

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

APD ID: 10400031906

Operator Name: AMEREDEV OPERATING LLC Well Name: NANDINA FED COM 25 36 31 Well Type: OIL WELL Submission Date: 07/05/2018 Federal/Indian APD: FED Well Number: 115H Well Work Type: Drill Highlighted data reflects the most recent changes

10/05/2018

APD Print Report

Show Final Text

Application

Section 1 - General

APD ID: 10400031906 Tie to previous NOS? 10400030260 Submission Date: 07/05/2018 **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 Allotted? **Reservation:** Surface access agreement in place? Agreement in place? NO Federal or Indian agreement: Agreement number: Agreement name: Keep application confidential? NO Permitting Agent? NO APD Operator: AMEREDEV OPERATING LLC **Operator letter of designation:**

Operator Info

Operator Organization Name: AMEREDEV OPERATING LLC Operator Address: 5707 Southwest Parkway, Building 1, Suite 275 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 Well in Master SUPO? NO Well in Master Drilling Plan? NO Mater Development Plan name: Master SUPO name: Master Drilling Plan name:

Zip: 78735

Operator Na	me: AMEREDEV OPERAT	ING LLC									
Well Name:	NANDINA FED COM 25 36	31	Well Number: 115H	I							
Well Name:	NANDINA FED COM 25 36	31	Well Number: 115H		Well API Number:						
Field/Pool or	Exploratory? Field and Po	lool	Field Name: WC-025 G- S263620C	-09	Pool Name: WOLFCAMP						
Is the propos	sed well in an area contair	ning other mine		E WATER	R						
Describe oth	er minerals:										
Is the propos	sed well in a Helium produ	iction area? N	Use Existing Well Pad?	NO	New surface disturbance?						
Type of Well	Pad: MULTIPLE WELL		Multiple Well Pad Name	e:	Number: 115H						
Well Class:	HORIZONTAL		NANDINA Number of Legs: 1								
Well Work Ty	ype: Drill										
Well Type: C	IL WELL										
Describe We	II Туре:										
Well sub-Typ	De: INFILL										
Describe sul	o-type:										
Distance to t	own: 6.5 Miles	Distance to ne	arest well: 4270 FT	Distanc	e to lease line: 200 FT						
Reservoir we	ell spacing assigned acres	Measurement:	320 Acres								
Well plat:	NANDINA_FED_COM_25_	_36_31_115H	_EXHIBIT_2A_2B_20180	7050836 ⁻	10.pdf						
	NANDINA_FED_COM_25_	_36_31_115H	_VICINITY_MAP_201807	0508361	1.pdf						
	NANDINA_FED_COM_25_	_36_31_115H	_BLM_LEASES_2018070	5083605	.pdf						
	NANDINA_FED_COM_25_	_36_31_115H	_C_102_SIG_201807050	83606.pd	lf						
	NANDINA_FED_COM_25_	_36_31_115H	_GAS_CAPTURE_PLAN_	_2018070)5083630.pdf						
Well work st	art 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	200	FSL	229	FEL	25S	36E	31	Lot	32.08012	-	LEA	NEW	NEW	F	NMNM	301	0	0
Leg			0					0	66	103.3030		MEXI			137469	4		
#1										681		со	со					

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	-ease Type	Lease Number	Elevation	MD	TVD
KOP Leg #1	0	FSL	217 2	FEL	25S	36E	31	Aliquot SWSE	32.07957 37	- 103.3026 866	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 854 8	115 68	115 62
PPP Leg #1	200	FSL	229 0	FEL	25S	36E	31	Aliquot SWSE	32.08012 66	- 103.3030 681	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	301 4	0	0
PPP Leg #1	0	FSL	231 8	FEL	25S	36E	31		32.09412 13	- 103.3031 658	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 912 1	171 88	121 35
PPP Leg #1	0	FNL	231 8	FEL	25S	36E	30	Aliquot SWSE	32.09412 13	- 103.3031 658	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 912 1	171 88	121 35
PPP Leg #1	264 0	FSL	231 8	FEL	25S	36E	31	Aliquot NWSE	32.08683 6	- 103.3031 644	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 119762	- 912 1	145 49	121 35
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	31	Aliquot SWSE	32.08320 78	- 1 <u>03 3031</u> 637	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 912 1	132 29	121 35
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	30	Aliquot SWSE	32.09771 68	- 103.3031 665	LEA	NEV/ MEXI CO	NEW MEXI CO	F	NMNM 137469	- 912 1	185 08	121 35
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	31	Aliquot NWSE	32.08320 78	- 103.3031 637	LEA	NEV MEXI CO	NEW MEXI CO	F	NMNM 119762	- 912 1	132 29	121 35
PPP Leg #1	264 0	FSL	231 8	FEL	25S	36E	31	Aliquot SWNE	32.08683 6	- 103.3031 644		NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 912 1	145 49	121 35
EXIT Leg #1	132 0	FSL	231 8	FEL	25S	36E	30	Aliquot NWSE	32.09771 68	- 103.3031 665	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	- 912 1	185 08	121 35
BHL Leg #1	200	FNL	231 8	FEL	25S	36E	30	Aliquot NWNE	32.10806 86	- 103.3031 684	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	- 912 1	222 74	121 35

Drilling Plan

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. K. 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 ¹API Number ²Pool Code **JAL;WOLFCAMP, WEST** 30-025-45246 33813 ⁴Property Code Property Name Well Number NANDINA 25 36 31 FEDERAL COM 322647 115H ⁸Operator Name OGRID No. ⁹Elevation AMEREDEV OPERATING, LLC. 3014 372224 ¹⁰Surface Location UL or lot no. East/West line Range Feet from the North/South line Feet from the County Section Township Lot Idn 200' 0 31 25-S 36-E SOUTH 2290' EAST LEA

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
В	30	25-S			200'	NORTH	2318'	EAST	LEA	
¹² Dedicated Acres	¹³ Joint or I	nfill ¹⁴ Co	nsolidation Co	de ¹⁵ Ord	er No.					
320			С							

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.



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

GAS CAPTURE PLAN

Date: <u>6/27/18</u>

 \boxtimes Original

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

□ Amended - Reason for Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, 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	Expected	Flared or	Comments		
			Footages	MCF/D	Vented			
Nandina Fed Com	30-025-	O-31-25S-36E	200' FSL	1000	<30 days	Flare until well		
25 36 31 115H	45246		2290' FEL			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. <u>Operator</u> will provide (periodically) to <u>Gas Transporter</u> a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, <u>Operator</u> and <u>Gas Transporter</u> will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at <u>Gas Transporter</u> 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 <u>Gas Transporter</u> system at that time. Based on current information, it is <u>Operator's</u> 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

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

Section 1 - Geologic Formations

Formation			True Vertical				Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1	RUSTLER ANHYDRITE	3014	1068	1068	ANHYDRITE	NONE	No
2	SALADO	1506	1508	1508	SALT	NONE	No
3	TANSILL	-220	3234	3234	LIMESTONE	NONE	No
4	CAPITAN REEF	-720	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

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_20180918122638.pdf

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

10M_Choke_Manifold_20180918122638.pdf

BOP Diagram Attachment:

5M_BOP_System_20180918122901.pdf

Pressure_Control_Plan_Pad_Well_MB4_Preset_BLM_002_20180918122916.pdf

4String_MB_Ameredev_Drawing_net_REV_20180918122938.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	
1	SURFACE	17.5	13.375	NEW	API	N	0	1193	0	1193	3014		1193	J-55		OTHER - BTC	1.82	0.9	DRY	13.9 8	DRY	13 2
	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	5084	0	5084	3014		5084	HCL -80		OTHER - BTC	1.39	0.93	DRY	5.12	DRY	4.
-	INTERMED IATE	8.75	7.625	NEW	API	N	0	11377	0	11377	3014		11377	HCP -110	-	OTHER - FJM	1.04	1.27	DRY	1.92	DRY	2.
	PRODUCTI ON	6.75	5.5	NEW	API	N	0	21777	0	11950	3014		21777	P- 110		OTHER - CYHP TMK- UP SF TORQ	1.73	1.92	DRY	2.85	DRY	3.

Casing Attachments

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

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_115H___BLM_4_STRING_CASING_DESIGN_CHECK_20180705092151.pdf

13.375_54.50_J55_SEAH_20180918070950.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_115H___BLM_4_STRING_CASING_DESIGN_CHECK_20180705092243.pdf

9625_40_SeAH80HC_4100_Collapse_20180918071026.pdf

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_115H___BLM_4_STRING_CASING_DESIGN_CHECK_20180705092348.pdf

7.625_29.70_P110HC_LIBERTY_FJM_20180918071056.pdf

Approval Date: 10/05/2018

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

Casing Attachments

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_115H___BLM_4_STRING_CASING_DESIGN_CHECK_20180705092535.pdf

TMK_UP_SF_TORQ____5.500in_x_20.00_P_110_CYHP_20180918071121.pdf

Section	4 - Ce	emen	t								
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
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	500.2 5	25	CLASS C	NONE
INTERMEDIATE	Lead		4493	1014 5	255	2.85	11	725.4 8	25	CLASS H	Bentonite, Retarder, Kolseal, Defoamer, Celloflake, Anti-settling Expansion Additive
INTERMEDIATE	Tail		1014 5	1137 7	100	1.24	14.5	123.7	25	CLASS H	Bentonite, Retarder, Dispersant, Fluid Loss
PRODUCTION	Lead		1109 7	2177 7	930	1.22	14.5	1137. 39	25	CLASS H	Retarder, Kolseal, Defoamer, Celloflake, Expansion Additive
PRODUCTION	Tail		2177 7	2177 7						CLASS H	none

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

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 (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1193	WATER-BASED MUD	8.6	10							
1193	5084	SALT SATURATED	10	11.5							
5084	1137 7	OTHER : CUT BRINE	9.5	10.5							
1137 7	1195 0	OIL-BASED MUD	11.5	12.5							

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

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: 2330.3

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_20180705093223.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Nandina_Fed_Com_25_36_31_115H_Plan_2_20180705093242.pdf Pressure_Control_Plan_Pad_Well_MB4_Preset_BLM__002__20180918123206.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

R616___CoC_for_hoses_12_18_17_20180705093442.pdf Requested_Exceptions___4_String_Revised_09182018_20180918123229.pdf

SUPO

Well Name: NANDINA FED COM 25 36 31

Well Number: 115H

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

 Nandina__6N_Well_Plats_20180912_20180913063709.pdf

 NANDINA_FED_COM_25_36_31_115H___WELL_PAD_ACCESS_20180913063800.pdf

 Existing Road Purpose: ACCESS
 Row(s) Exist? YES

ROW ID(s)

ID: NM-138148

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_115H___WELL_PAD_ACCESS_20180913063854.pdf Nandina__6N_Well_Plats_20180912_20180913063908.pdf New road type: RESOURCE Length: 4606 Feet Width (ft.): 30 Max slope (%): 2 Max grade (%): 2 Army Corp of Engineers (ACOE) permit required? NO ACOE Permit Number(s): New road travel width: 20 New road access erosion control: Crowned and Ditched New road access plan or profile prepared? NO New road access plan attachment: Access road engineering design? NO Access road engineering design attachment:

10M Choke Manifold

10M Choke Manifold







