AFMSS

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

Application Data Report

09/28/2018

APD ID: 10400031932 **Submission Date:** 07/06/2018

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 - General

APD ID: 10400031932 **Tie to previous NOS?** 10400030260 **Submission Date:** 07/06/2018

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

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

Lease number: NMNM137469 **Lease Acres:** 600.28

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

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

Agreement number:

Agreement name:

Keep application confidential? NO

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

Operator letter of designation:

OCD – HOBBS
10/01/2018
RECEIVED

Operator Info

Operator Organization Name: AMEREDEV OPERATING LLC

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

Operator PO Box:

Operator City: Austin **State:** TX

Operator Phone: (737)300-4700

Operator Internet Address:

Section 2 - Well Information

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

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

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

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

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-09 S263620C **Pool Name:** WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: AMEREDEV OPERATING LLC

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

Describe other minerals:

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** NANDINA **Number:** 105H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 6.5 Miles **Distance to nearest well:** 4290 FT **Distance to lease line:** 200 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: NANDINA_FED_COM_25_36_31_105H___BLM_LEASES_20180706082459.pdf

NANDINA_FED_COM_25_36_31_105H___EXHIBIT_2A_2B_20180706082501.pdf

NANDINA_FED_COM_25_36_31_105H___VICINITY_MAP_20180706082502.pdf

NANDINA_FED_COM_25_36_31_105H___C_102_SIG_20180706082500.pdf

NANDINA_FED_COM_25_36_31_105H___GAS_CAPTURE_PLAN_20180706082515.pdf

Well work start Date: 06/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 19642

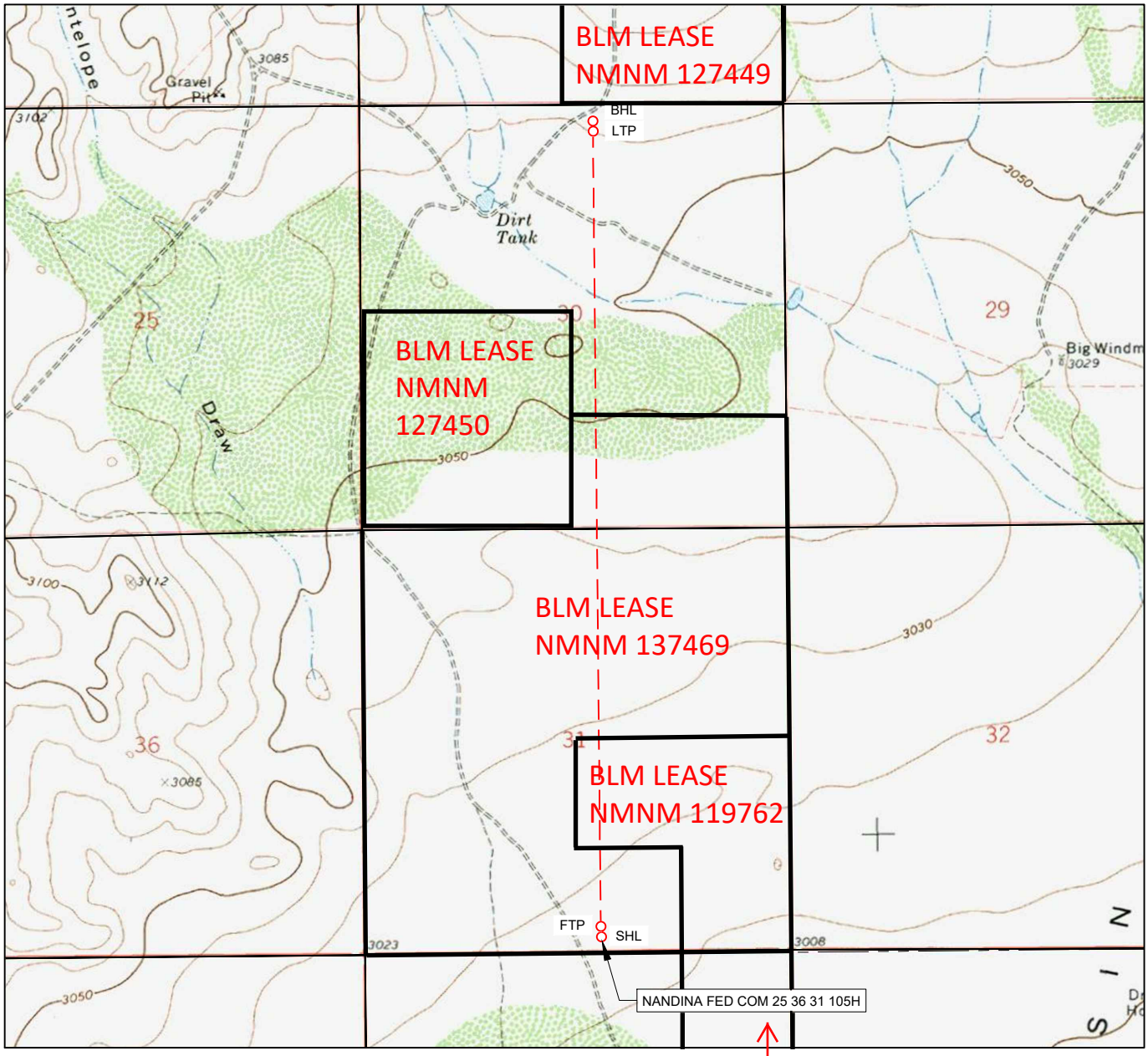
	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	200	FSL	2310	FEL	25S	36E	31	Lot O	32.0801266	-103.3031326	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	3013	0	0

Operator Name: AMEREDEV OPERATING LLC

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

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
KOP Leg #1	274	FSL	2209	FEL	25S	36E	31	Aliquot SWSE	32.0803443	-103.3028071	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8384	11400	11397
PPP Leg #1	200	FSL	2310	FEL	25S	36E	31	Aliquot SWSE	32.0801266	-103.3031326	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	3013	0	0
PPP Leg #1	0	FSL	2318	FEL	25S	36E	31	Aliquot NWNE	32.0940857	-103.3031654	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8957	16733	11970
PPP Leg #1	0	FNL	2318	FEL	25S	36E	30	Aliquot SWSE	32.0940857	-103.3031654	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8957	16733	11970
PPP Leg #1	2640	FSL	2318	FEL	25S	36E	31	Aliquot NWSE	32.0868334	-103.3031638	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 119762	-8957	14095	11970
PPP Leg #1	1320	FSL	2318	FEL	25S	36E	31	Aliquot SWSE	32.0832052	-103.3031663	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8957	12775	11970
PPP Leg #1	1320	FSL	2318	FEL	25S	36E	30	Aliquot SWSE	32.0977139	-103.3031662	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8957	18053	11970
PPP Leg #1	1320	FSL	2318	FEL	25S	36E	31	Aliquot NWSE	32.0832052	-103.3031663	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 119762	-8957	12775	11970
PPP Leg #1	2640	FSL	2318	FEL	25S	36E	31	Aliquot SWNE	32.0868334	-103.3031638	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137469	-8957	14095	11970
EXIT Leg #1	1320	FSL	2318	FEL	25S	36E	30	Aliquot NWSE	32.0977139	-103.3031662	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8957	18053	11970
BHL Leg #1	200	FNL	2318	FEL	25S	36E	30	Aliquot NWNE	32.1080685	-103.3031684	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8957	21821	11970

LOCATION & ELEVATION VERIFICATION MAP



AMEREDEV OPERATING, LLC

LEASE NAME & WELL NO.: NANDINA FED COM 25 36 31 105H

SECTION 31 TWP 25-S RGE 36-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3013'
DESCRIPTION 200' FSL & 2310' FEL

LATITUDE 32.0801266 LONGITUDE W 103.3031326

–N–

SCALE: 1" = 2000'

0' 1000' 2000'

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

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

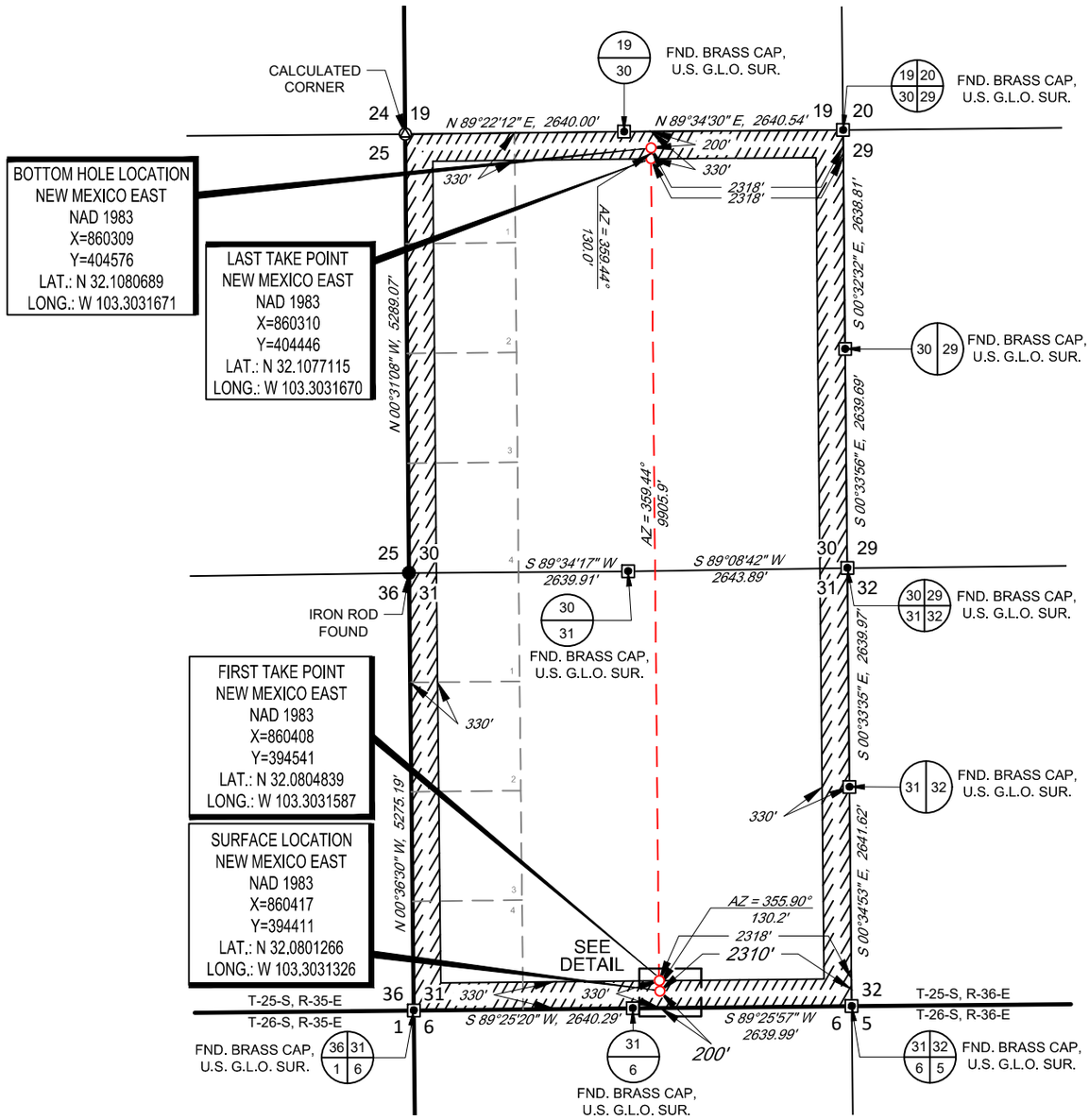
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

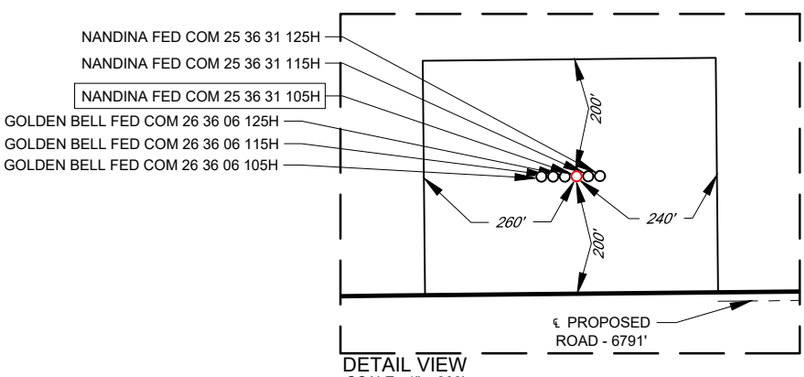
AMEREDEV

AMEREDEV OPERATING, LLC

EXHIBIT 2A

SECTION 31, TOWNSHIP 25-S, RANGE 36-E, N.M.P.M.
LEA COUNTY, NEW MEXICO





DETAIL VIEW
SCALE: 1" = 300'

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

LEASE NAME & WELL NO.: NANDINA FED COM 25 36 31 105H

SECTION 31 TWP 25-S RGE 36-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 200' FSL & 2310' FEL

DISTANCE & DIRECTION
FROM INT. OF NM-205 & 3RD ST./NM-128/FRYING PAN RD., HEAD SOUTH ON 3RD ST./NM-205/FRYING PAN RD. ±5.6 MILES, THENCE WEST (RIGHT) ON ANTHONY RD. ±3.4 MILES, THENCE NORTH (RIGHT TO CONTINUE ON ANTHONY RD. ±0.3 MILES, THENCE EAST (RIGHT) ON PIPELINE RD. ±0.3 MILES, THENCE NORTH (LEFT) ON A LEASE RD. ±1.0 MILES, THENCE WEST (LEFT) ON A LEASE RD. ±6791 FEET TO A POINT ±320 FEET SOUTHEAST OF THE LOCATION.

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

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

STAN W. LLOYD NEW MEXICO 19642 PROFESSIONAL SURVEYOR

Stan W. Lloyd, P.S. No. 19642
MAY 14, 2018

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LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
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2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
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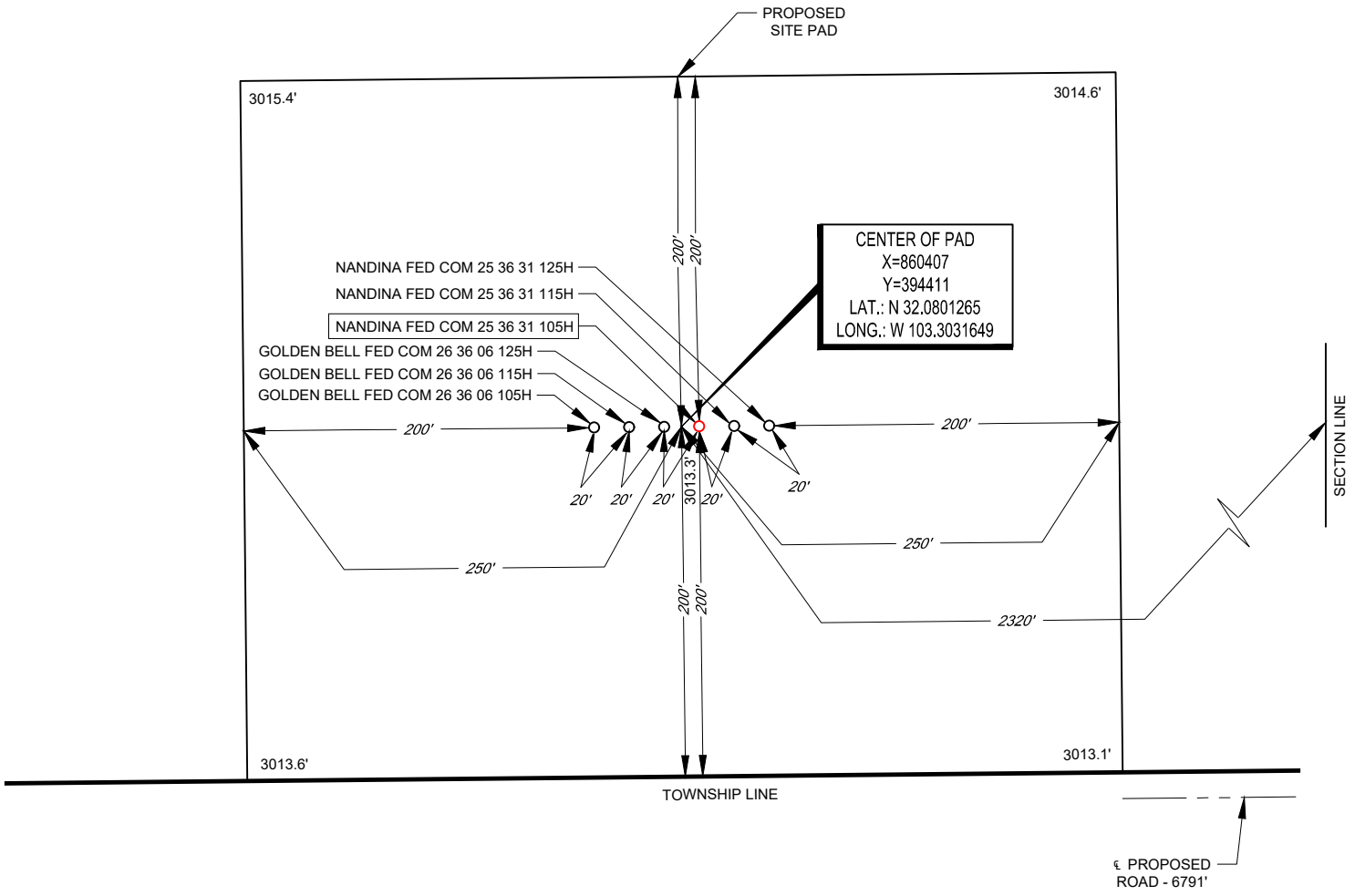
EXHIBIT 2B

AMEREDEV OPERATING, LLC

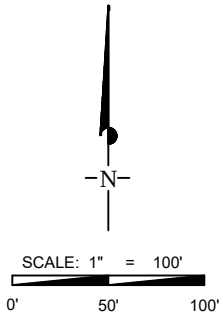
SECTION 31, TOWNSHIP 25-S, RANGE 36-E, N.M.P.M.
LEA COUNTY, NEW MEXICO
DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: NANDINA FED COM 25 36 31 105H

105H LATITUDE 32.0801266 105H LONGITUDE W 103.3031326

CENTER OF PAD IS 200' FSL 2320' FEL



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

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

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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
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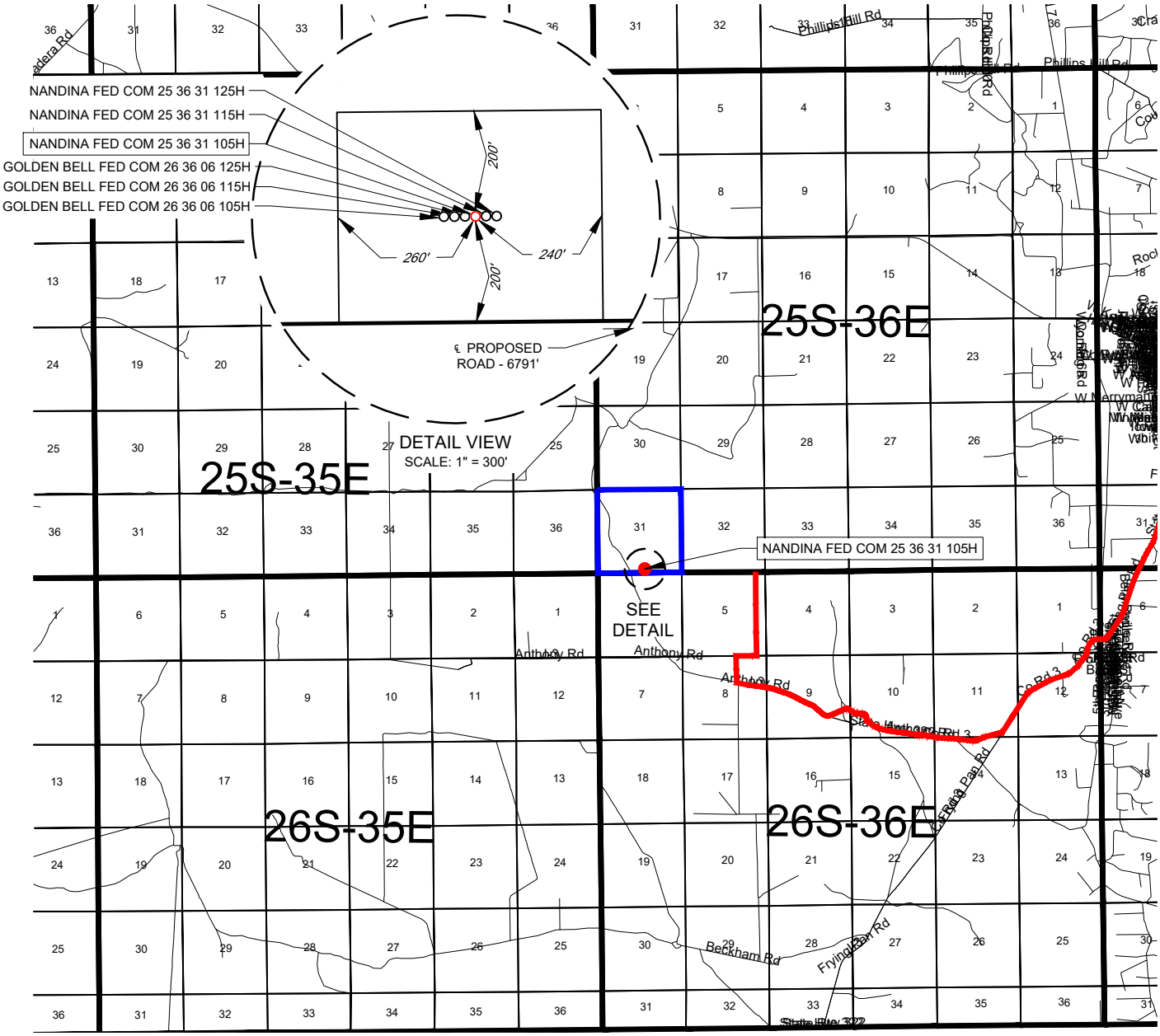
ORIGINAL DOCUMENT SIZE: 8.5" X 11"

EXHIBIT 2

VICINITY MAP



AMEREDEV

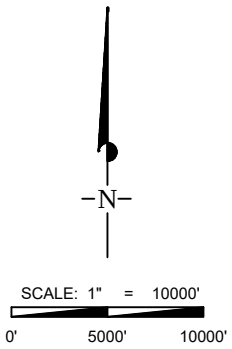
AMEREDEV OPERATING, LLC

LEASE NAME & WELL NO.: NANDINA FED COM 25 36 31 105H

SECTION 31 TWP 25-S RGE 36-E SURVEY N.M.P.M.

COUNTY LEA STATE NM

DESCRIPTION 200' FSL & 2310' FEL



DISTANCE & DIRECTION

FROM INT. OF NM-205 & 3RD ST./NM-128/FRYING PAN RD., HEAD SOUTH ON 3RD ST./NM-205/FRYING PAN RD. ±5.6 MILES, THENCE WEST (RIGHT) ON ANTHONY RD. ±3.4 MILES, THENCE NORTH (RIGHT TO CONTINUE ON ANTHONY RD. ±0.3 MILES, THENCE EAST (RIGHT) ON PIPELINE RD. ±0.3 MILES, THENCE NORTH (LEFT) ON A LEASE RD. ±1.0 MILES, THENCE WEST (LEFT) ON A LEASE RD. ±6791 FEET TO A POINT ±320 FEET SOUTHEAST OF THE LOCATION.

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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	98234	WC-025 G-09 S263619C; WOLFCAMP

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

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

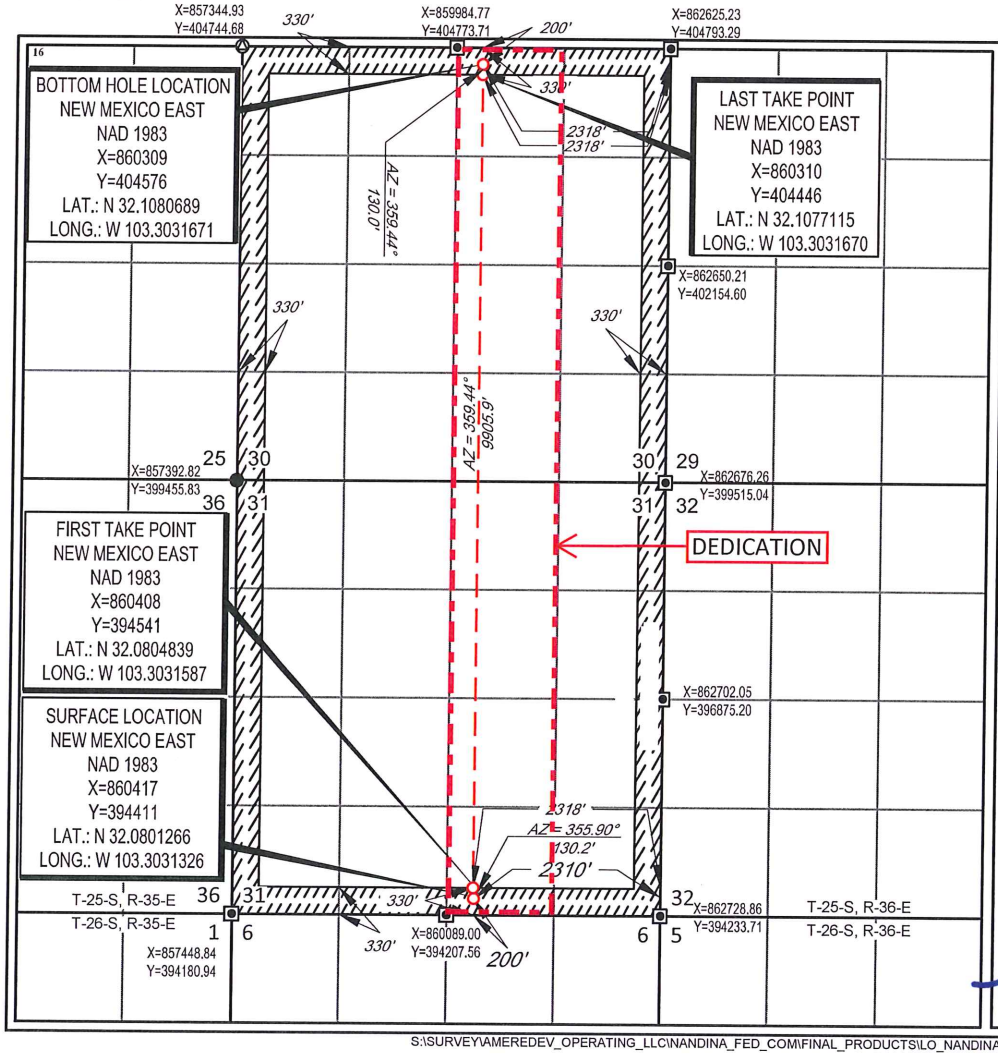
[10]Surface Location

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

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.



[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.

Signature 7/5/18 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

STAN W. LLOYD NEW MEXICO 19642 PROFESSIONAL SURVEYOR

Certificate Number

S:\SURVEY\AMEREDEV_OPERATING_LLC\NANDINA_FED_COM\FINAL_PRODUCTS\LO_NANDINA_FED_COM_25_36_31_105H_REV1.DWG 5/16/2018 5:23:59 PM ccaston

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 7/5/18

☒ Original
☐ Amended - Reason for Amendment:

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

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Nandina Fed Com 25 36 31 105H	30-025-	O-31-25S-36E	200' FSL 2310' FEL	1000	<30 days	Flare until well clean, then connect

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. Gas produced from production facility has not yet been dedicated. However, negotiations are underway for a possible connection within 2 miles. Operator will provide (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant at an as yet undetermined location. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

APD ID: 10400031932

Submission Date: 07/06/2018

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 Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER ANHYDRITE	3013	1068	1068	ANHYDRITE	NONE	No
2	SALADO	1506	1508	1508	SALT	NONE	No
3	TANSILL	-220	3234	3234	LIMESTONE	NONE	No
4	CAPITAN REEF	-721	3734	3734	LIMESTONE	USEABLE WATER	No
5	LAMAR	-2020	5034	5034	LIMESTONE	NONE	No
6	BELL CANYON	-2055	5069	5069	SANDSTONE	NATURAL GAS,OIL	No
7	BRUSHY CANYON	-4095	7109	7109	SANDSTONE	NATURAL GAS,OIL	No
8	BONE SPRING LIME	-5321	8335	8335	LIMESTONE	NONE	No
9	BONE SPRING 1ST	-6697	9711	9711	SANDSTONE	NATURAL GAS,OIL	No
10	BONE SPRING 2ND	-7255	10269	10269	SANDSTONE	NATURAL GAS,OIL	No
11	BONE SPRING 3RD	-7841	10855	10855	LIMESTONE	NATURAL GAS,OIL	No
12	BONE SPRING 3RD	-8440	11454	11454	SANDSTONE	NATURAL GAS,OIL	No
13	WOLFCAMP	-8705	11719	11719	SHALE	NATURAL GAS,OIL	Yes

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

Testing Procedure: See attachment

Choke Diagram Attachment:

10M_Choke_Manifold_20180918124147.pdf

BOP Diagram Attachment:

5M_BOP_System_20180706091746.pdf

4String_MB_Ameredev_Drawing_net_REV_20180706091820.pdf

Pressure_Control_Plan_Pad_Well_MB4_Preset_BLM__002__20180918124219.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		1193	J-55	54.5	OTHER - BTC	1.82	0.9	DRY	13.98	DRY	13.12
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5084	0	5084	3013		5084	HCL-80	40	OTHER - BTC	1.39	0.92	DRY	5.12	DRY	4.51
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	11400	0	11400	3013		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	3013		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 Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20180706092759.pdf

13.375_54.50_J55_SEAH_20180918071908.pdf

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING_20180918072219.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20180706092848.pdf

9625_40_SeAH80HC_4100_Collapse_20180918071941.pdf

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING_20180918072246.pdf

Operator Name: AMEREDEV OPERATING LLC

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

Casing Attachments

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20180706093018.pdf

7.625_29.70_P110HC_LIBERTY_FJM_20180918071956.pdf

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING_20180918072259.pdf

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

NANDINA_FED_COM_25_36_31_105H___BLM_4_STRING_CASING_DESIGN_CHECK_20180706093143.pdf

TMK_UP_SF_TORQ____5.500in_x_20.00__P_110_CYHP_20180918072010.pdf

20180608_NANDINA_FED_COM_25_36_31_105H_4_STRING_20180918072310.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

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
SURFACE	Tail		809	1193	200	1.33	14.8	266.4	100	CLASS C	NONE
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
PRODUCTION	Tail		21821	21821						CLASS H	none

Section 5 - Circulating Medium

Mud System Type: Semi-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
0	1193	WATER-BASED MUD	8.6	10							
1193	5084	SALT SATURATED	10	11.5							
5084	11400	OTHER : CUT BRINE	9.5	10.5							
11400	11970	OIL-BASED MUD	11.5	12.5							

Section 6 - Test, Logging, Coring

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

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

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

DS,MWD,MUDLOG

Coring operation description for the well:

No coring will be done on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5000 **Anticipated Surface Pressure:** 2366.6

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20180706093908.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_Plan_2_20180706093924.pdf

Pressure_Control_Plan_Pad_Well_MB4_Preset_BLM__002__20180918124359.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

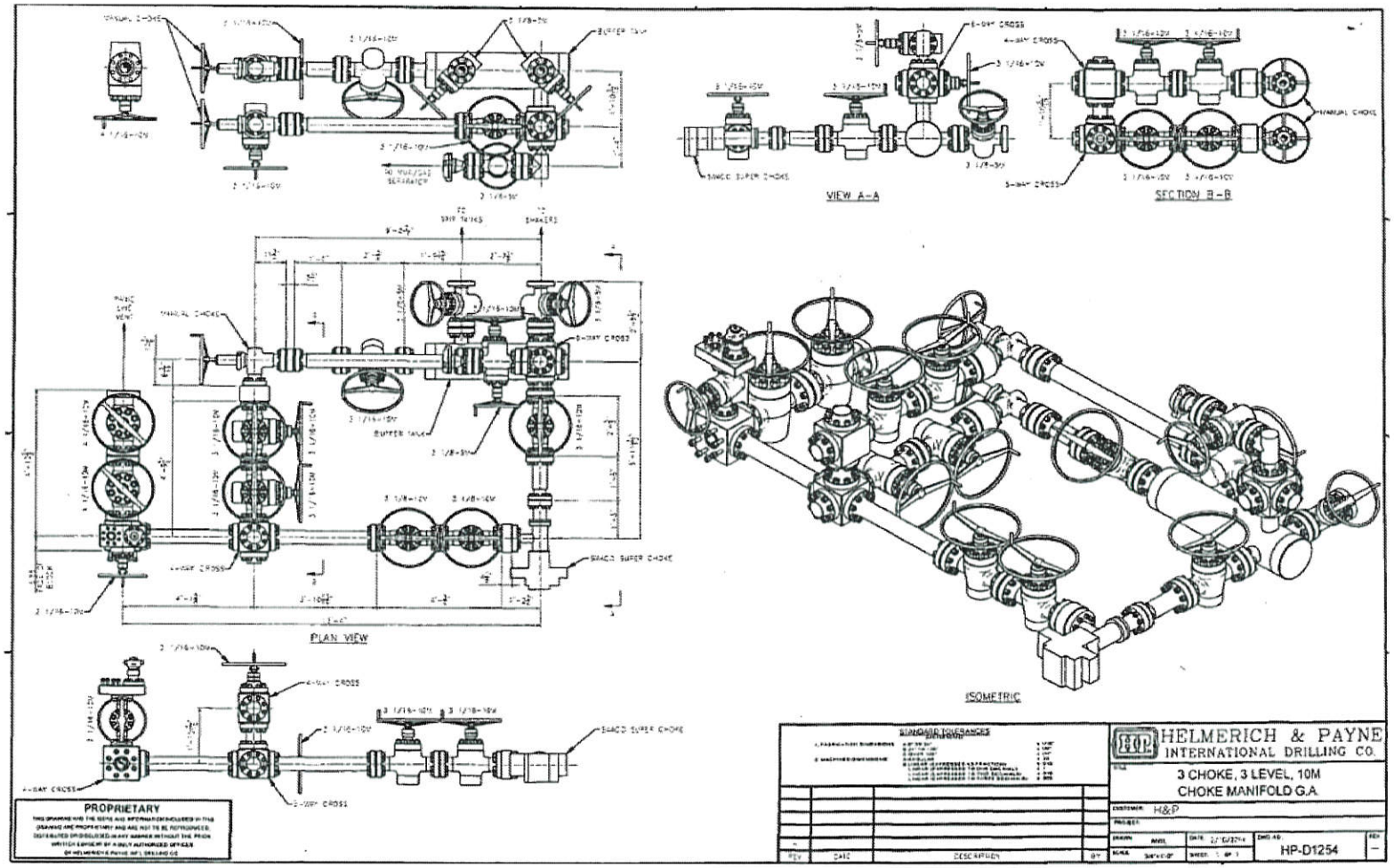
Other Variance attachment:

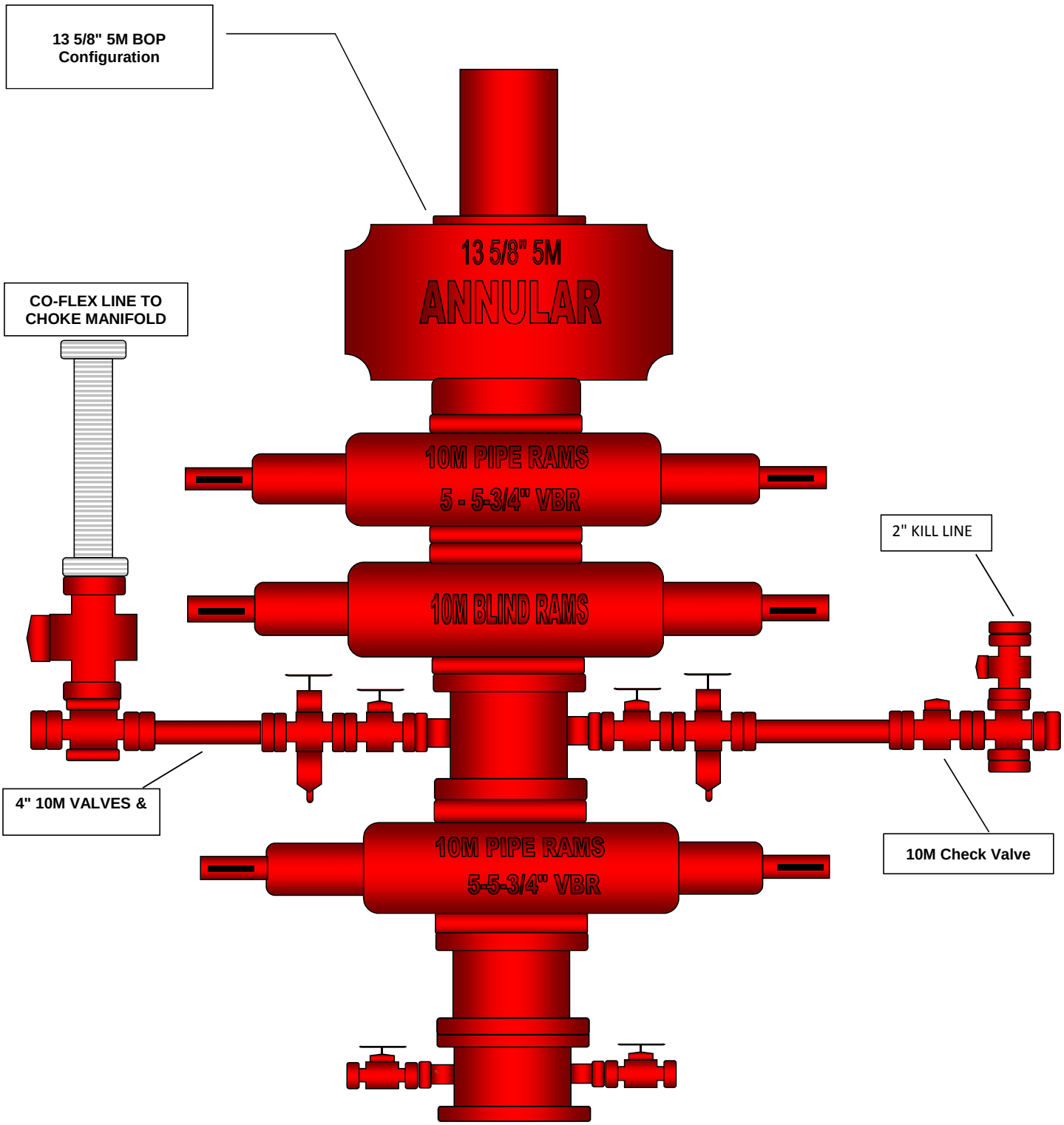
R616___CoC_for_hoses_12_18_17_20180706094011.pdf

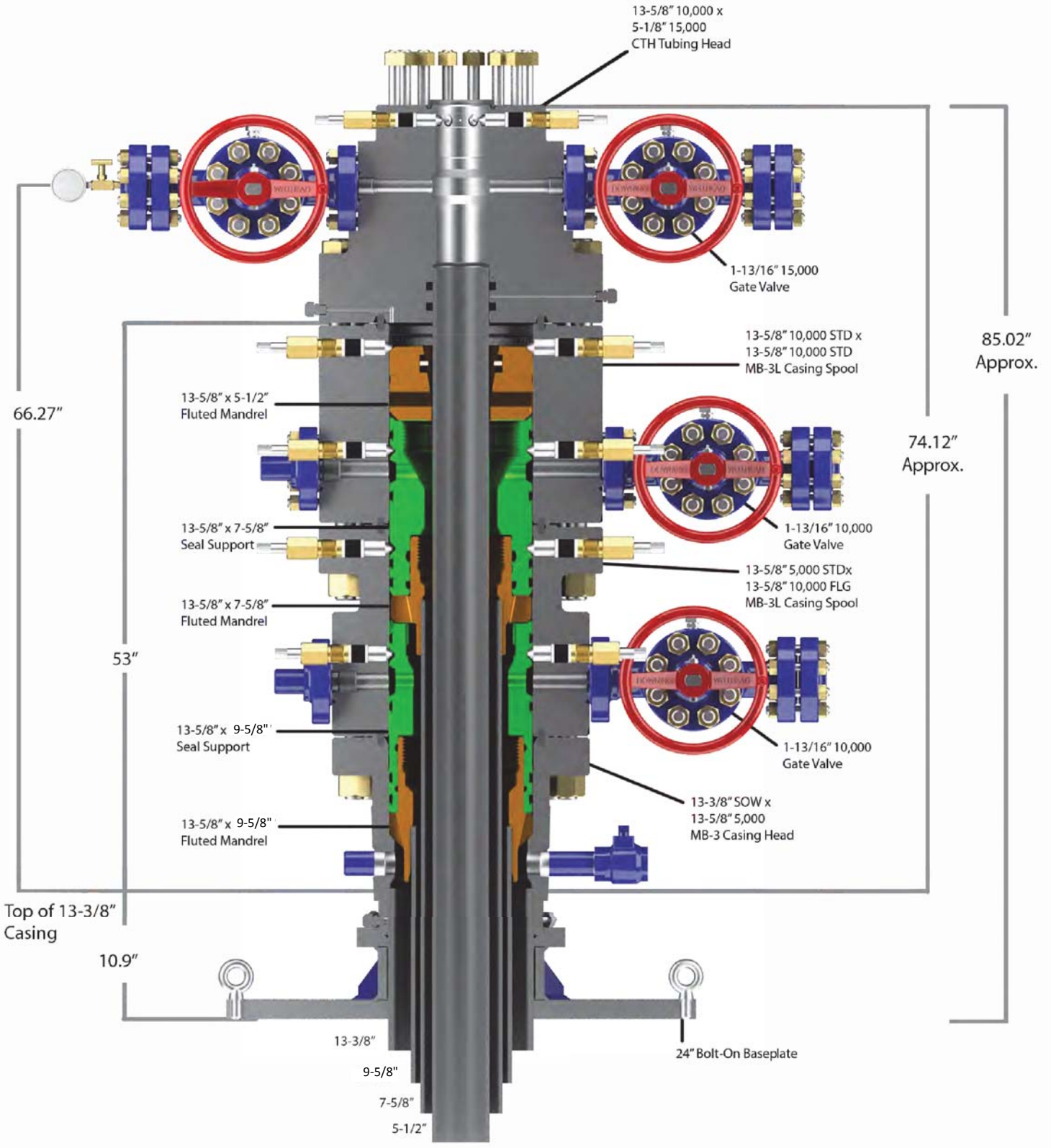
Requested_Exceptions___4_String_Revised_09182018_20180918124422.pdf

10M Choke Manifold

10M Choke Manifold




13 5/8" 5M BOP Configuration
13 5/8" 5M
ANNULAR
CO-FLEX LINE TO CHOKE MANIFOLD
10M PIPE RAMS
5 - 5-3/4" VBR
2" KILL LINE
10M BLIND RAMS
4" 10M VALVES &
10M PIPE RAMS
5-5-3/4" VBR
10M Check Valve



Quotation

Downing Wellhead Equipment

Oklahoma City,
Oklahoma - USA

Reference Data:

16925 AMEREDEV

Proprietary and Confidential

TITLE:

AMEREDEV OPERATING, LLC, MB-3 4-STRING,
LEA COUNTY, NM

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

Pressure Control Plan

Pressure Control Equipment

- Ameredev will utilize a drilling rig not capable of drilling to TD to preset Surface Casing.

- 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 1500psi 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 Dry Hole Cap and install Pressure gauges to monitor. Ameredev will Suspend Operations to Mob to Adjacent Wells and Drill Surface

- Ameredev will Mobilize Rig capable of drilling to TD.(Rig Capable of Drilling to TD will not Mobilize until all wells on Drilling Pad have reached TD and Tubing Head installed and Tested) 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 5,000psi 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 (2,500psi). Casing will be tested to 1500psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Setting of 9-5/8" Intermediate #1 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 1500psi 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 and limited to 5,000psi 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 (2,500psi). Casing will be tested to 1500psi 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.

Pressure Control Plan

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

- Setting of 7-5/8" Intermediate #2 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 1500psi 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 and limited to 10,000psi 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 100% of approved working pressure (5,000psi). Casing will be tested to 1500psi 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.

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

- Following setting of 5-1/2" Production Casing and adequate WOC time Ameredev will break 5M 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.

- 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)

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

Hole Size	Formation Tops		Logs	Cement	Mud Weight
17.5"	Rustler	1,068'		935 Sacks TOC 0' 100% Excess	8.6 - 10 ppg WBM
	13.375" 54.5# J-55 BTC	**1,193'**			
12.25"	Salado	1,508'		1380 Sacks TOC 0' 50% Excess	10 - 11.5 ppg Brine
	Tansill	3,234'			
	Lamar	5,034'			
	Bell Canyon	5,069'			
	9.625" 40# L-80HC BTC	**5,084'**			
8.75"	Brushy Canyon	7,109'	Triple Combo	358 Sacks TOC 4584' 25% Excess	9.5 - 10.5 Cut Brine
	Bone Spring Lime	8,335'			
	First Bone Spring	9,711'			
	Second Bone Spring	10,269'			
	Third Bone Spring Upper	10,855'			
	7.625" 29.7#P-110HC FJM	**11,400'**			
10° Build KOP @ 11,400'	Third Bone Spring	11,454'	Triple Combo	930 Sacks TOC 10900' 25% Excess	11.5 - 12.5 ppg OBM
	Wolfcamp	11,719'			
	5.5" 20# P-110CYHP TMK UP SF TORQ	**21,821'**			
6.75"	**Target Wolfcamp XY 11970 TVD // 21821 MD**				

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

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

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.**

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**

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

Pressure Control Plan

Pressure Control Equipment

- Ameredev will utilize a drilling rig not capable of drilling to TD to preset Surface Casing.

- 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 1500psi 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 Dry Hole Cap and install Pressure gauges to monitor. Ameredev will Suspend Operations to Mob to Adjacent Wells and Drill Surface

- Ameredev will Mobilize Rig capable of drilling to TD.(Rig Capable of Drilling to TD will not Mobilize until all wells on Drilling Pad have reached TD and Tubing Head installed and Tested) 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 5,000psi 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 (2,500psi). Casing will be tested to 1500psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Setting of 9-5/8" Intermediate #1 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 1500psi 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 and limited to 5,000psi 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 (2,500psi). Casing will be tested to 1500psi 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.

Pressure Control Plan

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

- Setting of 7-5/8" Intermediate #2 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 1500psi 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 and limited to 10,000psi 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 100% of approved working pressure (5,000psi). Casing will be tested to 1500psi 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.

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

- Following setting of 5-1/2" Production Casing and adequate WOC time Ameredev will break 5M 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.

- 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)

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