



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

Sundry Print Report

05/15/2023

Well Name: RIVERBEND 11-14 FEDERAL COM	Well Location: T25S / R28E / SEC 11 / NENW /	County or Parish/State:
Well Number: 15H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM16104	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549919	Well Status: Approved Application for Permit to Drill	Operator: CIMAREX ENERGY COMPANY

Notice of Intent

Sundry ID: 2697260

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 10/11/2022

Time Sundry Submitted: 10:41

Date proposed operation will begin: 01/01/2023

Procedure Description: Cimarex Energy Company respectfully requests approval to make changes to the approved APD as follows: 1. Change proposed TD and formation as follows: FROM: 18393' MD; 8700' TVD - Bone Spring TO: 19303' MD; 9652' TVD - Wolfcamp 2. The proposed pool will change from San Lorenzo North; Bone Spring (53610) to Purple Sage Wolfcamp (Gas) (98220) 3. The casing and cement program will change and is in the attached updated drilling plan, along with a separate sheet showing these changes. 4. Cimarex Energy Company respectfully requests approval for off-line cementing and 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 C-102, drilling plan and directional survey are attached.

NOI Attachments

Procedure Description

Addition_to_sundry_notice_20230109061145.docx

Sundry_attachments_20221011104018.pdf

Well Name: RIVERBEND 11-14 FEDERAL COM	Well Location: T25S / R28E / SEC 11 / NENW /	County or Parish/State:
Well Number: 15H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM16104	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549919	Well Status: Approved Application for Permit to Drill	Operator: CIMAREX ENERGY COMPANY

Conditions of Approval

Specialist Review

RIVERBEND_11_14_FED_COM_15H_COA_20230512123542.pdf

Additional

RIVERBEND_11_14_FED_COM_15H_COA_20230511102954.pdf

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: JAN 09, 2023 06:11 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 Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 05/15/2023

Signature: Chris Walls

CIMAREX ENERGY COMPANY
RIVERBEND 11-14 FEDERAL COM #15H
30-015-49919
Section 11-T25S-R28E
Eddy County, New Mexico

ADDITION TO SUNDRY NOTICE SUBMITTED 10-11-2022:

FTP will change as follows:

FROM: 390' FNL & 2310' FWL (Unit C, NENW)
Section 11-T25S-R28E
Lat 32.150907; Long 104.059098

TO: 330' FNL & 2310' FWL (Unit C, NENW)
Section 11-T25S-R28E
Lat 32.151072; Long 104.059099

LTP will remain the same and originally permitted:

330' FSL & 2310' FWL (Unit N, SESW)
Section 14-T25S-R28E
Lat 32.123736; Long 104.059024

District I
1635 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720
District III
1000 Rio Huerfano 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 30-015-49919	² Pool Code 98220	³ Pool Name Purple Sage Wolfcamp; Gas
⁴ Property Code 321641	⁵ Property Name RIVERBEND 11-14 FEDERAL COM	⁶ Well Number 15H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 2967.3'

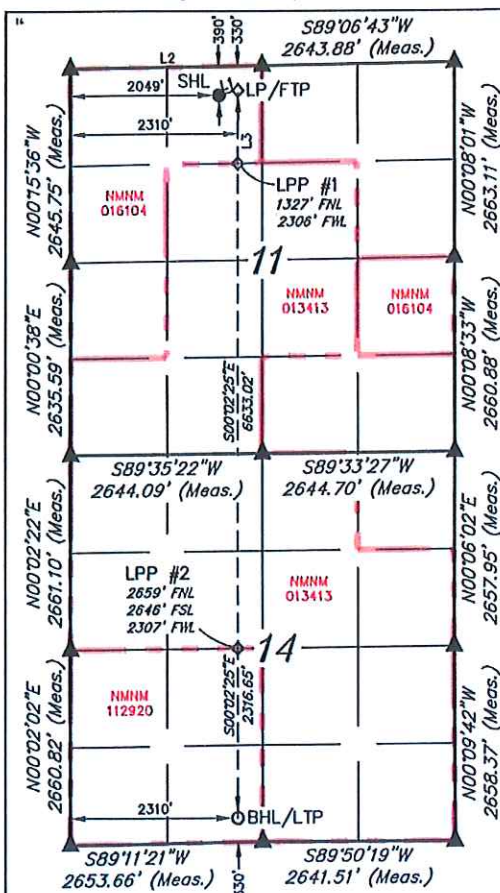
"Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	11	25S	28E		390	NORTH	2049	WEST	EDDY

"Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	14	25S	28E		330	SOUTH	2310	WEST	EDDY
¹¹ Dedicated Acres 640	¹² Joint or Infill	¹³ Consolidation Code Will be communitized	¹⁴ 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.



- = SURFACE HOLE LOCATION
- ◇ = LANDING POINT/FIRST TAKE POINT
- = BOTTOM HOLE LOCATION/
LAST TAKE POINT
- ▲ = SECTION CORNER LOCATED



SCALE
DRAWN BY: C.D. 07-29-20
REV: 3 09-27-22 D.M.C.
(LP & BHL MOVE)

NOTE:
• Distances referenced on plat to section lines are perpendicular.
• Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

LINE TABLE

LINE	DIRECTION	LENGTH
L1	N76°11'23"E	268.21'
L2	S89°06'37"W	2644.09'
L3	S00°02'25"E	996.69'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'03.22" (32.150895°)
LONGITUDE = 104°03'35.78" (104.059940°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'02.78" (32.150772°)
LONGITUDE = 104°03'34.02" (104.059451°)
STATE PLANE NAD 83 (N.M. EAST)
N: 418738.20' E: 625947.20'
STATE PLANE NAD 27 (N.M. EAST)
N: 418680.07' E: 584763.10'

NAD 83 (LPP/FTP)
LATITUDE = 32°09'03.86" (32.151072°)
LONGITUDE = 104°03'32.76" (104.059999°)
NAD 27 (LPP/FTP)
LATITUDE = 32°09'03.42" (32.150949°)
LONGITUDE = 104°03'30.99" (104.058610°)
STATE PLANE NAD 83 (N.M. EAST)
N: 418803.35' E: 626207.32'
STATE PLANE NAD 27 (N.M. EAST)
N: 418745.17' E: 585023.22'

NAD 83 (LPP #1)
LATITUDE = 32°08'54.00" (32.148133°)
LONGITUDE = 104°03'32.73" (104.059992°)
NAD 27 (LPP #1)
LATITUDE = 32°08'53.56" (32.148110°)
LONGITUDE = 104°03'30.97" (104.058602°)
STATE PLANE NAD 83 (N.M. EAST)
N: 417806.89' E: 626212.19'
STATE PLANE NAD 27 (N.M. EAST)
N: 417748.72' E: 585028.06'

NAD 83 (LPP #2)
LATITUDE = 32°07'48.37" (32.130103°)
LONGITUDE = 104°03'32.55" (104.059912°)
NAD 27 (LPP #2)
LATITUDE = 32°07'47.93" (32.129980°)
LONGITUDE = 104°03'30.79" (104.058553°)
STATE PLANE NAD 83 (N.M. EAST)
N: 411175.39' E: 626244.55'
STATE PLANE NAD 27 (N.M. EAST)
N: 411117.30' E: 585060.27'

NAD 83 (BHL/LTP)
LATITUDE = 32°07'25.45" (32.123716°)
LONGITUDE = 104°03'32.49" (104.059924°)
NAD 27 (BHL/LTP)
LATITUDE = 32°07'25.01" (32.123613°)
LONGITUDE = 104°03'30.71" (104.058536°)
STATE PLANE NAD 83 (N.M. EAST)
N: 408859.28' E: 626255.84'
STATE PLANE NAD 27 (N.M. EAST)
N: 408801.29' E: 585071.52'

**"OPERATOR
CERTIFICATION**

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

Signature *Rusty Klein* Date *10-6-2023*

Printed Name
Rusty Klein
E-mail Address
rusty.klein@coterra.com

**"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.

MARCH 03, 2017

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number:

Cimarex Energy Co., Riverbend 11-14 Federal Com 15H

1. Geological Formations

TVD of target 9,652
MD at TD 19,303

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Top of Salt	1068	N/A	
Base of Salt	2402	N/A	
Cherry Canyon	3624	Hydrocarbons	
Brushy Canyon	5198	Hydrocarbons	
Bone Spring	6361	Hydrocarbons	
1st Bone Springs	7331	Hydrocarbons	
2nd Bone Springs	7585	Hydrocarbons	
3rd Bone Springs	8414	Hydrocarbons	
Wolfcamp	9514	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	450	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.80	8.88	14.91
12 1/4	0	2580	2580	9-5/8"	36.00	J-55	LT&C	1.46	2.55	4.88
8 3/4	0	9030	9030	7"	26.00	L-80	LT&C	1.28	1.72	2.05
8 3/4	9030	10074	9609	7"	26.00	N-80	BT&C	1.20	1.61	40.12
6	8030	19303	9652	4-1/2"	11.60	P-110	BT&C	1.31	1.86	19.51
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 11-14 Federal Com 15H

	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?	Y

Cimarex Energy Co., Riverbend 11-14 Federal Com 15H

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	91	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	494	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	151	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	409	10.30	3.64	22.18		Lead: Tuned Light + LCM
	174	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Completion System	687	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	33
Intermediate	0	49
Production	2380	25
Completion System	9874	10

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

Cimarex Energy Co., Riverbend 11-14 Federal Com 15H

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	5M	Annular	X	5M
			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.

X	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.
X	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.
Y	Are anchors required by manufacturer?

Cimarex Energy Co., Riverbend 11-14 Federal Com 15H

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 450'	Fresh Water	7.83 - 8.33	28	N/C
450' to 2580'	Brine Water	9.80 - 10.30	30-32	N/C
2580' to 10074'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
10074' to 19303'	OBM	11.00 - 11.50	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	
	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.
X	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval
-------------------------	----------

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5771 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	H2S is present
X	H2S 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 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 50% of working pressure. 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 5000 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 5000 psi.

All casing strings will be tested as per Onshore Order No.2 to atleast 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 15H 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 15H 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 15H 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 11 14 FEDERAL COM #15H
 30-015-49919
 Section 11-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	91	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	468	12.90	1.88	9.65	12	Lead: 35:65 Poz C, Salt & bentonite
	141	14.80	1.36	6.57	9.5	Tail: Class C + retarder
Production	618	10.30	3.64	22.18		Lead: Tuned Light + LCM
	3253	14.20	1.30	5.86	14.30	Tail: 50:50 Poz H, Salt, Bentonite, fluid loss, dispersant & SMS
Completion System	709	14.20	1.30	5.86	14.3	Tail: 50:50 Poz H, Salt, Bentonite, fluid loss, dispersant & SMS

CASING STRING	TOC	% EXCESS
SURFACE	0	33
INTERMEDIATE	0	49
PRODUCTION	2250	25

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	91	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	494	12.90	1.88	9.65	12	Lead: 35:65 Poz C, Salt & bentonite
	151	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	409	10.30	3.64	22.18		Lead: Tuned Light + LCM
	174	14.80	1.36	6.57	9.50	Tail: Class C + retarder
Completion System	687	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	33
INTERMEDIATE	0	49
PRODUCTION	2380	25
COMPLETION	9874	10

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

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 is attached.



Cimarex Riverbend 11-14 Federal Com 15H Rev2 kFc 03Oct22 Proposal
Geodetic Report
(Def Plan)



30-015-49919

Report Date: October 03, 2022 - 12:33 PM
Client: Cimarex Energy
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Riverbend 11-14 Federal Com 15H / 15H
Well: Riverbend 11-14 Federal Com 15H
Borehole: Riverbend 11-14 Federal Com 15H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Riverbend 11-14 Federal Com 15H Rev2 kFc 03Oct22
Survey Date: October 06, 2020
Tort / AHD / DDI / ERD Ratio: 101.732 * / 10212.613 ft / 6.318 / 1.058
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 9' 3.22071", W 104° 3' 35.78426"
Location Grid N/E Y/X: N 418738.260 ftUS, E 625947.200 ftUS
CRS Grid Convergence Angle: 0.1455 *
Grid Scale Factor: 0.99991729
Version / Patch: 2.10.833.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.720 * (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB = 22ft
TVD Reference Elevation: 2989.300 ft above MSL
Seabed / Ground Elevation: 2967.300 ft above MSL
Magnetic Declination: 6.671 *
Total Gravity Field Strength: 998.4572mgn (0.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47525.858 nT
Magnetic Dip Angle: 59.753 *
Declination Date: October 03, 2022
Magnetic Declination Model: HDGM 2022
North Reference: Grid North
Grid Convergence Used: 0.1455 *
Total Corr Mag North->Grid: 6.5258 *
North: Well Head
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
SHL [390' FNL, 2049' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	418738.26	625947.20	N 32.150895	W 104.059940
	100.00	0.00	75.92	100.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	200.00	0.00	75.92	200.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	300.00	0.00	75.92	300.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	400.00	0.00	75.92	400.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	500.00	0.00	75.92	500.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	600.00	0.00	75.92	600.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	700.00	0.00	75.92	700.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	800.00	0.00	75.92	800.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	900.00	0.00	75.92	900.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1000.00	0.00	75.92	1000.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
Salado	1068.00	0.00	75.92	1068.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1100.00	0.00	75.92	1100.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1200.00	0.00	75.92	1200.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1300.00	0.00	75.92	1300.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1400.00	0.00	75.92	1400.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1500.00	0.00	75.92	1500.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1600.00	0.00	75.92	1600.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1700.00	0.00	75.92	1700.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
Nudge, Build 2"/100ft	1800.00	0.00	75.92	1800.00	0.00	0.00	0.00	0.00	418738.26	625947.20	N 32.150895	W 104.059940
	1900.00	2.00	75.92	1899.98	-0.42	0.42	1.69	2.00	418738.68	625948.89	N 32.150896	W 104.059935
	2000.00	4.00	75.92	1999.84	-1.66	1.70	6.77	2.00	418739.96	625953.97	N 32.150899	W 104.059918
Hold	2099.99	6.00	75.92	2099.44	-3.74	3.82	15.22	2.00	418742.08	625962.42	N 32.150905	W 104.059891
	2200.00	6.00	75.92	2198.90	-6.24	6.36	25.36	0.00	418744.62	625972.56	N 32.150912	W 104.059858
	2300.00	6.00	75.92	2298.36	-8.73	8.90	35.50	0.00	418747.16	625982.70	N 32.150919	W 104.059825
	2400.00	6.00	75.92	2397.81	-11.22	11.45	45.64	0.00	418749.71	625992.83	N 32.150926	W 104.059793
Castille	2404.21	6.00	75.92	2402.00	-11.33	11.55	46.06	0.00	418749.81	625993.26	N 32.150926	W 104.059791
	2500.00	6.00	75.92	2497.26	-13.72	13.99	55.78	0.00	418752.25	626002.97	N 32.150933	W 104.059760
	2600.00	6.00	75.92	2596.71	-16.21	16.53	65.91	0.00	418754.79	626013.11	N 32.150940	W 104.059727
Bell Canyon	2603.30	6.00	75.92	2600.00	-16.29	16.62	66.25	0.00	418754.87	626013.44	N 32.150940	W 104.059726
	2700.00	6.00	75.92	2696.17	-18.70	19.07	76.05	0.00	418757.33	626023.25	N 32.150947	W 104.059694
	2800.00	6.00	75.92	2795.62	-21.20	21.62	86.10	0.00	418759.88	626033.38	N 32.150953	W 104.059661
	2900.00	6.00	75.92	2895.07	-23.69	24.16	96.33	0.00	418762.42	626043.52	N 32.150960	W 104.059629
	3000.00	6.00	75.92	2994.52	-26.18	26.70	106.47	0.00	418764.96	626053.66	N 32.150967	W 104.059596
	3100.00	6.00	75.92	3093.97	-28.68	29.25	116.61	0.00	418767.50	626063.80	N 32.150974	W 104.059563
	3200.00	6.00	75.92	3193.43	-31.17	31.79	126.74	0.00	418770.05	626073.93	N 32.150981	W 104.059530
	3300.00	6.00	75.92	3292.88	-33.66	34.33	136.88	0.00	418772.59	626084.07	N 32.150988	W 104.059498
	3400.00	6.00	75.92	3392.33	-36.16	36.87	147.02	0.00	418775.13	626094.21	N 32.150995	W 104.059465
	3500.00	6.00	75.92	3491.78	-38.65	39.42	157.16	0.00	418777.67	626104.35	N 32.151002	W 104.059432
	3600.00	6.00	75.92	3591.24	-41.14	41.96	167.30	0.00	418780.22	626114.48	N 32.151009	W 104.059399
Cherry Canyon	3632.94	6.00	75.92	3624.00	-41.96	42.80	170.64	0.00	418781.05	626117.02	N 32.151011	W 104.059388
	3700.00	6.00	75.92	3690.69	-43.64	44.50	177.44	0.00	418782.76	626124.62	N 32.151016	W 104.059366
	3800.00	6.00	75.92	3790.14	-46.13	47.05	187.57	0.00	418785.30	626134.76	N 32.151023	W 104.059334
	3900.00	6.00	75.92	3889.59	-48.62	49.59	197.71	0.00	418787.84	626144.89	N 32.151030	W 104.059301
	4000.00	6.00	75.92	3989.04	-51.11	52.13	207.85	0.00	418790.39	626155.03	N 32.151036	W 104.059268
	4100.00	6.00	75.92	4088.50	-53.61	54.67	217.99	0.00	418792.93	626165.17	N 32.151043	W 104.059235
	4200.00	6.00	75.92	4187.95	-56.10	57.22	228.13	0.00	418795.47	626175.31	N 32.151050	W 104.059203
	4300.00	6.00	75.92	4287.40	-58.59	59.76	238.26	0.00	418798.01	626185.44	N 32.151057	W 104.059170
Drop 2"/100ft	4359.72	6.00	75.92	4346.79	-60.08	61.28	244.32	0.00	418799.53	626191.50	N 32.151061	W 104.059150
	4400.00	5.19	75.92	4386.88	-61.02	62.23	248.13	2.00	418800.49	626195.31	N 32.151064	W 104.059138
	4500.00	3.19	75.92	4486.61	-62.76	64.01	255.22	2.00	418802.27	626202.40	N 32.151069	W 104.059115
	4600.00	1.19	75.92	4586.53	-63.68	64.94	258.94	2.00	418803.20	626206.11	N 32.151071	W 104.059103
Hold	4659.70	0.00	75.92	4646.23	-63.83	65.10	259.54	2.00	418803.35	626206.72	N 32.151072	W 104.059101
	4700.00	0.00	75.92	4686.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	4800.00	0.00	75.92	4786.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	4900.00	0.00	75.92	4886.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5000.00	0.00	75.92	4986.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5100.00	0.00	75.92	5086.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5200.00	0.00	75.92	5186.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
Brushy Canyon	5211.47	0.00	75.92	5198.00	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5300.00	0.00	75.92	5286.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5400.00	0.00	75.92	5386.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5500.00	0.00	75.92	5486.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5600.00	0.00	75.92	5586.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5700.00	0.00	75.92	5686.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5800.00	0.00	75.92	5786.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	5900.00	0.00	75.92	5886.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6000.00	0.00	75.92	5986.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6100.00	0.00	75.92	6086.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6200.00	0.00	75.92	6186.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6300.00	0.00	75.92	6286.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
Top Bone Spring	6374.47	0.00	75.92	6361.00	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6400.00	0.00	75.92	6386.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6500.00	0.00	75.92	6486.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101
	6600.00	0.00	75.92	6586.53	-63.83	65.10	259.54	0.00	418803.35	626206.72	N 32.151072	W 104.059101

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
	6700.00	0.00	75.92	6086.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	6800.00	0.00	75.92	6786.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	6900.00	0.00	75.92	6886.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7000.00	0.00	75.92	6986.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7100.00	0.00	75.92	7086.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7200.00	0.00	75.92	7186.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7300.00	0.00	75.92	7286.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
1st BS SS	7344.47	0.00	75.92	7331.00	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7400.00	0.00	75.92	7386.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7500.00	0.00	75.92	7486.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
2nd BS Carb	7598.47	0.00	75.92	7585.00	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7600.00	0.00	75.92	7586.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7700.00	0.00	75.92	7686.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7800.00	0.00	75.92	7786.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	7900.00	0.00	75.92	7886.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8000.00	0.00	75.92	7986.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
2nd BS SS	8078.47	0.00	75.92	8065.00	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8100.00	0.00	75.92	8086.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8200.00	0.00	75.92	8186.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8300.00	0.00	75.92	8286.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8400.00	0.00	75.92	8386.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
3rd BS Carb	8427.47	0.00	75.92	8414.00	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8500.00	0.00	75.92	8486.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8600.00	0.00	75.92	8586.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8700.00	0.00	75.92	8686.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
Harkoy	8733.47	0.00	75.92	8720.00	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8800.00	0.00	75.92	8786.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	8900.00	0.00	75.92	8886.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	9000.00	0.00	75.92	8986.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
KOP, Build 10°/100ft	9030.00	0.00	75.92	9016.53	-63.83	65.10	259.54	0.00	418003.35	626206.72	N 32.151072	W 104.059101
	9100.00	7.00	179.72	9086.35	-59.58	60.83	259.56	10.00	418799.08	626206.74	N 32.151080	W 104.059101
3rd BS SS	9156.50	12.65	179.72	9142.00	-49.92	51.19	259.61	10.00	418789.44	626206.79	N 32.151034	W 104.059101
	9200.00	17.00	179.72	9184.04	-38.79	40.06	259.66	10.00	418778.32	626206.84	N 32.151003	W 104.059101
	9300.00	27.00	179.72	9276.64	-1.38	2.65	259.85	10.00	418740.91	626207.03	N 32.150900	W 104.059100
	9400.00	37.00	179.72	9361.34	51.54	-50.27	260.11	10.00	418687.99	626207.29	N 32.150755	W 104.059100
	9500.00	47.00	179.72	9435.56	118.37	-117.10	260.44	10.00	418621.17	626207.62	N 32.150571	W 104.059100
	9600.00	57.00	179.72	9497.05	197.07	-195.80	260.83	10.00	418542.48	626208.01	N 32.150355	W 104.059099
Wolfcamp	9632.56	60.26	179.72	9514.00	224.87	-223.60	260.97	10.00	418514.68	626208.14	N 32.150278	W 104.059099
	9700.00	67.00	179.72	9543.94	285.26	-283.98	261.26	10.00	418454.30	626208.44	N 32.150112	W 104.059098
Build 5°/100ft	9780.00	75.00	179.72	9569.96	360.84	-359.56	261.64	10.00	418378.73	626208.82	N 32.149904	W 104.059098
	9800.00	76.00	179.72	9574.97	380.20	-378.92	261.73	5.00	418359.37	626208.91	N 32.149851	W 104.059098
	9900.00	81.00	179.72	9594.90	478.16	-476.88	262.22	5.00	418261.42	626209.39	N 32.149582	W 104.059097
	10000.00	86.00	179.72	9608.22	577.49	-576.21	262.71	5.00	418162.10	626209.89	N 32.149309	W 104.059096
Landing Point	10074.66	89.73	179.72	9609.00	652.08	-650.81	263.08	5.00	418087.51	626210.25	N 32.149104	W 104.059095
	10100.00	89.73	179.72	9609.12	677.42	-676.14	263.20	0.00	418062.18	626210.38	N 32.149034	W 104.059095
	10200.00	89.73	179.72	9609.58	777.42	-776.14	263.70	0.00	417962.19	626210.87	N 32.148759	W 104.059094
	10300.00	89.73	179.72	9610.05	877.42	-876.14	264.19	0.00	417862.20	626211.37	N 32.148485	W 104.059094
NMN016104 exit to NMN013413 enter Lease Cross	10355.30	89.73	179.72	9610.31	932.72	-931.44	264.46	0.00	417806.90	626211.64	N 32.148333	W 104.059093
	10400.00	89.73	179.72	9610.51	977.42	-976.13	264.68	0.00	417762.21	626211.86	N 32.148210	W 104.059093
	10500.00	89.73	179.72	9610.98	1077.42	-1076.13	265.18	0.00	417662.22	626212.35	N 32.147935	W 104.059092
	10600.00	89.73	179.72	9611.45	1177.41	-1176.13	265.67	0.00	417562.23	626212.85	N 32.147660	W 104.059091
	10700.00	89.73	179.72	9611.91	1277.41	-1276.13	266.17	0.00	417462.24	626213.34	N 32.147385	W 104.059091
	10800.00	89.73	179.72	9612.38	1377.41	-1376.13	266.66	0.00	417362.25	626213.84	N 32.147110	W 104.059090
	10900.00	89.73	179.72	9612.84	1477.41	-1476.12	267.15	0.00	417262.26	626214.33	N 32.146835	W 104.059089
	11000.00	89.73	179.72	9613.31	1577.41	-1576.12	267.65	0.00	417162.27	626214.82	N 32.146561	W 104.059088
	11100.00	89.73	179.72	9613.78	1677.41	-1676.12	268.14	0.00	417062.28	626215.32	N 32.146286	W 104.059088
	11200.00	89.73	179.72	9614.24	1777.41	-1776.12	268.64	0.00	416962.29	626215.81	N 32.146011	W 104.059087
	11300.00	89.73	179.72	9614.71	1877.41	-1876.11	269.13	0.00	416862.30	626216.31	N 32.145736	W 104.059086
	11400.00	89.73	179.72	9615.17	1977.41	-1976.11	269.62	0.00	416762.32	626216.80	N 32.145461	W 104.059085
	11500.00	89.73	179.72	9615.64	2077.40	-2076.11	270.12	0.00	416662.33	626217.29	N 32.145186	W 104.059084
Wolfcamp Y Sand	11577.38	89.73	179.72	9616.00	2154.78	-2153.49	270.50	0.00	416584.95	626217.68	N 32.144974	W 104.059084
	11600.00	89.73	179.72	9616.11	2177.40	-2176.11	270.81	0.00	416562.34	626217.79	N 32.144911	W 104.059084
	11700.00	89.73	179.72	9616.57	2277.40	-2276.10	271.10	0.00	416462.35	626218.28	N 32.144636	W 104.059083
	11800.00	89.73	179.72	9617.04	2377.40	-2376.10	271.60	0.00	416362.36	626218.78	N 32.144362	W 104.059082
	11900.00	89.73	179.72	9617.50	2477.40	-2476.10	272.09	0.00	416262.37	626219.27	N 32.144087	W 104.059081
	12000.00	89.73	179.72	9617.97	2577.40	-2576.10	272.59	0.00	416162.38	626219.76	N 32.143812	W 104.059081
	12100.00	89.73	179.72	9618.44	2677.40	-2676.10	273.08	0.00	416062.39	626220.26	N 32.143537	W 104.059080
	12200.00	89.73	179.72	9618.90	2777.40	-2776.09	273.57	0.00	415962.40	626220.75	N 32.143262	W 104.059079
	12300.00	89.73	179.72	9619.37	2877.40	-2876.09	274.07	0.00	415862.41	626221.25	N 32.142987	W 104.059078
	12400.00	89.73	179.72	9619.83	2977.39	-2976.09	274.56	0.00	415762.42	626221.74	N 32.142712	W 104.059077
	12500.00	89.73	179.72	9620.30	3077.39	-3076.09	275.06	0.00	415662.43	626222.23	N 32.142438	W 104.059077
	12600.00	89.73	179.72	9620.76	3177.39	-3176.08	275.55	0.00	415562.44	626222.73	N 32.142163	W 104.059076
	12700.00	89.73	179.72	9621.23	3277.39	-3276.08	276.04	0.00	415462.45	626223.22	N 32.141888	W 104.059075
	12800.00	89.73	179.72	9621.70	3377.39	-3376.08	276.54	0.00	415362.47	626223.72	N 32.141613	W 104.059074
	12900.00	89.73	179.72	9622.16	3477.39	-3476.08	277.03	0.00	415262.48	626224.21	N 32.141338	W 104.059074
	13000.00	89.73	179.72	9622.63	3577.39	-3576.07	277.53	0.00	415162.49	626224.70	N 32.141063	W 104.059073
	13100.00	89.73	179.72	9623.09	3677.39	-3676.07	278.02	0.00	415062.50	626225.20	N 32.140788	W 104.059072
	13200.00	89.73	179.72	9623.56	3777.39	-3776.07	278.51	0.00	414			

Comments	MD (ft)	Incl (°)	Azimuth (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
	15600.00	89.73	179.72	9634.74	6177.36	-6176.01	290.37	0.00	412562.77	626237.55	N 32.133917	W 104.059053
	15700.00	89.73	179.72	9635.21	6277.36	-6276.01	290.86	0.00	412462.78	626238.04	N 32.133642	W 104.059052
	15800.00	89.73	179.72	9635.67	6377.36	-6376.01	291.36	0.00	412362.79	626238.53	N 32.133367	W 104.059051
	15900.00	89.73	179.72	9636.14	6477.36	-6476.01	291.85	0.00	412262.80	626239.03	N 32.133092	W 104.059050
	16000.00	89.73	179.72	9636.61	6577.36	-6576.01	292.35	0.00	412162.81	626239.52	N 32.132817	W 104.059050
	16100.00	89.73	179.72	9637.07	6677.35	-6676.00	292.84	0.00	412062.82	626240.01	N 32.132542	W 104.059049
	16200.00	89.73	179.72	9637.54	6777.35	-6776.00	293.33	0.00	411962.83	626240.51	N 32.132268	W 104.059048
	16300.00	89.73	179.72	9638.00	6877.35	-6876.00	293.83	0.00	411862.84	626241.00	N 32.131993	W 104.059047
	16400.00	89.73	179.72	9638.47	6977.35	-6976.00	294.32	0.00	411762.85	626241.50	N 32.131718	W 104.059047
	16500.00	89.73	179.72	9638.94	7077.35	-7075.99	294.82	0.00	411662.87	626241.99	N 32.131443	W 104.059046
	16600.00	89.73	179.72	9639.40	7177.35	-7175.99	295.31	0.00	411562.88	626242.48	N 32.131168	W 104.059045
	16700.00	89.73	179.72	9639.87	7277.35	-7275.99	295.80	0.00	411462.89	626242.98	N 32.130893	W 104.059044
	16800.00	89.73	179.72	9640.33	7377.35	-7375.99	296.30	0.00	411362.90	626243.47	N 32.130618	W 104.059043
	16900.00	89.73	179.72	9640.80	7477.35	-7475.98	296.79	0.00	411262.91	626243.97	N 32.130343	W 104.059043
NMNM013413 exit to NMNM112920 enter Lease Cross	16987.50	89.73	179.72	9641.21	7564.84	-7563.48	297.22	0.00	411175.42	626244.40	N 32.130103	W 104.059042
	17000.00	89.73	179.72	9641.27	7577.34	-7575.98	297.29	0.00	411162.92	626244.46	N 32.130069	W 104.059042
	17100.00	89.73	179.72	9641.73	7677.34	-7675.98	297.78	0.00	411062.93	626244.95	N 32.129794	W 104.059041
	17200.00	89.73	179.72	9642.20	7777.34	-7775.98	298.27	0.00	410962.94	626245.45	N 32.129519	W 104.059040
	17300.00	89.73	179.72	9642.66	7877.34	-7875.98	298.77	0.00	410862.95	626245.94	N 32.129244	W 104.059040
	17400.00	89.73	179.72	9643.13	7977.34	-7975.97	299.26	0.00	410762.96	626246.44	N 32.128969	W 104.059039
	17500.00	89.73	179.72	9643.60	8077.34	-8075.97	299.76	0.00	410662.97	626246.93	N 32.128694	W 104.059038
	17600.00	89.73	179.72	9644.06	8177.34	-8175.97	300.25	0.00	410562.98	626247.42	N 32.128419	W 104.059037
	17700.00	89.73	179.72	9644.53	8277.34	-8275.97	300.74	0.00	410462.99	626247.92	N 32.128145	W 104.059036
	17800.00	89.73	179.72	9644.99	8377.34	-8375.96	301.24	0.00	410363.01	626248.41	N 32.127870	W 104.059036
	17900.00	89.73	179.72	9645.46	8477.34	-8475.96	301.73	0.00	410263.02	626248.91	N 32.127595	W 104.059035
	18000.00	89.73	179.72	9645.92	8577.33	-8575.96	302.23	0.00	410163.03	626249.40	N 32.127320	W 104.059034
	18100.00	89.73	179.72	9646.39	8677.33	-8675.96	302.72	0.00	410063.04	626249.89	N 32.127045	W 104.059033
	18200.00	89.73	179.72	9646.86	8777.33	-8775.95	303.21	0.00	409963.05	626250.39	N 32.126770	W 104.059033
	18300.00	89.73	179.72	9647.32	8877.33	-8875.95	303.71	0.00	409863.06	626250.88	N 32.126495	W 104.059032
	18400.00	89.73	179.72	9647.79	8977.33	-8975.95	304.20	0.00	409763.07	626251.37	N 32.126221	W 104.059031
	18500.00	89.73	179.72	9648.25	9077.33	-9075.95	304.70	0.00	409663.08	626251.87	N 32.125946	W 104.059030
	18600.00	89.73	179.72	9648.72	9177.33	-9175.95	305.19	0.00	409563.09	626252.36	N 32.125671	W 104.059030
	18700.00	89.73	179.72	9649.19	9277.33	-9275.94	305.68	0.00	409463.10	626252.86	N 32.125396	W 104.059029
	18800.00	89.73	179.72	9649.65	9377.33	-9375.94	306.18	0.00	409363.11	626253.35	N 32.125121	W 104.059028
	18900.00	89.73	179.72	9650.12	9477.32	-9475.94	306.67	0.00	409263.12	626253.85	N 32.124846	W 104.059027
	19000.00	89.73	179.72	9650.58	9577.32	-9575.94	307.17	0.00	409163.13	626254.34	N 32.124571	W 104.059026
	19100.00	89.73	179.72	9651.05	9677.32	-9675.93	307.66	0.00	409063.15	626254.83	N 32.124296	W 104.059026
	19200.00	89.73	179.72	9651.52	9777.32	-9775.93	308.15	0.00	408963.16	626255.33	N 32.124022	W 104.059025
	19300.00	89.73	179.72	9651.98	9877.32	-9875.93	308.65	0.00	408863.17	626255.82	N 32.123747	W 104.059024
Cimarex Riverbend 11-14 Federal Com 15H - BHL (330' FSL, 2310' FWL)	19303.89	89.73	179.72	9652.00	9881.21	-9879.82	308.67	0.00	408859.28	626255.84	N 32.123736	W 104.059024

Survey Type: Def Plan

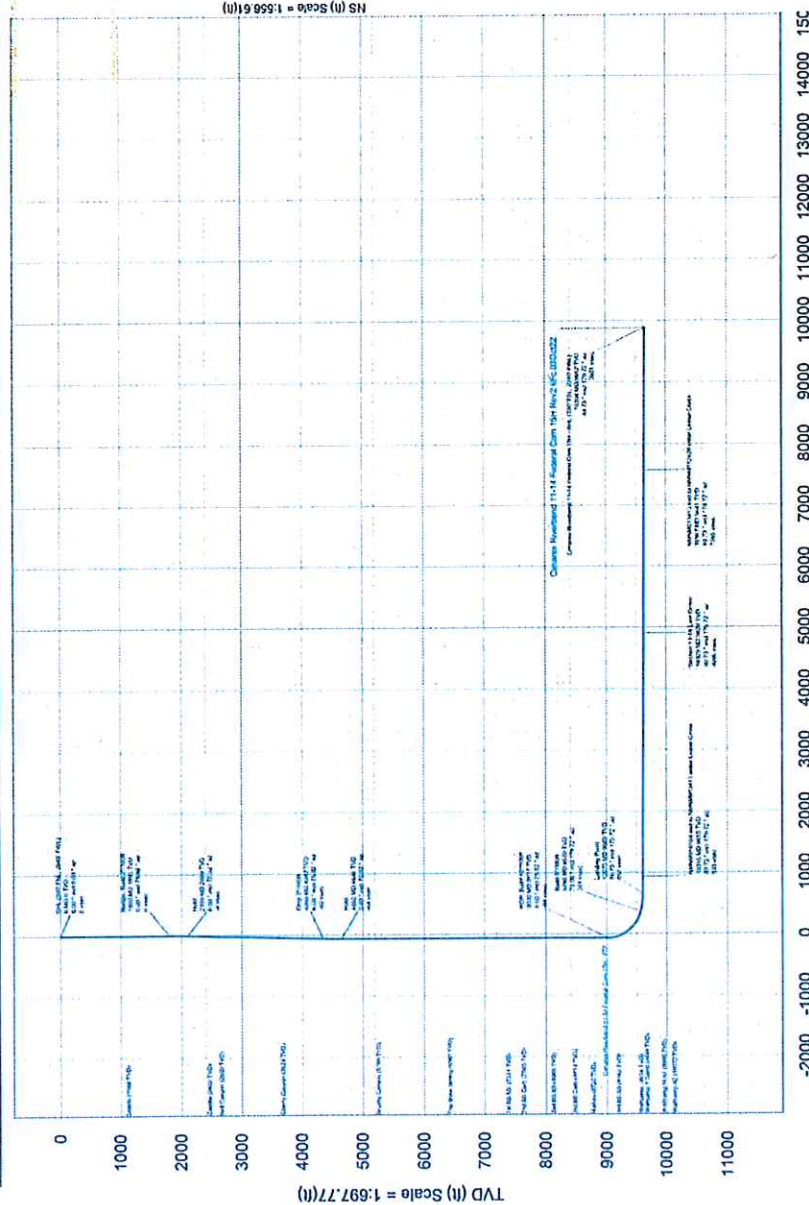
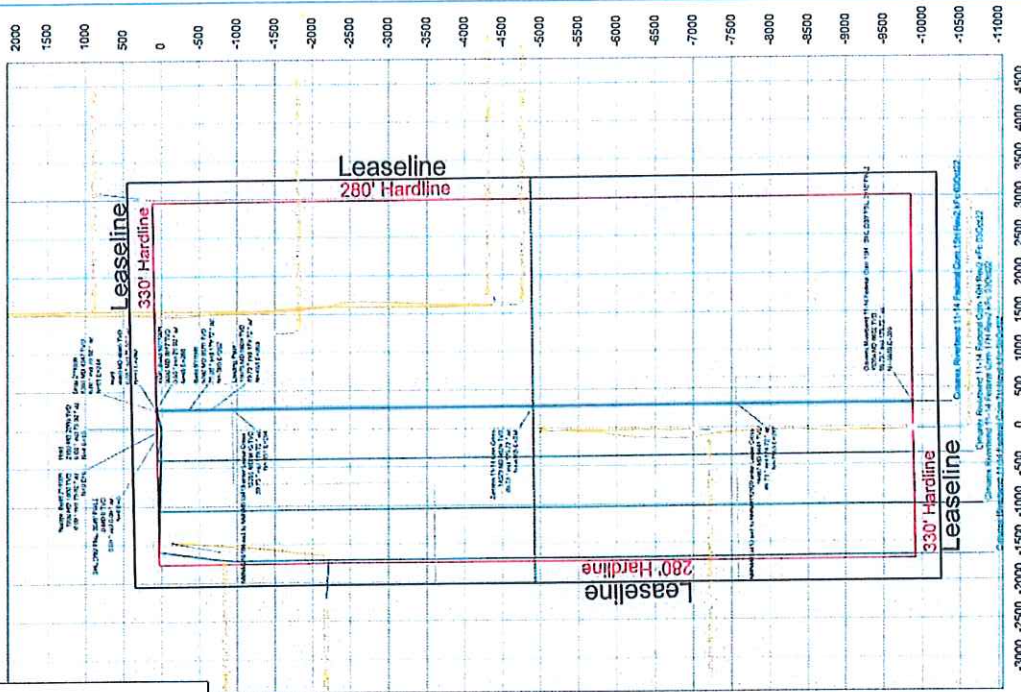
Survey Error Model: ISCWSA Rev 3 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

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	22.000	1/100.000	17.500	13.375		A001Mb_MWD-Depth Only	Riverbend 11-14 Federal Com 15H / Cimarex Riverbend 11-14
	1	22.000	9100.000	1/100.000	17.500	13.375		A001Mb_MWD	Riverbend 11-14 Federal Com 15H / Cimarex Riverbend 11-14
	1	9100.000	19303.887	1/100.000	17.500	13.375		A008Mb_MWD+IFR1+MS	Riverbend 11-14 Federal Com 15H / Cimarex Riverbend 11-14

Structure:

NM Eddy County (NAD 83)

Cimarex Riverbend 11-14 Federal Com 15H

[illegible]

Vertical Section (ft) Azim = 179.72° Scale = 1:697.77'(ft) Origin = 0N/-S, 0E/-W

EV (R) Scale = 1:555.61 (ft)

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

Fill Line

Flowline

2000# (2M)
BOP

SRR & A

Annular Preventer

Pipe Rams

Blind Rams

Drilling Spool

Kill Line

2" Minimum Choke Line

Choke Line

1 Kill Line Valve
(Minimum)

1 Choke Line Valve
(Minimum)

13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
Riverbend 11 14 Federal Com #15H
30-015-49919
Section 11-T25S-R28E
Eddy Co., NM
Cimarex Energy Co.

Drilling 6" hole
below 7" Casing

Fill Line

Flowline

5000# (5M)
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling
Spool

3" minimum choke line

Choke Line

2 Valves Minimum
(HCR Required)

2 Valves and a check valve

Wellhead
Assembly

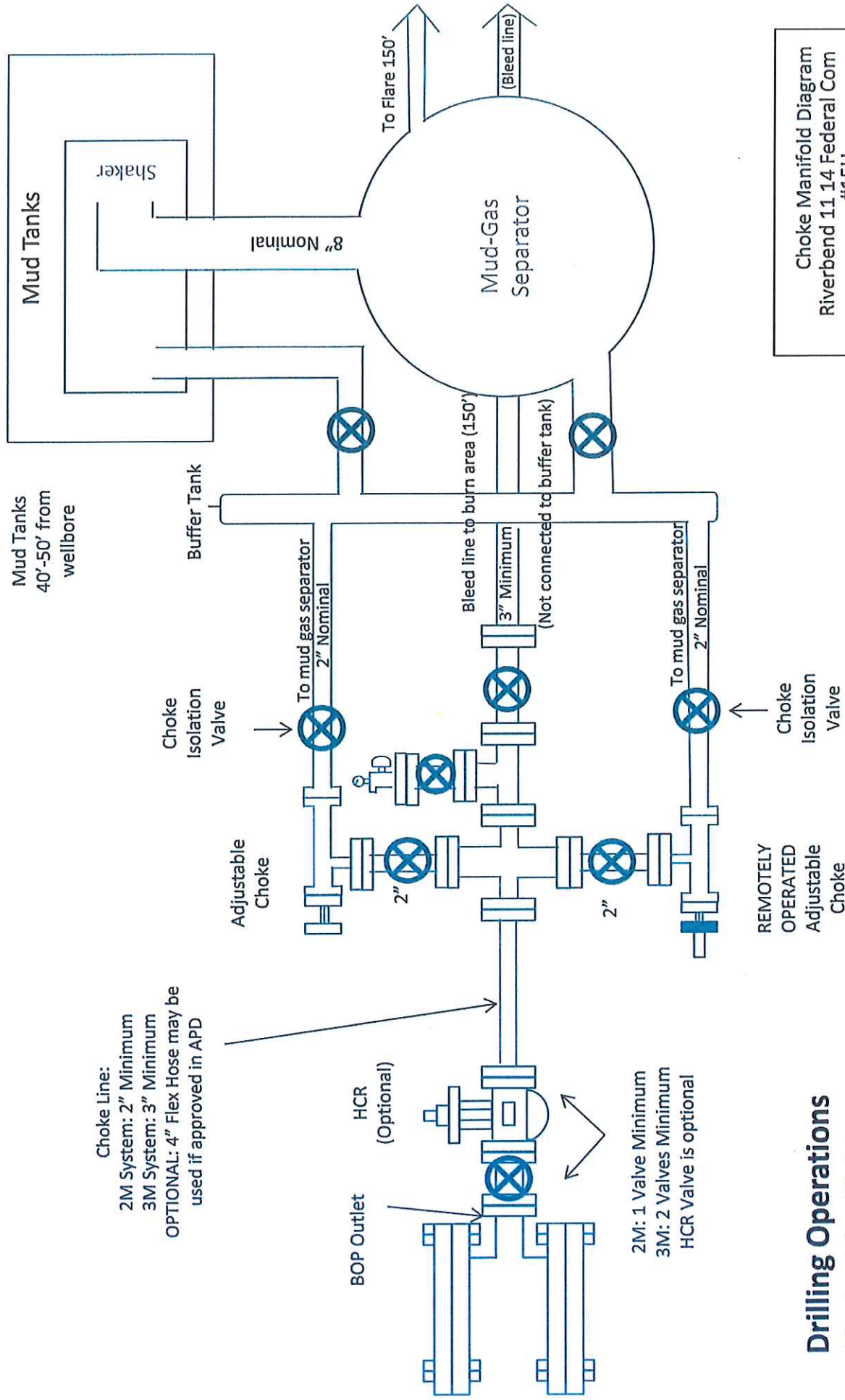
11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

Wellhead
Assembly

13-5/8" 3000 psi x 11" 5000 psi
Wellhead Assembly

13-5/8" 3000# psi x 13-3/8" SOW Casing Head

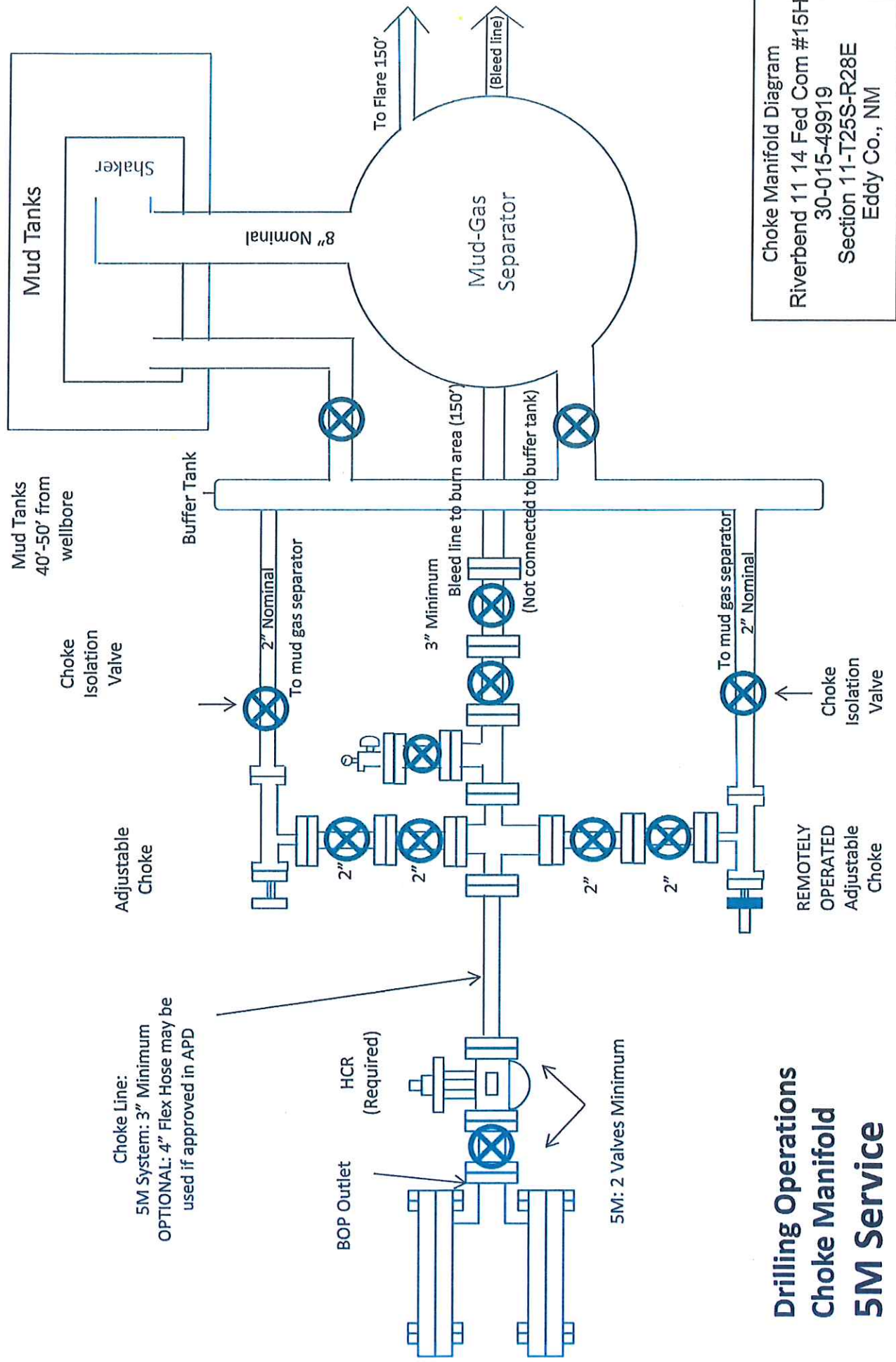
5000# BOP
Riverbend 11 14 Federal Com #15H
30-015-49919
Section 11-T25S-R28E
Eddy Co., NM
Cimarex Energy Co.



Drilling Operations Choke Manifold 2M/3M Service

Choke Manifold Diagram
 Riverbend 11 14 Federal Com
 #15H
 30-025-50120
 Section 11-T25S-R28E
 Eddy Co., NM
 Cimarex Energy Company

CIMAREX ENERGY COMPANY



Drilling Operations Choke Manifold 5M Service

Choke Manifold Diagram
Riverbend 11 14 Fed Com #15H
30-015-49919
Section 11-T25S-R28E
Eddy Co., NM



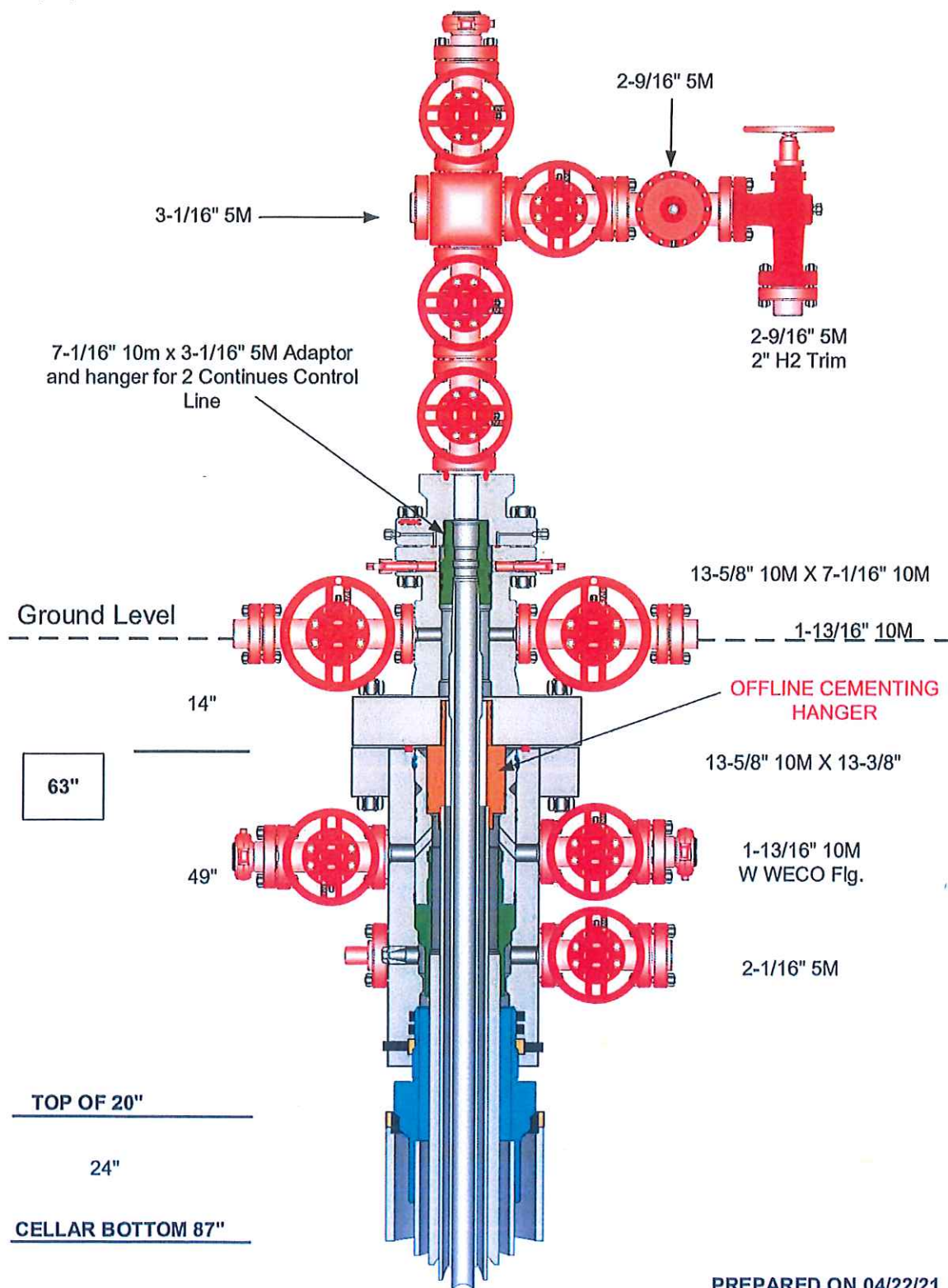
CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

Eddy Co., NM

Riverbend 11 14 Fed Com #15H

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	450	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.80	8.88	14.91
12 1/4	0	2500	2500	9-5/8"	36.00	J-55	LT&C	1.46	2.55	4.88
8 3/4	0	9030	9030	7"	26.00	L-80	LT&C	1.26	1.72	2.05
8 3/4	9030	10074	9609	7"	26.00	N-80	BT&C	1.20	1.61	40.12
6	8030	19303	9652	4-1/2"	11.60	P-110	BT&C	1.31	1.85	19.51
BIM 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



PREPARED ON 04/22/21

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 222862

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 222862
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Original COA's still apply.	10/19/2023