Form 3160-3
(June 2015)

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.: NMNM137469

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.: NANDINA FED COM 25 36 31 105H

2. Name of Operator: AMEREDEV OPERATING LLC

9. API Well No.: **30-025-53631**

3a. Address: 5707 SOUTHWEST PARKWAY, BUILDING 1, SUITE 275

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

10. Field and Pool, or Exploratory: WC-025 G-09 S263619C/Wolfcamp

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

At surface: SWSE / 200 FSL / 2310 FEL / LAT 32.0801266 / LONG -103.3031326

At proposed prod. zone: NWNE / 200 FNL / 2318 FEL / LAT 32.1080689 / LONG -103.3031671

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 31/T25S/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): 200 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 4290 feet

19. Proposed Depth: 11970 feet / 21821 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3013 feet

22. Approximate date work will start*: 08/01/2024

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) 300-4700	06/07/2024

Title: Senior Engineering Technician

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	09/06/2024

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/06/2024

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.

(Continued on page 3)

Approval Date: 09/06/2024

Additional Operator Remarks

Location of Well

0. SHL: SWSE / 200 FSL / 2310 FEL / TWSP: 25S / RANGE: 36E / SECTION: 31 / LAT: 32.0801266 / LONG: -103.3031326 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 100 FSL / 2318 FEL / TWSP: 25S / RANGE: 36E / SECTION: 31 / LAT: 32.0798517 / LONG: -103.3031585 (TVD: 11397 feet, MD: 11400 feet)

PPP: NWSE / 1320 FSL / 2318 FEL / TWSP: 25S / RANGE: 36E / SECTION: 31 / LAT: 32.0832046 / LONG: -103.3031595 (TVD: 11970 feet, MD: 12775 feet)

BHL: NWNE / 200 FNL / 2318 FEL / TWSP: 25S / RANGE: 36E / SECTION: 30 / LAT: 32.1080689 / LONG: -103.3031671 (TVD: 11970 feet, MD: 21821 feet)

BLM Point of Contact

Name: MARIAH HUGHES
Title: Land Law Examiner
Phone: (575) 234-5972
Email: mhughes@blm.gov

Review and Appeal Rights

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

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

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

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

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name
30-025-53631	33813	JAL;WOLFCAMP, WEST

[4]Property Code	[5]Property Name	[6]Well Number
322647	NANDINA FED COM 25 36 31	105H

[7]OGRID No.	[8]Operator Name	[9]Elevation
372224	AMEREDEV OPERATING, LLC.	3013'

[10]Surface Location

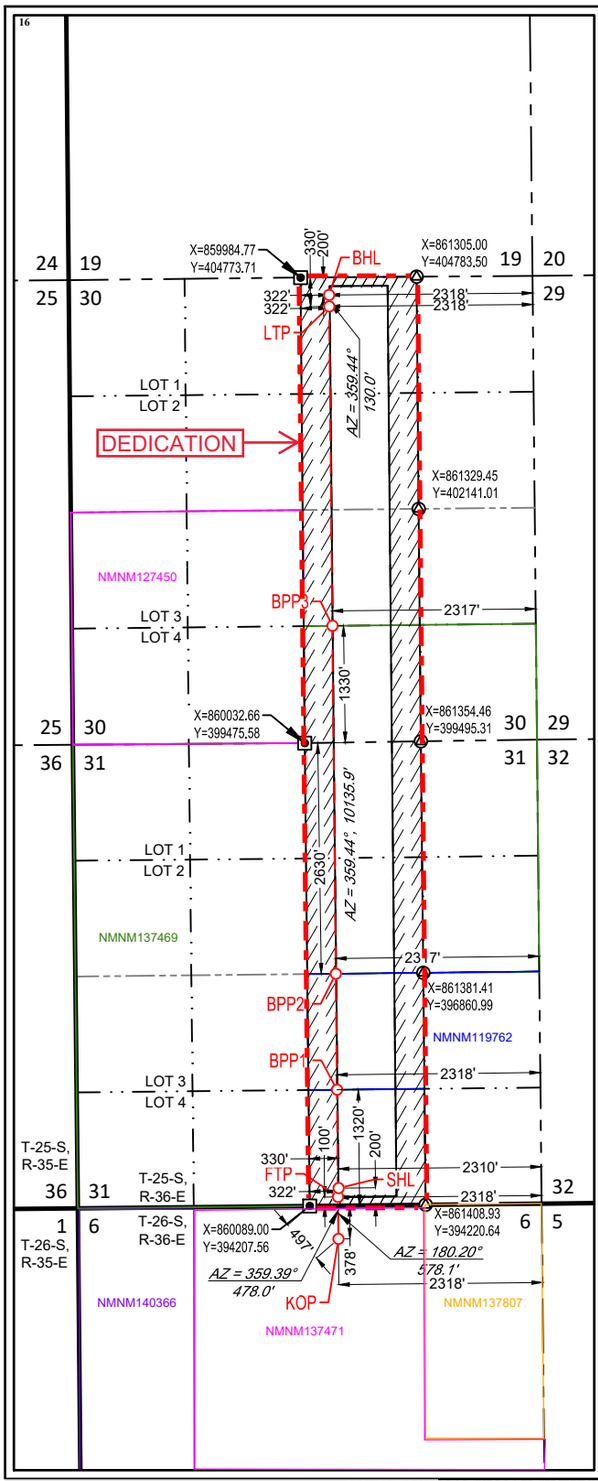
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	31	25-S	36-E	–	200'	SOUTH	2310'	EAST	LEA

[11]Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	30	25-S	36-E	–	200'	NORTH	2318'	EAST	LEA

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.
320		C	

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



NEW MEXICO EAST
NAD 1983

SURFACE LOCATION (SHL)
200' FSL - SEC. 31
2310' FEL - SEC. 31
X=860417 Y=394411
LAT.: N 32.0801266
LONG.: W 103.3031326

KICK OFF POINT (KOP)
378' FNL - SEC. 6
2318' FEL - SEC. 6
X=860415 Y=393833
LAT.: N 32.0785378
LONG.: W 103.3031568

FIRST TAKE POINT (FTP)
100' FSL - SEC. 31
2318' FEL - SEC. 31
X=860410 Y=394311
LAT.: N 32.0798517
LONG.: W 103.3031585

BLM PERF. POINT (BPP1)
1320' FSL - SEC. 31
2318' FEL - SEC. 31
X=860398 Y=395531
LAT.: N 32.0832046
LONG.: W 103.3031595

BLM PERF. POINT (BPP2)
2630' FNL - SEC. 31
2317' FEL - SEC. 31
X=860385 Y=396850
LAT.: N 32.0868323
LONG.: W 103.3031607

BLM PERF. POINT (BPP3)
1330' FSL - SEC. 30
2317' FEL - SEC. 30
X=860346 Y=400810
LAT.: N 32.0977165
LONG.: W 103.3031640

LAST TAKE POINT (LTP)
330' FNL - SEC. 30
2318' FEL - SEC. 30
X=860310 Y=404446
LAT.: N 32.1077115
LONG.: W 103.3031670

BOTTOM HOLE LOCATION (BHL)
200' FNL - SEC. 30
2318' FEL - SEC. 30
X=860309 Y=404576
LAT.: N 32.1080689
LONG.: W 103.3031671

[17]OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Floyd Hammond — 5/28/2024
Signature — Date

Floyd Hammond
Printed Name

fhammond@ameredev.com
E-mail Address

[18]SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

05/09/2018
Date of Survey
Signature and Seal of Professional Surveyor

ANGEL M. BAEZA
NEW MEXICO
25116
PROFESSIONAL SURVEYOR

Certificate Number

NEW MEXICO EAST
NAD 1927

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Ameredev II, LLC **OGRID:** 372224 **Date:** 09/10/2024

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Nandina 25 36 31 Fed Com 105H	30025-		200' FSL & 2310' FEL	1,322	4,690	2,840

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Nandina 25 36 31 Fed Com 105H	30025-	1/1/2025	1/16/2025	2/16/2025	3/1/2025	3/4/2025

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: Cesca Yu
Printed Name: Cesca Yu
Title: Engineer
E-mail Address: cyu@ameredev.com
Date: 9/10/2024
Phone: 512-775-1417

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Natural Gas Management Plan

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

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

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

19.15.27.8 (A)

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

19.15.27.8 (B) Venting and Flaring during drilling operations

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

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

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

19.15.27.8 (D) Venting and Flaring during production operations.

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

loop system that will recover any residual gas from the tanks and route such gas to a sales outlet, minimizing tank emissions.
• Flares are equipped with auto-ignition systems and continuous pilot operations.
• Automatic gauging equipment is installed on all tanks.

19.15.27.8 (E) Performance Standards

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

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

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

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

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

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

Drilling Plan Data Report
09/09/2024

APD ID: 10400098955
Submission Date: 06/07/2024
Operator Name: AMEREDEV OPERATING LLC
Well Name: NANDINA FED COM 25 36 31
Well Number: 105H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14083890	RUSTLER ANHYDRITE	3013	1068	1068	ANHYDRITE	NONE	N
14083896	SALADO	1505	1508	1508	SALT	NONE	N
14083891	TANSILL	-221	3234	3234	LIMESTONE	NONE	N
14083892	CAPITAN REEF	-721	3734	3734	LIMESTONE	USEABLE WATER	N
14083897	LAMAR	-2021	5034	5034	LIMESTONE	NONE	N
14083893	BELL CANYON	-2056	5069	5069	SANDSTONE	NATURAL GAS, OIL	N
14083898	BRUSHY CANYON	-4096	7109	7109	SANDSTONE	NATURAL GAS, OIL	N
14083895	BONE SPRING LIME	-5322	8335	8335	LIMESTONE	NONE	N
14083899	BONE SPRING 1ST	-6698	9711	9711	SANDSTONE	NATURAL GAS, OIL	N
14083902	BONE SPRING 2ND	-7256	10269	10269	SANDSTONE	NATURAL GAS, OIL	N
14083885	BONE SPRING 3RD	-7842	10855	10855	LIMESTONE	NATURAL GAS, OIL	N
14083886	BONE SPRING 3RD	-8441	11454	11454	SANDSTONE	NATURAL GAS, OIL	N
14083887	WOLFCAMP	-8706	11719	11719	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

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

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

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

Testing Procedure: See attachment

Choke Diagram Attachment:

10M_Choke_Manifold_REV_20240607103824.pdf

BOP Diagram Attachment:

5M_Annular_Preventer_Variance_and_Well_Control_Plan_20240607103836.pdf

Pressure_Control_Plan_Single_Well_MB4_3String_Big_Hole_BLM_20240607103837.pdf

5M_BOP_System_20240607103837.pdf

4String_MB_Ameredev_Drawing_net_REV__ORIG__20240607114145.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	1193	0	1193	3013	1820	1193	J-55	54.5	OTHER - BTC	1.82	1	DRY	13.98	DRY	13.12
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5084	0	5084		-2071	5084	HCL-80	40	OTHER - BTC	1.39	1	DRY	5.12	DRY	4.51
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	11400	0	11400	3013	-8387	11400	HCP-110	29.7	OTHER - FJM	1.08	1.22	DRY	1.92	DRY	2.78
4	PRODUCTION	6.75	5.5	NEW	API	N	0	21821	0	11970		-8957	21821	P-110	20	OTHER - CYHP TMK-UP SF TORQ	1.64	1.85	DRY	2.74	DRY	3.04

Casing Attachments

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING__ORIG__20240607104106.pdf

13.375_54.50_J55_SEAH_20240607104333.pdf

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20240607104335.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING__ORIG__20240607104454.pdf

9625_40_SeAH80HC_4100_Collapse_20240607104507.pdf

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20240607104509.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Casing Attachments

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING__ORIG__20240607104830.pdf

7.625_29.70_P110HC_LIBERTY_FJM_20240607104841.pdf

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20240607104843.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

TMK_UP_SF_TORQ__5.500in_x_20.00_P_110_CYHP_20240607105005.pdf

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20240607105013.pdf

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING__ORIG__20240607105024.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	809	735	1.89	12.9	1390.62	100	Class C	Bentonite, Retarder, Kolseal, Defoamer, Celloflake
SURFACE	Tail		809	1193	200	1.33	14.8	266.4	100	Class C	None

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	3485	1005	1.88	12.9	1887.39	50	Class C	Bentonite, Salt, Kolseal, Defoamer, Celloflake
INTERMEDIATE	Tail		3485	5084	375	1.33	14.8	500.25	25	Class C	None
INTERMEDIATE	Lead		4493	10168	258	2.85	11	734.01	25	Class H	Bentonite, Retarder, Kolseal, Defoamer, Celloflake, Anti-settling Expansion Additive
INTERMEDIATE	Tail		10168	11400	100	1.24	14.5	123.7	25	Class H	Bentonite, Retarder, Dispersant, Fluid Loss
PRODUCTION	Lead		11097	21821	930	1.22	14.5	1137.39	25	Class H	Retarder, Kolseal, Defoamer, Celloflake, Expansion Additive

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

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

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

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
5084	11400	OTHER : Cut Brine	9.5	10.5							
11400	11970	OIL-BASED MUD	11.5	12.5							
0	1193	WATER-BASED MUD	8.6	10							
1193	5084	SALT SATURATED	10	11.5							

Section 6 - Test, Logging, Coring

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

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

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

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

Coring operation description for the well:

No coring will be done on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5000 **Anticipated Surface Pressure:** 2366

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

H2S_Plan_20230403_20240607110247.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Nandina_Fed_Com_25_36_31_105H_Geographic_Plan_20240607110317.pdf

Nandina_Fed_Com_25_36_31_105H_Plan_2_20240607110317.pdf

Other proposed operations facets description:

SKID PROCEDURE ATTACHED

Other proposed operations facets attachment:

Rig_Skid_Procedure_20240607110448.pdf

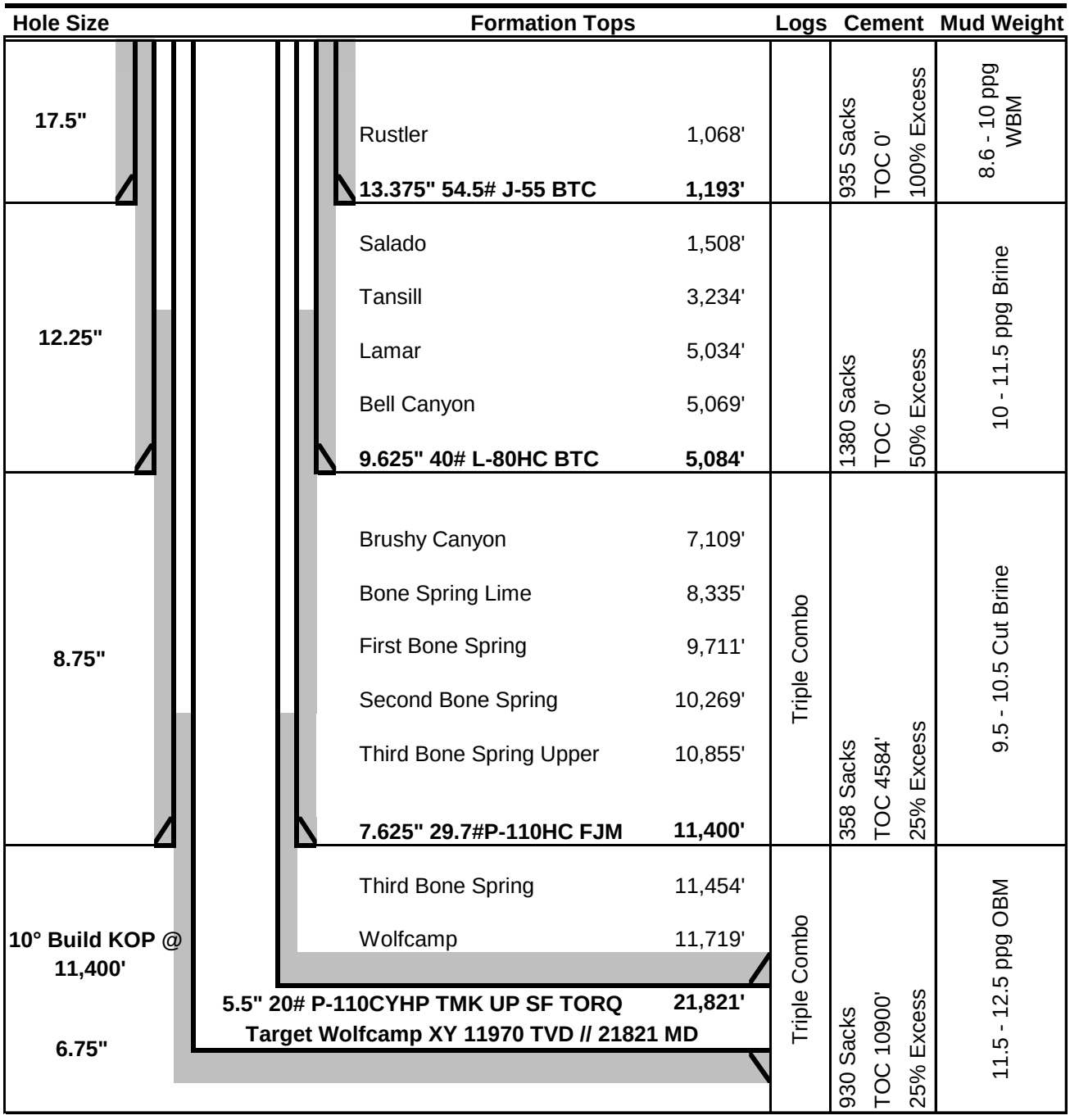
Other Variance attachment:

Requested_Exceptions___4_String_Revised_09182018_20240607110552.pdf

R616___CoC_for_hoses_12_18_17_20240607110646.pdf

Wellbore Schematic

Well:	Nandina Fed Com 25-36-31 105H	**Co. Well ID:**	xxxxx
SHL:	Sec. 31 25S-36E 200' FSL & 2310' FEL	**AFE No.:**	xxxx-xxx
BHL:	Sec. 30 25S-36E 200' FNL & 2318' FEL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3,013'
Wellhead:	A - 13-5/8" 5M x 13-5/8" SOW	**Field:**	Delaware_WCXY
	B - 13-5/8" 5M x 13-5/8" 10M	**Objective:**	Wolfcamp XY
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	11,970'
	Tubing Spool - 5-1/8" 15M x 13-3/8" 10M	**MD:**	21,821'
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD
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	1,193'	13.375	54.5	J-55	BTC
Int #1	12.25	5,084'	9.625	40	HCL-80	BTC
Int #2	8.75	11,400'	7.625	29.7	HCP-110	FJM
Prod Segment A	6.75	11,970'	5.5	20	CYHP-110	TMK UPSF
Prod Segment B	6.75	21,821'	5.5	20	CYHP-110	TMK UPSF

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.38	853	909	1,130	2,730
Safety Factors				
1.56	13.12	13.98	1.82	0.90
Check Int #1 Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
10.625	916	1042	4230	5750
Safety Factors				
0.81	4.51	5.12	1.39	0.92
Check Int #2 Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
7.625	940	558	6700	9460
Safety Factors				
0.56	2.78	1.92	1.08	1.22
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				
0.49	3.04	2.74	1.64	1.85
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				
0.49	∞	∞	1.64	1.85

SeAH

13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	**in.**
Wall	0.380	**in.**
Inside Diameter	12.615	**in.**
Drift	12.459	**in.**
Weight, T&C	54.500	**lbs/ft**
Weight, PE	52.790	**lbs/ft**

Performance Ratings, Minimum

Collapse, PE	**1130**	**psi**
Internal Yields Pressure		
PE	**2730**	**psi**
STC	**2730**	**PSI**
BTC	**2730**	**psi**
Yield Strength, Pipe Body	**853**	**1000 lbs**
Joint Strength, STC	**514**	**1000 lbs**
Joint Strength, BTC	**909**	**1000 lbs**

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

SeAH

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.**

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

U. S. Steel Tubular Products

6/6/2017 6:18:53 PM

7.625" 29.70lbs/ft (0.375" Wall) P110 HC USS-LIBERTY FJM®

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

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

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

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

PERFORMANCE DATA

TMK UP SF TORQ™ **5.500 in** **20.00 lbs/ft** **P-110 CYHP**
Technical Data Sheet

Tubular Parameters

Size	5.500	in	Minimum Yield	125,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	135,000	psi
Grade	P-110 CYHP		Yield Load	728,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	786,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	14,360	psi
Nominal ID	4.778	in	Collapse Pressure	12,780	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in²			

Connection Parameters

Connection OD	5.777	in
Connection ID	4.734	in
Make-Up Loss	5.823	in
Critical Section Area	5.875	in²
Tension Efficiency	90.0	%
Compression Efficiency	90.0	%
Yield Load In Tension	655,000	lbs
Min. Internal Yield Pressure	14,360	psi
Collapse Pressure	12,780	psi
Uniaxial Bending	93.8	°/ 100 ft

Make-Up Torques

Min. Make-Up Torque	15,700	ft-lbs
Opt. Make-Up Torque	19,600	ft-lbs
Max. Make-Up Torque	21,600	ft-lbs
Operating Torque	29,000	ft-lbs
Yield Torque	37,000	ft-lbs

Printed on: January-10-2018

Requested Exceptions

- Variance is requested to connect the BOP choke outlet to the choke manifold using a co-flex line (instead of using a 4" OD steel line) with a 10,000 psi working pressure that has been tested to 15,000 psi and is built to API Spec 16C. Once the flex line is installed it will be tied down with safety clamps.

- Variance is requested to allow Option of rig not capable of reaching TD presetting Surface

- Variance is requested to wave any centralizer requirements on the 5-1/2 Casing. Ameredev will utilize cement expansion additives in the cement slurry to maximize cement bond and zonal isolation.

- Variance is requested to wave any centralizer requirements on the 7-5/8 Casing. Ameredev will utilize cement expansion additives in the cement slurry to maximize cement bond and zonal isolation.

- Variance is requested to allow Temporary Postponement of Operations on well to Skid to adjacent well.

- Variance is requested to Allow use of Multi Bowl Well Head System

- Variance is requested to Allow adjustment of Casing Design Safety Factor on conditions that Ameredev keeps minimum of 1/3 casing capacity filled with OMW drilling fluids

- Variance is requested to Drill Surface Casing to Base Salt with >100K Chlorides on the conditions that 50% Returns will be maintained

Ameredev Operating, LLC

Lea County, NM (NAD83 NME)
(Nandina Fed) Sec-31_T-25-S_R-36-E
Nandina Fed Com 25-36-31 #105H

OWB

Plan: Plan #2

Standard Planning Report - Geographic

26 June, 2018

AMEREDEV

Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Project Lea County, NM (NAD83 NME)

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

Site (Nandina Fed) Sec-31_T-25-S_R-36-E

Site Position:		**Northing:**	394,412.00 usft	**Latitude:**	32.0801272
From:	Map	**Easting:**	860,517.00 usft	**Longitude:**	-103.3028096
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.55 °

Well Nandina Fed Com 25-36-31 #105H

Well Position	**+N/-S**	0.0 usft	**Northing:**	394,411.00 usft	**Latitude:**	32.0801271
	+E/-W	0.0 usft	**Easting:**	860,417.00 usft	**Longitude:**	-103.3031324
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,013.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2018/04/25	6.72	59.96	47,795.67775175

Design Plan #2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.39

Plan Survey Tool Program **Date** 2018/06/26

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	21,821.0	Plan #2 (OWB)	MWD MWD - Standard	

AMEREDEV

Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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	
2,149.9	3.00	51.34	2,149.8	2.4	3.1	2.00	2.00	0.00	51.34	
4,448.4	3.00	51.34	4,445.2	77.6	96.9	0.00	0.00	0.00	0.00	
4,598.3	0.00	0.00	4,595.0	80.0	100.0	2.00	-2.00	0.00	180.00	
11,400.3	0.00	0.00	11,397.0	80.0	100.0	0.00	0.00	0.00	0.00	
12,300.3	90.00	351.30	11,970.0	646.4	13.3	10.00	10.00	0.00	351.30	
12,707.4	90.00	359.44	11,970.0	1,051.8	-19.5	2.00	0.00	2.00	90.00	
21,691.0	90.00	359.44	11,970.0	10,035.0	-107.0	0.00	0.00	0.00	0.00	LTP (Nandina Fed (
21,821.0	90.00	359.44	11,970.0	10,165.0	-108.3	0.00	0.00	0.00	0.00	PBHL (Nandina Fec

AMEREDEV

Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
100.0	0.00	0.00	100.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
200.0	0.00	0.00	200.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
300.0	0.00	0.00	300.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
400.0	0.00	0.00	400.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
500.0	0.00	0.00	500.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
600.0	0.00	0.00	600.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
700.0	0.00	0.00	700.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
800.0	0.00	0.00	800.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
900.0	0.00	0.00	900.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,000.0	0.00	0.00	1,000.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,067.0	0.00	0.00	1,067.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
Rustler									
1,100.0	0.00	0.00	1,100.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,200.0	0.00	0.00	1,200.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,300.0	0.00	0.00	1,300.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,400.0	0.00	0.00	1,400.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,500.0	0.00	0.00	1,500.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,507.0	0.00	0.00	1,507.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
Salado									
1,600.0	0.00	0.00	1,600.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,700.0	0.00	0.00	1,700.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,800.0	0.00	0.00	1,800.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
1,900.0	0.00	0.00	1,900.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
2,000.0	0.00	0.00	2,000.0	0.0	0.0	394,411.00	860,417.00	32.0801271	-103.3031324
BUILD - 2.00									
2,100.0	2.00	51.34	2,100.0	1.1	1.4	394,412.09	860,418.36	32.0801300	-103.3031280
2,149.9	3.00	51.34	2,149.8	2.4	3.1	394,413.45	860,420.06	32.0801337	-103.3031225
HOLD - 2298.5 at 2149.9 MD									
2,200.0	3.00	51.34	2,199.9	4.1	5.1	394,415.09	860,422.11	32.0801382	-103.3031158
2,300.0	3.00	51.34	2,299.7	7.4	9.2	394,418.35	860,426.19	32.0801470	-103.3031025
2,400.0	3.00	51.34	2,399.6	10.6	13.3	394,421.62	860,430.28	32.0801559	-103.3030892
2,500.0	3.00	51.34	2,499.5	13.9	17.4	394,424.89	860,434.36	32.0801648	-103.3030760
2,600.0	3.00	51.34	2,599.3	17.2	21.4	394,428.15	860,438.44	32.0801737	-103.3030627
2,700.0	3.00	51.34	2,699.2	20.4	25.5	394,431.42	860,442.53	32.0801825	-103.3030494
2,800.0	3.00	51.34	2,799.0	23.7	29.6	394,434.69	860,446.61	32.0801914	-103.3030361
2,900.0	3.00	51.34	2,898.9	27.0	33.7	394,437.96	860,450.70	32.0802003	-103.3030228
3,000.0	3.00	51.34	2,998.8	30.2	37.8	394,441.22	860,454.78	32.0802092	-103.3030095
3,100.0	3.00	51.34	3,098.6	33.5	41.9	394,444.49	860,458.87	32.0802180	-103.3029962
3,200.0	3.00	51.34	3,198.5	36.8	46.0	394,447.76	860,462.95	32.0802269	-103.3029830
3,234.6	3.00	51.34	3,233.0	37.9	47.4	394,448.89	860,464.36	32.0802300	-103.3029784
Tansill									
3,300.0	3.00	51.34	3,298.4	40.0	50.0	394,451.03	860,467.03	32.0802358	-103.3029697
3,400.0	3.00	51.34	3,398.2	43.3	54.1	394,454.29	860,471.12	32.0802447	-103.3029564
3,500.0	3.00	51.34	3,498.1	46.6	58.2	394,457.56	860,475.20	32.0802535	-103.3029431
3,600.0	3.00	51.34	3,597.9	49.8	62.3	394,460.83	860,479.29	32.0802624	-103.3029298
3,700.0	3.00	51.34	3,697.8	53.1	66.4	394,464.10	860,483.37	32.0802713	-103.3029165
3,800.0	3.00	51.34	3,797.7	56.4	70.5	394,467.36	860,487.46	32.0802801	-103.3029032
3,900.0	3.00	51.34	3,897.5	59.6	74.5	394,470.63	860,491.54	32.0802890	-103.3028900
4,000.0	3.00	51.34	3,997.4	62.9	78.6	394,473.90	860,495.62	32.0802979	-103.3028767
4,100.0	3.00	51.34	4,097.3	66.2	82.7	394,477.17	860,499.71	32.0803068	-103.3028634
4,200.0	3.00	51.34	4,197.1	69.4	86.8	394,480.43	860,503.79	32.0803156	-103.3028501
4,300.0	3.00	51.34	4,297.0	72.7	90.9	394,483.70	860,507.88	32.0803245	-103.3028368
4,400.0	3.00	51.34	4,396.9	76.0	95.0	394,486.97	860,511.96	32.0803334	-103.3028235

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Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,448.4	3.00	51.34	4,445.2	77.6	96.9	394,488.55	860,513.94	32.0803377	-103.3028171
DROP - 2.00									
4,500.0	1.97	51.34	4,496.7	78.9	98.7	394,489.95	860,515.68	32.0803415	-103.3028114
4,598.3	0.00	0.00	4,595.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
HOLD - 6802.0 at 4598.3 MD									
4,600.0	0.00	0.00	4,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
4,700.0	0.00	0.00	4,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
4,800.0	0.00	0.00	4,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
4,900.0	0.00	0.00	4,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,000.0	0.00	0.00	4,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,036.3	0.00	0.00	5,033.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Lamar									
5,071.3	0.00	0.00	5,068.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Bell Canyon									
5,086.3	0.00	0.00	5,083.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9.625									
5,100.0	0.00	0.00	5,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,200.0	0.00	0.00	5,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,300.0	0.00	0.00	5,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,400.0	0.00	0.00	5,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,500.0	0.00	0.00	5,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,600.0	0.00	0.00	5,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,700.0	0.00	0.00	5,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,800.0	0.00	0.00	5,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
5,900.0	0.00	0.00	5,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,000.0	0.00	0.00	5,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,100.0	0.00	0.00	6,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,200.0	0.00	0.00	6,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,300.0	0.00	0.00	6,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,400.0	0.00	0.00	6,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,500.0	0.00	0.00	6,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,600.0	0.00	0.00	6,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,700.0	0.00	0.00	6,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,800.0	0.00	0.00	6,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
6,900.0	0.00	0.00	6,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,000.0	0.00	0.00	6,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,100.0	0.00	0.00	7,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,111.3	0.00	0.00	7,108.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Brushy Canyon									
7,200.0	0.00	0.00	7,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,300.0	0.00	0.00	7,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,400.0	0.00	0.00	7,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,500.0	0.00	0.00	7,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,600.0	0.00	0.00	7,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,700.0	0.00	0.00	7,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,800.0	0.00	0.00	7,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
7,900.0	0.00	0.00	7,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,000.0	0.00	0.00	7,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,100.0	0.00	0.00	8,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,200.0	0.00	0.00	8,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,300.0	0.00	0.00	8,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,337.3	0.00	0.00	8,334.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Bone Spring Lime									
8,400.0	0.00	0.00	8,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071

AMEREDEV

Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,500.0	0.00	0.00	8,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,600.0	0.00	0.00	8,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,700.0	0.00	0.00	8,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,800.0	0.00	0.00	8,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
8,900.0	0.00	0.00	8,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,000.0	0.00	0.00	8,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,100.0	0.00	0.00	9,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,200.0	0.00	0.00	9,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,300.0	0.00	0.00	9,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,400.0	0.00	0.00	9,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,500.0	0.00	0.00	9,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,600.0	0.00	0.00	9,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,700.0	0.00	0.00	9,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,713.3	0.00	0.00	9,710.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
First Bone Spring									
9,800.0	0.00	0.00	9,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
9,900.0	0.00	0.00	9,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,000.0	0.00	0.00	9,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,100.0	0.00	0.00	10,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,200.0	0.00	0.00	10,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,271.3	0.00	0.00	10,268.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Second Bone Spring									
10,300.0	0.00	0.00	10,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,400.0	0.00	0.00	10,396.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,500.0	0.00	0.00	10,496.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,600.0	0.00	0.00	10,596.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,700.0	0.00	0.00	10,696.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,800.0	0.00	0.00	10,796.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
10,857.3	0.00	0.00	10,854.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
Third Bone Spring Upper									
10,900.0	0.00	0.00	10,896.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
11,000.0	0.00	0.00	10,996.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
11,100.0	0.00	0.00	11,096.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
11,200.0	0.00	0.00	11,196.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
11,300.0	0.00	0.00	11,296.7	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
11,400.3	0.00	0.00	11,397.0	80.0	100.0	394,491.00	860,517.00	32.0803443	-103.3028071
KOP BUILD 10.00 - 10286' FNL, 2209' FEL									
11,450.0	4.97	351.30	11,446.7	82.1	99.7	394,493.13	860,516.67	32.0803502	-103.3028081
FTP (Nandina Fed Com 25-36-31 #105H)									
11,456.4	5.61	351.30	11,453.0	82.7	99.6	394,493.71	860,516.58	32.0803518	-103.3028084
Third Bone Spring									
11,500.0	9.97	351.30	11,496.2	88.6	98.7	394,499.55	860,515.69	32.0803679	-103.3028111
11,550.0	14.97	351.30	11,545.0	99.2	97.1	394,510.22	860,514.06	32.0803973	-103.3028160
11,600.0	19.97	351.30	11,592.7	114.1	94.8	394,525.06	860,511.79	32.0804381	-103.3028229
11,650.0	24.97	351.30	11,638.9	132.9	91.9	394,543.94	860,508.90	32.0804901	-103.3028317
11,700.0	29.97	351.30	11,683.2	155.7	88.4	394,566.74	860,505.41	32.0805528	-103.3028422
11,741.0	34.07	351.30	11,718.0	177.2	85.1	394,588.23	860,502.12	32.0806120	-103.3028522
Wolfcamp									
11,750.0	34.97	351.30	11,725.4	182.3	84.4	394,593.26	860,501.35	32.0806258	-103.3028545
11,800.0	39.97	351.30	11,765.1	212.3	79.8	394,623.32	860,496.75	32.0807086	-103.3028684
11,850.0	44.97	351.30	11,801.9	245.7	74.6	394,656.69	860,491.65	32.0808004	-103.3028839
11,888.7	48.84	351.30	11,828.4	273.6	70.4	394,684.59	860,487.38	32.0808772	-103.3028968
FTP (Nandina Fed Com 25-36-31 #105H) v2									
11,900.0	49.97	351.30	11,835.7	282.1	69.1	394,693.10	860,486.07	32.0809006	-103.3029007

AMEREDEV

Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,924.4	52.41	351.30	11,851.0	300.9	66.2	394,711.87	860,483.20	32.0809523	-103.3029094
7.625									
11,950.0	54.97	351.30	11,866.2	321.3	63.1	394,732.28	860,480.08	32.0810085	-103.3029189
12,000.0	59.97	351.30	11,893.1	362.9	56.7	394,773.94	860,473.70	32.0811231	-103.3029382
12,050.0	64.97	351.30	11,916.2	406.8	50.0	394,817.75	860,467.00	32.0812437	-103.3029585
12,100.0	69.97	351.30	11,935.3	452.4	43.0	394,863.39	860,460.01	32.0813694	-103.3029796
12,150.0	74.97	351.30	11,950.4	499.5	35.8	394,910.51	860,452.81	32.0814990	-103.3030014
12,200.0	79.97	351.30	11,961.2	547.7	28.4	394,958.74	860,445.42	32.0816318	-103.3030238
12,250.0	84.97	351.30	11,967.8	596.7	20.9	395,007.72	860,437.93	32.0817666	-103.3030465
12,300.3	90.00	351.30	11,970.0	646.4	13.3	395,057.36	860,430.33	32.0819033	-103.3030695
EOC/TURN - DLS 2.00 TFO 90.00									
12,400.0	90.00	353.29	11,970.0	745.2	0.0	395,156.18	860,416.97	32.0821752	-103.3031096
12,500.0	90.00	355.29	11,970.0	844.7	-10.0	395,255.68	860,407.03	32.0824490	-103.3031386
12,600.0	90.00	357.29	11,970.0	944.5	-16.4	395,355.46	860,400.56	32.0827234	-103.3031564
12,707.4	90.00	359.44	11,970.0	1,051.8	-19.5	395,462.79	860,397.51	32.0830185	-103.3031629
HOLD - 8983.6 at 12707.4 MD									
12,775.3	90.00	359.44	11,970.0	1,119.7	-20.2	395,530.71	860,396.84	32.0832052	-103.3031630
Section 31 1320' FSL - 9246' FNL, 2318' FEL									
12,800.0	90.00	359.44	11,970.0	1,144.4	-20.4	395,555.41	860,396.60	32.0832730	-103.3031630
12,900.0	90.00	359.44	11,970.0	1,244.4	-21.4	395,655.40	860,395.63	32.0835479	-103.3031630
13,000.0	90.00	359.44	11,970.0	1,344.4	-22.3	395,755.40	860,394.66	32.0838228	-103.3031631
13,100.0	90.00	359.44	11,970.0	1,444.4	-23.3	395,855.39	860,393.68	32.0840976	-103.3031632
13,200.0	90.00	359.44	11,970.0	1,544.4	-24.3	395,955.39	860,392.71	32.0843725	-103.3031632
13,300.0	90.00	359.44	11,970.0	1,644.4	-25.3	396,055.38	860,391.73	32.0846474	-103.3031633
13,400.0	90.00	359.44	11,970.0	1,744.4	-26.2	396,155.38	860,390.76	32.0849222	-103.3031634
13,500.0	90.00	359.44	11,970.0	1,844.4	-27.2	396,255.37	860,389.79	32.0851971	-103.3031634
13,600.0	90.00	359.44	11,970.0	1,944.4	-28.2	396,355.37	860,388.81	32.0854720	-103.3031635
13,700.0	90.00	359.44	11,970.0	2,044.4	-29.2	396,455.36	860,387.84	32.0857468	-103.3031635
13,800.0	90.00	359.44	11,970.0	2,144.4	-30.1	396,555.36	860,386.86	32.0860217	-103.3031636
13,900.0	90.00	359.44	11,970.0	2,244.4	-31.1	396,655.36	860,385.89	32.0862966	-103.3031637
14,000.0	90.00	359.44	11,970.0	2,344.4	-32.1	396,755.35	860,384.92	32.0865714	-103.3031637
14,095.3	90.00	359.44	11,970.0	2,439.6	-33.0	396,850.65	860,383.99	32.0868334	-103.3031638
Section 31 2640' FSL - 7926' FNL, 2318' FEL									
14,100.0	90.00	359.44	11,970.0	2,444.3	-33.1	396,855.35	860,383.94	32.0868463	-103.3031638
14,200.0	90.00	359.44	11,970.0	2,544.3	-34.0	396,955.34	860,382.97	32.0871212	-103.3031638
14,300.0	90.00	359.44	11,970.0	2,644.3	-35.0	397,055.34	860,381.99	32.0873960	-103.3031639
14,400.0	90.00	359.44	11,970.0	2,744.3	-36.0	397,155.33	860,381.02	32.0876709	-103.3031640
14,500.0	90.00	359.44	11,970.0	2,844.3	-37.0	397,255.33	860,380.05	32.0879457	-103.3031640
14,600.0	90.00	359.44	11,970.0	2,944.3	-37.9	397,355.32	860,379.07	32.0882206	-103.3031641
14,700.0	90.00	359.44	11,970.0	3,044.3	-38.9	397,455.32	860,378.10	32.0884955	-103.3031641
14,800.0	90.00	359.44	11,970.0	3,144.3	-39.9	397,555.31	860,377.12	32.0887703	-103.3031642
14,900.0	90.00	359.44	11,970.0	3,244.3	-40.9	397,655.31	860,376.15	32.0890452	-103.3031643
15,000.0	90.00	359.44	11,970.0	3,344.3	-41.8	397,755.30	860,375.17	32.0893201	-103.3031643
15,100.0	90.00	359.44	11,970.0	3,444.3	-42.8	397,855.30	860,374.20	32.0895949	-103.3031644
15,200.0	90.00	359.44	11,970.0	3,544.3	-43.8	397,955.29	860,373.23	32.0898698	-103.3031645
15,300.0	90.00	359.44	11,970.0	3,644.3	-44.7	398,055.29	860,372.25	32.0901447	-103.3031645
15,400.0	90.00	359.44	11,970.0	3,744.3	-45.7	398,155.28	860,371.28	32.0904195	-103.3031646
15,500.0	90.00	359.44	11,970.0	3,844.3	-46.7	398,255.28	860,370.30	32.0906944	-103.3031646
15,600.0	90.00	359.44	11,970.0	3,944.3	-47.7	398,355.27	860,369.33	32.0909693	-103.3031647
15,700.0	90.00	359.44	11,970.0	4,044.3	-48.6	398,455.27	860,368.36	32.0912441	-103.3031648
15,800.0	90.00	359.44	11,970.0	4,144.3	-49.6	398,555.27	860,367.38	32.0915190	-103.3031648
15,900.0	90.00	359.44	11,970.0	4,244.3	-50.6	398,655.26	860,366.41	32.0917938	-103.3031649
16,000.0	90.00	359.44	11,970.0	4,344.3	-51.6	398,755.26	860,365.43	32.0920687	-103.3031649
16,100.0	90.00	359.44	11,970.0	4,444.3	-52.5	398,855.25	860,364.46	32.0923436	-103.3031650

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Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,200.0	90.00	359.44	11,970.0	4,544.2	-53.5	398,955.25	860,363.49	32.0926184	-103.3031651
16,300.0	90.00	359.44	11,970.0	4,644.2	-54.5	399,055.24	860,362.51	32.0928933	-103.3031651
16,400.0	90.00	359.44	11,970.0	4,744.2	-55.5	399,155.24	860,361.54	32.0931682	-103.3031652
16,500.0	90.00	359.44	11,970.0	4,844.2	-56.4	399,255.23	860,360.56	32.0934430	-103.3031652
16,600.0	90.00	359.44	11,970.0	4,944.2	-57.4	399,355.23	860,359.59	32.0937179	-103.3031653
16,700.0	90.00	359.44	11,970.0	5,044.2	-58.4	399,455.22	860,358.62	32.0939928	-103.3031654
16,733.8	90.00	359.44	11,970.0	5,078.0	-58.7	399,489.02	860,358.29	32.0940857	-103.3031654
Section 31 & 30 Cross - 5287' FNL, 2318' FEL									
16,800.0	90.00	359.44	11,970.0	5,144.2	-59.4	399,555.22	860,357.64	32.0942676	-103.3031654
16,900.0	90.00	359.44	11,970.0	5,244.2	-60.3	399,655.21	860,356.67	32.0945425	-103.3031655
17,000.0	90.00	359.44	11,970.0	5,344.2	-61.3	399,755.21	860,355.69	32.0948174	-103.3031655
17,100.0	90.00	359.44	11,970.0	5,444.2	-62.3	399,855.20	860,354.72	32.0950922	-103.3031656
17,200.0	90.00	359.44	11,970.0	5,544.2	-63.3	399,955.20	860,353.75	32.0953671	-103.3031657
17,300.0	90.00	359.44	11,970.0	5,644.2	-64.2	400,055.19	860,352.77	32.0956419	-103.3031657
17,400.0	90.00	359.44	11,970.0	5,744.2	-65.2	400,155.19	860,351.80	32.0959168	-103.3031658
17,500.0	90.00	359.44	11,970.0	5,844.2	-66.2	400,255.18	860,350.82	32.0961917	-103.3031658
17,600.0	90.00	359.44	11,970.0	5,944.2	-67.2	400,355.18	860,349.85	32.0964665	-103.3031659
17,700.0	90.00	359.44	11,970.0	6,044.2	-68.1	400,455.18	860,348.87	32.0967414	-103.3031660
17,800.0	90.00	359.44	11,970.0	6,144.2	-69.1	400,555.17	860,347.90	32.0970163	-103.3031660
17,900.0	90.00	359.44	11,970.0	6,244.2	-70.1	400,655.17	860,346.93	32.0972911	-103.3031661
18,000.0	90.00	359.44	11,970.0	6,344.2	-71.0	400,755.16	860,345.95	32.0975660	-103.3031661
18,053.8	90.00	359.44	11,970.0	6,398.0	-71.6	400,808.96	860,345.43	32.0977139	-103.3031662
Section 30 1320' FSL - 3967' FNL, 2318' FEL									
18,100.0	90.00	359.44	11,970.0	6,444.2	-72.0	400,855.16	860,344.98	32.0978409	-103.3031662
18,200.0	90.00	359.44	11,970.0	6,544.2	-73.0	400,955.15	860,344.00	32.0981157	-103.3031663
18,300.0	90.00	359.44	11,970.0	6,644.1	-74.0	401,055.15	860,343.03	32.0983906	-103.3031663
18,400.0	90.00	359.44	11,970.0	6,744.1	-74.9	401,155.14	860,342.06	32.0986655	-103.3031664
18,500.0	90.00	359.44	11,970.0	6,844.1	-75.9	401,255.14	860,341.08	32.0989403	-103.3031664
18,600.0	90.00	359.44	11,970.0	6,944.1	-76.9	401,355.13	860,340.11	32.0992152	-103.3031665
18,700.0	90.00	359.44	11,970.0	7,044.1	-77.9	401,455.13	860,339.13	32.0994900	-103.3031666
18,800.0	90.00	359.44	11,970.0	7,144.1	-78.8	401,555.12	860,338.16	32.0997649	-103.3031666
18,900.0	90.00	359.44	11,970.0	7,244.1	-79.8	401,655.12	860,337.19	32.1000398	-103.3031667
19,000.0	90.00	359.44	11,970.0	7,344.1	-80.8	401,755.11	860,336.21	32.1003146	-103.3031667
19,100.0	90.00	359.44	11,970.0	7,444.1	-81.8	401,855.11	860,335.24	32.1005895	-103.3031668
19,200.0	90.00	359.44	11,970.0	7,544.1	-82.7	401,955.10	860,334.26	32.1008644	-103.3031669
19,300.0	90.00	359.44	11,970.0	7,644.1	-83.7	402,055.10	860,333.29	32.1011392	-103.3031669
19,400.0	90.00	359.44	11,970.0	7,744.1	-84.7	402,155.09	860,332.32	32.1014141	-103.3031670
19,500.0	90.00	359.44	11,970.0	7,844.1	-85.7	402,255.09	860,331.34	32.1016890	-103.3031670
19,600.0	90.00	359.44	11,970.0	7,944.1	-86.6	402,355.09	860,330.37	32.1019638	-103.3031671
19,700.0	90.00	359.44	11,970.0	8,044.1	-87.6	402,455.08	860,329.39	32.1022387	-103.3031672
19,800.0	90.00	359.44	11,970.0	8,144.1	-88.6	402,555.08	860,328.42	32.1025135	-103.3031672
19,900.0	90.00	359.44	11,970.0	8,244.1	-89.6	402,655.07	860,327.45	32.1027884	-103.3031673
20,000.0	90.00	359.44	11,970.0	8,344.1	-90.5	402,755.07	860,326.47	32.1030633	-103.3031673
20,100.0	90.00	359.44	11,970.0	8,444.1	-91.5	402,855.06	860,325.50	32.1033381	-103.3031674
20,200.0	90.00	359.44	11,970.0	8,544.1	-92.5	402,955.06	860,324.52	32.1036130	-103.3031675
20,300.0	90.00	359.44	11,970.0	8,644.1	-93.5	403,055.05	860,323.55	32.1038879	-103.3031675
20,400.0	90.00	359.44	11,970.0	8,744.0	-94.4	403,155.05	860,322.57	32.1041627	-103.3031676
20,500.0	90.00	359.44	11,970.0	8,844.0	-95.4	403,255.04	860,321.60	32.1044376	-103.3031676
20,600.0	90.00	359.44	11,970.0	8,944.0	-96.4	403,355.04	860,320.63	32.1047125	-103.3031677
20,700.0	90.00	359.44	11,970.0	9,044.0	-97.3	403,455.03	860,319.65	32.1049873	-103.3031678
20,800.0	90.00	359.44	11,970.0	9,144.0	-98.3	403,555.03	860,318.68	32.1052622	-103.3031678
20,900.0	90.00	359.44	11,970.0	9,244.0	-99.3	403,655.02	860,317.70	32.1055371	-103.3031679
21,000.0	90.00	359.44	11,970.0	9,344.0	-100.3	403,755.02	860,316.73	32.1058119	-103.3031679
21,100.0	90.00	359.44	11,970.0	9,444.0	-101.2	403,855.01	860,315.76	32.1060868	-103.3031680

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Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
21,200.0	90.00	359.44	11,970.0	9,544.0	-102.2	403,955.01	860,314.78	32.1063616	-103.3031681
21,300.0	90.00	359.44	11,970.0	9,644.0	-103.2	404,055.00	860,313.81	32.1066365	-103.3031681
21,400.0	90.00	359.44	11,970.0	9,744.0	-104.2	404,155.00	860,312.83	32.1069114	-103.3031682
21,500.0	90.00	359.44	11,970.0	9,844.0	-105.1	404,254.99	860,311.86	32.1071862	-103.3031682
21,600.0	90.00	359.44	11,970.0	9,944.0	-106.1	404,354.99	860,310.89	32.1074611	-103.3031683
21,691.0	90.00	359.44	11,970.0	10,035.0	-107.0	404,446.00	860,310.00	32.1077113	-103.3031684
LTP (Nandina Fed Com 25-36-31 #105H)									
21,700.0	90.00	359.44	11,970.0	10,044.0	-107.1	404,454.99	860,309.91	32.1077360	-103.3031684
21,800.0	90.00	359.44	11,970.0	10,144.0	-108.1	404,554.98	860,308.94	32.1080108	-103.3031684
21,821.0	90.00	359.44	11,970.0	10,165.0	-108.3	404,575.98	860,308.73	32.1080685	-103.3031684
PBHL - 200' FNL, 2318' FEL - 5 1/2" - PBHL (Nandina Fed Com 25-36-31 #105H)									

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
FTP (Nandina Fed Co - plan misses target center by 216.8usft at 11888.7usft MD (11828.4 TVD, 273.6 N, 70.4 E) - Point	0.00	0.01	11,970.0	130.0	-9.0	394,541.00	860,408.00	32.0804846	-103.3031575
PBHL (Nandina Fed C - plan misses target center by 0.3usft at 21821.0usft MD (11970.0 TVD, 10165.0 N, -108.3 E) - Point	0.00	0.00	11,970.0	10,165.0	-108.0	404,576.00	860,309.00	32.1080686	-103.3031676
LTP (Nandina Fed Co - plan hits target center - Point	0.00	359.44	11,970.0	10,035.0	-107.0	404,446.00	860,310.00	32.1077113	-103.3031684

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,086.3	5,083.0	9.625	9-5/8	12-1/4
11,924.4	11,851.0	7.625	7-5/8	8-3/4
21,821.0	11,970.0	5 1/2"	5-1/2	6-3/4

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Planning Report - Geographic

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,067.0	1,067.0	Rustler			
1,507.0	1,507.0	Salado			
3,234.6	3,233.0	Tansill			
5,036.3	5,033.0	Lamar			
5,071.3	5,068.0	Bell Canyon			
7,111.3	7,108.0	Brushy Canyon			
8,337.3	8,334.0	Bone Spring Lime			
9,713.3	9,710.0	First Bone Spring			
10,271.3	10,268.0	Second Bone Spring			
10,857.3	10,854.0	Third Bone Spring Upper			
11,456.4	11,453.0	Third Bone Spring			
11,741.0	11,718.0	Wolfcamp			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	BUILD - 2.00
2,149.9	2,149.8	2.4	3.1	HOLD - 2298.5 at 2149.9 MD
4,448.4	4,445.2	77.6	96.9	DROP - 2.00
4,598.3	4,595.0	80.0	100.0	HOLD - 6802.0 at 4598.3 MD
11,400.3	11,397.0	80.0	100.0	KOP BUILD 10.00 - 10286' FNL, 2209' FEL
12,300.3	11,970.0	646.4	13.3	EOC/TURN - DLS 2.00 TFO 90.00
12,707.4	11,970.0	1,051.8	-19.5	HOLD - 8983.6 at 12707.4 MD
12,775.3	11,970.0	1,119.7	-20.2	Section 31 1320' FSL - 9246' FNL, 2318' FEL
14,095.3	11,970.0	2,439.6	-33.0	Section 31 2640' FSL - 7926' FNL, 2318' FEL
16,733.8	11,970.0	5,078.0	-58.7	Section 31 & 30 Cross - 5287' FNL, 2318' FEL
18,053.8	11,970.0	6,398.0	-71.6	Section 30 1320' FSL - 3967' FNL, 2318' FEL
21,821.0	11,970.0	10,035.0	-107.0	PBHL - 200' FNL, 2318' FEL

Ameredev Operating, LLC

Lea County, NM (NAD83 NME)
(Nandina Fed) Sec-31_T-25-S_R-36-E
Nandina Fed Com 25-36-31 #105H

OWB

Plan: Plan #2

Standard Planning Report

26 June, 2018

AMEREDEV

Planning Report

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Project Lea County, NM (NAD83 NME)

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

Site (Nandina Fed) Sec-31_T-25-S_R-36-E

Site Position:		**Northing:**	394,412.00 usft	**Latitude:**	32.0801272
From:	Map	**Easting:**	860,517.00 usft	**Longitude:**	-103.3028096
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.55 °

Well Nandina Fed Com 25-36-31 #105H

Well Position	**+N/-S**	-1.0 usft	**Northing:**	394,411.00 usft	**Latitude:**	32.0801271
	+E/-W	-100.0 usft	**Easting:**	860,417.00 usft	**Longitude:**	-103.3031324
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,013.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2018/04/25	6.72	59.96	47,795.67775175

Design Plan #2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.39

Plan Survey Tool Program **Date** 2018/06/26

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	21,821.0	Plan #2 (OWB)	MWD	
				MWD - Standard	

AMEREDEV

Planning Report

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Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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	
2,149.9	3.00	51.34	2,149.8	2.4	3.1	2.00	2.00	0.00	51.34	
4,448.4	3.00	51.34	4,445.2	77.6	96.9	0.00	0.00	0.00	0.00	
4,598.3	0.00	0.00	4,595.0	80.0	100.0	2.00	-2.00	0.00	180.00	
11,400.3	0.00	0.00	11,397.0	80.0	100.0	0.00	0.00	0.00	0.00	
12,300.3	90.00	351.30	11,970.0	646.4	13.3	10.00	10.00	0.00	351.30	
12,707.4	90.00	359.44	11,970.0	1,051.8	-19.5	2.00	0.00	2.00	90.00	
21,691.0	90.00	359.44	11,970.0	10,035.0	-107.0	0.00	0.00	0.00	0.00	LTP (Nandina Fed (
21,821.0	90.00	359.44	11,970.0	10,165.0	-108.3	0.00	0.00	0.00	0.00	PBHL (Nandina Fec

AMEREDEV

Planning Report

INTREPID

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Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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
1,067.0	0.00	0.00	1,067.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
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
1,507.0	0.00	0.00	1,507.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado									
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
BUILD - 2.00									
2,100.0	2.00	51.34	2,100.0	1.1	1.4	1.1	2.00	2.00	0.00
2,149.9	3.00	51.34	2,149.8	2.4	3.1	2.4	2.00	2.00	0.00
HOLD - 2298.5 at 2149.9 MD									
2,200.0	3.00	51.34	2,199.9	4.1	5.1	4.0	0.00	0.00	0.00
2,300.0	3.00	51.34	2,299.7	7.4	9.2	7.3	0.00	0.00	0.00
2,400.0	3.00	51.34	2,399.6	10.6	13.3	10.5	0.00	0.00	0.00
2,500.0	3.00	51.34	2,499.5	13.9	17.4	13.7	0.00	0.00	0.00
2,600.0	3.00	51.34	2,599.3	17.2	21.4	16.9	0.00	0.00	0.00
2,700.0	3.00	51.34	2,699.2	20.4	25.5	20.2	0.00	0.00	0.00
2,800.0	3.00	51.34	2,799.0	23.7	29.6	23.4	0.00	0.00	0.00
2,900.0	3.00	51.34	2,898.9	27.0	33.7	26.6	0.00	0.00	0.00
3,000.0	3.00	51.34	2,998.8	30.2	37.8	29.8	0.00	0.00	0.00
3,100.0	3.00	51.34	3,098.6	33.5	41.9	33.0	0.00	0.00	0.00
3,200.0	3.00	51.34	3,198.5	36.8	46.0	36.3	0.00	0.00	0.00
3,234.6	3.00	51.34	3,233.0	37.9	47.4	37.4	0.00	0.00	0.00
Tansill									
3,300.0	3.00	51.34	3,298.4	40.0	50.0	39.5	0.00	0.00	0.00
3,400.0	3.00	51.34	3,398.2	43.3	54.1	42.7	0.00	0.00	0.00
3,500.0	3.00	51.34	3,498.1	46.6	58.2	45.9	0.00	0.00	0.00
3,600.0	3.00	51.34	3,597.9	49.8	62.3	49.2	0.00	0.00	0.00
3,700.0	3.00	51.34	3,697.8	53.1	66.4	52.4	0.00	0.00	0.00
3,800.0	3.00	51.34	3,797.7	56.4	70.5	55.6	0.00	0.00	0.00
3,900.0	3.00	51.34	3,897.5	59.6	74.5	58.8	0.00	0.00	0.00
4,000.0	3.00	51.34	3,997.4	62.9	78.6	62.1	0.00	0.00	0.00
4,100.0	3.00	51.34	4,097.3	66.2	82.7	65.3	0.00	0.00	0.00
4,200.0	3.00	51.34	4,197.1	69.4	86.8	68.5	0.00	0.00	0.00
4,300.0	3.00	51.34	4,297.0	72.7	90.9	71.7	0.00	0.00	0.00
4,400.0	3.00	51.34	4,396.9	76.0	95.0	75.0	0.00	0.00	0.00

AMEREDEV

Planning Report

INTREPID

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Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,448.4	3.00	51.34	4,445.2	77.6	96.9	76.5	0.00	0.00	0.00
DROP - 2.00									
4,500.0	1.97	51.34	4,496.7	78.9	98.7	77.9	2.00	-2.00	0.00
4,598.3	0.00	0.00	4,595.0	80.0	100.0	78.9	2.00	-2.00	-52.24
HOLD - 6802.0 at 4598.3 MD									
4,600.0	0.00	0.00	4,596.7	80.0	100.0	78.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,696.7	80.0	100.0	78.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,796.7	80.0	100.0	78.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,896.7	80.0	100.0	78.9	0.00	0.00	0.00
5,000.0	0.00	0.00	4,996.7	80.0	100.0	78.9	0.00	0.00	0.00
5,036.3	0.00	0.00	5,033.0	80.0	100.0	78.9	0.00	0.00	0.00
Lamar									
5,071.3	0.00	0.00	5,068.0	80.0	100.0	78.9	0.00	0.00	0.00
Bell Canyon									
5,086.3	0.00	0.00	5,083.0	80.0	100.0	78.9	0.00	0.00	0.00
9.625									
5,100.0	0.00	0.00	5,096.7	80.0	100.0	78.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,196.7	80.0	100.0	78.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,296.7	80.0	100.0	78.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,396.7	80.0	100.0	78.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,496.7	80.0	100.0	78.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,596.7	80.0	100.0	78.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,696.7	80.0	100.0	78.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,796.7	80.0	100.0	78.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,896.7	80.0	100.0	78.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,996.7	80.0	100.0	78.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,096.7	80.0	100.0	78.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,196.7	80.0	100.0	78.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,296.7	80.0	100.0	78.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,396.7	80.0	100.0	78.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,496.7	80.0	100.0	78.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,596.7	80.0	100.0	78.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,696.7	80.0	100.0	78.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,796.7	80.0	100.0	78.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,896.7	80.0	100.0	78.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,996.7	80.0	100.0	78.9	0.00	0.00	0.00
7,100.0	0.00	0.00	7,096.7	80.0	100.0	78.9	0.00	0.00	0.00
7,111.3	0.00	0.00	7,108.0	80.0	100.0	78.9	0.00	0.00	0.00
Brushy Canyon									
7,200.0	0.00	0.00	7,196.7	80.0	100.0	78.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,296.7	80.0	100.0	78.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,396.7	80.0	100.0	78.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,496.7	80.0	100.0	78.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,596.7	80.0	100.0	78.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,696.7	80.0	100.0	78.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,796.7	80.0	100.0	78.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,896.7	80.0	100.0	78.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,996.7	80.0	100.0	78.9	0.00	0.00	0.00
8,100.0	0.00	0.00	8,096.7	80.0	100.0	78.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,196.7	80.0	100.0	78.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,296.7	80.0	100.0	78.9	0.00	0.00	0.00
8,337.3	0.00	0.00	8,334.0	80.0	100.0	78.9	0.00	0.00	0.00
Bone Spring Lime									

AMEREDEV

Planning Report

INTREPID

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Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.0	0.00	0.00	8,396.7	80.0	100.0	78.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,496.7	80.0	100.0	78.9	0.00	0.00	0.00
8,600.0	0.00	0.00	8,596.7	80.0	100.0	78.9	0.00	0.00	0.00
8,700.0	0.00	0.00	8,696.7	80.0	100.0	78.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,796.7	80.0	100.0	78.9	0.00	0.00	0.00
8,900.0	0.00	0.00	8,896.7	80.0	100.0	78.9	0.00	0.00	0.00
9,000.0	0.00	0.00	8,996.7	80.0	100.0	78.9	0.00	0.00	0.00
9,100.0	0.00	0.00	9,096.7	80.0	100.0	78.9	0.00	0.00	0.00
9,200.0	0.00	0.00	9,196.7	80.0	100.0	78.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,296.7	80.0	100.0	78.9	0.00	0.00	0.00
9,400.0	0.00	0.00	9,396.7	80.0	100.0	78.9	0.00	0.00	0.00
9,500.0	0.00	0.00	9,496.7	80.0	100.0	78.9	0.00	0.00	0.00
9,600.0	0.00	0.00	9,596.7	80.0	100.0	78.9	0.00	0.00	0.00
9,700.0	0.00	0.00	9,696.7	80.0	100.0	78.9	0.00	0.00	0.00
9,713.3	0.00	0.00	9,710.0	80.0	100.0	78.9	0.00	0.00	0.00
First Bone Spring									
9,800.0	0.00	0.00	9,796.7	80.0	100.0	78.9	0.00	0.00	0.00
9,900.0	0.00	0.00	9,896.7	80.0	100.0	78.9	0.00	0.00	0.00
10,000.0	0.00	0.00	9,996.7	80.0	100.0	78.9	0.00	0.00	0.00
10,100.0	0.00	0.00	10,096.7	80.0	100.0	78.9	0.00	0.00	0.00
10,200.0	0.00	0.00	10,196.7	80.0	100.0	78.9	0.00	0.00	0.00
10,271.3	0.00	0.00	10,268.0	80.0	100.0	78.9	0.00	0.00	0.00
Second Bone Spring									
10,300.0	0.00	0.00	10,296.7	80.0	100.0	78.9	0.00	0.00	0.00
10,400.0	0.00	0.00	10,396.7	80.0	100.0	78.9	0.00	0.00	0.00
10,500.0	0.00	0.00	10,496.7	80.0	100.0	78.9	0.00	0.00	0.00
10,600.0	0.00	0.00	10,596.7	80.0	100.0	78.9	0.00	0.00	0.00
10,700.0	0.00	0.00	10,696.7	80.0	100.0	78.9	0.00	0.00	0.00
10,800.0	0.00	0.00	10,796.7	80.0	100.0	78.9	0.00	0.00	0.00
10,857.3	0.00	0.00	10,854.0	80.0	100.0	78.9	0.00	0.00	0.00
Third Bone Spring Upper									
10,900.0	0.00	0.00	10,896.7	80.0	100.0	78.9	0.00	0.00	0.00
11,000.0	0.00	0.00	10,996.7	80.0	100.0	78.9	0.00	0.00	0.00
11,100.0	0.00	0.00	11,096.7	80.0	100.0	78.9	0.00	0.00	0.00
11,200.0	0.00	0.00	11,196.7	80.0	100.0	78.9	0.00	0.00	0.00
11,300.0	0.00	0.00	11,296.7	80.0	100.0	78.9	0.00	0.00	0.00
11,400.3	0.00	0.00	11,397.0	80.0	100.0	78.9	0.00	0.00	0.00
KOP BUILD 10.00 - 10286' FNL, 2209' FEL									
11,450.0	4.97	351.30	11,446.7	82.1	99.7	81.1	10.00	10.00	0.00
FTP (Nandina Fed Com 25-36-31 #105H)									
11,456.4	5.61	351.30	11,453.0	82.7	99.6	81.6	10.00	10.00	0.00
Third Bone Spring									
11,500.0	9.97	351.30	11,496.2	88.6	98.7	87.5	10.00	10.00	0.00
11,550.0	14.97	351.30	11,545.0	99.2	97.1	98.2	10.00	10.00	0.00
11,600.0	19.97	351.30	11,592.7	114.1	94.8	113.0	10.00	10.00	0.00
11,650.0	24.97	351.30	11,638.9	132.9	91.9	132.0	10.00	10.00	0.00
11,700.0	29.97	351.30	11,683.2	155.7	88.4	154.8	10.00	10.00	0.00
11,741.0	34.07	351.30	11,718.0	177.2	85.1	176.3	10.00	10.00	0.00
Wolfcamp									
11,750.0	34.97	351.30	11,725.4	182.3	84.4	181.4	10.00	10.00	0.00
11,800.0	39.97	351.30	11,765.1	212.3	79.8	211.5	10.00	10.00	0.00
11,850.0	44.97	351.30	11,801.9	245.7	74.6	244.9	10.00	10.00	0.00
11,888.7	48.84	351.30	11,828.4	273.6	70.4	272.8	10.00	10.00	0.00

AMEREDEV

Planning Report

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
FTP (Nandina Fed Com 25-36-31 #105H) v2									
11,900.0	49.97	351.30	11,835.7	282.1	69.1	281.3	10.00	10.00	0.00
11,924.4	52.41	351.30	11,851.0	300.9	66.2	300.1	10.00	10.00	0.00
7.625									
11,950.0	54.97	351.30	11,866.2	321.3	63.1	320.6	10.00	10.00	0.00
12,000.0	59.97	351.30	11,893.1	362.9	56.7	362.3	10.00	10.00	0.00
12,050.0	64.97	351.30	11,916.2	406.8	50.0	406.2	10.00	10.00	0.00
12,100.0	69.97	351.30	11,935.3	452.4	43.0	451.9	10.00	10.00	0.00
12,150.0	74.97	351.30	11,950.4	499.5	35.8	499.1	10.00	10.00	0.00
12,200.0	79.97	351.30	11,961.2	547.7	28.4	547.4	10.00	10.00	0.00
12,250.0	84.97	351.30	11,967.8	596.7	20.9	596.5	10.00	10.00	0.00
12,300.3	90.00	351.30	11,970.0	646.4	13.3	646.2	10.00	10.00	0.00
EOC/TURN - DLS 2.00 TFO 90.00									
12,400.0	90.00	353.29	11,970.0	745.2	0.0	745.1	2.00	0.00	2.00
12,500.0	90.00	355.29	11,970.0	844.7	-10.0	844.7	2.00	0.00	2.00
12,600.0	90.00	357.29	11,970.0	944.5	-16.4	944.6	2.00	0.00	2.00
12,707.4	90.00	359.44	11,970.0	1,051.8	-19.5	1,051.9	2.00	0.00	2.00
HOLD - 8983.6 at 12707.4 MD									
12,775.3	90.00	359.44	11,970.0	1,119.7	-20.2	1,119.9	0.00	0.00	0.00
Section 31 1320' FSL - 9246' FNL, 2318' FEL									
12,800.0	90.00	359.44	11,970.0	1,144.4	-20.4	1,144.6	0.00	0.00	0.00
12,900.0	90.00	359.44	11,970.0	1,244.4	-21.4	1,244.6	0.00	0.00	0.00
13,000.0	90.00	359.44	11,970.0	1,344.4	-22.3	1,344.6	0.00	0.00	0.00
13,100.0	90.00	359.44	11,970.0	1,444.4	-23.3	1,444.6	0.00	0.00	0.00
13,200.0	90.00	359.44	11,970.0	1,544.4	-24.3	1,544.6	0.00	0.00	0.00
13,300.0	90.00	359.44	11,970.0	1,644.4	-25.3	1,644.6	0.00	0.00	0.00
13,400.0	90.00	359.44	11,970.0	1,744.4	-26.2	1,744.6	0.00	0.00	0.00
13,500.0	90.00	359.44	11,970.0	1,844.4	-27.2	1,844.6	0.00	0.00	0.00
13,600.0	90.00	359.44	11,970.0	1,944.4	-28.2	1,944.6	0.00	0.00	0.00
13,700.0	90.00	359.44	11,970.0	2,044.4	-29.2	2,044.6	0.00	0.00	0.00
13,800.0	90.00	359.44	11,970.0	2,144.4	-30.1	2,144.6	0.00	0.00	0.00
13,900.0	90.00	359.44	11,970.0	2,244.4	-31.1	2,244.6	0.00	0.00	0.00
14,000.0	90.00	359.44	11,970.0	2,344.4	-32.1	2,344.6	0.00	0.00	0.00
14,095.3	90.00	359.44	11,970.0	2,439.6	-33.0	2,439.9	0.00	0.00	0.00
Section 31 2640' FSL - 7926' FNL, 2318' FEL									
14,100.0	90.00	359.44	11,970.0	2,444.3	-33.1	2,444.6	0.00	0.00	0.00
14,200.0	90.00	359.44	11,970.0	2,544.3	-34.0	2,544.6	0.00	0.00	0.00
14,300.0	90.00	359.44	11,970.0	2,644.3	-35.0	2,644.6	0.00	0.00	0.00
14,400.0	90.00	359.44	11,970.0	2,744.3	-36.0	2,744.6	0.00	0.00	0.00
14,500.0	90.00	359.44	11,970.0	2,844.3	-37.0	2,844.6	0.00	0.00	0.00
14,600.0	90.00	359.44	11,970.0	2,944.3	-37.9	2,944.6	0.00	0.00	0.00
14,700.0	90.00	359.44	11,970.0	3,044.3	-38.9	3,044.6	0.00	0.00	0.00
14,800.0	90.00	359.44	11,970.0	3,144.3	-39.9	3,144.6	0.00	0.00	0.00
14,900.0	90.00	359.44	11,970.0	3,244.3	-40.9	3,244.6	0.00	0.00	0.00
15,000.0	90.00	359.44	11,970.0	3,344.3	-41.8	3,344.6	0.00	0.00	0.00
15,100.0	90.00	359.44	11,970.0	3,444.3	-42.8	3,444.6	0.00	0.00	0.00
15,200.0	90.00	359.44	11,970.0	3,544.3	-43.8	3,544.6	0.00	0.00	0.00
15,300.0	90.00	359.44	11,970.0	3,644.3	-44.7	3,644.6	0.00	0.00	0.00
15,400.0	90.00	359.44	11,970.0	3,744.3	-45.7	3,744.6	0.00	0.00	0.00
15,500.0	90.00	359.44	11,970.0	3,844.3	-46.7	3,844.6	0.00	0.00	0.00
15,600.0	90.00	359.44	11,970.0	3,944.3	-47.7	3,944.6	0.00	0.00	0.00
15,700.0	90.00	359.44	11,970.0	4,044.3	-48.6	4,044.6	0.00	0.00	0.00
15,800.0	90.00	359.44	11,970.0	4,144.3	-49.6	4,144.6	0.00	0.00	0.00

AMEREDEV

Planning Report

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
15,900.0	90.00	359.44	11,970.0	4,244.3	-50.6	4,244.6	0.00	0.00	0.00
16,000.0	90.00	359.44	11,970.0	4,344.3	-51.6	4,344.6	0.00	0.00	0.00
16,100.0	90.00	359.44	11,970.0	4,444.3	-52.5	4,444.6	0.00	0.00	0.00
16,200.0	90.00	359.44	11,970.0	4,544.2	-53.5	4,544.6	0.00	0.00	0.00
16,300.0	90.00	359.44	11,970.0	4,644.2	-54.5	4,644.6	0.00	0.00	0.00
16,400.0	90.00	359.44	11,970.0	4,744.2	-55.5	4,744.6	0.00	0.00	0.00
16,500.0	90.00	359.44	11,970.0	4,844.2	-56.4	4,844.6	0.00	0.00	0.00
16,600.0	90.00	359.44	11,970.0	4,944.2	-57.4	4,944.6	0.00	0.00	0.00
16,700.0	90.00	359.44	11,970.0	5,044.2	-58.4	5,044.6	0.00	0.00	0.00
16,733.8	90.00	359.44	11,970.0	5,078.0	-58.7	5,078.4	0.00	0.00	0.00
Section 31 & 30 Cross - 5287' FNL, 2318' FEL									
16,800.0	90.00	359.44	11,970.0	5,144.2	-59.4	5,144.6	0.00	0.00	0.00
16,900.0	90.00	359.44	11,970.0	5,244.2	-60.3	5,244.6	0.00	0.00	0.00
17,000.0	90.00	359.44	11,970.0	5,344.2	-61.3	5,344.6	0.00	0.00	0.00
17,100.0	90.00	359.44	11,970.0	5,444.2	-62.3	5,444.6	0.00	0.00	0.00
17,200.0	90.00	359.44	11,970.0	5,544.2	-63.3	5,544.6	0.00	0.00	0.00
17,300.0	90.00	359.44	11,970.0	5,644.2	-64.2	5,644.6	0.00	0.00	0.00
17,400.0	90.00	359.44	11,970.0	5,744.2	-65.2	5,744.6	0.00	0.00	0.00
17,500.0	90.00	359.44	11,970.0	5,844.2	-66.2	5,844.6	0.00	0.00	0.00
17,600.0	90.00	359.44	11,970.0	5,944.2	-67.2	5,944.6	0.00	0.00	0.00
17,700.0	90.00	359.44	11,970.0	6,044.2	-68.1	6,044.6	0.00	0.00	0.00
17,800.0	90.00	359.44	11,970.0	6,144.2	-69.1	6,144.6	0.00	0.00	0.00
17,900.0	90.00	359.44	11,970.0	6,244.2	-70.1	6,244.6	0.00	0.00	0.00
18,000.0	90.00	359.44	11,970.0	6,344.2	-71.0	6,344.6	0.00	0.00	0.00
18,053.8	90.00	359.44	11,970.0	6,398.0	-71.6	6,398.4	0.00	0.00	0.00
Section 30 1320' FSL - 3967' FNL, 2318' FEL									
18,100.0	90.00	359.44	11,970.0	6,444.2	-72.0	6,444.6	0.00	0.00	0.00
18,200.0	90.00	359.44	11,970.0	6,544.2	-73.0	6,544.6	0.00	0.00	0.00
18,300.0	90.00	359.44	11,970.0	6,644.1	-74.0	6,644.6	0.00	0.00	0.00
18,400.0	90.00	359.44	11,970.0	6,744.1	-74.9	6,744.6	0.00	0.00	0.00
18,500.0	90.00	359.44	11,970.0	6,844.1	-75.9	6,844.6	0.00	0.00	0.00
18,600.0	90.00	359.44	11,970.0	6,944.1	-76.9	6,944.6	0.00	0.00	0.00
18,700.0	90.00	359.44	11,970.0	7,044.1	-77.9	7,044.6	0.00	0.00	0.00
18,800.0	90.00	359.44	11,970.0	7,144.1	-78.8	7,144.6	0.00	0.00	0.00
18,900.0	90.00	359.44	11,970.0	7,244.1	-79.8	7,244.6	0.00	0.00	0.00
19,000.0	90.00	359.44	11,970.0	7,344.1	-80.8	7,344.6	0.00	0.00	0.00
19,100.0	90.00	359.44	11,970.0	7,444.1	-81.8	7,444.6	0.00	0.00	0.00
19,200.0	90.00	359.44	11,970.0	7,544.1	-82.7	7,544.6	0.00	0.00	0.00
19,300.0	90.00	359.44	11,970.0	7,644.1	-83.7	7,644.6	0.00	0.00	0.00
19,400.0	90.00	359.44	11,970.0	7,744.1	-84.7	7,744.6	0.00	0.00	0.00
19,500.0	90.00	359.44	11,970.0	7,844.1	-85.7	7,844.6	0.00	0.00	0.00
19,600.0	90.00	359.44	11,970.0	7,944.1	-86.6	7,944.6	0.00	0.00	0.00
19,700.0	90.00	359.44	11,970.0	8,044.1	-87.6	8,044.6	0.00	0.00	0.00
19,800.0	90.00	359.44	11,970.0	8,144.1	-88.6	8,144.6	0.00	0.00	0.00
19,900.0	90.00	359.44	11,970.0	8,244.1	-89.6	8,244.6	0.00	0.00	0.00
20,000.0	90.00	359.44	11,970.0	8,344.1	-90.5	8,344.6	0.00	0.00	0.00
20,100.0	90.00	359.44	11,970.0	8,444.1	-91.5	8,444.6	0.00	0.00	0.00
20,200.0	90.00	359.44	11,970.0	8,544.1	-92.5	8,544.6	0.00	0.00	0.00
20,300.0	90.00	359.44	11,970.0	8,644.1	-93.5	8,644.6	0.00	0.00	0.00
20,400.0	90.00	359.44	11,970.0	8,744.0	-94.4	8,744.6	0.00	0.00	0.00
20,500.0	90.00	359.44	11,970.0	8,844.0	-95.4	8,844.6	0.00	0.00	0.00
20,600.0	90.00	359.44	11,970.0	8,944.0	-96.4	8,944.6	0.00	0.00	0.00
20,700.0	90.00	359.44	11,970.0	9,044.0	-97.3	9,044.6	0.00	0.00	0.00
20,800.0	90.00	359.44	11,970.0	9,144.0	-98.3	9,144.6	0.00	0.00	0.00

AMEREDEV

Planning Report

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,900.0	90.00	359.44	11,970.0	9,244.0	-99.3	9,244.6	0.00	0.00	0.00
21,000.0	90.00	359.44	11,970.0	9,344.0	-100.3	9,344.6	0.00	0.00	0.00
21,100.0	90.00	359.44	11,970.0	9,444.0	-101.2	9,444.6	0.00	0.00	0.00
21,200.0	90.00	359.44	11,970.0	9,544.0	-102.2	9,544.6	0.00	0.00	0.00
21,300.0	90.00	359.44	11,970.0	9,644.0	-103.2	9,644.6	0.00	0.00	0.00
21,400.0	90.00	359.44	11,970.0	9,744.0	-104.2	9,744.6	0.00	0.00	0.00
21,500.0	90.00	359.44	11,970.0	9,844.0	-105.1	9,844.6	0.00	0.00	0.00
21,600.0	90.00	359.44	11,970.0	9,944.0	-106.1	9,944.6	0.00	0.00	0.00
21,691.0	90.00	359.44	11,970.0	10,035.0	-107.0	10,035.6	0.00	0.00	0.00
LTP (Nandina Fed Com 25-36-31 #105H)									
21,700.0	90.00	359.44	11,970.0	10,044.0	-107.1	10,044.6	0.00	0.00	0.00
21,800.0	90.00	359.44	11,970.0	10,144.0	-108.1	10,144.6	0.00	0.00	0.00
21,821.0	90.00	359.44	11,970.0	10,165.0	-108.3	10,165.6	0.00	0.00	0.00
PBHL - 200' FNL, 2318' FEL - 5 1/2" - PBHL (Nandina Fed Com 25-36-31 #105H)									

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
FTP (Nandina Fed Co - plan misses target center by 216.8usft at 11888.7usft MD (11828.4 TVD, 273.6 N, 70.4 E) - Point	0.00	0.01	11,970.0	130.0	-9.0	394,541.00	860,408.00	32.0804846	-103.3031575
PBHL (Nandina Fed C - plan misses target center by 0.3usft at 21821.0usft MD (11970.0 TVD, 10165.0 N, -108.3 E) - Point	0.00	0.00	11,970.0	10,165.0	-108.0	404,576.00	860,309.00	32.1080686	-103.3031676
LTP (Nandina Fed Co - plan hits target center - Point	0.00	359.44	11,970.0	10,035.0	-107.0	404,446.00	860,310.00	32.1077113	-103.3031684

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,086.3	5,083.0	9.625	9-5/8	12-1/4
11,924.4	11,851.0	7.625	7-5/8	8-3/4
21,821.0	11,970.0	5 1/2"	5-1/2	6-3/4

AMEREDEV

Planning Report

INTREPID

Database:	EDM5000	**Local Co-ordinate Reference:**	Well Nandina Fed Com 25-36-31 #105H
Company:	Ameredev Operating, LLC	**TVD Reference:**	KB @ 3040.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	**MD Reference:**	KB @ 3040.0usft (H&P 616)
Site:	(Nandina Fed) Sec-31_T-25-S_R-36-E	**North Reference:**	Grid
Well:	Nandina Fed Com 25-36-31 #105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,067.0	1,067.0	Rustler			
1,507.0	1,507.0	Salado			
3,234.6	3,233.0	Tansill			
5,036.3	5,033.0	Lamar			
5,071.3	5,068.0	Bell Canyon			
7,111.3	7,108.0	Brushy Canyon			
8,337.3	8,334.0	Bone Spring Lime			
9,713.3	9,710.0	First Bone Spring			
10,271.3	10,268.0	Second Bone Spring			
10,857.3	10,854.0	Third Bone Spring Upper			
11,456.4	11,453.0	Third Bone Spring			
11,741.0	11,718.0	Wolfcamp			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	BUILD - 2.00
2,149.9	2,149.8	2.4	3.1	HOLD - 2298.5 at 2149.9 MD
4,448.4	4,445.2	77.6	96.9	DROP - 2.00
4,598.3	4,595.0	80.0	100.0	HOLD - 6802.0 at 4598.3 MD
11,400.3	11,397.0	80.0	100.0	KOP BUILD 10.00 - 10286' FNL, 2209' FEL
12,300.3	11,970.0	646.4	13.3	EOC/TURN - DLS 2.00 TFO 90.00
12,707.4	11,970.0	1,051.8	-19.5	HOLD - 8983.6 at 12707.4 MD
12,775.3	11,970.0	1,119.7	-20.2	Section 31 1320' FSL - 9246' FNL, 2318' FEL
14,095.3	11,970.0	2,439.6	-33.0	Section 31 2640' FSL - 7926' FNL, 2318' FEL
16,733.8	11,970.0	5,078.0	-58.7	Section 31 & 30 Cross - 5287' FNL, 2318' FEL
18,053.8	11,970.0	6,398.0	-71.6	Section 30 1320' FSL - 3967' FNL, 2318' FEL
21,821.0	11,970.0	10,035.0	-107.0	PBHL - 200' FNL, 2318' FEL

Nandina Fed Com 25 36 31

APD - Geology COAs (Not in Potash or WIPP)

- For at least one well per pad (deepest well within initial development preferred) the record of the drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole 30 days from completion. Any other logs run on the wellbore, excluding cement remediation, should also be sent. Only digital copies of the logs in .TIF or .LAS formats are necessary; paper logs are no longer required. Logs shall be emailed to blm-cfo-geology@doimspp.onmicrosoft.com. Well completion report should have .pdf copies of any CBLs or Temp Logs run on the wellbore.

- Exceptions: In areas where there is extensive log coverage (in particular the salt zone adjacent to a pad), Operators are encouraged to contact BLM Geologists to discuss if additional GR and N logs are necessary on a pad. Operator may request a waiver of the GR and N log requirement due to good well control or other reasons to be approved by BLM Geologist prior to well completion. A waiver approved by BLM must be attached to completion well report to satisfy COAs.

- The top of the Rustler, top and bottom of the Salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.

Be aware that:

- No H2S has been reported within one mile of the proposed project. However, regionally, there is H2S in most of the wells surrounding this drilling location.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or tvevans@blm.gov

PECOS DISTRICT

SURFACE USE

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ameredev Operating LLC
LEASE NO.:	NMNM137469, NMNM137471, NMNM119762
COUNTY:	Lea County, New Mexico

Wells:

Nandina Fed Com 25 36 31 105H

Surface Hole Location: 200 feet FSL and 2310 feet FEL, Section 31, T. 25 S., R. 36 E.

Bottom Hole Location: 200 feet FNL and 2318 feet FEL, Section 30, T. 25 S, R 36 E.

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1. GENERAL PROVISIONS

The failure of the operator to comply with these requirements may result in the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.1 or 3163.2. A copy of these conditions of approval shall be present on the location during construction, drilling and reclamation activity. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

1.1. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the operator, or any person working on the operator's behalf, on the public or federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area (within 100ft) of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer, in conjunction with a BLM Cultural Resource Specialist, to determine appropriate actions to prevent the loss of significant scientific values. The operator shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

Traditional Cultural Properties (TCPs) are protected by NHPA as codified in 36 CFR 800 for possessing traditional, religious, and cultural significance tied to a certain group of individuals. Though there are currently no designated TCPs within the project area or within a mile of the project area, but it is possible for a TCP to be designated after the approval of this project. **If a TCP is designated in the project area after the project's approval, the BLM Authorized Officer will notify the operator of the following conditions and the duration for which these conditions are required.**

1. Temporary halting of all construction, drilling, and production activities to lower noise.
2. Temporary shut-off of all artificial lights at night.

The operator is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA), specifically NAGPRA Subpart B regarding discoveries, to protect human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered during project work. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and a BLM-CFO Authorized Officer will be notified immediately. The BLM will then be required to be notified, in writing, within 24 hours of the discovery. The written notification should include the geographic location by county and state, the contents of the discovery, and the steps taken to protect said discovery. You must also include any potential threats to the discovery and a conformation that all activity within 100ft of the discovery has ceased and work will not resume until written certification is issued. All work on the entire project must halt for a minimum of 3 days and work cannot resume until an Authorized Officer grants permission to do so.

Any paleontological resource discovered by the operator, or any person working on the operator's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The operator will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

1.2. NOXIOUS WEEDS

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

1.3.1 African Rue (Peganum harmala)

Spraying: The spraying of African Rue must be completed by a licensed or certified applicator. In order to attempt to kill or remove African Rue the proper mix of chemical is needed. The mix consists of 2% Arsenal (Imazapyr) and 2% Roundup (Glyphosate) along with a nonionic surfactant. Any other chemicals or combinations shall be approved by the BLM Noxious Weeds Coordinator prior to treatment. African Rue shall be sprayed in connection to any dirt working activities or disturbances to the site being sprayed. Spraying of African Rue shall be done on immature plants at initial growth through flowering and mature plants between budding and flowering stages. Spraying shall not be conducted after flowering when plant is fruiting. This will ensure optimal intake of chemical and decrease chances of developing herbicide resistance. After spraying, the operator or necessary parties must contact the Carlsbad Field Office to inspect the effectiveness of the application treatment to the plant species. No ground disturbing activities can take place until the inspection by the authorized officer is complete. The operator may contact the Environmental Protection Department or the BLM Noxious Weed Coordinator at (575) 234-5972 or BLM_NM_CFO_NoxiousWeeds@blm.gov.

Management Practices: In addition to spraying for African Rue, good management practices should be followed. All equipment should be washed off using a power washer in a designated containment area. The containment area shall be bermed to allow for containment of the seed to prevent it from entering any open areas of the nearby landscape. The containment area shall be excavated near or adjacent to the well pad at a depth of three feet and just large enough to get equipment inside it to be washed off. This will allow all seeds to be in a centrally located area that can be treated at a later date if the need arises.

1.3. LIGHT POLLUTION

1.3.1. **Downfacing**

All permanent lighting will be pointed straight down at the ground in order to prevent light spill beyond the edge of approved surface disturbance.

1.3.2. **Shielding**

All permanent lighting will use full cutoff luminaires, which are fully shielded (i.e., not emitting direct or indirect light above an imaginary horizontal plane passing through the lowest part of the light source).

1.3.3. **Lighting Color**

Lighting shall be 3,500 Kelvin or less (Warm White) except during drilling, completion, and workover operations. No bluish-white lighting shall be used in permanent outdoor lighting.

2. SPECIAL REQUIREMENTS

2.1 WILDLIFE

2.1.1 Lesser Prairie Chicken

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

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

jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

2.1.1.2 Timing Limitation Exceptions:

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

2.1.1.3 Ground-level Abandoned Well Marker to avoid raptor perching:

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

3. CONSTRUCTION REQUIRENMENTS

3.1 CONSTRCUTION NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at BLM_NM_CFO_Construction_Reclamation@blm.gov at least 3 working days prior to commencing construction of the access road and/or well pad.

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

3.2 CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No reserve pits will be used for drill cuttings. The operator shall properly dispose of drilling contents at an authorized disposal site.

3.3 EXCLOSURE FENCING (CELLARS & PITS)

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

The operator will also install and maintain mesh netting for all open well cellars to prevent access to smaller wildlife before and after drilling operations until the well cellar is free of fluids and the operator. Use a maximum netting mesh size of 1 ½ inches. The netting must not have holes or gaps.

4. PRODUCTION (POST DRILLING)

4.1 WELL STRUCTURES & FACILITIES

4.1.1 Placement of Production Facilities

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

4.1.2 Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have

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

4.1.3. Chemical and Fuel Secondary Containment and Exclosure Screening

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

4.1.4. Open-Vent Exhaust Stack Exclosures

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

4.1.5. Containment Structures

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

5. RECLAMATION

Stipulations required by the Authorized Officer on specific actions may differ from the following general guidelines

5.1 ROAD AND SITE RECLAMATION

Any roads constructed during the life of the well will have the caliche removed or linear burial. If contaminants are indicated then testing will be required for chlorides and applicable contaminate anomalies for final disposal determination (disposed of in a manner approved by the Authorized Officer within Federal, State and Local statutes, regulations, and ordinances) and seeded to the specifications in sections 5.5 and 5.6.

5.2 EROSION CONTROL

Install erosion control berms, windrows, and hummocks. Windrows must be level and constructed perpendicular to down-slope drainage; steeper slopes will require greater windrow density. Topsoil between windrows must be ripped to a depth of at least 12”, unless bedrock is encountered. Any large boulders pulled up during ripping must be deep-buried on location. Ripping must be perpendicular to down-slope. The surface must be left rough in order to catch and contain rainfall on-site. Any trenches resulting from erosion cause by run-off shall be addressed immediately.

5.3 INTERIM RECLAMATION

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

Within six (6) months of well completion, operators must work with BLM surface protection specialists (BLM_NM_CFO_Construction_Reclamation@blm.gov) to devise the best strategies to reduce the size of the location. Interim reclamation must allow for remedial well operations, as well as safe and efficient removal of oil and gas.

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

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided in section 6.6.

Upon completion of interim reclamation, the operator shall submit a Sundry Notice, Subsequent Report of Reclamation (Form 3160-5).

5.4 FINAL ABANDONMENT & RECLAMATION

Prior to surface abandonment, the operator shall submit a Notice of Intent Sundry Notice and reclamation plan.

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

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

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding will be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM. After earthwork and seeding is completed, the operator is required to submit a Sundry Notice, Subsequent Report of Reclamation.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (BLM_NM_CFO_Construction_Reclamation@blm.gov).

5.5 SEEDING TECHNIQUES

Seeds shall be hydro-seeded, mechanically drilled, or broadcast, with the broadcast-seeded area raked, ripped or dragged to aid in covering the seed. The seed mixture shall be evenly and uniformly planted over the disturbed area.

5.6 SOIL SPECIFIC SEED MIXTURE

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

Seed land application will be accomplished by mechanical planting 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 tend to drop the bottom of the drill and are planted first; the operator shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory BLM or Soil Conservation

District stand is established as determined by the Authorized Officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding or until several months of precipitation have occurred, enabling a full four months of growth, with one or more seed generations being established.

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Seed Mixture 2, for Sandy Site

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ameredev Operating LLC
WELL NAME & NO.:	Nandina Fed Com 25 36 31 105H
LOCATION:	Sec 31-25S-36E-NMP
COUNTY:	Lea County, New Mexico

COA

H_2S	○ No		○ Yes	
Potash / WIPP	◉ None	○ Secretary	○ R-111-Q	☐ Open Annulus ☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☑ Capitan Reef	☐ Water Disposal	☑ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose ☑ Four-String	☐ Casing Clearance ☐ Offline Cementing	☐ Pilot Hole ☐ Fluid-Filled	☐ Break Testing

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 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1193** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) 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.

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

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

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, 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.** Freshwater based mud must be used across the Capitan interval.

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

- Cement should tie-back at least **50 feet** on top of Capitan Reef top or **200 feet** into the previous casing, whichever is greater. 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, Capitan Reef, or potash.**

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Operator has proposed a multi-bowl wellhead assembly. 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 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- 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)

Contact Lea County Petroleum Engineering Inspection Staff:

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

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
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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

Approval Date: 09/06/2024

conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q 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 **43 CFR 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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 cement), 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).
    ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
    iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.
v. The results of the test shall be reported to the appropriate BLM office.
vi. 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.
vii. 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.
viii. 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 **43 CFR 3172**.

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.

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.

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)

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
Shane McNeely	Operations Engineer	737-300-4729	432-413-8593
Dayeed Khan	Construction Manager	737-300-4733	281-928-4692

Artesia	
Ambulance	911
State Police	575-748-9718
City Police	575-746-5000
Sheriff's Office	575-887-7551
Fire Department	575-746-5051
Artesia General Hospital	575-748-3333
New Mexico Oil Conservation Division	575-626-0830
Carlsbad	
Ambulance	911
State Police	575-885-3138
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-885-3125
Carlsbad Medical Center	575-887-4100
Hobbs Hospital	575-492-5000
BLM Hobbs Field Office	575-689-5981
BLM Carlsbad Field Office	575-361-2822
New Mexico Oil Conservation Division	575-626-0830
Santa Fe	
Department of Homeland Security and Emergency Management (Santa Fe)	505-476-9600
New Mexico State Emergency Operations Center	505-476-9635
National	
National Emergency Response Center (Washington, D.C.)	800-424-8802
Medical	
Aerocare - R3, Box 49F; Lubbock, TX	800-627-2376
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
Lifeguard Air Emergency Services- 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-243-2343

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

SUPO Data Report
09/09/2024

APD ID: 10400098955
Submission Date: 06/07/2024
Operator Name: AMEREDEV OPERATING LLC
Well Name: NANDINA FED COM 25 36 31
Well Number: 105H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

NANDINA_FED_COM_25_36_31_105H___WELL_PAD_ACCESS__ORIG__20240607111121.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

NANDINA_FED_COM_25_36_31_105H___NEW_ROAD_PLAT__ORIG__20240607114304.pdf
NANDINA_FED_COM_25_36_31_105H___RD_FLOWLINE_ELEC_PLATS__ORIG__20240607114538.pdf
NANDINA_FED_COM_25_36_31_105H___WELL_PAD_ACCESS__ORIG__20240607111256.pdf

New road type: RESOURCE

Length: 4606 Feet **Width (ft.):** 30

Max slope (%): 2 **Max grade (%):** 2

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: Crowned and Ditched

New road access plan or profile prepared? N

New road access plan

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Grader

Access other construction information: NM One Call (811) will be notified before construction start.

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Crowned and Ditched

Road Drainage Control Structures (DCS) description: None

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

NANDINA_FED_COM_25_36_31_105H___1_MILE_RADIUS_WELLS__ORIG__20240607111632.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: A multiple well pad will be located on section 31, and will measure 400'x500'. The top 6" of soil and brush will be stockpiled north of the well pad. A 4" Poly Flowline will be buried and run approximately 655' from the Nandina Fed Com 25 36 31 105H to the Nandina CTB that will be north of the well pad. A 20' pipeline ROW containing three 12" poly water lines and one 8" steel crude line will be run from the Nandina CTB to the right of way (NM-138148) approved pipeline corridor. The new lines will be 1,380'. A power line will be run parallel to the pipeline corridor and connect to a power line that will be built in an existing approved right of way (NM-138148). The power line will be approximately 1,360'. The Nandina CTB will be 500'x525' and will include a separator, Heat Exchanger, VRU, VRT, meter run and a tank battery. The new production facility will have a secondary containment structure that is constructed to hold

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

the capacity of 1-1/2 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary. Because this facility goes off lease on BLM owned surface, the pipeline, road, electric corridors, and the Nandina CTB will need ROW from the BLM.

Production Facilities map:

NANDINA_FED_COM_25_36_31_105H___WELL___FACILITIES_MAP__ORIG__20240607111759.pdf

NANDINA_FED_COM_25_36_31_105H___RD_FLOWLINE_ELEC_PLATS__ORIG__20240607114638.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: DUST CONTROL

SURFACE CASING

INTERMEDIATE/PRODUCTION CASING

STIMULATION

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: PIPELINE

TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 20000 **Source volume (acre-feet):** 2.577862

Source volume (gal): 840000

Water source and transportation

NANDINA_FED_COM_25_36_31_105H___WATER_WELLS_LIST__ORIG__20240607114828.pdf

NANDINA_FED_COM_25_36_31_105H___WATER_MAP__ORIG__20240607114831.pdf

Water source comments: Water will be trucked or surface piped from existing water wells on private land. See attached list of available wells.

New water well? N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

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

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

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

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: NM One Call (811) will be notified before construction start. Top 6" of soil and brush will be stockpiled north of the pad. V-door will face east. Closed loop drilling system will be used. Caliche will be hauled from an existing caliche pits on private and state land.

Construction Materials source location

NANDINA_FED_COM_25_36_31_105H___WELL_PAD_PLAT__ORIG__20240607115016.pdf

NANDINA_FED_COM_25_36_31_105H___WELL_SITE_DIAGRAM__ORIG__20240607114942.pdf

NANDINA_FED_COM_25_36_31_105H___CALICHE_MAP__ORIG__20240607114946.pdf

Section 7 - Methods for Handling

Waste type: DRILLING

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

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: Steel tanks

Safe containmant attachment:

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

Disposal type description:

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

Reserve Pit

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

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

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Steel tanks on pad

Cuttings area length (ft.) **Cuttings area width (ft.)**

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

NANDINA_FED_COM_25_36_31_105H___WELL_PAD_PLAT__ORIG__20240607115126.pdf
NANDINA_FED_COM_25_36_31_105H___WELL_SITE_DIAGRAM__ORIG__20240607115139.pdf

Comments:

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** NAN/GB

Multiple Well Pad Number: 6N

Recontouring

NANDINA_FED_COM_25_36_31_105H___WELL_SITE_DIAGRAM__ORIG__20240607115205.pdf

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well pad proposed disturbance (acres): 4.59	**Well pad interim reclamation (acres):** 0.79	**Well pad long term disturbance (acres):** 3.8
Road proposed disturbance (acres): 3.17	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 3.17
Powerline proposed disturbance (acres): 0.63	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0.63
Pipeline proposed disturbance (acres): 0.63	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0.63
Other proposed disturbance (acres): 6.03	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 6.03
Total proposed disturbance: 15.05	**Total interim reclamation:** 0.79	**Total long term disturbance:** 14.260000000000002

Disturbance Comments:

Reconstruction method: Interim reclamation will be completed within 6 months of completing the well. Interim reclamation will consist of shrinking the pad 17% (.79 acre) by removing caliche and reclaiming 40' wide swaths on the North and East sides of the pad. This will leave 3.8 acres for producing three wells, with tractor-trailer turn around. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the surface owner's requirements.

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

Soil treatment: None

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

Existing Vegetation at the well pad

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

Existing Vegetation Community at the road

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

Existing Vegetation Community at the pipeline

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

Existing Vegetation Community at other disturbances

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation

Operator Contact/Responsible Official

First Name: Joe Bob **Last Name:** Jones

Phone: (737)300-4700 **Email:** jjones@ameredev.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: To BLM standards

Weed treatment plan

Monitoring plan description: To BLM standards

Monitoring plan

Success standards: To BLM satisfaction

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Pit closure description: No pit

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: TRANSMISSION LINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other

Right of Way needed? Y **Use APD as ROW?** Y

ROW Type(s): 288100 ROW – O&G Pipeline,289001 ROW- O&G Well Pad

ROW

SUPO Additional Information:

Use a previously conducted onsite? Y

Previous Onsite information: On-site inspection was held with Jeff Robertson (BLM) on 5/23/18. (NOS ID# 10400030260) Ameredev made a donation with the MOU fund in lieu of an archaeology report.

Other SUPO

NANDINA_FED_COM_25_36_31_105H___SURFACE_USE_PLAN__ORIG__20240607115549.pdf

AFMSS

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

PWD Data Report

09/09/2024

APD ID: 10400098955 **Submission Date:** 06/07/2024

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

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

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

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

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31 **Well Number:** 105H

Other PWD type description:

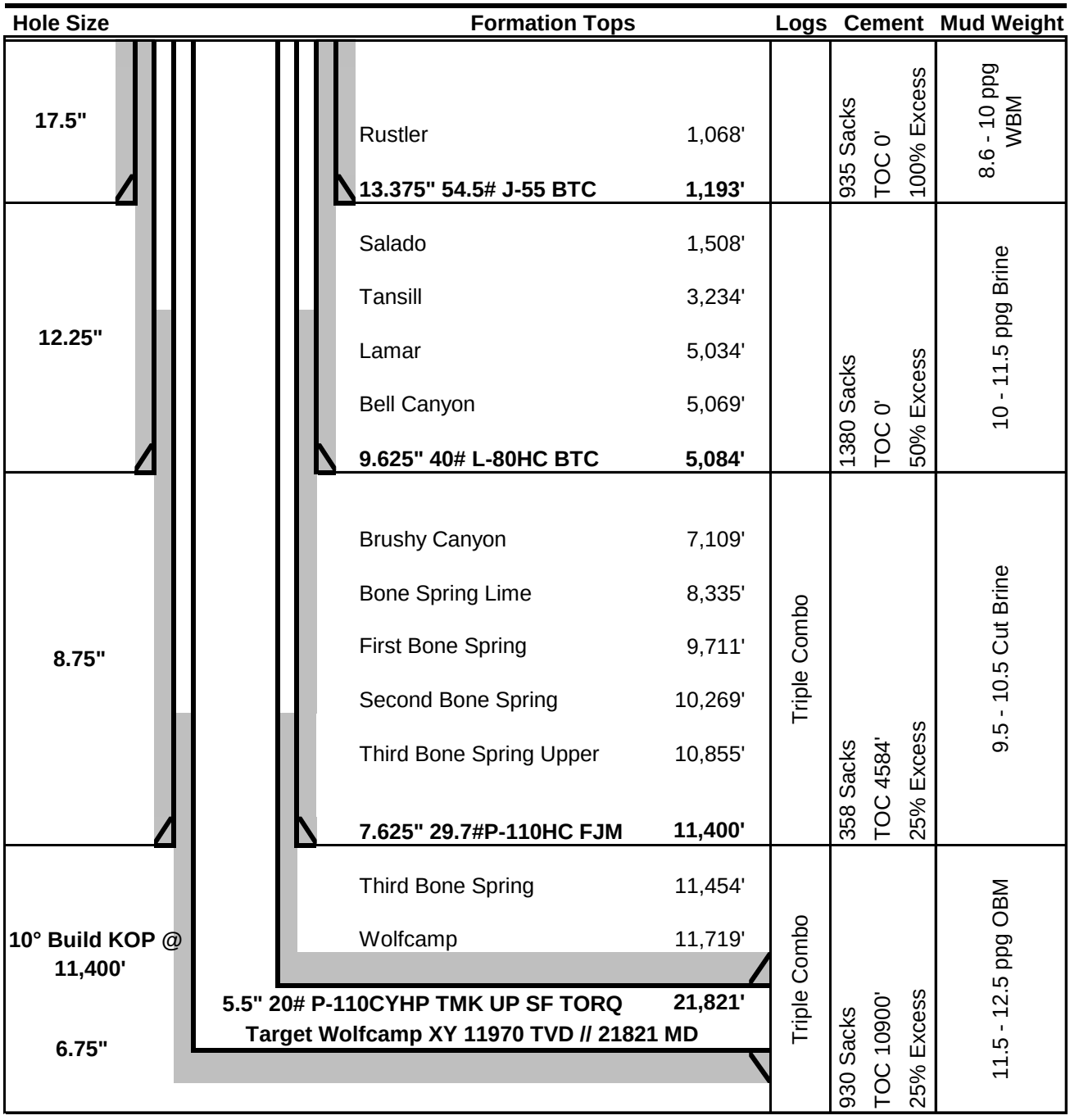
Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

Wellbore Schematic

Well:	Nandina Fed Com 25-36-31 105H	**Co. Well ID:**	xxxxx
SHL:	Sec. 31 25S-36E 200' FSL & 2310' FEL	**AFE No.:**	xxxx-xxx
BHL:	Sec. 30 25S-36E 200' FNL & 2318' FEL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3,013'
Wellhead:	A - 13-5/8" 5M x 13-5/8" SOW	**Field:**	Delaware_WCXY
	B - 13-5/8" 5M x 13-5/8" 10M	**Objective:**	Wolfcamp XY
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	11,970'
	Tubing Spool - 5-1/8" 15M x 13-3/8" 10M	**MD:**	21,821'
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	Wellsite2@ameredev.com



5M Annular Preventer Variance Request and Well Control Procedures

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

Dual Isolation Design for 5M Annular Exception

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

- 13-5/8" 5M Annular
- 13-5/8" 10M Upper Pipe Rams
  - 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
0pen 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

Pressure Control Plan

Pressure Control Equipment

- Following setting of 13-3/8” Surface Casing Ameredev will install 13-5/8 MB4 Multi Bowl Casing Head by welding on a 13-5/8 SOW x 13-5/8” 5M in combination with 13-5/8 5M x 13-5/8 10M B-Sec to Land Intm #1 and a 13-5/8 10M x 13-5/8 10M shouldered to land C-Sec to Land Intm #2 (Installation procedure witnessed and verified by a manufacturer’s representative).

- Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Ameredev will install a 5M System Blowout Preventer (BOPE) with a 5M Annular Preventer and related equipment (BOPE). Full testing will be performed utilizing a full isolation test plug and limited to 5,000 psi MOP of MB4 Multi Bowl Casing Head. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 50% of approved working pressure (2,500 psi). Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Setting of 9-5/8” (7-5/8" as applicable) Intermediate will be done by landing a wellhead hanger in the 13-5/8” 5M Bowl, Cementing and setting Well Head Packing seals and testing same. (Installation procedure witnessed and verified by a manufacturer’s representative) Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Full testing will be performed utilizing a full isolation test plug to 10,000 psi MOP of MB4 Multi Bowl B-Section. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 100% of approved working pressure (5,000 psi).

- Before drilling >20ft of new formation under the 9-5/8” (7-5/8" as applicable) Casing Shoe a pressure integrity test of the Casing Shoe will be performed to minimum of the MWE anticipated to control formation pressure to the next casing depth.

- Following setting of 5-1/2” Production Casing and adequate WOC time Ameredev will break 10M System Blowout Preventer (BOP) from 10M DOL-2 Casing Head, install annulus casing slips and test same (Installation procedure witnessed and verified by a manufacturer’s representative) and install 11” 10M x 5-1/8” 15M Tubing Head (Installation procedure witnessed and verified by a manufacturer’s representative). Ameredev will test head to 70% casing design and install Dry Hole cap with needle valve and pressure gauge to monitor well awaiting completion.

AMEREDEV
American Resource Development LLC

Pressure Control Plan

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 382085

CONDITIONS

Operator: AMEREDEV OPERATING, LLC 2901 Via Fortuna Austin, TX 78746	OGRID: 372224
	Action Number: 382085
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/1/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	10/1/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	10/1/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	10/1/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	10/1/2024