



APD ID: 10400031760

Submission Date: 06/29/2018

Highlighted data  
reflects the most  
recent changes

Operator Name: AMEREDEV OPERATING LLC

Well Name: NANDINA FED COM 25 36 31

Well Number: 125H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - General

APD ID: 10400031760

Tie to previous NOS? 10400030260

Submission Date: 06/29/2018

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: 125H

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:** 125H

**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:**

**Number:** 125H

**Well Class:** HORIZONTAL

NANDINA

**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:** 4250 FT

**Distance to lease line:** 320 FT

**Reservoir well spacing assigned acres Measurement:** 320 Acres

**Well plat:** NANDINA\_FED\_COM\_25\_36\_31\_125H\_\_\_BLM\_LEASES\_20180629091425.pdf

NANDINA\_FED\_COM\_25\_36\_31\_125H\_\_\_C\_102\_SIG\_20180629091426.pdf

NANDINA\_FED\_COM\_25\_36\_31\_125H\_\_\_VICINITY\_MAP\_20180629091427.pdf

NANDINA\_FED\_COM\_25\_36\_31\_125H\_\_\_EXHIBIT\_2A\_2B\_20180629091426.pdf

NANDINA\_FED\_COM\_25\_36\_31\_125H\_\_\_GAS\_CAPTURE\_PLAN\_20180629091515.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	227 0	FEL	25S	36E	31	Lot O	32.08012 66	- 103.3030 035	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	301 4	0	0

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

	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	183	FSL	206 0	FEL	25S	36E	31	Aliquot SWSE	32.08009 3	- 103.3023 257	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 880 1	118 21	118 15
PPP Leg #1	200	FSL	227 0	FEL	25S	36E	31	Lot O	32.08012 66	- 103.3030 035	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	Aliquot NWNE	32.09408 87	- 103.3031 645	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 941 1	173 10	124 25
PPP Leg #1	0	FNL	231 8	FEL	25S	36E	30	Aliquot SWSE	32.09408 87	- 103.3031 645	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 941 1	173 10	124 25
PPP Leg #1	264 0	FSL	231 8	FEL	25S	36E	31	Aliquot NWNE	32.08683 61	- 103.3031 625	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 119762	- 941 1	146 72	124 25
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	31	Aliquot SWSE	32.08320 79	- 103.3031 615	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 941 1	133 52	124 25
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	30	Aliquot SWSE	32.09771 69	- 103.3031 656	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 941 1	186 30	124 25
PPP Leg #1	132 0	FSL	231 8	FEL	25S	36E	31	Aliquot NWSE	32.08320 79	- 103.3031 615	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 119762	- 941 1	133 52	124 25
PPP Leg #1	264 0	FSL	231 8	FEL	25S	36E	31	Aliquot SWSE	32.08683 61	- 103.3031 625	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137469	- 941 1	146 72	124 25
EXIT Leg #1	132 0	FSL	231 8	FEL	25S	36E	30	Aliquot NWSE	32.09771 69	- 103.3031 656	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	- 941 1	186 30	124 25
BHL Leg #1	200	FNL	231 8	FEL	25S	36E	30	Aliquot NWNE	32.10806 85	- 103.3031 685	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	- 941 1	223 96	124 25



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Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
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	No
14	WOLFCAMP	-9072	12086	12086	SHALE	NATURAL GAS,OIL	Yes

## Section 2 - Blowout Prevention

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

**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\_20180918121003.pdf

**BOP Diagram Attachment:**

5M\_BOP\_System\_20180629094742.pdf

4\_String\_MB\_Ameredev\_Wellhead\_Drawing\_net\_20180629094814.pdf

Pressure\_Control\_Plan\_Pad\_Well\_MB4\_Preset\_BLM\_\_002\_\_20180918121048.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	3014		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	3014		5084	HCL-80	40	OTHER - BTC	1.39	0.89	DRY	5.12	DRY	4.51
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	11852	0	11852	3014		11852	HCP-110	29.7	OTHER - FJM	1.04	1.17	DRY	1.85	DRY	2.67
4	PRODUCTION	6.75	5.5	NEW	API	N	0	22252	0	12425	3014		22252	P-110	20	OTHER - CYHP TMK-UP SF TORQ	1.66	1.78	DRY	2.64	DRY	2.93

**Casing Attachments**

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLM\_4\_STRING\_CASING\_DESIGN\_CHECK\_20180629140752.pdf

20180626\_NANDINA\_FED\_COM\_25\_36\_31\_125H\_4\_STRING\_20180629152410.pdf

13.375\_54.50\_J55\_SEAH\_20180918071343.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLM\_4\_STRING\_CASING\_DESIGN\_CHECK\_20180629143227.pdf

20180626\_NANDINA\_FED\_COM\_25\_36\_31\_125H\_4\_STRING\_20180629152420.pdf

9625\_40\_SeAH80HC\_4100\_Collapse\_20180918071405.pdf

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**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

#### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLM\_4\_STRING\_CASING\_DESIGN\_CHECK\_20180629143450.pdf

20180626\_NANDINA\_FED\_COM\_25\_36\_31\_125H\_4\_STRING\_20180629152429.pdf

7.625\_29.70\_P110HC\_LIBERTY\_FJM\_20180918064011.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLM\_4\_STRING\_CASING\_DESIGN\_CHECK\_20180629143742.pdf

20180626\_NANDINA\_FED\_COM\_25\_36\_31\_125H\_4\_STRING\_20180629152437.pdf

TMK\_UP\_SF\_TORQ\_\_\_5.500in\_x\_20.00\_P\_110\_CYHP\_20180918064119.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:** 125H

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		4584	10620	278	2.85	11	790.91	25	CLASS H	Bentonite, Retarder, Kolseal, Defoamer, Celloflake, Anti-settling Expansion Additive
INTERMEDIATE	Tail		10620	11852	100	1.24	14.5	123.7	25	CLASS H	Bentonite, Retarder, Dispersant, Fluid Loss
PRODUCTION	Lead		11097	22252	930	1.22	14.5	1137.39	25	CLASS H	Retarder, Kolseal, Defoamer, Celloflake, Expansion Additive
PRODUCTION	Tail		22252	22252						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
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**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

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	1185 2	OTHER : CUT BRINE	9.5	10.5							
1185 2	1242 5	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:** 2266.5

**Anticipated Bottom Hole Temperature(F):** 160

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

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

**Hydrogen sulfide drilling operations plan:**

H2S\_Plan\_20180629152114.pdf

**Operator Name:** AMEREDEV OPERATING LLC

**Well Name:** NANDINA FED COM 25 36 31

**Well Number:** 125H

## Section 8 - Other Information

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

Nandina\_Fed\_Com\_25\_36\_31\_125H\_\_Plan\_2\_20180629152145.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

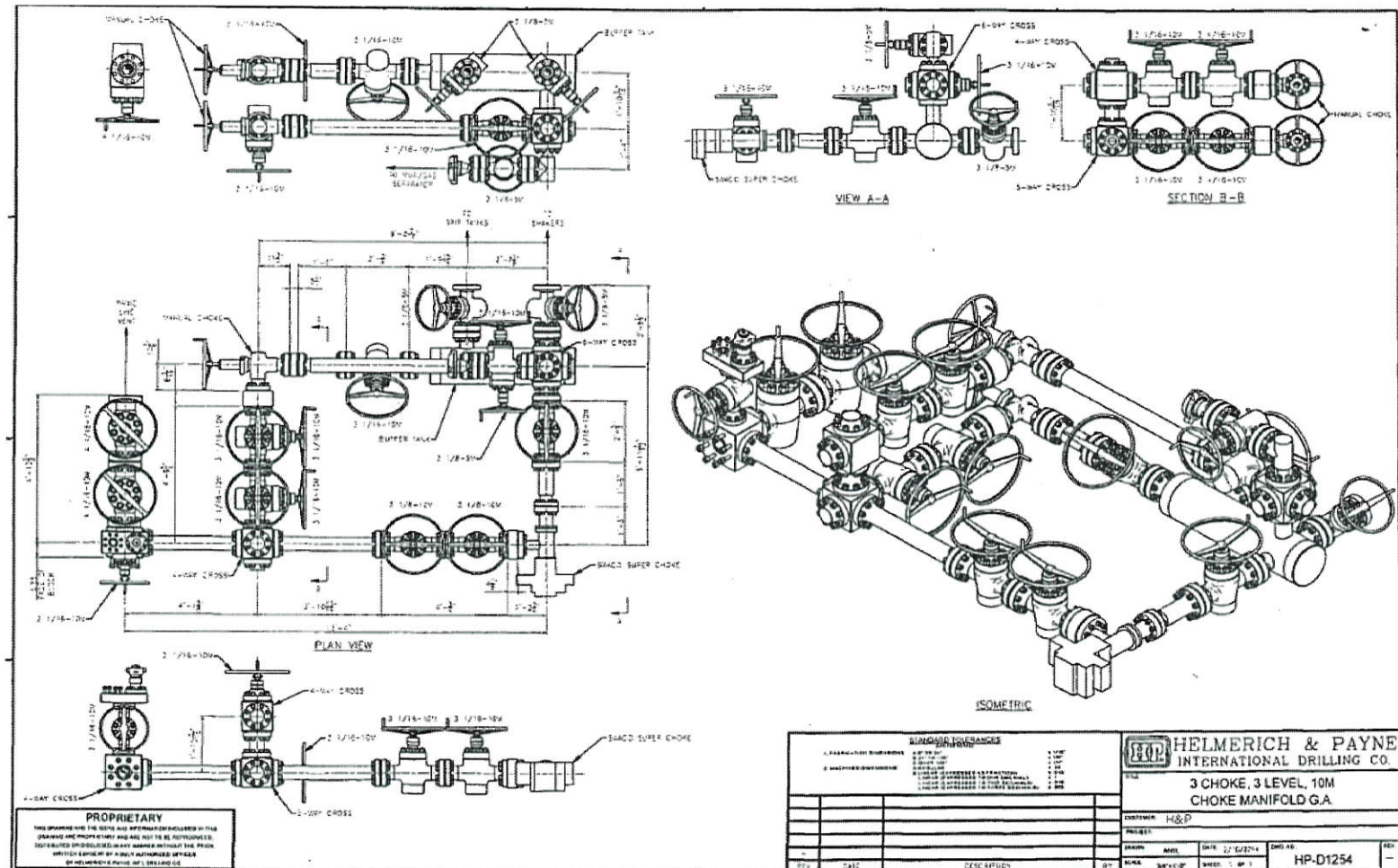
**Other Variance attachment:**

R616\_\_CoC\_for\_hoses\_12\_18\_17\_20180629152246.pdf

Requested\_Exceptions\_\_4\_String\_Revised\_09182018\_20180918121415.pdf

# 10M Choke Manifold

10M Choke Manifold



13 5/8" 5M BOP  
Configuration

CO-FLEX LINE TO  
CHOKE MANIFOLD

2" KILL LINE

4" 10M VALVES &

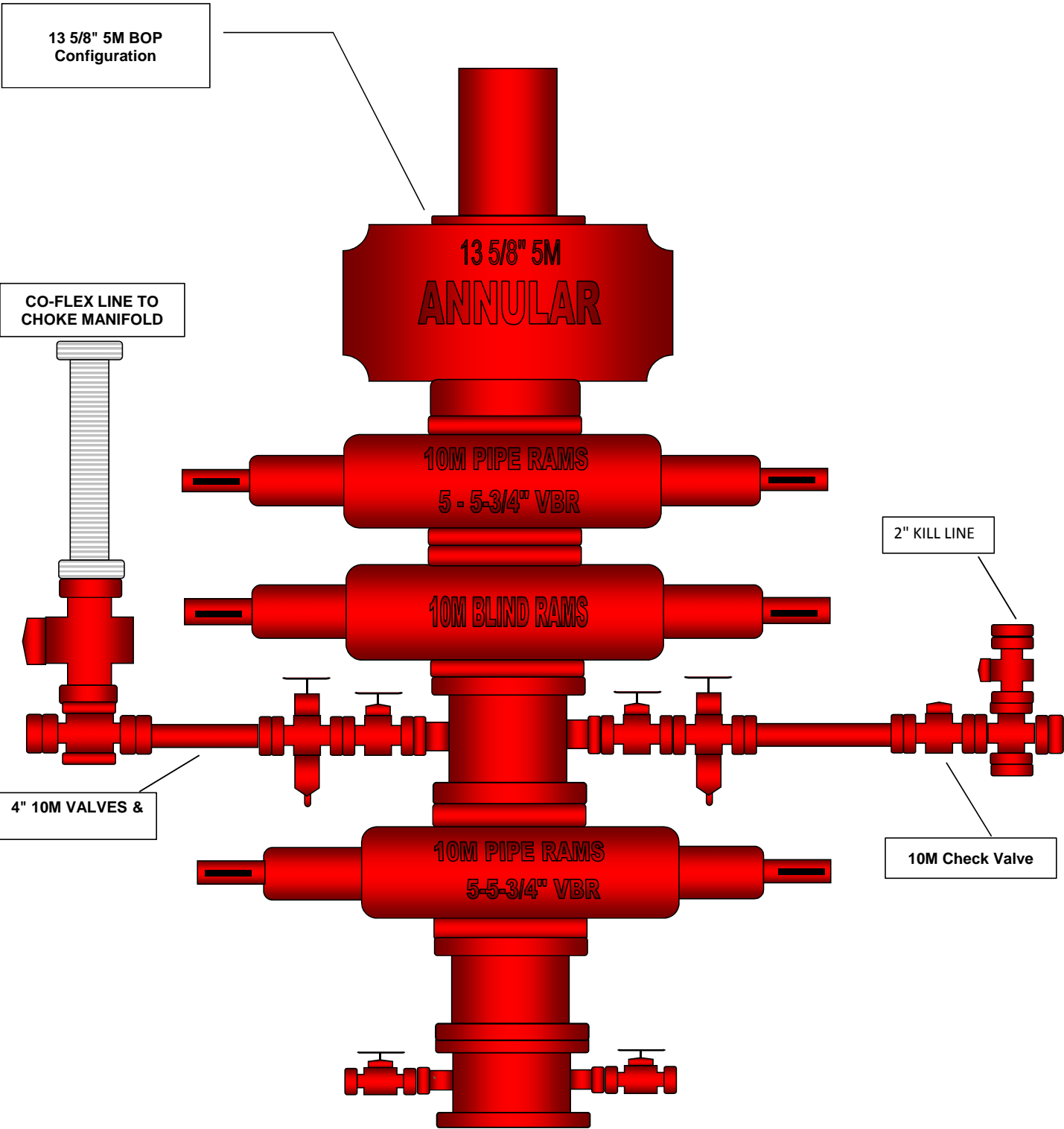
10M Check Valve

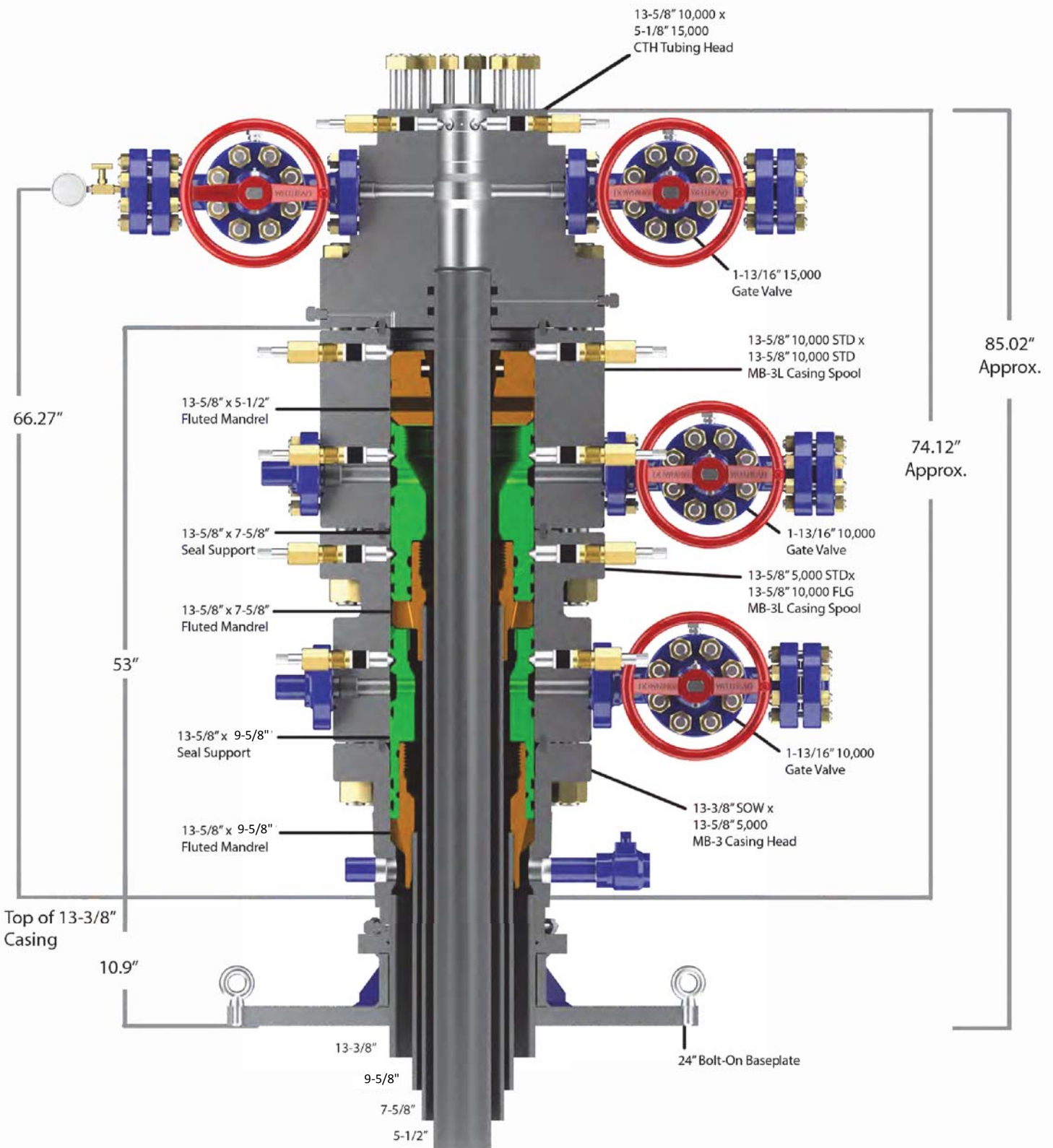
13 5/8" 5M  
ANNULAR

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

10M BLIND RAMS

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





## Quotation

## Downing Wellhead Equipment

Oklahoma City,  
Oklahoma - USA

Reference Data:

16925 AMEREDEV

### Proprietary and Confidential

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

TITLE:

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

DRAWN

CHECKED

APPROVED

SIZE

**A**

DWG. NO.

REV.

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.



## Pressure Control Plan

- 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)



## Casing Design and Safety Factor Check

<b>Casing Specifications</b>						
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	11,821'	7.625	29.7	HCP-110	FJM
Prod Segment A	6.75	11,821'	5.5	20	CYHP-110	TMK UPSF
Prod Segment B	6.75	22,397'	5.5	20	CYHP-110	TMK UPSF

<b>Check Surface Casing</b>				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
14.38	853	909	1,130	2,730
<b>Safety Factors</b>				
1.56	13.12	13.98	1.82	0.90
<b>Check Int #1 Casing</b>				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
10.625	916	1042	4230	5750
<b>Safety Factors</b>				
0.81	4.51	5.12	1.39	0.89
<b>Check Int #2 Casing</b>				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
7.625	940	558	6700	9460
<b>Safety Factors</b>				
0.56	2.67	1.85	1.04	1.17
<b>Check Prod Casing, Segment A</b>				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
5.777	728	655	12780	14360
<b>Safety Factors</b>				
0.49	2.93	2.64	1.66	1.78
<b>Check Prod Casing, Segment B</b>				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
5.777	728	655	12780	14360
<b>Safety Factors</b>				
0.49	63.53	57.16	1.58	1.78



Ameredev II, LLC

## Wellbore Schematic

**Well:** Nandina Fed Com 25-36-31 125H  
**SHL:** Sec. 31 25S-36E 200' FSL & 2270' FEL  
**BHL:** Sec. 30 25S-36E 200' FNL & 2318' FEL  
 Lea, NM  
**Wellhead:** A - 13-5/8" 5M x 13-5/8" SOW  
 B - 13-5/8" 5M x 13-5/8" 10M  
 C - 13-5/8" 10M x 13-5/8" 10M  
 Tubing Spool - 5-1/8" 15M x 13-3/8" 10M  
**Xmas Tree:** 2-9/16" 10M  
**Tubing:** 2-7/8" L-80 6.5# 8rd EUE

**Co. Well ID:** xxxxxx  
**AFE No.:** xxxx-xxx  
**API No.:** xxxxxxxxxxxx  
**GL:** 3,014'  
**Field:** Delaware\_WCB  
**Objective:** Wolfcamp B  
**TVD:** 12,425'  
**MD:** 22,397'  
**Rig:** TBD  
**E-Mail:** [Wellsite2@ameredev.com](mailto: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
12.25"	13.375" 54.5# J-55 BTC	1,193'			
	Salado	1,508'			
	Tansill	3,234'			
	Lamar	5,034'		1380 Sacks TOC 0' 50% Excess	10 - 11.5 ppg Brine
	Bell Canyon	5,069'			
8.75"	9.625" 40# L-80HC BTC	5,084'			
	Brushy Canyon	7,109'	Triple Combo	375 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'			
	Third Bone Spring	11,454'			
	Wolfcamp	11,719'			
10° Build KOP @ 11,821'	7.625" 29.7#P-110HC FJM	11,821'			
	Wolfcamp B	12,086'	Triple Combo		11.5 - 12.5 ppg OBM
	5.5" 20# P-110CYHP TMK UP SF TORQ	22,397'			
6.75"	Target Wolfcamp B 12425 TVD // 22397 MD				



**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
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**Internal Yields Pressure**

PE	2730	psi
STC	2730	PSI
BTC	2730	psi

Yield Strength, Pipe Body	853	1000 lbs
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Joint Strength, STC	514	1000 lbs
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Joint Strength, BTC	909	1000 lbs
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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.



**9.625"**

**40#**

**.395"**

**SEAH-80 HIGH COLLAPSE**

(SEAH-80 IS A NON HEAT TREATED PRODUCT)

**Dimensions (Nominal)**

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

**Performance Properties**

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

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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

- 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).
- Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
- Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
- 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.).
- Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
- Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

### Legal Notice

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# PERFORMANCE DATA

## TMK UP SF TORQ™ Technical Data Sheet

5.500 in

20.00 lbs/ft

P-110 CYHP

### 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	in <sup>2</sup>			

### Connection Parameters

Connection OD	5.777	in
Connection ID	4.734	in
Make-Up Loss	5.823	in
Critical Section Area	5.875	in <sup>2</sup>
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

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