0	0.00	0.00	1,300.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,400.0	0.00	0.00	1,400.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,500.0	0.00	0.00	1,500.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,600.0	0.00	0.00	1,600.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,700.0	0.00	0.00	1,700.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,800.0	0.00	0.00	1,800.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
1,900.0	0.00	0.00	1,900.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
2,000.0	0.00	0.00	2,000.0	-229.6	1,750.0	32° 4' 44.207 N	103° 17' 24.088 W
2,100.0	2.00	41.00	2,100.0	-228.3	1,751.2	32° 4' 44.220 N	103° 17' 24.075 W
2,200.0	4.00	41.00	2,199.8	-224.4	1,754.6	32° 4' 44.258 N	103° 17' 24.034 W
2,300.0	6.00	41.00	2,299.5	-217.8	1,760.3	32° 4' 44.323 N	103° 17' 23.967 W
2,400.0	6.00	41.00	2,398.9	-209.9	1,767.2	32° 4' 44.400 N	103° 17' 23.887 W
2,500.0	6.00	41.00	2,498.4	-202.0	1,774.0	32° 4' 44.478 N	103° 17' 23.806 W
2,600.0	6.00	41.00	2,597.8	-194.1	1,780.9	32° 4' 44.555 N	103° 17' 23.725 W
2,700.0	6.00	41.00	2,697.3	-186.2	1,787.7	32° 4' 44.632 N	103° 17' 23.645 W
2,800.0	6.00	41.00	2,796.7	-178.4	1,794.6	32° 4' 44.710 N	103° 17' 23.564 W
2,900.0	6.00	41.00	2,896.2	-170.5	1,801.5	32° 4' 44.787 N	103° 17' 23.484 W
3,000.0	6.00	41.00	2,995.6	-162.6	1,808.3	32° 4' 44.865 N	103° 17' 23.403 W
3,100.0	6.00	41.00	3,095.1	-154.7	1,815.2	32° 4' 44.942 N	103° 17' 23.323 W
3,200.0	6.00	41.00	3,194.5	-146.8	1,822.0	32° 4' 45.019 N	103° 17' 23.242 W
3,300.0	6.00	41.00	3,294.0	-138.9	1,828.9	32° 4' 45.097 N	103° 17' 23.161 W
3,400.0	6.00	41.00	3,393.4	-131.0	1,835.7	32° 4' 45.174 N	103° 17' 23.081 W
3,500.0	6.00	41.00	3,492.9	-123.1	1,842.6	32° 4' 45.252 N	103° 17' 23.000 W
3,600.0	6.00	41.00	3,592.3	-115.3	1,849.5	32° 4' 45.329 N	103° 17' 22.920 W
3,700.0	6.00	41.00	3,691.8	-107.4	1,856.3	32° 4' 45.407 N	103° 17' 22.839 W
3,800.0	6.00	41.00	3,791.2	-99.5	1,863.2	32° 4' 45.484 N	103° 17' 22.758 W
3,900.0	6.00	41.00	3,890.7	-91.6	1,870.0	32° 4' 45.561 N	103° 17' 22.678 W
4,000.0	6.00	41.00	3,990.1	-83.7	1,876.9	32° 4' 45.639 N	103° 17' 22.597 W
4,100.0	6.00	41.00	4,089.6	-75.8	1,883.8	32° 4' 45.716 N	103° 17' 22.517 W
4,200.0	6.00	41.00	4,189.0	-67.9	1,890.6	32° 4' 45.794 N	103° 17' 22.436 W
4,300.0	6.00	41.00	4,288.5	-60.0	1,897.5	32° 4' 45.871 N	103° 17' 22.356 W
4,400.0	6.00	41.00	4,387.9	-52.1	1,904.3	32° 4' 45.948 N	103° 17' 22.275 W
4,500.0	6.00	41.00	4,487.4	-44.3	1,911.2	32° 4' 46.026 N	103° 17' 22.194 W
4,600.0	6.00	41.00	4,586.9	-36.4	1,918.0	32° 4' 46.103 N	103° 17' 22.114 W
4,700.0	6.00	41.00	4,686.3	-28.5	1,924.9	32° 4' 46.181 N	103° 17' 22.033 W
4,800.0	6.00	41.00	4,785.8	-20.6	1,931.8	32° 4' 46.258 N	103° 17' 21.953 W
4,900.0	6.00	41.00	4,885.2	-12.7	1,938.6	32° 4' 46.335 N	103° 17' 21.872 W
5,000.0	6.00	41.00	4,984.7	-4.8	1,945.5	32° 4' 46.413 N	103° 17' 21.791 W
5,100.0	6.00	41.00	5,084.1	3.1	1,952.3	32° 4' 46.490 N	103° 17' 21.711 W
5,200.0	6.00	41.00	5,183.6	11.0	1,959.2	32° 4' 46.568 N	103° 17' 21.630 W
5,300.0	6.00	41.00	5,283.0	18.9	1,966.0	32° 4' 46.645 N	103° 17' 21.550 W
5,400.0	6.00	41.00	5,382.5	26.7	1,972.9	32° 4' 46.722 N	103° 17' 21.469 W
5,500.0	6.00	41.00	5,481.9	34.6	1,979.8	32° 4' 46.800 N	103° 17' 21.389 W

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Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
5,600.0	6.00	41.00	5,581.4	42.5	1,986.6	32° 4' 46.877 N	103° 17' 21.308 W
5,700.0	6.00	41.00	5,680.8	50.4	1,993.5	32° 4' 46.955 N	103° 17' 21.227 W
5,800.0	6.00	41.00	5,780.3	58.3	2,000.3	32° 4' 47.032 N	103° 17' 21.147 W
5,900.0	6.00	41.00	5,879.7	66.2	2,007.2	32° 4' 47.109 N	103° 17' 21.066 W
6,000.0	6.00	41.00	5,979.2	74.1	2,014.0	32° 4' 47.187 N	103° 17' 20.986 W
6,100.0	6.00	41.00	6,078.6	82.0	2,020.9	32° 4' 47.264 N	103° 17' 20.905 W
6,200.0	6.00	41.00	6,178.1	89.9	2,027.8	32° 4' 47.342 N	103° 17' 20.824 W
6,300.0	6.00	41.00	6,277.5	97.7	2,034.6	32° 4' 47.419 N	103° 17' 20.744 W
6,400.0	6.00	41.00	6,377.0	105.6	2,041.5	32° 4' 47.496 N	103° 17' 20.663 W
6,500.0	6.00	41.00	6,476.4	113.5	2,048.3	32° 4' 47.574 N	103° 17' 20.583 W
6,600.0	6.00	41.00	6,575.9	121.4	2,055.2	32° 4' 47.651 N	103° 17' 20.502 W
6,700.0	6.00	41.00	6,675.3	129.3	2,062.1	32° 4' 47.729 N	103° 17' 20.422 W
6,724.8	6.00	41.00	6,700.0	131.3	2,063.8	32° 4' 47.748 N	103° 17' 20.402 W
6,800.0	4.50	41.00	6,774.9	136.5	2,068.3	32° 4' 47.799 N	103° 17' 20.349 W
6,900.0	2.50	41.00	6,874.7	141.1	2,072.3	32° 4' 47.844 N	103° 17' 20.302 W
7,000.0	0.50	41.00	6,974.7	143.0	2,074.0	32° 4' 47.863 N	103° 17' 20.281 W
7,024.8	0.00	0.00	6,999.5	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,100.0	0.00	0.00	7,074.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,200.0	0.00	0.00	7,174.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,300.0	0.00	0.00	7,274.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,400.0	0.00	0.00	7,374.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,500.0	0.00	0.00	7,474.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,600.0	0.00	0.00	7,574.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,700.0	0.00	0.00	7,674.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,800.0	0.00	0.00	7,774.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
7,900.0	0.00	0.00	7,874.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,000.0	0.00	0.00	7,974.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,100.0	0.00	0.00	8,074.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,200.0	0.00	0.00	8,174.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,300.0	0.00	0.00	8,274.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,400.0	0.00	0.00	8,374.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,500.0	0.00	0.00	8,474.7	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,525.3	0.00	0.00	8,500.0	143.1	2,074.0	32° 4' 47.864 N	103° 17' 20.281 W
8,600.0	1.49	41.00	8,574.7	143.8	2,074.7	32° 4' 47.871 N	103° 17' 20.273 W
8,700.0	3.49	41.00	8,674.6	147.1	2,077.5	32° 4' 47.903 N	103° 17' 20.240 W
8,800.0	5.49	41.00	8,774.2	153.0	2,082.7	32° 4' 47.961 N	103° 17' 20.179 W
8,825.3	6.00	41.00	8,799.5	154.9	2,084.3	32° 4' 47.980 N	103° 17' 20.160 W
8,900.0	6.00	41.00	8,873.7	160.8	2,089.5	32° 4' 48.038 N	103° 17' 20.099 W
9,000.0	6.00	41.00	8,973.2	168.7	2,096.3	32° 4' 48.115 N	103° 17' 20.019 W
9,100.0	6.00	41.00	9,072.6	176.6	2,103.2	32° 4' 48.193 N	103° 17' 19.938 W
9,200.0	6.00	41.00	9,172.1	184.5	2,110.0	32° 4' 48.270 N	103° 17' 19.858 W
9,300.0	6.00	41.00	9,271.5	192.4	2,116.9	32° 4' 48.348 N	103° 17' 19.777 W
9,400.0	6.00	41.00	9,371.0	200.3	2,123.8	32° 4' 48.425 N	103° 17' 19.697 W
9,500.0	6.00	41.00	9,470.4	208.2	2,130.6	32° 4' 48.502 N	103° 17' 19.616 W

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Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
9,600.0	6.00	41.00	9,569.9	216.1	2,137.5	32° 4' 48.580 N	103° 17' 19.535 W
9,700.0	6.00	41.00	9,669.3	223.9	2,144.3	32° 4' 48.657 N	103° 17' 19.455 W
9,800.0	6.00	41.00	9,768.8	231.8	2,151.2	32° 4' 48.735 N	103° 17' 19.374 W
9,900.0	6.00	41.00	9,868.2	239.7	2,158.0	32° 4' 48.812 N	103° 17' 19.294 W
10,000.0	6.00	41.00	9,967.7	247.6	2,164.9	32° 4' 48.889 N	103° 17' 19.213 W
10,100.0	6.00	41.00	10,067.1	255.5	2,171.8	32° 4' 48.967 N	103° 17' 19.132 W
10,200.0	6.00	41.00	10,166.6	263.4	2,178.6	32° 4' 49.044 N	103° 17' 19.052 W
10,300.0	6.00	41.00	10,266.0	271.3	2,185.5	32° 4' 49.122 N	103° 17' 18.971 W
10,400.0	6.00	41.00	10,365.5	279.2	2,192.3	32° 4' 49.199 N	103° 17' 18.891 W
10,500.0	6.00	41.00	10,464.9	287.1	2,199.2	32° 4' 49.276 N	103° 17' 18.810 W
10,600.0	6.00	41.00	10,564.4	294.9	2,206.0	32° 4' 49.354 N	103° 17' 18.729 W
10,700.0	6.00	41.00	10,663.8	302.8	2,212.9	32° 4' 49.431 N	103° 17' 18.649 W
10,800.0	6.00	41.00	10,763.3	310.7	2,219.8	32° 4' 49.509 N	103° 17' 18.568 W
10,836.9	6.00	41.00	10,800.0	313.6	2,222.3	32° 4' 49.537 N	103° 17' 18.539 W
10,900.0	4.74	41.00	10,862.8	318.1	2,226.2	32° 4' 49.581 N	103° 17' 18.493 W
11,000.0	2.74	41.00	10,962.6	323.0	2,230.4	32° 4' 49.629 N	103° 17' 18.443 W
11,100.0	0.74	41.00	11,062.5	325.3	2,232.4	32° 4' 49.652 N	103° 17' 18.419 W
11,136.9	0.00	0.00	11,099.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,200.0	0.00	0.00	11,162.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,300.0	0.00	0.00	11,262.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,400.0	0.00	0.00	11,362.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,500.0	0.00	0.00	11,462.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,600.0	0.00	0.00	11,562.5	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
11,637.5	0.00	0.00	11,600.0	325.5	2,232.6	32° 4' 49.653 N	103° 17' 18.418 W
Hol123 KOP							
11,700.0	7.46	238.02	11,662.4	323.3	2,229.1	32° 4' 49.632 N	103° 17' 18.458 W
11,800.0	19.39	238.02	11,759.5	311.1	2,209.5	32° 4' 49.513 N	103° 17' 18.688 W
11,900.0	31.32	238.02	11,849.7	288.4	2,173.2	32° 4' 49.292 N	103° 17' 19.112 W
12,000.0	43.26	238.02	11,929.1	256.4	2,121.9	32° 4' 48.980 N	103° 17' 19.712 W
12,100.0	55.19	238.02	11,994.3	216.3	2,057.8	32° 4' 48.590 N	103° 17' 20.461 W
12,200.0	67.12	238.02	12,042.4	170.0	1,983.6	32° 4' 48.139 N	103° 17' 21.328 W
12,300.0	79.05	238.02	12,071.5	119.5	1,902.6	32° 4' 47.646 N	103° 17' 22.275 W
12,308.7	80.09	238.02	12,073.1	114.9	1,895.4	32° 4' 47.602 N	103° 17' 22.360 W
12,400.0	81.39	227.06	12,087.8	60.2	1,824.0	32° 4' 47.068 N	103° 17' 23.196 W
12,500.0	83.18	215.16	12,101.3	-14.3	1,759.0	32° 4' 46.336 N	103° 17' 23.960 W
12,600.0	85.25	203.35	12,111.4	-101.0	1,710.4	32° 4' 45.484 N	103° 17' 24.534 W
12,612.0	85.51	201.94	12,112.3	-112.0	1,705.9	32° 4' 45.375 N	103° 17' 24.588 W
Hol123 FTP							
12,700.0	87.51	191.61	12,117.7	-196.0	1,680.5	32° 4' 44.546 N	103° 17' 24.892 W
12,800.0	89.89	179.91	12,120.0	-295.3	1,670.5	32° 4' 43.565 N	103° 17' 25.019 W
12,804.7	90.00	179.36	12,120.0	-300.0	1,670.6	32° 4' 43.518 N	103° 17' 25.020 W
Hol123 FTP2							
12,900.0	90.00	179.36	12,120.0	-395.3	1,671.6	32° 4' 42.575 N	103° 17' 25.018 W
13,000.0	90.00	179.36	12,120.0	-495.3	1,672.7	32° 4' 41.586 N	103° 17' 25.016 W
13,100.0	90.00	179.36	12,120.0	-595.3	1,673.8	32° 4' 40.596 N	103° 17' 25.015 W

AMEREDEV

Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
13,200.0	90.00	179.36	12,120.0	-695.3	1,674.9	32° 4' 39.607 N	103° 17' 25.013 W
13,300.0	90.00	179.36	12,120.0	-795.3	1,676.1	32° 4' 38.617 N	103° 17' 25.011 W
13,400.0	90.00	179.36	12,120.0	-895.3	1,677.2	32° 4' 37.628 N	103° 17' 25.010 W
13,500.0	90.00	179.36	12,120.0	-995.2	1,678.3	32° 4' 36.638 N	103° 17' 25.008 W
13,600.0	90.00	179.36	12,120.0	-1,095.2	1,679.4	32° 4' 35.649 N	103° 17' 25.006 W
13,700.0	90.00	179.36	12,120.0	-1,195.2	1,680.5	32° 4' 34.659 N	103° 17' 25.005 W
13,800.0	90.00	179.36	12,120.0	-1,295.2	1,681.6	32° 4' 33.670 N	103° 17' 25.003 W
13,900.0	90.00	179.36	12,120.0	-1,395.2	1,682.7	32° 4' 32.680 N	103° 17' 25.001 W
14,000.0	90.00	179.36	12,120.0	-1,495.2	1,683.8	32° 4' 31.691 N	103° 17' 24.999 W
14,100.0	90.00	179.36	12,120.0	-1,595.2	1,685.0	32° 4' 30.701 N	103° 17' 24.998 W
14,200.0	90.00	179.36	12,120.0	-1,695.2	1,686.1	32° 4' 29.712 N	103° 17' 24.996 W
14,300.0	90.00	179.36	12,120.0	-1,795.2	1,687.2	32° 4' 28.722 N	103° 17' 24.994 W
14,400.0	90.00	179.36	12,120.0	-1,895.2	1,688.3	32° 4' 27.733 N	103° 17' 24.993 W
14,500.0	90.00	179.36	12,120.0	-1,995.2	1,689.4	32° 4' 26.743 N	103° 17' 24.991 W
14,600.0	90.00	179.36	12,120.0	-2,095.2	1,690.5	32° 4' 25.754 N	103° 17' 24.989 W
14,700.0	90.00	179.36	12,120.0	-2,195.2	1,691.6	32° 4' 24.764 N	103° 17' 24.988 W
14,800.0	90.00	179.36	12,120.0	-2,295.2	1,692.7	32° 4' 23.775 N	103° 17' 24.986 W
14,900.0	90.00	179.36	12,120.0	-2,395.2	1,693.9	32° 4' 22.785 N	103° 17' 24.984 W
15,000.0	90.00	179.36	12,120.0	-2,495.2	1,695.0	32° 4' 21.796 N	103° 17' 24.983 W
15,100.0	90.00	179.36	12,120.0	-2,595.1	1,696.1	32° 4' 20.806 N	103° 17' 24.981 W
15,200.0	90.00	179.36	12,120.0	-2,695.1	1,697.2	32° 4' 19.817 N	103° 17' 24.979 W
15,300.0	90.00	179.36	12,120.0	-2,795.1	1,698.3	32° 4' 18.827 N	103° 17' 24.977 W
15,400.0	90.00	179.36	12,120.0	-2,895.1	1,699.4	32° 4' 17.838 N	103° 17' 24.976 W
15,500.0	90.00	179.36	12,120.0	-2,995.1	1,700.5	32° 4' 16.848 N	103° 17' 24.974 W
15,600.0	90.00	179.36	12,120.0	-3,095.1	1,701.6	32° 4' 15.858 N	103° 17' 24.972 W
15,700.0	90.00	179.36	12,120.0	-3,195.1	1,702.8	32° 4' 14.869 N	103° 17' 24.971 W
15,800.0	90.00	179.36	12,120.0	-3,295.1	1,703.9	32° 4' 13.879 N	103° 17' 24.969 W
15,900.0	90.00	179.36	12,120.0	-3,395.1	1,705.0	32° 4' 12.890 N	103° 17' 24.967 W
16,000.0	90.00	179.36	12,120.0	-3,495.1	1,706.1	32° 4' 11.900 N	103° 17' 24.966 W
16,100.0	90.00	179.36	12,120.0	-3,595.1	1,707.2	32° 4' 10.911 N	103° 17' 24.964 W
16,200.0	90.00	179.36	12,120.0	-3,695.1	1,708.3	32° 4' 9.921 N	103° 17' 24.962 W
16,300.0	90.00	179.36	12,120.0	-3,795.1	1,709.4	32° 4' 8.932 N	103° 17' 24.961 W
16,400.0	90.00	179.36	12,120.0	-3,895.1	1,710.5	32° 4' 7.942 N	103° 17' 24.959 W
16,465.0	90.00	179.36	12,120.0	-3,960.1	1,711.3	32° 4' 7.299 N	103° 17' 24.958 W
Hol123 Into NMNM006727							
16,500.0	90.00	179.36	12,120.0	-3,995.1	1,711.7	32° 4' 6.953 N	103° 17' 24.957 W
16,600.0	90.00	179.36	12,120.0	-4,095.1	1,712.8	32° 4' 5.963 N	103° 17' 24.955 W
16,700.0	90.00	179.36	12,120.0	-4,195.1	1,713.9	32° 4' 4.974 N	103° 17' 24.954 W
16,800.0	90.00	179.36	12,120.0	-4,295.0	1,715.0	32° 4' 3.984 N	103° 17' 24.952 W
16,900.0	90.00	179.36	12,120.0	-4,395.0	1,716.1	32° 4' 2.995 N	103° 17' 24.950 W
17,000.0	90.00	179.36	12,120.0	-4,495.0	1,717.2	32° 4' 2.005 N	103° 17' 24.949 W
17,100.0	90.00	179.36	12,120.0	-4,595.0	1,718.3	32° 4' 1.016 N	103° 17' 24.947 W
17,200.0	90.00	179.36	12,120.0	-4,695.0	1,719.4	32° 4' 0.026 N	103° 17' 24.945 W
17,300.0	90.00	179.36	12,120.0	-4,795.0	1,720.5	32° 3' 59.037 N	103° 17' 24.944 W

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
17,400.0	90.00	179.36	12,120.0	-4,895.0	1,721.7	32° 3' 58.047 N	103° 17' 24.942 W
17,500.0	90.00	179.36	12,120.0	-4,995.0	1,722.8	32° 3' 57.058 N	103° 17' 24.940 W
17,600.0	90.00	179.36	12,120.0	-5,095.0	1,723.9	32° 3' 56.068 N	103° 17' 24.939 W
17,700.0	90.00	179.36	12,120.0	-5,195.0	1,725.0	32° 3' 55.079 N	103° 17' 24.937 W
17,785.0	90.00	179.36	12,120.0	-5,280.0	1,725.9	32° 3' 54.238 N	103° 17' 24.935 W
Hol123 Into NMNM137473							
17,800.0	90.00	179.36	12,120.0	-5,295.0	1,726.1	32° 3' 54.089 N	103° 17' 24.935 W
17,900.0	90.00	179.36	12,120.0	-5,395.0	1,727.2	32° 3' 53.100 N	103° 17' 24.933 W
18,000.0	90.00	179.36	12,120.0	-5,495.0	1,728.3	32° 3' 52.110 N	103° 17' 24.932 W
18,100.0	90.00	179.36	12,120.0	-5,595.0	1,729.4	32° 3' 51.121 N	103° 17' 24.930 W
18,200.0	90.00	179.36	12,120.0	-5,695.0	1,730.6	32° 3' 50.131 N	103° 17' 24.928 W
18,300.0	90.00	179.36	12,120.0	-5,795.0	1,731.7	32° 3' 49.142 N	103° 17' 24.927 W
18,400.0	90.00	179.36	12,120.0	-5,894.9	1,732.8	32° 3' 48.152 N	103° 17' 24.925 W
18,500.0	90.00	179.36	12,120.0	-5,994.9	1,733.9	32° 3' 47.163 N	103° 17' 24.923 W
18,600.0	90.00	179.36	12,120.0	-6,094.9	1,735.0	32° 3' 46.173 N	103° 17' 24.922 W
18,700.0	90.00	179.36	12,120.0	-6,194.9	1,736.1	32° 3' 45.184 N	103° 17' 24.920 W
18,800.0	90.00	179.36	12,120.0	-6,294.9	1,737.2	32° 3' 44.194 N	103° 17' 24.918 W
18,900.0	90.00	179.36	12,120.0	-6,394.9	1,738.3	32° 3' 43.205 N	103° 17' 24.917 W
19,000.0	90.00	179.36	12,120.0	-6,494.9	1,739.5	32° 3' 42.215 N	103° 17' 24.915 W
19,100.0	90.00	179.36	12,120.0	-6,594.9	1,740.6	32° 3' 41.226 N	103° 17' 24.913 W
19,200.0	90.00	179.36	12,120.0	-6,694.9	1,741.7	32° 3' 40.236 N	103° 17' 24.911 W
19,300.0	90.00	179.36	12,120.0	-6,794.9	1,742.8	32° 3' 39.247 N	103° 17' 24.910 W
19,400.0	90.00	179.36	12,120.0	-6,894.9	1,743.9	32° 3' 38.257 N	103° 17' 24.908 W
19,500.0	90.00	179.36	12,120.0	-6,994.9	1,745.0	32° 3' 37.268 N	103° 17' 24.906 W
19,600.0	90.00	179.36	12,120.0	-7,094.9	1,746.1	32° 3' 36.278 N	103° 17' 24.905 W
19,700.0	90.00	179.36	12,120.0	-7,194.9	1,747.2	32° 3' 35.288 N	103° 17' 24.903 W
19,800.0	90.00	179.36	12,120.0	-7,294.9	1,748.4	32° 3' 34.299 N	103° 17' 24.901 W
19,900.0	90.00	179.36	12,120.0	-7,394.9	1,749.5	32° 3' 33.309 N	103° 17' 24.900 W
20,000.0	90.00	179.36	12,120.0	-7,494.8	1,750.6	32° 3' 32.320 N	103° 17' 24.898 W
20,100.0	90.00	179.36	12,120.0	-7,594.8	1,751.7	32° 3' 31.330 N	103° 17' 24.896 W
20,200.0	90.00	179.36	12,120.0	-7,694.8	1,752.8	32° 3' 30.341 N	103° 17' 24.895 W
20,300.0	90.00	179.36	12,120.0	-7,794.8	1,753.9	32° 3' 29.351 N	103° 17' 24.893 W
20,400.0	90.00	179.36	12,120.0	-7,894.8	1,755.0	32° 3' 28.362 N	103° 17' 24.891 W
20,500.0	90.00	179.36	12,120.0	-7,994.8	1,756.1	32° 3' 27.372 N	103° 17' 24.889 W
20,600.0	90.00	179.36	12,120.0	-8,094.8	1,757.3	32° 3' 26.383 N	103° 17' 24.888 W
20,700.0	90.00	179.36	12,120.0	-8,194.8	1,758.4	32° 3' 25.393 N	103° 17' 24.886 W
20,800.0	90.00	179.36	12,120.0	-8,294.8	1,759.5	32° 3' 24.404 N	103° 17' 24.884 W
20,900.0	90.00	179.36	12,120.0	-8,394.8	1,760.6	32° 3' 23.414 N	103° 17' 24.883 W
21,000.0	90.00	179.36	12,120.0	-8,494.8	1,761.7	32° 3' 22.425 N	103° 17' 24.881 W
21,100.0	90.00	179.36	12,120.0	-8,594.8	1,762.8	32° 3' 21.435 N	103° 17' 24.879 W
21,200.0	90.00	179.36	12,120.0	-8,694.8	1,763.9	32° 3' 20.446 N	103° 17' 24.878 W
21,300.0	90.00	179.36	12,120.0	-8,794.8	1,765.0	32° 3' 19.456 N	103° 17' 24.876 W
21,400.0	90.00	179.36	12,120.0	-8,894.8	1,766.1	32° 3' 18.467 N	103° 17' 24.874 W
21,500.0	90.00	179.36	12,120.0	-8,994.8	1,767.3	32° 3' 17.477 N	103° 17' 24.872 W
21,600.0	90.00	179.36	12,120.0	-9,094.7	1,768.4	32° 3' 16.488 N	103° 17' 24.871 W

AMEREDEV

Ameredev Operating, LLC

Lease Penetration Section Line Footages

Company:	Ameredev Operating, LLC.	**Local Co-ordinate Reference:**	Well Holly 123H
Project:	RB/HOL	**TVD Reference:**	KB @ 3028.0usft
Site:	RB/HOL #4S	**MD Reference:**	KB @ 3028.0usft
Well:	Holly 123H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
21,700.0	90.00	179.36	12,120.0	-9,194.7	1,769.5	32° 3' 15.498 N	103° 17' 24.869 W
21,800.0	90.00	179.36	12,120.0	-9,294.7	1,770.6	32° 3' 14.509 N	103° 17' 24.867 W
21,900.0	90.00	179.36	12,120.0	-9,394.7	1,771.7	32° 3' 13.519 N	103° 17' 24.866 W
22,000.0	90.00	179.36	12,120.0	-9,494.7	1,772.8	32° 3' 12.530 N	103° 17' 24.864 W
22,100.0	90.00	179.36	12,120.0	-9,594.7	1,773.9	32° 3' 11.540 N	103° 17' 24.862 W
22,200.0	90.00	179.36	12,120.0	-9,694.7	1,775.0	32° 3' 10.551 N	103° 17' 24.861 W
22,300.0	90.00	179.36	12,120.0	-9,794.7	1,776.2	32° 3' 9.561 N	103° 17' 24.859 W
22,400.0	90.00	179.36	12,120.0	-9,894.7	1,777.3	32° 3' 8.572 N	103° 17' 24.857 W
22,500.0	90.00	179.36	12,120.0	-9,994.7	1,778.4	32° 3' 7.582 N	103° 17' 24.856 W
22,600.0	90.00	179.36	12,120.0	-10,094.7	1,779.5	32° 3' 6.593 N	103° 17' 24.854 W
22,700.0	90.00	179.36	12,120.0	-10,194.7	1,780.6	32° 3' 5.603 N	103° 17' 24.852 W
22,800.0	90.00	179.36	12,120.0	-10,294.7	1,781.7	32° 3' 4.614 N	103° 17' 24.850 W
22,900.0	90.00	179.36	12,120.0	-10,394.7	1,782.8	32° 3' 3.624 N	103° 17' 24.849 W
22,967.8	90.00	179.36	12,120.0	-10,462.5	1,783.6	32° 3' 2.953 N	103° 17' 24.848 W
Hol123 LTP							
23,000.0	90.00	179.36	12,120.0	-10,494.7	1,783.9	32° 3' 2.635 N	103° 17' 24.847 W
23,017.8	90.00	179.36	12,120.0	-10,512.5	1,784.1	32° 3' 2.458 N	103° 17' 24.847 W
Hol123 BHL							

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
16,465.0	12,120.0	229.6	199.6	Hol123 into NMNM006727
17,785.0	12,120.0	-3,730.4	-38.8	Hol123 into NMNM137473

Checked By: _____ Approved By: _____ Date: _____

AMEREDEV

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

AMEREDEV

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" 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" 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.

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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" 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 Drilling Plan: 3 String with 4 String Contingency

- Contingency Plan If Losses Exceed 50% in Intermediate Interval
  - We will utilize a MB4 wellhead that will enable us to convert a 3 string design to a 4 string design. (Schematic Attached)
  - We will displace well with FW and drill or condition to run 9-5/8" Casing at the Lamar Limestone, we will utilize DV Tool w/ ACP @ the Tansill to Isolate Capitan Reef and cement to surface.
  - 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.

- 7.625 Casing will be Additional 4th String
  - Drill remaining hole section to 10,670'
  - Run 7.625 29.7# HCL80 FJM Casing

AFMSS

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

PWD Data Report

12/26/2019

APD ID: 10400042417 **Submission Date:** 05/31/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05 **Well Number:** 123H

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: HOLLY FED COM 26 36 05 **Well Number:** 123H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

12/26/2019

APD ID: 10400042417

Submission Date: 05/31/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 123H

Well Type: OIL WELL

Well Work Type: Drill

[redacted]

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001478

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

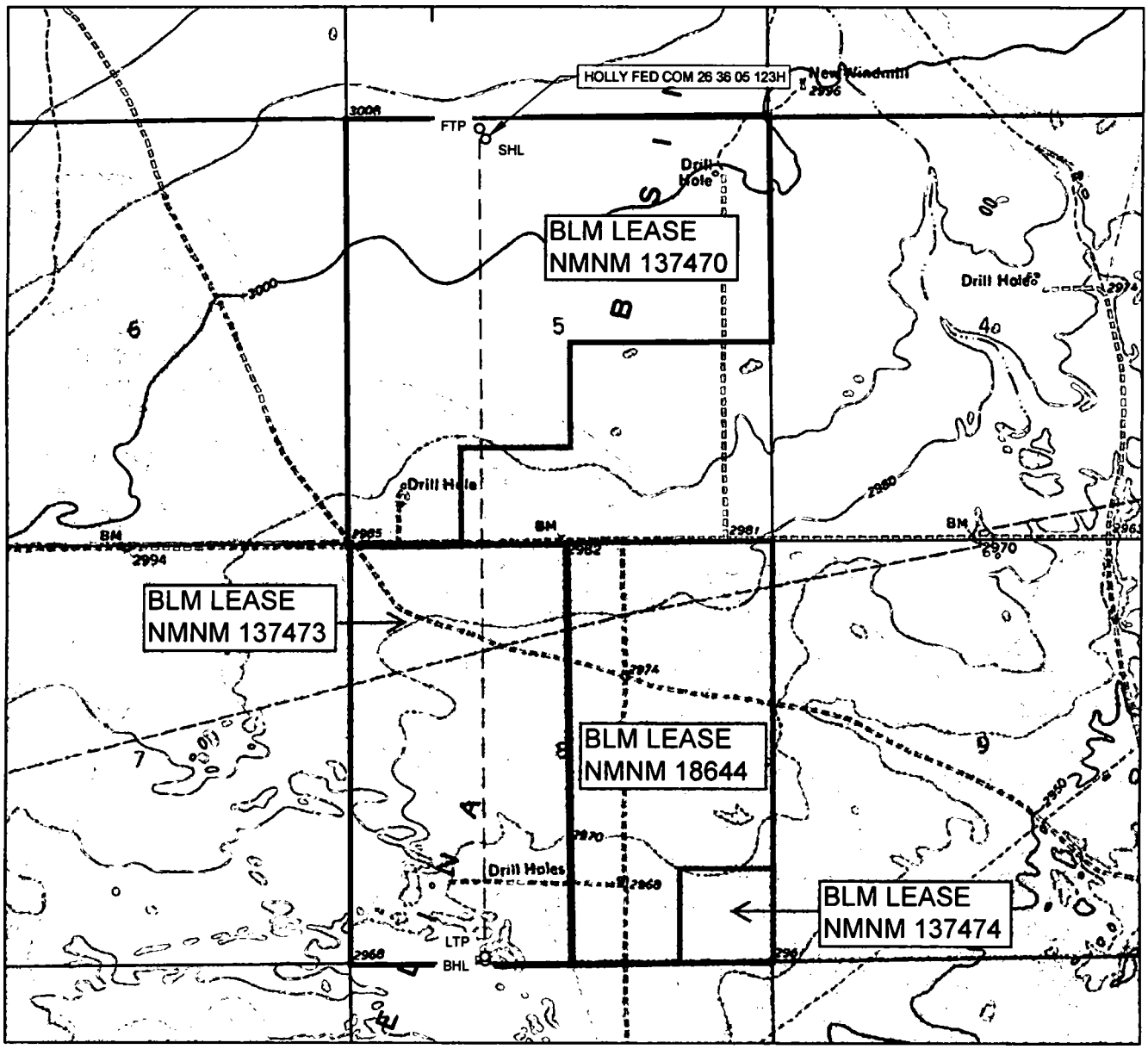
Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

LOCATION & ELEVATION VERIFICATION MAP



AMEREDEV

AMEREDEV OPERATING, LLC

LEASE NAME & WELL NO.: HOLLY FED COM 26 36 05 123H

SECTION 5 TWP 26-S RGE 36-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3001'
DESCRIPTION 230' FNL & 1750' FWL

LATITUDE N 32.0789463 LONGITUDE W 103.2900245

-N-

SCALE: 1" = 2000'
0' 1000' 2000'

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AMEREDEV OPERATING LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

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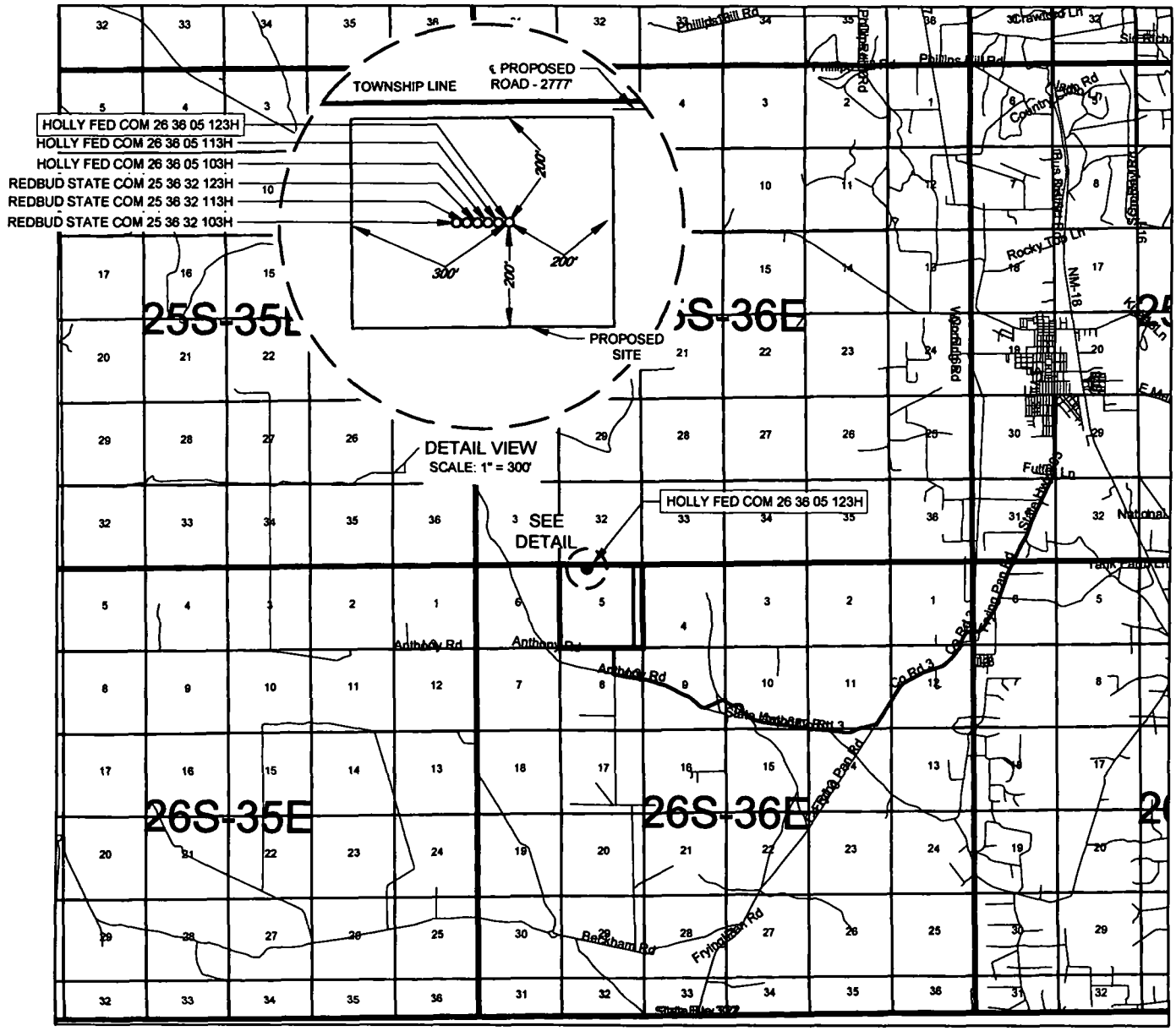
WWW.TOPOGRAPHIC.COM

EXHIBIT 2
VICINITY MAP



AMEREDEV

AMEREDEV OPERATING, LLC

LEASE NAME & WELL NO.: HOLLY FED COM 26 36 05 123H

SECTION 5 TWP 26-S RGE 36-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 230' FNL & 1750' FWL

DISTANCE & DIRECTION

FROM INT. OF E NEVADA AVE & S 3RD ST, HEAD SOUTH ON S 3RD ST ±1.0 MILE, THENCE CONTINUE SOUTH ON NM-205 ±3.9 MILES, THENCE WEST (RIGHT) ON ANTHONY RD ±1.7 MILES, THENCE CONTINUE WEST ON J-3 ±1.7 MILES, THENCE NORTH (RIGHT) ON J-3 ±0.3 MILES, THENCE EAST (RIGHT) ON A LEASE RD. ±0.2 MILES, THENCE NORTH (LEFT) ON A LEASE RD. ±1.0 MILE, THENCE WEST (LEFT) ON A PROPOSED RD. ±2777 FEET TO A POINT ±294 FEET NORTHWEST OF THE LOCATION

-N-

SCALE: 1" = 10000'

0' 5000' 10000'

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