

Well Name: RIVERBEND 12-13 FEDERAL COM	Well Location: T25S / R28E / SEC 1 / SESW /	County or Parish/State:
Well Number: 2H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM88128	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549159	Well Status: Approved Application for Permit to Drill	Operator: CIMAREX ENERGY COMPANY

Notice of Intent

Sundry ID: 2704415

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 11/28/2022

Time Sundry Submitted: 07:20

Date proposed operation will begin: 01/06/2023

Procedure Description: Cimarex Energy Company respectfully requests approval to make the following changes to the approved Application for Permit to Drill. These changes are as follows: 1. Change the BHL 2. Change the FTP 3. Change the LTP 4. Change the proposed TD 5. Update the drilling plan, casing and cement detail 6. Request off-line cementing 7. Request approval to skid rig Please see attached documents for details for the above mentioned changes.

NOI Attachments

Procedure Description

Info_for_Sundry_Notice_20221128072019.pdf

Well Name: RIVERBEND 12-13 FEDERAL COM	Well Location: T25S / R28E / SEC 1 / SESW /	County or Parish/State:
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Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: RUSTY KLEIN
Signed on: NOV 28, 2022 07:01 AM
Name: CIMAREX ENERGY COMPANY
Title: Regulatory Analyst IV
Street Address: 600 N MRIENFIELD SUITE 600
City: MIDLAND **State:** TX
Phone: (432) 620-1933
Email address: RUSTY.KLEIN@COTERRA.COM

Field

Representative Name:
Street Address:
City: **State:** **Zip:**
Phone:
Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS
BLM POC Phone: 5752342234
Disposition: Approved
Signature: Chris Walls
BLM POC Title: Petroleum Engineer
BLM POC Email Address: cwalls@blm.gov
Disposition Date: 06/14/2023

**CIMAREX ENERGY COMPANY
RIVERBEND 12 13 FEDERAL COM #2H
30-015-49159
SECTION 1-T25S-R28E
EDDY COUNTY, NEW MEXCO**

Cimarex Energy Company respectfully requests approval to make the following changes to the approved Application for Permit to Drill.

1. The BHL will be changed as follows:

**FROM: 330' FSL & 1310' FEL (Unit P, SESE)
Section 13-T25S-R28E
Lat 32.123624; Long 104.036543**

**TO: 330' FSL & 995' FEL (Unit P, SESE)
Section 13-T25S-R28E
Lat 32.123612; Long 104.035526**

2. The FTP will be changed as follows:

**FROM: 330' FNL & 1310' FEL (Unit A, NENE)
Section 12-T25S-R28E
Lat 32.151003; Long 104.036513**

**TO: 330' FNL & 1318' FEL (Unit A, NENE)
Section 12-T25S-R28E
Lat 32.151004; Long 104.036535**

3. The LTP will be changed as follows:

**FROM: 330' FSL & 1310' FEL (Unit P, SESE)
Section 13-T25-R28E
Lat 32.123624; Long 104.036543**

**TO: 330' FSL & 995' FEL (Unit P, SESE)
Section 13-T25S-R28E
Lat 32.123612; Long 104.035526**

4. The proposed TD will be changed as follows:

**FROM: 20620' MD; 9975' TVD; Wolfcamp – Purple Sage Wolfcamp (gas) – Pool Code 98220
TO: 20761' MD; 9975' TVD; Wolfcamp – Purple Sage Wolfcamp (gas) – Pool Code 98220**

5. The casing and cementing program will change as detailed in the updated drilling plan attached, as well as the Detailed Casing & Cement Change sheet attached.
6. Cimarex Energy Company respectfully requests approval for off line cementing and request approval to skid the rig to the next well on the pad to begin operations prior to waiting 8 hours for the surface casing cement to harden before skidding the rig.

ATTACHMENTS: UPDATED C-102, UPDATED DRILLING PLAN, UPDATED DIRECTIONAL SURVEY

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 30-015-49159	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp (Gas)
⁴ Property Code 321482	⁵ Property Name RIVERBEND 12-13 FEDERAL COM	⁶ Well Number 2H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 2934.6'

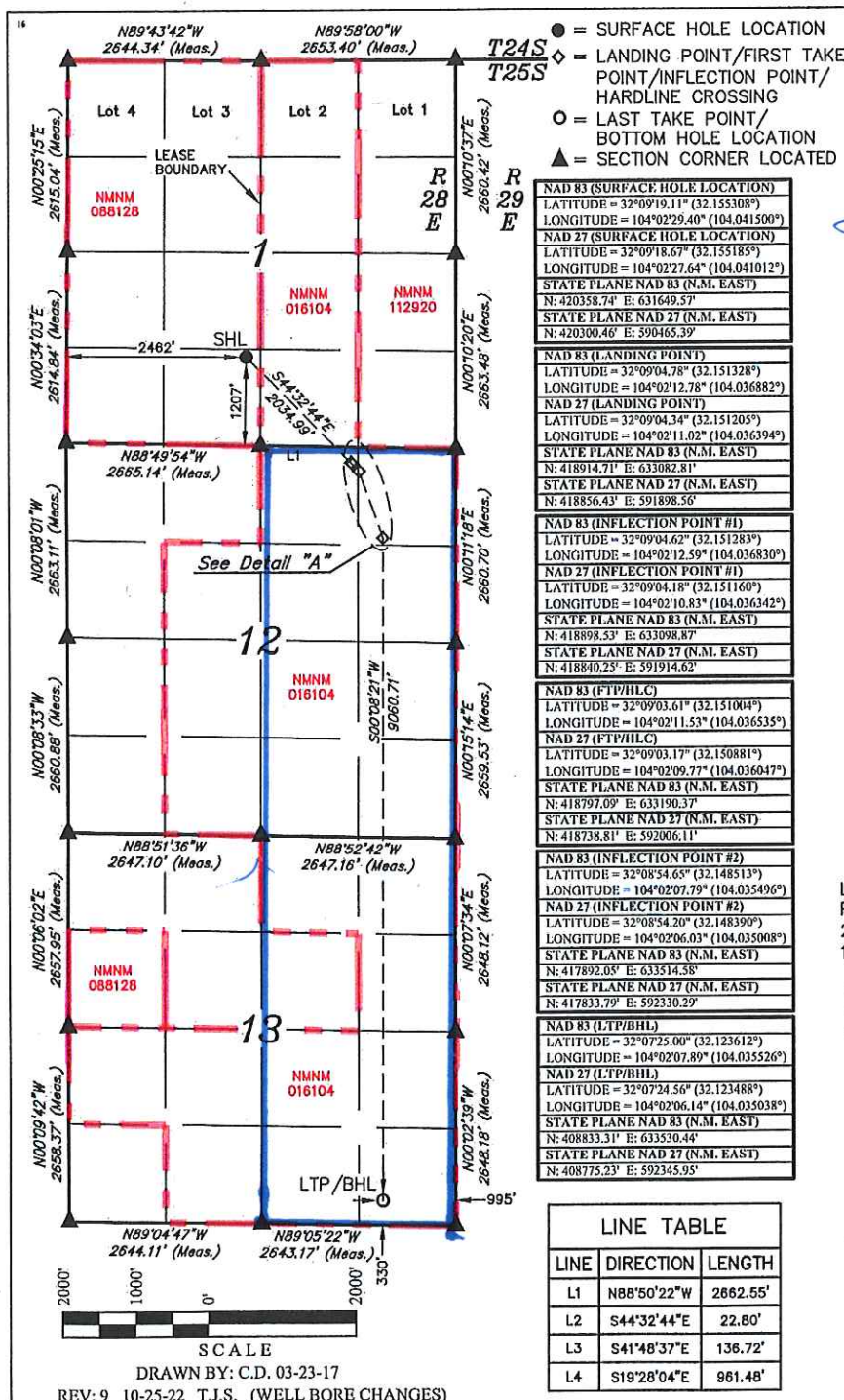
¹⁰ Surface Location

UL or lot no. N	Section 1	Township 25S	Range 28E	Lot Idn	Feet from the 1207	North/South line SOUTH	Feet from the 2462	East/West line WEST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. P	Section 13	Township 25S	Range 28E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 995	East/West line EAST	County EDDY
¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code Will be communitized	¹⁵ Order No.						

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.



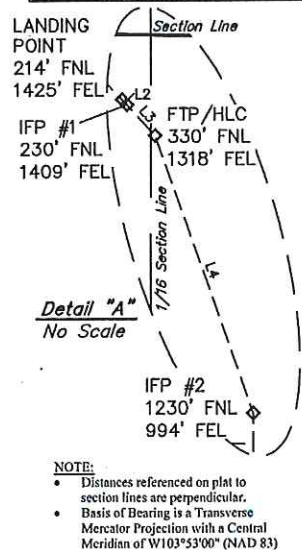
17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or an undivided mineral interest in the land including the proposed bottom hole location or has a right 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: *Rusty Klein* Date: 11-1-2022
Printed Name: RUSTY KLEIN
E-mail Address: rusty.klein@coterra.com

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 and correct to the best of my belief.

December 12, 2017
Date of Survey
Signature and Seal of Professional Surveyor:

Certificate Number:



1. Geological Formations

TVD of target 9,975

Pilot Hole TD N/A

MD at TD 20,761

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	217	Useable Water	
Salado	408	N/A	
Castille	2463	N/A	
Bell Canyon	2757	Hydrocarbons	
Cherry Canyon	3695	Hydrocarbons	
Brushy Canyon	5294	Hydrocarbons	
Bone Spring	6427	Hydrocarbons	
Bone Spring A Shale	6541	Hydrocarbons	
Bone Spring C Shale	7082	Hydrocarbons	
1st Bone Spring	7367	Hydrocarbons	
2nd Bone Spring	8173	Hydrocarbons	
3rd Bone Spring	9291	Hydrocarbons	
Wolfcamp	9669	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	267	267	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	6.40	14.96	25.12
12 1/4	0	2717	2717	9-5/8"	36.00	J-55	LT&C	1.40	2.44	4.63
8 3/4	0	9625	9625	7"	29.00	L-80	LT&C	1.48	1.72	2.04
8 3/4	9625	10261	9936	7"	29.00	P-110	BT&C	1.74	2.29	103.00
6	8625	20761	9975	4-1/2"	11.60	P-110	LT&C	1.33	1.87	17.82
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Cimarex Energy Co., Riverbend 12-13 Federal Com 2H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N
Is AC Report included?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	173	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	530	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	164	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS
Production	440	10.30	3.64	22.18		Lead: Tuned Light + LCM
	100	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Completion System	778	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	25
Intermediate	0	47
Production	2517	25
Completion System	10061	10

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	2M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	5M	Annular	X	5M
			Blind Ram		
			Pipe Ram	X	
			Double Ram	X	
			Other		
6	13 5/8	10M	Annular	X	10M
			Blind Ram		
			Pipe Ram	X	
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
N	Are anchors required by manufacturer?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 267'	FW Spud Mud	7.83 - 8.33	30-32	N/C
267' to 2717'	Brine Water	9.70 - 10.20	30-32	N/C
2717' to 10261'	Cut Brine or OBM	9.00 - 9.50	27-70	N/C
10261' to 20761'	OBM	10.50 - 11.00	50-70	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5705 psi
Abnormal Temperature	No

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

X	H ₂ S is present
X	H ₂ S plan is attached

8. Other Facets of Operation**9. Wellhead**

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to working pressure or a maximum test pressure of 5000 psi. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office.

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 10000 psi.

A solid steel body pack-off will be utilized after running and cementing the production casing. After installation the pack-off and lower flange will be pressure tested to 10000 psi.

All casing strings will be tested as per Onshore Order No.2 to at least 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

10. Other Variances

Cimarex requests to perform offline cementing. OLC procedure as follows: 1. Land casing on solid body mandrel hanger. Engage packoff and lock ring 2. Install BPV. 3. Skid rig. 4. Check for pressure and remove BPV. 5. Circulate down casing, taking returns through casing valves. 6. Pump lead and tail cement. 7. Displace cement and bump the plug. 8. Ensure floats are holding pressure. 9. RD cement crew. 10. Install BPV and TA cap.

Cimarex requests permission to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for surface cement to harden on this 2H well. Surface cement will be pumped and we will ensure floats hold, do a green cement test and then skid to the next well on pad. We will not perform any operations on this 2H well until at least 8 hours and when both tail and lead slurry reach 500 psi. The mandrel hanger is made up on the last joint of 13 3/8" casing and then lowered down with and landing joint. It is then lowered down until the mandrel contacts the landing ring which is pre-welded to the conductor pipe. At this point the 13 3/8" casing is entirely supported by the conductor pipe via the landing ring/mandrel and is independent from the rig. This allows us to walk the rig away from the 2H well and begin work on the next well while the cement is hardening. There is no way for the casing to be moved or knocked off center since it is hanging from the landing ring.

CIMAREX ENERGY COMPANY
 RIVERBEND 12 13 FEDERAL COM #2H
 30-015-49159
 Section 1-T25S-R28E
 Eddy Co., NM

THE CASING PROGRAM WILL BE CHANGED AS FOLLOWS:

FROM: AS APPROVED ON APPROVED APPLICATION FOR PERMIT TO DRILL:

HOLE SIZE	CASING DEPTH FROM	CASING DEPTH TO	SETTING DEPTH TVD	CASING SIZE	WEIGHT (LB/FT)	GRADE	CONN	SF COLLAPSE	SF BURST	SF TENSION
17-1/2"	0	475'	475'	13-3/8"	48#	H-40/J-55 hybrid	ST&C	3.40	7.96	14.12
12-1/4"	0	2660'	2660'	9-5/8"	36#	J-55	LT&C	1.43	2.49	4.73
8-3/4"	0	9215'	9215'	7"	26#	L-80	LT&C	1.25	1.68	2.01
8-3/4"	9215'	11519'	9762'	7"	26#	L-80	BT&C	1.18	1.59	42.47
6"	9215'	21441'	9762'	4-1/2"	11.6#	P-110	BT&C	1.30	1.83	57.84
BLM Minimum Safety Factor								1.125	1	1.6 dry 1.8 wet

TVD was used on all calculations

All casing strings will be tested in accordance with Onshore Oil & Gas Order #2 III.B.1.H

TO:

HOLE SIZE	CASING DEPTH FROM	CASING DEPTH TO	SETTING DEPTH TVD	CASING SIZE	WEIGHT (LB/FT)	GRADE	CONN	SF COLLAPSE	SF BURST	SF TENSION
17-1/2"	0	267'	267'	13-3/8"	48#	H-40/J-55 Hybrid	ST&C	6.40	14.96	25.12
12-1/4"	0	2717'	2717'	9-5/8"	36#	J-55	LT&C	1.40	2.44	4.63
8-3/4"	0	9625'	9625'	7"	29#	L-80	LT&C	1.48	1.72	2.04
8-3/4"	9625'	10261'	9936'	7"	29#	P-110	BT&C	1.74	2.29	103.00
6"	8625'	20761'	9975'	4-1/2"	11.6#	P-110	LT&C	1.33	1.87	17.82
BLM Minimum Safety Factor								1.125	1	1.6 dry 1.8 wet

TVD was used on all calculations.

All casing strings will be tested in accordance with Onshore Oil & Gas Order #2 III.B.1.h.

Cimarex is also requesting approval for off line cementing and request approval to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for the surface casing cement to harden before skidding the rig.

An updated drilling plan and directional survey is attached.

CIMAREX ENERGY COMPANY
 RIVERBEND 12 13 FEDERAL COM #2H
 30-015-49159
 Section 1-T25S-R28E
 Eddy Co., NM

THE CEMENTING PROGRAM WILL BE CHANGED AS FOLLOWS:

FROM:

CASING	#SACKS	WEIGHT LB/GAL	YIELD FT3/SACK	H2O GAL/SACK	500# COMP STRENGTH (HOURS)	SLURRY DESCRIPTION
SURFACE	106	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM

INTERMEDIATE	509	12.90	1.88	9.65	12	Lead: 35:65 Poz C, Salt & bentonite
	160	14.20	1.3	5.86	14.3	Tail: 50:50 Poz H + salt + bentonite + fluid loss + dispersant + SMS

Production	348	10.30	3.64	22.18		Lead: Tuned light + LCM
	334	14.20	1.30	5.86	14.30	Tail: 50:50 Poz H + salt + bentonite + fluid loss + dispersant + SMS
Completion	721	14.20	1.30	5.86	14.30	Tail: 50:50 Poz + salt + bentonite + fluid loss + dispersant + SMS

CASING STRING	TOC	% EXCESS
SURFACE	0	34
INTERMEDIATE	0	49
PRODUCTION	2460	25
COMPLETION	11519	10

Cimarex requests the ability to perform casing integrity tests after plug bump of cement job

TO:

CASING	#SACKS	WEIGHT LB/GAL	YIELD FT3/SACK	H2O GAL/SACK	500# COMP STRENGTH (HOURS)	SLURRY DESCRIPTION
SURFACE	173	14.80	1.34	6.32	9.5	Lead: Class C + LCM

INTERMEDIATE	530	12.90	1.88	9.65	12	Lead: 35:65 Poz C, Salt & bentonite
	164	14.20	1.30	5.86	14.3	Tail: 50:50 Poz H + Salt + Bentontite + Fluid Loss + Dispersant + SMS
Production	440	10.30	3.64	22.18		Lead: Tuned Light + LCM
	100	14.80	1.36	6.57	9.50	Tail: Class C + Retarder
Completion System	778	14.20	1.30	5.86	14.30	Tail: 50:50 Poz H, Salt, Bentonite, fluid loss, dispersant & SMS

CASING STRING	TOC	% EXCESS
SURFACE	0	25
INTERMEDIATE	0	47
PRODUCTION	2517	25
COMPLETION	10061	10

Cimarex requests the ability to perform casing integrity tests after plug bump of cement job



Cimarex Riverbend 12-13 Federal Com 2H Rev5 kFc 03Oct22 Proposal

Geodetic Report

(Def Plan)



Report Date: October 03, 2022 - 09:54 AM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Riverbend 12-13 Federal Com 2H / 2H
Well: Cimarex Riverbend 12-13 Federal Com 2H
Borehole: Cimarex Riverbend 12-13 Federal Com 2H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Riverbend 12-13 Federal Com 2H Rev5 kFc 03Oct22
Survey Date: October 03, 2022
Tort / AHD / DDI / ERD Ratio: 134.685' / 12234.119 ft / 6.535' / 1.226
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 9' 19.10894", W 104° 2' 29.40150"
Location Grid N/E Y/X: N 420358.740 RUS, E 631649.570 RUS
CRS Grid Convergence Angle: 0.1553°
Grid Scale Factor: 0.99991843
Version / Patch: 2.10.833.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.900° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB = 23ft
TVD Reference Elevation: 2957.600 ft above MSL
Seabed / Ground Elevation: 2934.600 ft above MSL
Magnetic Declination: 6.652°
Total Gravity Field Strength: 998.4601mgm (0.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47528.527 nT
Magnetic Dip Angle: 59.757°
Declination Date: October 03, 2022
Magnetic Declination Model: HDGM 2022
North Reference: Grid North
Grid Convergence Used: 0.1553°
Total Corr Mag North->Grid: 6.4983°
North: Well Head
Local Coord Referenced To: Well Head

30.015-49159

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S °)	Longitude (E/W °)
SHL [1207' FSL, 2462' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	420358.74	631649.57	N 32.155308	W 104.041500
Rustler	100.00	0.00	135.22	100.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	200.00	0.00	135.22	200.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	218.50	0.00	135.22	218.50	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	300.00	0.00	135.22	300.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	400.00	0.00	135.22	400.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	409.50	0.00	135.22	409.50	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	500.00	0.00	135.22	500.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	600.00	0.00	135.22	600.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	700.00	0.00	135.22	700.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	800.00	0.00	135.22	800.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
Salado	900.00	0.00	135.22	900.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1000.00	0.00	135.22	1000.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1100.00	0.00	135.22	1100.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1200.00	0.00	135.22	1200.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1300.00	0.00	135.22	1300.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1400.00	0.00	135.22	1400.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1500.00	0.00	135.22	1500.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1600.00	0.00	135.22	1600.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1700.00	0.00	135.22	1700.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	1800.00	0.00	135.22	1800.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
Castille	1900.00	0.00	135.22	1900.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2000.00	0.00	135.22	2000.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2100.00	0.00	135.22	2100.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2200.00	0.00	135.22	2200.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2300.00	0.00	135.22	2300.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2400.00	0.00	135.22	2400.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2500.00	0.00	135.22	2500.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2515.71	0.00	135.22	2515.71	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2600.00	0.00	135.22	2600.00	0.00	0.00	0.00	0.00	420358.74	631649.57	N 32.155308	W 104.041500
	2700.00	2.00	135.22	2699.98	1.24	-1.24	1.23	2.00	420357.50	631650.80	N 32.155305	W 104.041496
Bell Canyon	2708.68	2.17	135.22	2708.65	1.47	-1.46	1.45	2.00	420357.28	631651.02	N 32.155304	W 104.041496
	2800.00	4.00	135.22	2799.84	4.96	-4.95	4.92	2.00	420353.79	631654.49	N 32.155294	W 104.041485
	2900.00	8.00	135.22	2899.45	11.16	-11.14	11.06	2.00	420347.60	631660.62	N 32.155277	W 104.041465
	3000.00	8.00	135.22	2898.70	19.82	-19.79	19.64	2.00	420338.95	631669.21	N 32.155254	W 104.041437
	3100.00	10.00	135.22	3007.47	30.84	-30.89	30.66	2.00	420327.85	631680.23	N 32.155223	W 104.041402
	3168.52	11.33	135.22	3162.84	39.70	-39.63	39.33	2.00	420319.12	631688.90	N 32.155199	W 104.041374
	3200.00	11.33	135.22	3195.66	44.37	-44.30	43.97	0.00	420314.45	631693.53	N 32.155186	W 104.041359
	3300.00	11.33	135.22	3293.71	59.34	-58.24	57.81	0.00	420300.50	631707.37	N 32.155148	W 104.041314
	3400.00	11.33	135.22	3391.76	72.31	-72.19	71.65	0.00	420286.58	631721.21	N 32.155109	W 104.041270
	3500.00	11.33	135.22	3499.82	85.28	-85.13	85.49	0.00	420272.62	631735.05	N 32.155071	W 104.041225
Cherry Canyon	3600.00	11.33	135.22	3587.87	100.25	-100.07	99.33	0.00	420258.67	631748.89	N 32.155032	W 104.041180
	3700.00	11.33	135.22	3685.92	114.22	-114.02	113.17	0.00	420244.73	631762.73	N 32.154994	W 104.041136
	3711.18	11.33	135.22	3696.88	115.78	-115.58	114.71	0.00	420243.17	631764.27	N 32.154989	W 104.041131
	3800.00	11.33	135.22	3783.97	128.18	-127.96	127.01	0.00	420230.79	631776.57	N 32.154955	W 104.041091
	3900.00	11.33	135.22	3882.02	142.15	-141.91	140.85	0.00	420216.85	631790.40	N 32.154917	W 104.041047
	4000.00	11.33	135.22	3980.07	156.12	-155.85	154.69	0.00	420202.90	631804.24	N 32.154879	W 104.041002
	4100.00	11.33	135.22	4078.12	170.09	-169.80	168.53	0.00	420188.06	631818.08	N 32.154840	W 104.040957
	4200.00	11.33	135.22	4176.17	184.06	-183.74	182.37	0.00	420175.02	631831.92	N 32.154802	W 104.040913
	4300.00	11.33	135.22	4274.22	198.03	-197.68	196.21	0.00	420161.07	631845.76	N 32.154763	W 104.040868
	4400.00	11.33	135.22	4372.27	211.99	-211.63	210.05	0.00	420147.13	631859.60	N 32.154725	W 104.040824
Brushy Canyon	4500.00	11.33	135.22	4470.33	225.95	-225.57	223.89	0.00	420133.19	631873.44	N 32.154686	W 104.040779
	4600.00	11.33	135.22	4568.38	239.93	-239.52	237.73	0.00	420119.24	631887.28	N 32.154648	W 104.040734
	4700.00	11.33	135.22	4666.43	253.90	-253.46	251.57	0.00	420105.30	631901.12	N 32.154609	W 104.040690
	4800.00	11.33	135.22	4764.48	267.87	-267.41	265.41	0.00	420091.36	631914.95	N 32.154571	W 104.040645
	4900.00	11.33	135.22	4862.53	281.84	-281.35	279.25	0.00	420077.41	631928.79	N 32.154533	W 104.040601
	5000.00	11.33	135.22	4960.58	295.81	-295.29	293.09	0.00	420063.47	631942.63	N 32.154494	W 104.040556
	5100.00	11.33	135.22	5058.63	309.77	-309.24	306.93	0.00	420049.53	631956.47	N 32.154456	W 104.040511
	5200.00	11.33	135.22	5156.68	323.74	-323.18	320.77	0.00	420035.58	631970.31	N 32.154417	W 104.040467
	5300.00	11.33	135.22	5254.73	337.71	-337.13	334.61	0.00	420021.64	631984.15	N 32.154379	W 104.040422
	5341.38	11.33	135.22	5295.31	343.49	-342.90	340.33	0.00	420015.87	631998.88	N 32.154340	W 104.040404
Brushy Canyon Lower	5400.00	11.33	135.22	5352.79	351.68	-351.07	348.45	0.00	420007.70	631999.99	N 32.154300	W 104.040378
	5500.00	11.33	135.22	5450.84	365.65	-365.02	362.29	0.00	419993.75	632011.83	N 32.154260	W 104.040333
	5600.00	11.33	135.22	5548.89	379.62	-378.95	376.13	0.00	419979.81	632025.67	N 32.154220	W 104.040288
	5700.00	11.33	135.22	5646.94	393.58	-392.90	389.97	0.00	419965.87	632039.50	N 32.154180	W 104.040244
	5800.00	11.33	135.22	5744.99	407.55	-406.85	403.81	0.00	419951.92	632053.34	N 32.154140	W 104.040199
	5900.00	11.33	135.22	5843.04	421.52	-420.79	417.65	0.00	419937.98	632067.18	N 32.154100	W 104.040155
	6000.00	11.33	135.22	5941.09	435.49	-434.74	431.49	0.00	419924.04	632081.02	N 32.154060	W 104.040110
	6100.00	11.33	135.22	6039.14	449.46	-448.68	445.33	0.00	419910.10	632094.86	N 32.154020	W 104.040065
	6200.00	11.33	135.22	6137.19	463.43	-462.63	459.17	0.00	419896.15	632108.70	N 32.153980	W 104.040021
	6252.48	11.33	135.22	6188.65	470.76	-469.94	466.43	0.00	419888.83	632115.96	N 32.154013	W 104.039997
Bone Sprino	6300.00	11.33	135.22	6235.24	477.40	-476.57	473.01	0.00				

Comments	MD (ft)	Incl (°)	Azim (°)	Grid (ft)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
BS "A" Shale	6600.00	11.33	135.22	6529.40	519.30	-518.40	514.53	0.00	419840.38	632164.05	N 32.153878	W 104.039843	
	6613.21	11.33	135.22	6542.35	521.15	-520.25	516.36	0.00	419838.54	632165.88	N 32.153874	W 104.039837	
	6700.00	11.33	135.22	6627.45	533.27	-532.35	528.37	0.00	419826.44	632177.89	N 32.153841	W 104.039788	
	6800.00	11.33	135.22	6725.50	547.24	-546.29	542.21	0.00	419812.49	632191.73	N 32.153802	W 104.039753	
	6900.00	11.33	135.22	6823.55	561.21	-560.24	556.05	0.00	419798.55	632205.57	N 32.153764	W 104.039709	
	7000.00	11.33	135.22	6921.80	575.18	-574.18	560.89	0.00	419784.61	632219.41	N 32.153726	W 104.039664	
	7100.00	11.33	135.22	7019.85	589.14	-588.13	553.73	0.00	419770.66	632233.25	N 32.153687	W 104.039620	
	7165.01	11.33	135.22	7083.40	598.22	-597.19	592.73	0.00	419761.60	632242.25	N 32.153662	W 104.039591	
	7200.00	11.33	135.22	7117.70	603.11	-602.67	597.57	0.00	419756.72	632247.09	N 32.153649	W 104.039575	
	7300.00	11.33	135.22	7215.76	617.08	-616.01	611.41	0.00	419742.78	632260.93	N 32.153610	W 104.039530	
1st BS SS	7400.00	11.33	135.22	7313.81	631.05	-629.96	625.25	0.00	419728.83	632274.77	N 32.153572	W 104.039486	
	7456.18	11.33	135.22	7368.89	638.00	-637.79	633.02	0.00	419721.00	632282.54	N 32.153550	W 104.039461	
	7500.00	11.33	135.22	7411.86	645.02	-643.90	639.09	0.00	419714.89	632288.60	N 32.153533	W 104.039441	
	7600.00	11.33	135.22	7509.81	658.99	-657.85	652.93	0.00	419700.85	632302.44	N 32.153495	W 104.039397	
	7700.00	11.33	135.22	7607.86	672.95	-671.79	666.77	0.00	419687.00	632316.28	N 32.153457	W 104.039352	
	7800.00	11.33	135.22	7706.01	686.92	-685.74	680.61	0.00	419673.06	632330.12	N 32.153418	W 104.039307	
	7900.00	11.33	135.22	7804.08	700.89	-699.68	694.45	0.00	419659.12	632343.96	N 32.153380	W 104.039263	
	8000.00	11.33	135.22	7902.11	714.86	-713.62	708.29	0.00	419645.18	632357.80	N 32.153341	W 104.039218	
	8100.00	11.33	135.22	8000.16	728.83	-727.57	722.13	0.00	419631.23	632371.64	N 32.153303	W 104.039174	
	8200.00	11.33	135.22	8098.21	742.80	-741.51	735.97	0.00	419617.29	632385.48	N 32.153265	W 104.039129	
2nd BS SS	8277.68	11.33	135.22	8174.38	753.65	-752.35	748.72	0.00	419606.46	632396.23	N 32.153236	W 104.039094	
	8300.00	11.33	135.22	8196.27	758.77	-755.46	749.81	0.00	419603.35	632399.32	N 32.153228	W 104.039084	
	8400.00	11.33	135.22	8294.32	770.73	-769.40	763.65	0.00	419589.40	632413.16	N 32.153187	W 104.039040	
	8500.00	11.33	135.22	8392.37	784.70	-783.35	777.49	0.00	419575.46	632426.99	N 32.153149	W 104.038995	
	8600.00	11.33	135.22	8490.42	798.67	-797.29	791.33	0.00	419561.52	632440.83	N 32.153111	W 104.038951	
	8700.00	11.33	135.22	8588.47	812.64	-811.23	805.17	0.00	419547.57	632454.67	N 32.153072	W 104.038906	
	8800.00	11.33	135.22	8686.52	826.61	-825.18	819.01	0.00	419533.63	632468.51	N 32.153034	W 104.038861	
	8900.00	11.33	135.22	8784.57	840.58	-839.12	832.85	0.00	419519.69	632482.35	N 32.152995	W 104.038817	
	8947.20	11.33	135.22	8830.85	847.77	-845.71	839.38	0.00	419513.11	632488.88	N 32.152977	W 104.038796	
	9000.00	11.33	135.22	8882.62	854.54	-853.07	845.69	0.00	419505.74	632496.19	N 32.152957	W 104.038772	
3rd BS SS	9100.00	11.33	135.22	8980.67	868.51	-867.01	860.53	0.00	419491.80	632510.03	N 32.152916	W 104.038728	
	9200.00	11.33	135.22	9078.73	882.48	-880.98	874.37	0.00	419477.86	632523.87	N 32.152880	W 104.038683	
	9300.00	11.33	135.22	9176.78	896.45	-894.90	888.21	0.00	419463.91	632537.71	N 32.152842	W 104.038638	
	9400.00	11.33	135.22	9274.83	910.42	-908.85	902.05	0.00	419449.97	632551.54	N 32.152803	W 104.038594	
	9417.54	11.33	135.22	9292.03	912.87	-911.29	904.48	0.00	419447.52	632553.97	N 32.152790	W 104.038588	
	9500.00	11.33	135.22	9372.88	924.39	-922.79	915.89	0.00	419436.03	632565.38	N 32.152765	W 104.038549	
	9600.00	11.33	135.22	9470.93	938.36	-936.73	929.73	0.00	419422.08	632579.22	N 32.152726	W 104.038505	
	KOP, Build 10"/100ft	11.33	135.22	9495.09	941.80	-940.17	933.14	0.00	419418.65	632582.63	N 32.152717	W 104.038494	
	9700.00	18.87	135.22	9587.80	955.74	-954.09	948.96	10.00	419404.73	632596.45	N 32.152678	W 104.038449	
	9800.00	28.87	135.22	9659.13	984.47	-982.77	975.42	10.00	419376.05	632624.91	N 32.152599	W 104.038357	
Wolfcamp A	9813.47	30.21	135.22	9670.85	989.20	-987.49	980.10	10.00	419371.34	632629.59	N 32.152586	W 104.038342	
	9840.05	32.87	135.22	9693.59	999.08	-997.35	989.90	10.00	419361.47	632639.38	N 32.152559	W 104.038311	
	9900.00	38.87	135.22	9742.06	1024.04	-1022.27	1014.63	10.00	419335.55	632664.12	N 32.152491	W 104.038231	
	9938.34	42.50	135.22	9789.61	1040.88	-1039.08	1031.32	10.00	419319.74	632680.80	N 32.152444	W 104.038177	
	10000.00	48.87	135.22	9814.06	1073.25	-1071.40	1063.38	10.00	419287.43	632712.87	N 32.152355	W 104.038074	
	10100.00	58.87	135.22	9872.95	1130.60	-1128.65	1120.21	10.00	419230.19	632769.68	N 32.152197	W 104.037891	
	10200.00	68.87	135.22	9916.94	1184.35	-1192.29	1183.37	10.00	419166.55	632832.84	N 32.152022	W 104.037687	
	Section 1-12 Line Cross	10250.95	73.96	135.22	9933.18	1228.67	-1226.55	1217.38	10.00	419132.29	632866.85	N 32.151928	W 104.037578
	10261.34	75.00	135.22	9935.96	1235.79	-1233.65	1224.43	10.00	419125.19	632873.90	N 32.151908	W 104.037555	
	10300.00	76.93	135.22	9945.33	1262.46	-1260.27	1250.85	5.00	419098.57	632900.32	N 32.151835	W 104.037470	
Wolfcamp X	10400.00	81.93	135.22	9983.66	1332.33	-1330.02	1320.08	5.00	419028.83	632969.54	N 32.151642	W 104.037247	
	10500.00	88.93	135.22	9973.36	1403.07	-1400.64	1390.17	5.00	418958.21	633039.62	N 32.151448	W 104.037021	
	10581.34	90.00	135.22	9975.00	1446.65	-1444.16	1433.36	5.00	418914.71	633082.81	N 32.151326	W 104.036882	
	Landing Point Cimarex												
	Riverbend 12-13 Federal Com 2H - IFP1, Turn 4"/100ft	10584.14	90.00	135.22	9975.00	1462.87	-1460.34	1449.42	0.00	418898.52	633098.87	N 32.151283	W 104.036830
	10600.00	90.00	135.85	9975.00	1474.21	-1471.66	1460.53	4.00	418867.20	633109.98	N 32.151252	W 104.036794	
	10700.00	90.00	139.85	9975.00	1548.45	-1545.78	1527.63	4.00	418813.09	633177.07	N 32.151048	W 104.036578	
	330ft Hardline Cross	10720.89	90.00	140.69	9975.00	1564.54	-1561.85	1540.98	4.00	418797.02	633190.42	N 32.151003	W 104.036535
	10800.00	90.00	143.85	9975.00	1627.18	-1624.41	1599.39	4.00	418734.47	633238.62	N 32.150831	W 104.036379	
	10900.00	90.00	147.85	9975.00	1710.91	-1707.15	1645.51	4.00	418651.74	633294.94	N 32.150603	W 104.036199	
Cimarex Riverbend 12-13 Federal Com 2H - IFP2	11000.00	90.00	151.85	9975.00	1798.58	-1793.60	1695.73	4.00	418565.29	633345.16	N 32.150365	W 104.036037	
	11100.00	90.00	155.85	9975.00	1880.38	-1883.34	1739.79	4.00	418475.55	633389.22	N 32.150118	W 104.035896	
	11200.00	90.00	159.85	9975.00	1979.04	-1975.95	1777.49	4.00	418382.86	633426.81	N 32.149863	W 104.035775	
	11300.00	90.00	163.85	9975.00	2074.10	-2070.95	1808.63	4.00	418287.98	633458.05	N 32.149602	W 104.035675	
	11400.00	90.00	167.85	9975.00	2171.09	-2167.90	1833.08	4.00	418191.03	633482.49	N 32.149335	W 104.035597	
	11500.00	90.00	171.85	9975.00	2268.54	-2266.31	1850.70	4.00	418092.62	633500.11	N 32.149065	W 104.035541	
	11600.00	90.00	175.85	9975.00	2368.96	-2365.71	1861.41	4.00	417993.22	633518.82	N 32.148791	W 104.035507	
	11700.00	90.00	179.85	9975.00	2468.88	-2465.62	1865.16	4.00	417893.32	633514.57	N 32.148517	W 104.035496	
	11701.27	90.00	179.90	9975.00	2470.15	-2468.90	1865.16	4.00	417892.05	633514.58	N 32.148513	W 104.035495	
	11800.00	90.00	179.90	9975.00	2568.88	-2565.62	1865.33	0.00	417793.33	633514.75	N 32.148242	W 104.035496	
Cimarex Riverbend 12-13 Federal Com 2H - IFP2	11900.00	90.00	179.90	9975.00	2668.88	-2665.62	1865.51	0.00	417693.34	633514.92	N 32.147967	W 104.035497	
	12000.00	90.00	179.90	9975.00	2768.88	-2765.62	1865.68	0.00	417593.35	633515.09	N 32.147692	W 104.035497	
	12100.00	90.00	179.90	9975.00	2868.88	-2865.62	1865.85	0.00	417493.36	633515.27	N 32.147417	W 104.035497	
	12200.00	90.00	179.90	9975.00	2968.88	-2965.62	1866.03	0.00	417393.36	633515.44	N 32.147142	W 104.035498	
	12300.00	90.00	179.90	9975.00	3068.88	-3065.62	1866.20	0.00	417293.37	633515.62	N 32.146866		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °)	Longitude (E/W °)
	14800.00	90.00	179.90	9975.00	5568.88	-5565.62	1870.54	0.00	414793.59	633519.86	N 32.139996	W 104.035506
	14900.00	90.00	179.90	9975.00	5668.88	-5665.62	1870.72	0.00	414693.59	633520.13	N 32.139721	W 104.035507
	15000.00	90.00	179.90	9975.00	5768.88	-5765.62	1870.89	0.00	414593.60	633520.30	N 32.139446	W 104.035507
	15100.00	90.00	179.90	9975.00	5868.88	-5865.62	1871.06	0.00	414493.61	633520.48	N 32.139171	W 104.035507
	15200.00	90.00	179.90	9975.00	5968.88	-5965.62	1871.24	0.00	414393.62	633520.65	N 32.138896	W 104.035508
	15300.00	90.00	179.90	9975.00	6068.88	-6065.62	1871.41	0.00	414293.63	633520.83	N 32.138622	W 104.035508
	15400.00	90.00	179.90	9975.00	6168.88	-6165.62	1871.59	0.00	414193.64	633521.00	N 32.138347	W 104.035508
	15500.00	90.00	179.90	9975.00	6268.88	-6265.62	1871.76	0.00	414093.65	633521.17	N 32.138072	W 104.035509
	15600.00	90.00	179.90	9975.00	6368.88	-6365.62	1871.93	0.00	413993.65	633521.35	N 32.137797	W 104.035509
	15700.00	90.00	179.90	9975.00	6468.88	-6465.62	1872.11	0.00	413893.66	633521.52	N 32.137522	W 104.035509
Section 12-13 Line Cross	15791.68	90.00	179.90	9975.00	6560.56	-6557.30	1872.27	0.00	413801.99	633521.68	N 32.137270	W 104.035510
	15800.00	90.00	179.90	9975.00	6568.88	-6565.62	1872.28	0.00	413793.67	633521.69	N 32.137247	W 104.035510
	15900.00	90.00	179.90	9975.00	6668.88	-6665.62	1872.45	0.00	413693.68	633521.87	N 32.136972	W 104.035510
	16000.00	90.00	179.90	9975.00	6768.88	-6765.62	1872.63	0.00	413593.69	633522.04	N 32.136697	W 104.035510
	16100.00	90.00	179.90	9975.00	6868.88	-6865.62	1872.80	0.00	413493.70	633522.22	N 32.136423	W 104.035511
	16200.00	90.00	179.90	9975.00	6968.88	-6965.62	1872.98	0.00	413393.70	633522.39	N 32.136148	W 104.035511
	16300.00	90.00	179.90	9975.00	7068.88	-7065.62	1873.15	0.00	413293.71	633522.56	N 32.135873	W 104.035511
	16400.00	90.00	179.90	9975.00	7168.88	-7165.62	1873.32	0.00	413193.72	633522.74	N 32.135598	W 104.035512
	16500.00	90.00	179.90	9975.00	7268.88	-7265.62	1873.50	0.00	413093.73	633522.91	N 32.135323	W 104.035512
	16600.00	90.00	179.90	9975.00	7368.88	-7365.62	1873.67	0.00	412993.74	633523.09	N 32.135048	W 104.035513
	16700.00	90.00	179.90	9975.00	7468.88	-7465.62	1873.84	0.00	412893.75	633523.26	N 32.134773	W 104.035513
	16800.00	90.00	179.90	9975.00	7568.88	-7565.62	1874.02	0.00	412793.76	633523.43	N 32.134498	W 104.035513
	16900.00	90.00	179.90	9975.00	7668.88	-7665.62	1874.19	0.00	412693.76	633523.60	N 32.134224	W 104.035513
	17000.00	90.00	179.90	9975.00	7768.88	-7765.62	1874.37	0.00	412593.77	633523.78	N 32.133949	W 104.035514
	17100.00	90.00	179.90	9975.00	7868.88	-7865.62	1874.54	0.00	412493.78	633523.95	N 32.133674	W 104.035514
	17200.00	90.00	179.90	9975.00	7968.88	-7965.62	1874.71	0.00	412393.79	633524.13	N 32.133399	W 104.035514
	17300.00	90.00	179.90	9975.00	8068.88	-8065.62	1874.89	0.00	412293.80	633524.30	N 32.133124	W 104.035515
	17400.00	90.00	179.90	9975.00	8168.88	-8165.62	1875.06	0.00	412193.81	633524.47	N 32.132849	W 104.035515
	17500.00	90.00	179.90	9975.00	8268.88	-8265.62	1875.23	0.00	412093.82	633524.65	N 32.132574	W 104.035515
	17600.00	90.00	179.90	9975.00	8368.88	-8365.62	1875.41	0.00	411993.82	633524.82	N 32.132300	W 104.035516
	17700.00	90.00	179.90	9975.00	8468.88	-8465.62	1875.58	0.00	411893.83	633525.00	N 32.132025	W 104.035516
	17800.00	90.00	179.90	9975.00	8568.88	-8565.62	1875.75	0.00	411793.84	633525.17	N 32.131750	W 104.035516
	17900.00	90.00	179.90	9975.00	8668.88	-8665.61	1875.93	0.00	411693.85	633525.34	N 32.131475	W 104.035517
	18000.00	90.00	179.90	9975.00	8768.88	-8765.61	1876.10	0.00	411593.86	633525.52	N 32.131200	W 104.035517
	18100.00	90.00	179.90	9975.00	8868.88	-8865.61	1876.28	0.00	411493.87	633525.69	N 32.130925	W 104.035517
	18200.00	90.00	179.90	9975.00	8968.88	-8965.61	1876.45	0.00	411393.87	633525.86	N 32.130650	W 104.035518
	18300.00	90.00	179.90	9975.00	9068.88	-9065.61	1876.62	0.00	411293.88	633526.04	N 32.130375	W 104.035518
	18400.00	90.00	179.90	9975.00	9168.88	-9165.61	1876.80	0.00	411193.89	633526.21	N 32.130101	W 104.035518
	18500.00	90.00	179.90	9975.00	9268.88	-9265.61	1876.97	0.00	411093.90	633526.38	N 32.129826	W 104.035519
	18600.00	90.00	179.90	9975.00	9368.88	-9365.61	1877.14	0.00	410993.91	633526.56	N 32.129551	W 104.035519
	18700.00	90.00	179.90	9975.00	9468.88	-9465.61	1877.32	0.00	410893.92	633526.73	N 32.129276	W 104.035519
	18800.00	90.00	179.90	9975.00	9568.88	-9565.61	1877.49	0.00	410793.93	633526.90	N 32.129001	W 104.035520
	18900.00	90.00	179.90	9975.00	9668.88	-9665.61	1877.67	0.00	410693.93	633527.08	N 32.128726	W 104.035520
	19000.00	90.00	179.90	9975.00	9768.88	-9765.61	1877.84	0.00	410593.94	633527.25	N 32.128451	W 104.035520
	19100.00	90.00	179.90	9975.00	9868.88	-9865.61	1878.01	0.00	410493.95	633527.43	N 32.128177	W 104.035521
	19200.00	90.00	179.90	9975.00	9968.88	-9965.61	1878.19	0.00	410393.96	633527.60	N 32.127902	W 104.035521
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	19500.00	90.00	179.90	9975.00	10268.88	-10265.61	1878.71	0.00	410093.99	633528.12	N 32.127077	W 104.035522
	19600.00	90.00	179.90	9975.00	10368.88	-10365.61	1878.88	0.00	409993.99	633528.29	N 32.126802	W 104.035522
	19700.00	90.00	179.90	9975.00	10468.88	-10465.61	1879.05	0.00	409894.00	633528.47	N 32.126527	W 104.035523
	19800.00	90.00	179.90	9975.00	10568.88	-10565.61	1879.23	0.00	409794.01	633528.64	N 32.126252	W 104.035523
	19900.00	90.00	179.90	9975.00	10668.88	-10665.61	1879.40	0.00	409694.02	633528.82	N 32.125977	W 104.035523
	20000.00	90.00	179.90	9975.00	10768.88	-10765.61	1879.58	0.00	409594.03	633528.99	N 32.125702	W 104.035524
	20100.00	90.00	179.90	9975.00	10868.88	-10865.61	1879.75	0.00	409494.04	633529.16	N 32.125427	W 104.035524
	20200.00	90.00	179.90	9975.00	10968.88	-10965.61	1879.92	0.00	409394.04	633529.34	N 32.125152	W 104.035524
	20300.00	90.00	179.90	9975.00	11068.88	-11065.61	1880.10	0.00	409294.05	633529.51	N 32.124877	W 104.035525
	20400.00	90.00	179.90	9975.00	11168.88	-11165.61	1880.27	0.00	409194.06	633529.68	N 32.124602	W 104.035525
	20500.00	90.00	179.90	9975.00	11268.88	-11265.61	1880.44	0.00	409094.07	633529.86	N 32.124327	W 104.035525
	20600.00	90.00	179.90	9975.00	11368.88	-11365.61	1880.62	0.00	408994.08	633530.03	N 32.124053	W 104.035526
	20700.00	90.00	179.90	9975.00	11468.88	-11465.61	1880.79	0.00	408894.09	633530.20	N 32.123779	W 104.035526
Cimarex Riverbend 12-13 Federal Com 2H - BHL [330' FSL 995' FEL]	20760.73	90.00	179.90	9975.00	11520.51	-11526.34	1880.90	0.00	408833.36	633530.31	N 32.123612	W 104.035526

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 *** 3-D 95.000% Confidence 2.7655 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	23.000	1/100.000	17.500	13.375		A001Mb_MWD-Depth Only	Cimarex Riverbend 12-13 Federal Com 2H / Cimarex Riverbend 12-13 Federal
	1	23.000	9600.000	1/100.000	17.500	13.375		A001Mb_MWD	Cimarex Riverbend 12-13 Federal Com 2H / Cimarex Riverbend 12-13 Federal
	1	9600.000	20760.733	1/100.000	17.500	13.375		A008Mb_MWD+IFR1+MS	Cimarex Riverbend 12-13 Federal Com 2H / Cimarex Riverbend 12-13 Federal

...Cimarex Riverbend 12-13 Federal Com 2H/Cimarex Riverbend 12-13 Federal Com 2H Rev5 kFC 03Oct22

Corehole:	Well:
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Well:

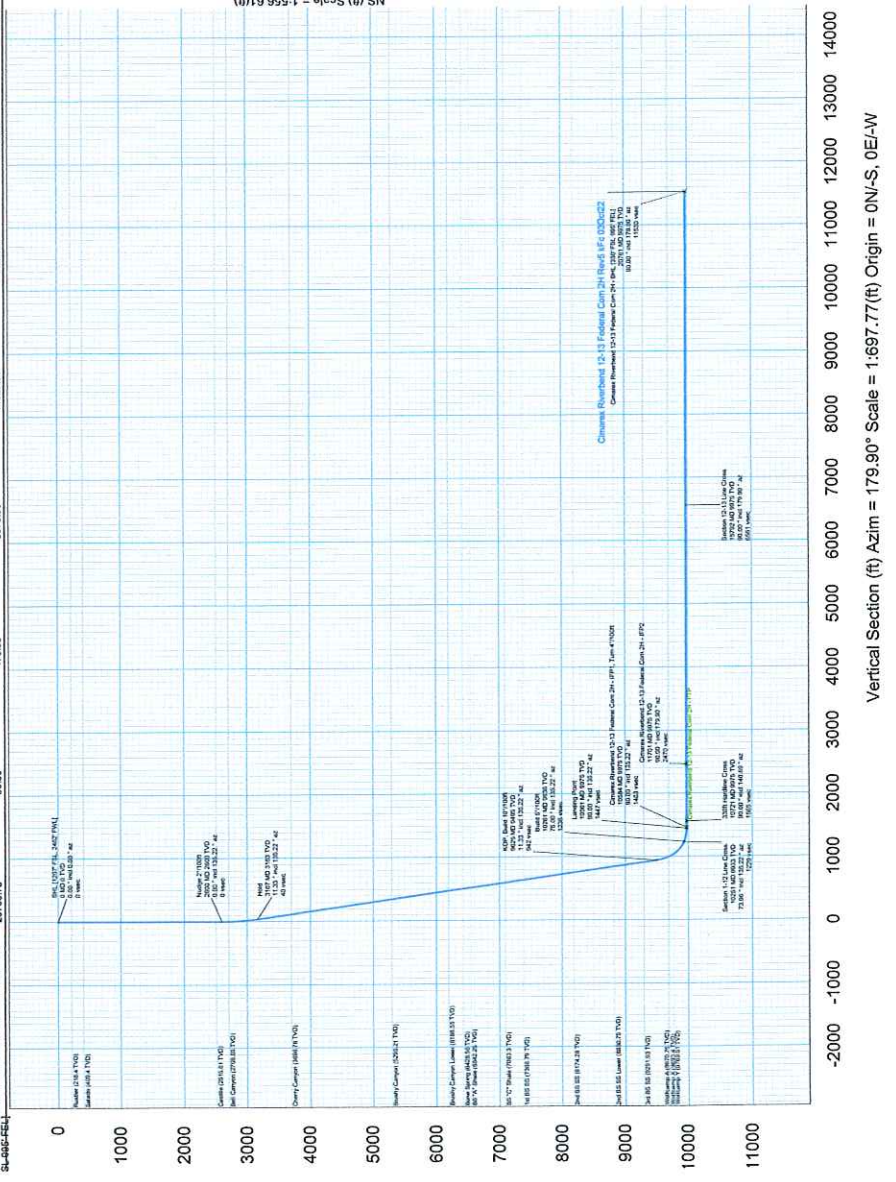
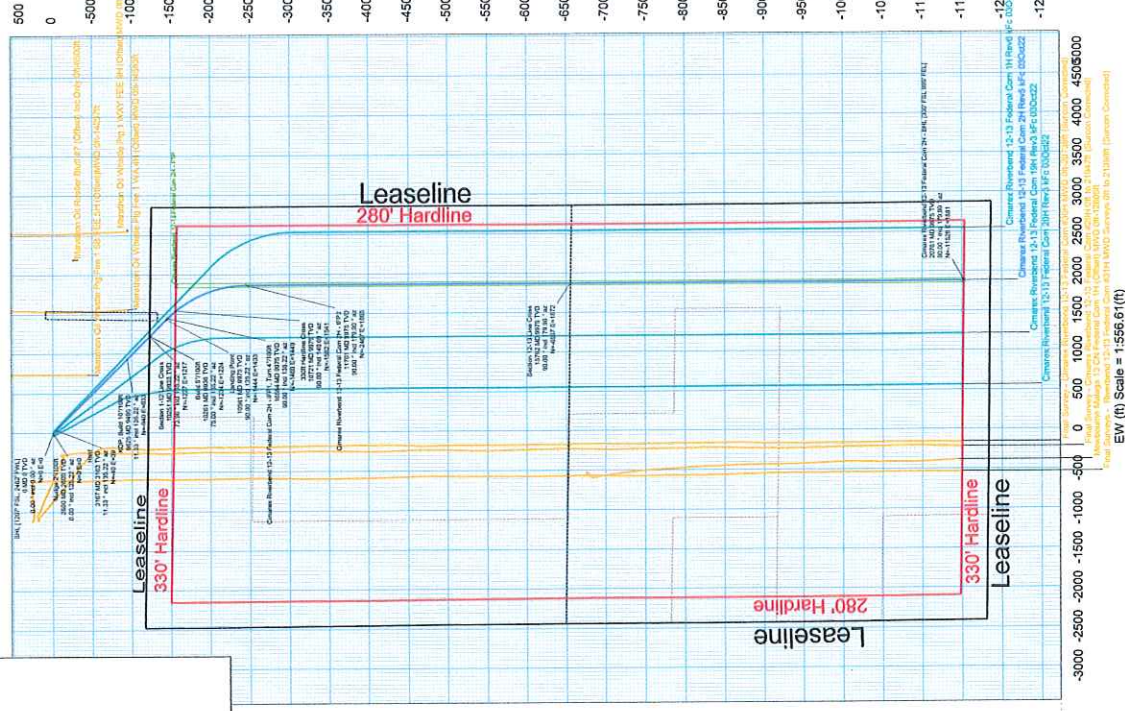
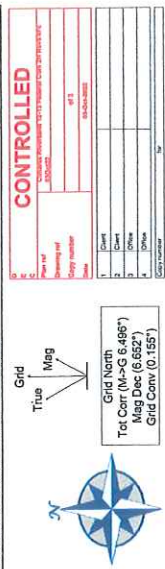
Field:

Structure:

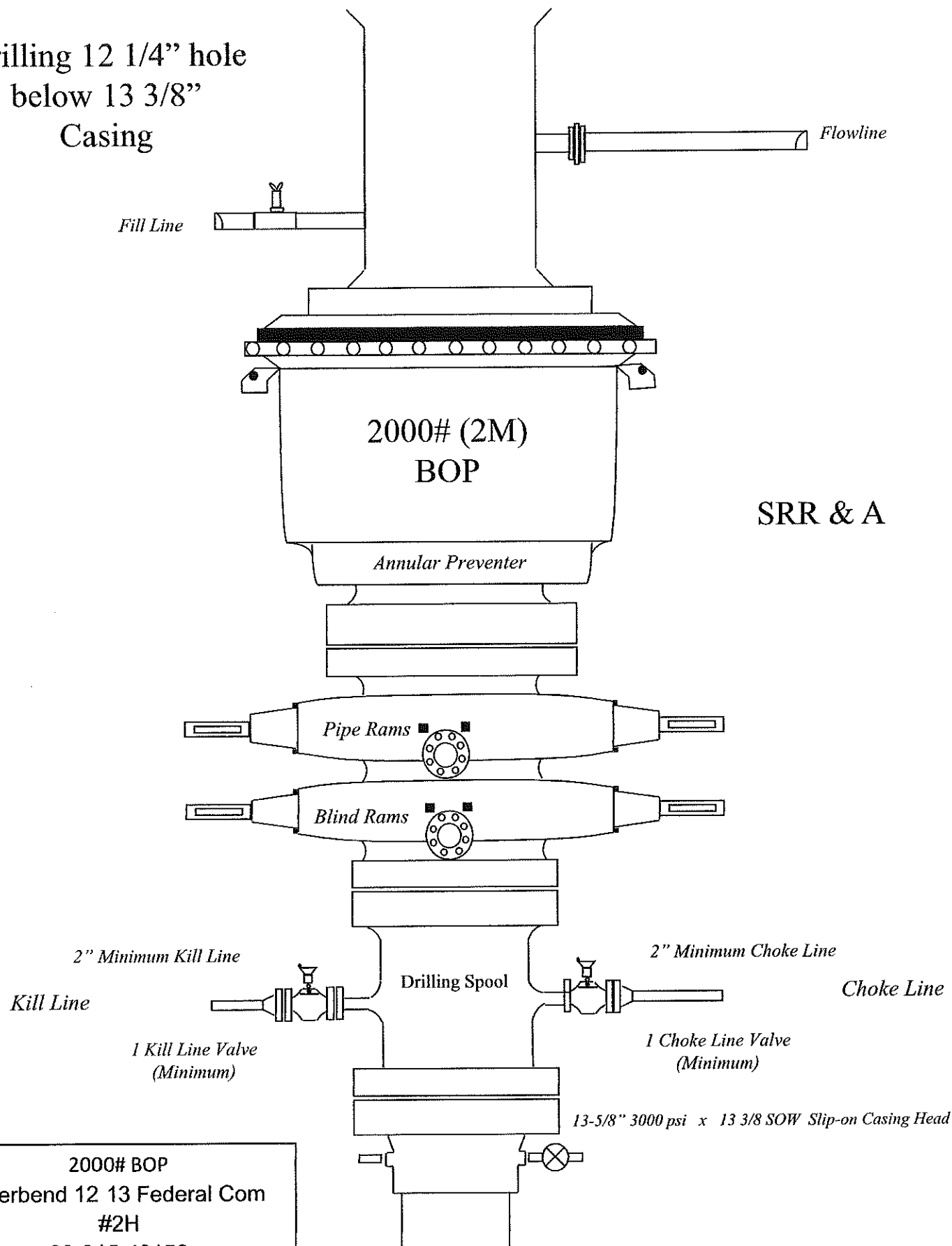
Cimarex Riverbend 12-13 Federal Com 2H

NM Eddy County (NAD 83)

Cimarex Riverbend 12-13 Federal Com 2H

[illegible][illegible]

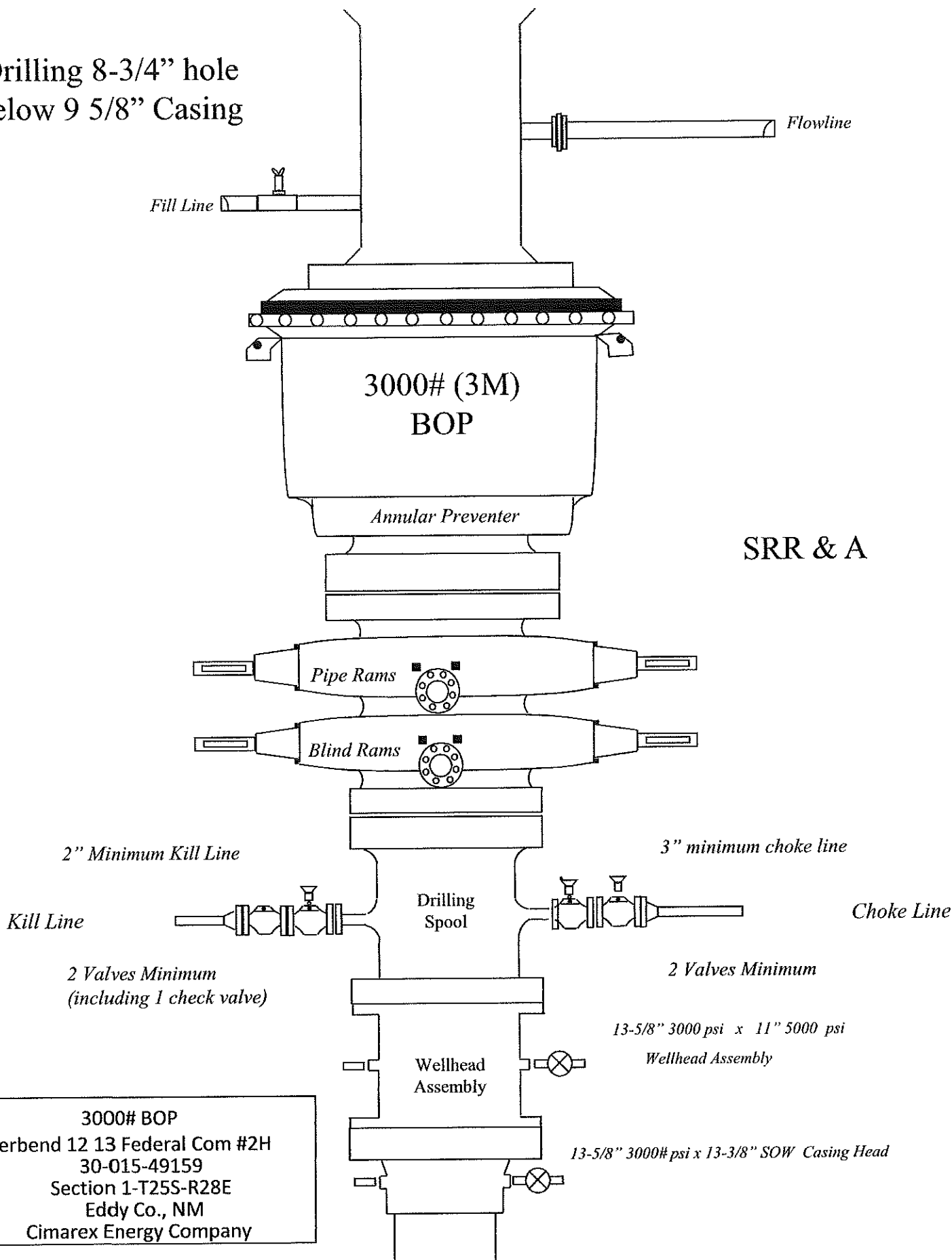
Drilling 12 1/4" hole
below 13 3/8"
Casing



SRR & A

2000# BOP
Riverbend 12 13 Federal Com
#2H
30-015-49159
Section 1-T25S-R28E
Eddy Co., NM
Cimarex Energy Co.

Drilling 8-3/4" hole
below 9 5/8" Casing



3000# BOP
Riverbend 12 13 Federal Com #2H
30-015-49159
Section 1-T25S-R28E
Eddy Co., NM
Cimarex Energy Company

Drilling 6" Hole
below 7" Casing

5M Annular Preventer

10M Double
Ram BOP

Pipe Rams

Blind Rams

2" Kill Line Valves (2)
with Check Valve

3" Manual Choke Valve
and 3" HCR Valve

2" Kill Line

3" Choke Line

10M Single
Ram BOP

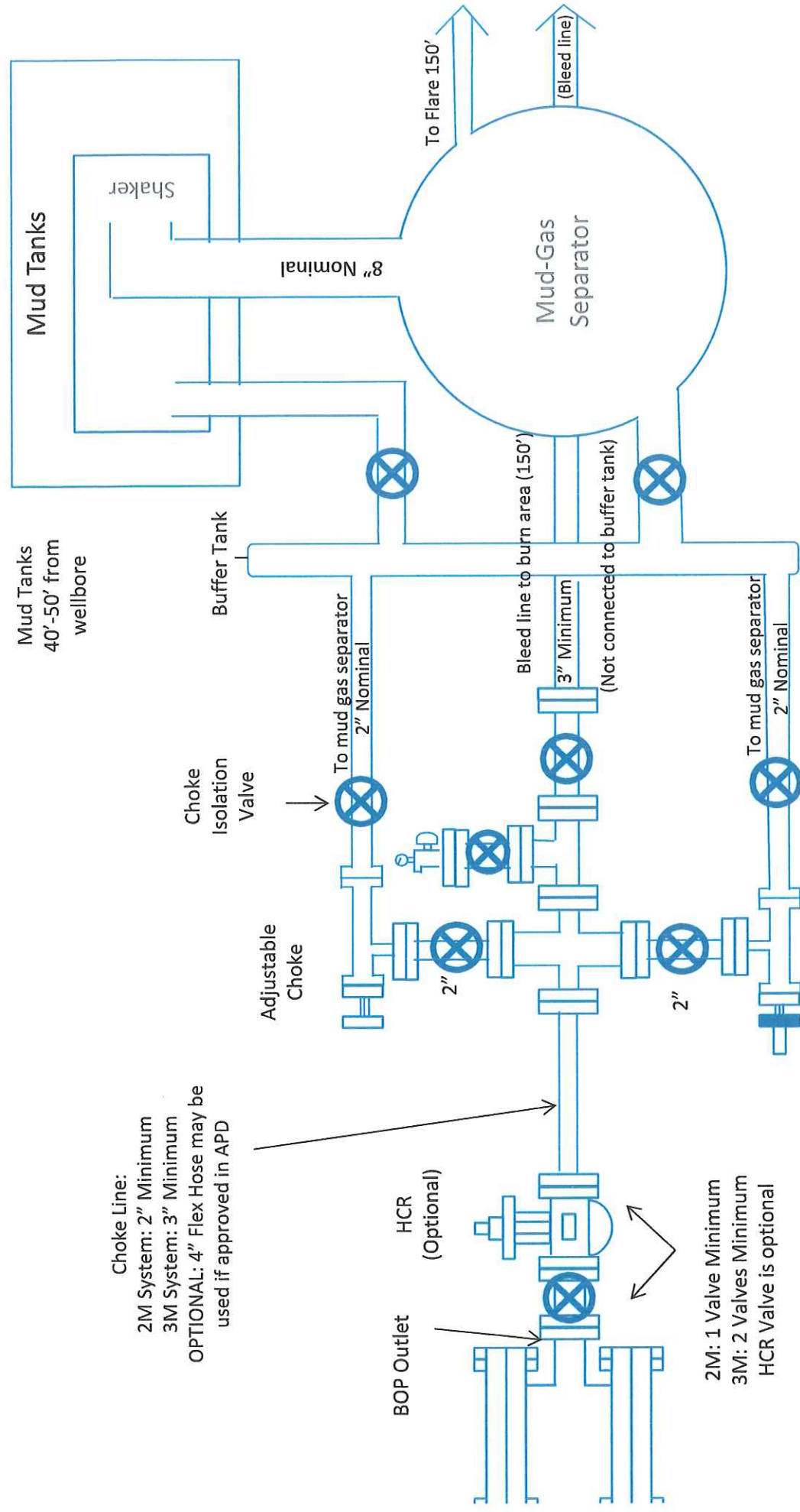
Pipe Rams

10,000# BOP
Riverbend 12 13 Federal Com #2H
30-015-49159
Section 1-T25S-R28
Eddy Co., NM
Cimarex Energy Company

11" 10M x 13-5/8"
5M Casing Spool

13-5/8" 5M x
13-3/8" SOW
Wellhead

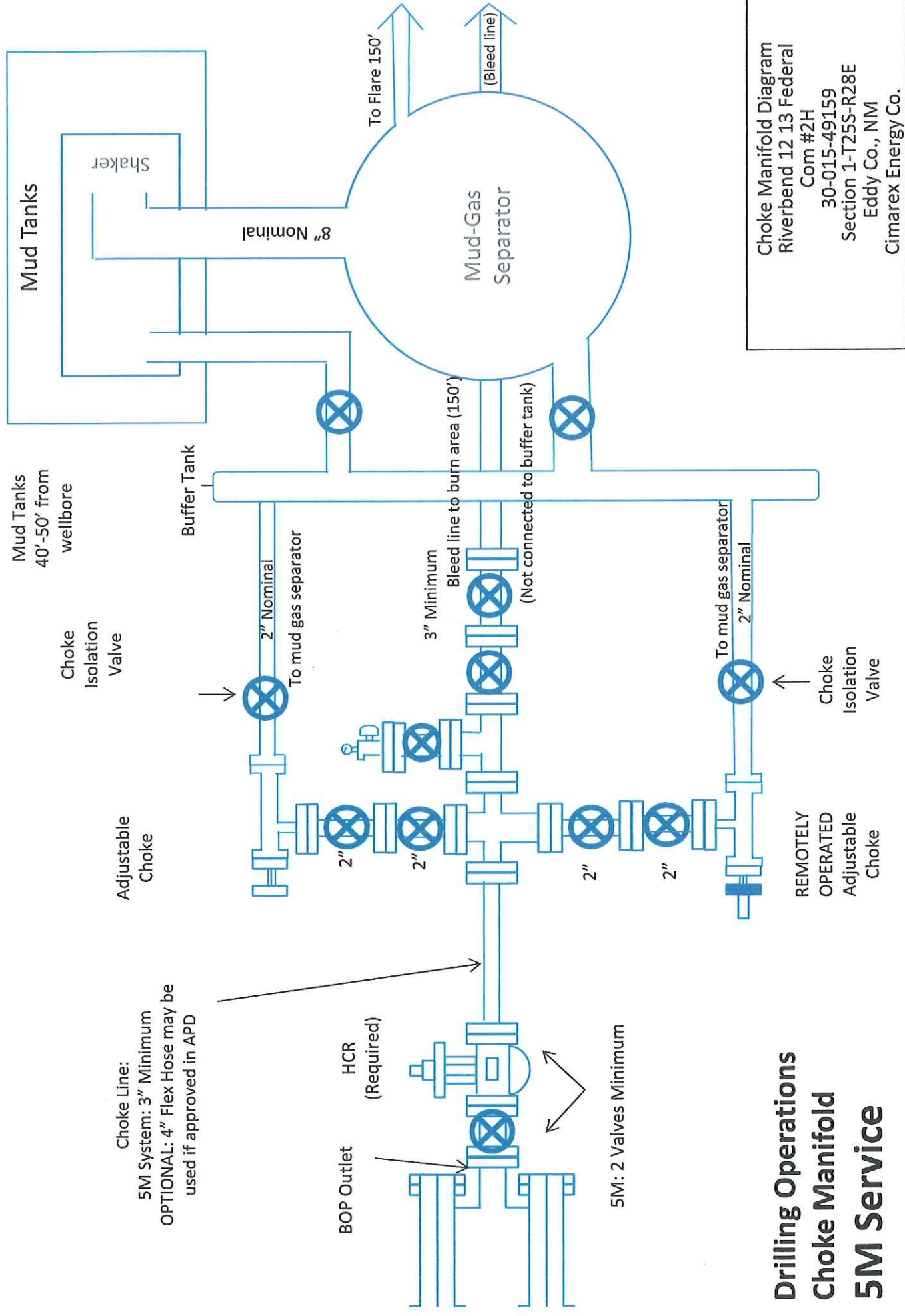
MAREX ENERGY COMPANY



**Drilling Operations
Choke Manifold
2M/3M Service**

Choke Manifold Diagram
Riverbend 12 13 Federal Com
#2H
30-015-49159
Eddy Co., NM

CIMAREX ENERGY COMPANY





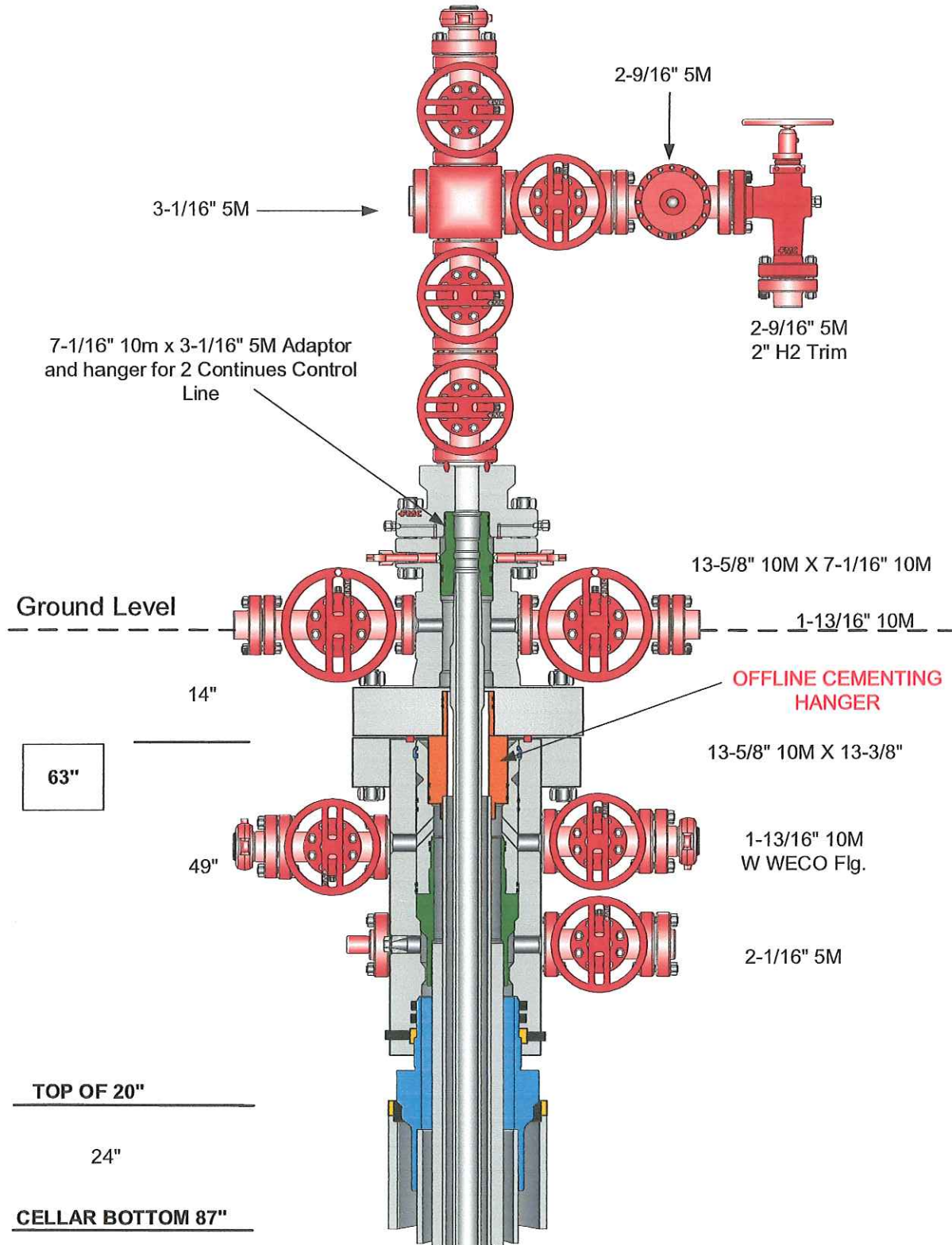
Riverbend 12 13 Federal Com #2H - 30-015-49159

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	267	267	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	6.40	14.96	25.12
12 1/4	0	2717	2717	9-5/8"	36.00	J-55	LT&C	1.40	2.44	4.63
8 3/4	0	9625	9625	7"	29.00	L-80	LT&C	1.48	1.72	2.04
8 3/4	9625	10261	9936	7"	29.00	P-110	BT&C	1.74	2.29	103.00
6	8625	20761	9975	4-1/2"	11.60	P-110	LT&C	1.33	1.87	17.82
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

EDDY CO., NM

TVD was used on all calculations.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 228282

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 228282
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Original COA's still apply.	10/23/2023