

OCD-HOBBS

HOBBS OCD

SECRETARY'S POTASH
APR 03 2013

RECEIVED

Form 3160-3
(April 2004)

Split Estate

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM 066126	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Cimarex Energy Co.		7. If Unit or CA Agreement, Name and No.	
3a. Address 600 N. Marienfeld St. Ste. 600 Midland Tx 79701		8. Lease Name and Well No. Lynch 25 Federal 2 39394	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 41090	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 660 FSL & 150 FEL At proposed prod. Zone 660 FSL & 330 FWL Horizontal Bone Spring test		10. Field and Pool, or Exploratory Lea BS South Triple X, Bone Spring, West 37580	
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 25-20S-34E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 150'		12. County or Parish Lea	
16. No of acres in lease 800 acres		13. State NM	
17. Spacing Unit dedicated to this well S2S2 160 acres			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 330'		20. BLM/BIA Bond No. on File COB000011	
19. Proposed Depth MD 15584 TVD 11000			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3752' GR		22. Approximate date work will start* 08.01.12	
		23. Estimated duration 25-30 days	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Zeno Farris</i>	Name (Printed/Typed) Zeno Farris	Date 03.15.12
Title Manager Operations Administration		
Approved By (Signature) <i>/s/ Jesse J. Juen</i>	Name (Printed/Typed)	Date MAR 25 2013
Title STATE DIRECTOR	Office NM STATE OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. 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.

* (Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

APR 04 2013

Operator - Landowner Agreement

Company: Cimarex Energy Co.
Proposed Well: Lynch 25 Federal 2
Federal Lease Number: NM 066126

This is to advise that Cimarex Energy Co. of Colorado has an agreement with: Pat Sims S&S Inc.

After abandonment of the well, all equipment and trash will be removed from the well site. No other

March 9, 2012
Date

Zeno Farris
Signature Zeno Farris
Manager, Operations Admini

Application to Drill
Lynch 25 Federal 2
 Cimarex Energy Co.
 Unit P, Section 25
 T20S-R34E, Lea County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location: SHL 660 FSL & 150 FEL
 BHL 660 FSL & 330 FWL

- 2 Elevation above sea level: 3752' GR

- 3 Geologic name of surface formation: Quaternary Alluvium Deposits

- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.

- 5 Proposed drilling depth: MD 15584 TVD 11000

- 6 Estimated tops of geological markers:

Rustler	1800'
Top of Salt	2000'
Base of Salt	3020'
Seven Rivers	4100'
Capitan	4290'
Delaware	5840'
Brushy Canyon	8300'
Bone Spring	8600'
Avalon Shale	9050'
1st BSS	9740'
2nd BSS	10350'
3rd Carbonate	10830'

- 7 Possible mineral bearing formation:

Bone Spring	Oil
Delaware	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1825' 1890'	8.4 - 8.6	28	NC	FW
1825' to 5480'	10.0	30-32	NC	Brine
5480' to 10541'	8.4-9.0	28-29	NC	FW and brine, use hi-vis sweeps to keep hole clean
10541' to 15584'	8.5-9.5	27-45	NC	2% KCL

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Proposed drilling Plan

Drill 8¾" hole to 10541'. Drill 8¾" lateral through the curve to TD @ 15584 MD, 11000 TVD. Run 5½" 17# P-110 LTC from 0-15584 and cement.

Application to Drill
Lynch 25 Federal 2
 Cimarex Energy Co.
 Unit P, Section 25
 T20S-R34E, Lea County, NM

9 Casing & Cementing Program:

See COA

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface 1	17 1/2"	0' to 1825'	New 13 3/8"	48# 4.5	STC	H-40 J-55
Intermediate	12 1/4"	0' to 5480'	New 9 5/8"	40#	LTC	J-55 N-80
Production	8 3/4"	0' to 15584'	New 5 1/2"	17#	LTC	P-110

Per Operator
CRW

10 Cementing:

Surface

Lead: 1125SKS Halcem C + 4% Bentomite + 2% CaCl 13.5ppg 1.75yield 100% Excess

Tail: 315SKS Halcem C + 2% CaCl 14.2ppg 1.34 yield 50% Excess

TOC Surface Centralizers per Onshorder 2.III.B.1.f

Intermediate

Lead: 1140SKS Econocem + 5% Salt + 5# Gilsonite 12.9ppg 1.88yield 70% Excess

Tail: 350SKS Halcem C + 1% CaCl 14.8ppg 1.34 yield 50% Excess

TOC Surface

Production

Lead: 800SKS Econocem H + 0.5% CFR-3 + 0.1% HR-601 11.9ppg 2.44 yield 50% Excess

Tail: 1390SKS Versacem H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess

TOC 4900' Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.

According to the NM State Engineer, depth to ground water is 100 feet. Fresh water zones will be protected by setting 13 3/8" casing at 1825 and 9 5/8" casing at 5480 and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" casing at 15584 and cementing to 4900.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13 5/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 5480.' A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

Before drilling out of the surface casing BOPs will be tested to 250 psi low and 3000 psi high by an independent service company. Hydril will be tested to 250 psi low and 1500 psi high. Before drilling out of the intermediate casing BOPs will be tested to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 high.

Cimarex Energy Co. (operator) requests a variance if Cactus 115 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 63270

Length: 35' Size: 4-1/16" Ends - flanges/clamps

WP rating: 10,000 psi Anchors required by manufacturer - Yes/No

Application to Drill
Lynch 25 Federal 2
Cimarex Energy Co.
Unit P, Section 25
T20S-R34E, Lea County, NM

12 Testing, Logging and Coring Program: *See COA*

- A. Mud logging program: 2 man unit from 5480 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR Surface to TD
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **4950 psi** Estimated BHT **130°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **an oil well.**



Cimarex Energy Co.

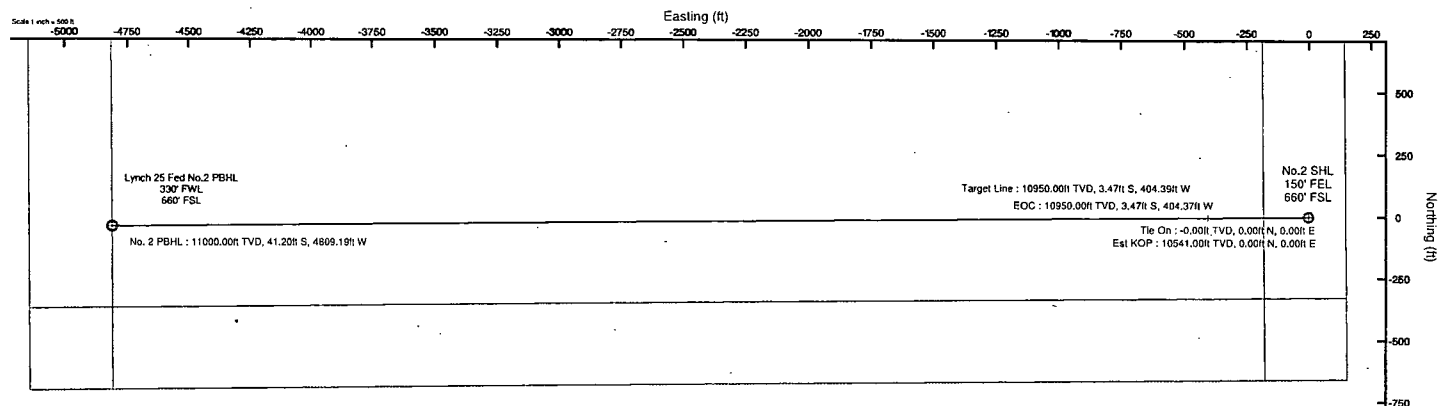
Location: Lea County, NM
Field: (Lynch) Sec 23, T20S, R34E
Facility: Lynch 25 Federal No.2

Slot: No.2 SHL
Well: No.2
Wellbore: No.2 PWB

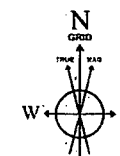


Well Profile Data

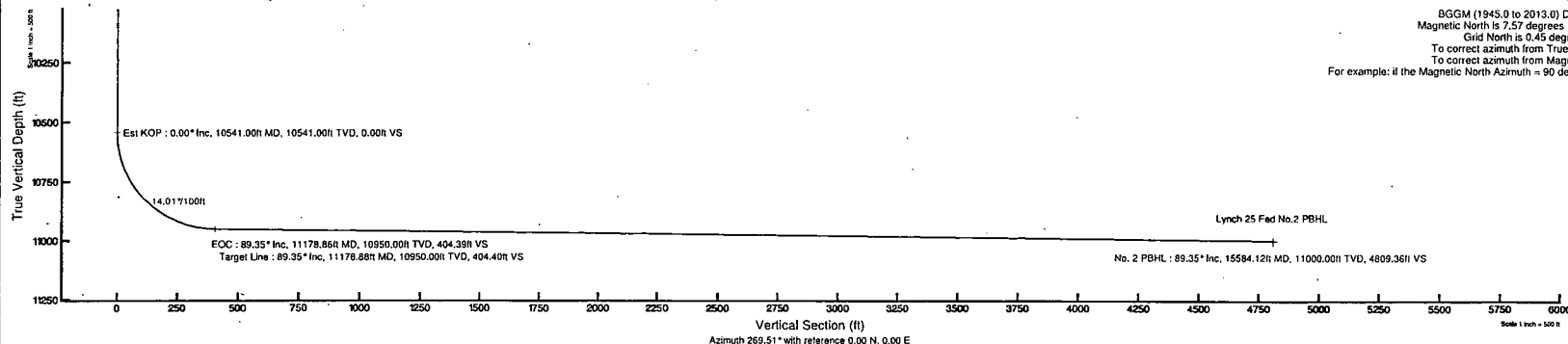
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	269.509	0.00	0.00	0.00	0.00	0.00
Est KOP	10541.00	0.000	269.509	10541.00	0.00	0.00	0.00	0.00
EOC	11178.86	89.350	269.509	10950.00	-3.47	-404.37	14.01	404.39
Target Line	11178.88	89.350	269.509	10950.00	-3.47	-404.39	2.00	404.40
No. 2 PBHL	15584.12	89.350	269.509	11000.00	-41.20	-4809.19	0.00	4809.36



Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No.2 SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.2 SHL (RT)	North Reference: Grid north
Rig on No.2 SHL (RT) to Mean Sea Level: 3752 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.2 SHL): -3752 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gentbry on 2/27/2012



BGGM (1945.0 to 2013.0) Dip: 60.44° Field: 48750.9 nT
Magnetic North is 7.57 degrees East of True North (at 2/27/2012)
Grid North is 0.45 degrees East of True North
To correct azimuth from True to Grid subtract 0.45 degrees
To correct azimuth from Magnetic to Grid add 7.13 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.13 = 97.13





Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999984	Report Generated	2/27/2012 at 10:49:54 AM
Convergence at slot	0.45° East	Database/Source file	WA Midland/No.2_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W
Facility Reference Pt			796400.40	560689.30	32°32'19.207"N	103°30'20.357"W
Field Reference Pt			789361.60	570203.60	32°33'53.881"N	103°31'41.737"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.2 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.2 SHL (RT) to Mean Sea Level	3752.00ft
Vertical Reference Pt	Rig on No.2 SHL (RT)	Rig on No.2 SHL (RT) to Mud Line at Slot (No.2 SHL)	0.00ft
MD Reference Pt	Rig on No.2 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.51°



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	269.509	0.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Tie On
100.00†	0.000	269.509	100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
200.00†	0.000	269.509	200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
300.00†	0.000	269.509	300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
400.00†	0.000	269.509	400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
500.00†	0.000	269.509	500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
600.00†	0.000	269.509	600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
700.00†	0.000	269.509	700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
800.00†	0.000	269.509	800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
900.00†	0.000	269.509	900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1000.00†	0.000	269.509	1000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1100.00†	0.000	269.509	1100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1200.00†	0.000	269.509	1200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1300.00†	0.000	269.509	1300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1400.00†	0.000	269.509	1400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1500.00†	0.000	269.509	1500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1600.00†	0.000	269.509	1600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1700.00†	0.000	269.509	1700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1800.00†	0.000	269.509	1800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
1900.00†	0.000	269.509	1900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Rustler
2000.00†	0.000	269.509	2000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2100.00†	0.000	269.509	2100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Salt
2200.00†	0.000	269.509	2200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2300.00†	0.000	269.509	2300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2400.00†	0.000	269.509	2400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2500.00†	0.000	269.509	2500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2600.00†	0.000	269.509	2600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2700.00†	0.000	269.509	2700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2800.00†	0.000	269.509	2800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
2900.00†	0.000	269.509	2900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3000.00†	0.000	269.509	3000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3100.00†	0.000	269.509	3100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3200.00†	0.000	269.509	3200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3300.00†	0.000	269.509	3300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3400.00†	0.000	269.509	3400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3500.00†	0.000	269.509	3500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3600.00†	0.000	269.509	3600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Base Salt
3700.00†	0.000	269.509	3700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3800.00†	0.000	269.509	3800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
3900.00†	0.000	269.509	3900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4000.00†	0.000	269.509	4000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4100.00†	0.000	269.509	4100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4150.00†	0.000	269.509	4150.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Seven Rivers
4200.00†	0.000	269.509	4200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4300.00†	0.000	269.509	4300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00†	0.000	269.509	4400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4500.00†	0.000	269.509	4500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4600.00†	0.000	269.509	4600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4700.00†	0.000	269.509	4700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4800.00†	0.000	269.509	4800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
4900.00†	0.000	269.509	4900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5000.00†	0.000	269.509	5000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5100.00†	0.000	269.509	5100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5200.00†	0.000	269.509	5200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5300.00†	0.000	269.509	5300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5400.00†	0.000	269.509	5400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5500.00†	0.000	269.509	5500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5600.00†	0.000	269.509	5600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5700.00†	0.000	269.509	5700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
5800.00†	0.000	269.509	5800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Delaware Sands
5900.00†	0.000	269.509	5900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6000.00†	0.000	269.509	6000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6100.00†	0.000	269.509	6100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6200.00†	0.000	269.509	6200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6300.00†	0.000	269.509	6300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6400.00†	0.000	269.509	6400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6500.00†	0.000	269.509	6500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6600.00†	0.000	269.509	6600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6700.00†	0.000	269.509	6700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6800.00†	0.000	269.509	6800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
6900.00†	0.000	269.509	6900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7000.00†	0.000	269.509	7000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7100.00†	0.000	269.509	7100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7200.00†	0.000	269.509	7200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7300.00†	0.000	269.509	7300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7400.00†	0.000	269.509	7400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7500.00†	0.000	269.509	7500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7600.00†	0.000	269.509	7600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7700.00†	0.000	269.509	7700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7800.00†	0.000	269.509	7800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
7900.00†	0.000	269.509	7900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8000.00†	0.000	269.509	8000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8100.00†	0.000	269.509	8100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8200.00†	0.000	269.509	8200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8300.00†	0.000	269.509	8300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8330.00†	0.000	269.509	8330.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Basal Brushy Canyon
8400.00†	0.000	269.509	8400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8500.00†	0.000	269.509	8500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8600.00†	0.000	269.509	8600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8700.00†	0.000	269.509	8700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Bone Spring



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8800.00†	0.000	269.509	8800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
8900.00†	0.000	269.509	8900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9000.00†	0.000	269.509	9000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9100.00†	0.000	269.509	9100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9200.00†	0.000	269.509	9200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Avalon Shale
9300.00†	0.000	269.509	9300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9400.00†	0.000	269.509	9400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9500.00†	0.000	269.509	9500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9600.00†	0.000	269.509	9600.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9700.00†	0.000	269.509	9700.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9800.00†	0.000	269.509	9800.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9900.00†	0.000	269.509	9900.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
9950.00†	0.000	269.509	9950.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	1st BSS
10000.00†	0.000	269.509	10000.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10100.00†	0.000	269.509	10100.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10200.00†	0.000	269.509	10200.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10300.00†	0.000	269.509	10300.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10400.00†	0.000	269.509	10400.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10500.00†	0.000	269.509	10500.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	
10541.00†	0.000	269.509	10541.00	0.00	0.00	0.00	796400.40	560689.30	32°32'19.207"N	103°30'20.357"W	0.00	Est KOP
10600.00†	8.265	269.509	10599.80	4.25	-0.04	-4.25	796396.15	560689.26	32°32'19.207"N	103°30'20.407"W	14.01	
10700.00†	22.272	269.509	10696.03	30.52	-0.26	-30.52	796369.89	560689.04	32°32'19.207"N	103°30'20.714"W	14.01	
10704.30†	22.875	269.509	10700.00	32.17	-0.28	-32.17	796368.23	560689.02	32°32'19.207"N	103°30'20.733"W	14.01	2nd BSS
10800.00†	36.280	269.509	10783.04	79.30	-0.68	-79.29	796321.11	560688.62	32°32'19.207"N	103°30'21.284"W	14.01	
10900.00†	50.288	269.509	10855.65	147.69	-1.27	-147.68	796252.72	560688.03	32°32'19.206"N	103°30'22.082"W	14.01	
11000.00†	64.296	269.509	10909.55	231.62	-1.98	-231.61	796168.79	560687.32	32°32'19.205"N	103°30'23.063"W	14.01	
11100.00†	78.304	269.509	10941.53	326.11	-2.79	-326.10	796074.31	560686.51	32°32'19.205"N	103°30'24.167"W	14.01	
11178.86	89.350	269.509	10950.00	404.39	-3.47	-404.37	795996.04	560685.83	32°32'19.204"N	103°30'25.081"W	14.01	EOC
11178.88	89.350	269.509	10950.00	404.40	-3.47	-404.39	795996.02	560685.83	32°32'19.204"N	103°30'25.081"W	2.00	Target Line
11200.00†	89.350	269.509	10950.24	425.53	-3.65	-425.51	795974.90	560685.65	32°32'19.204"N	103°30'25.328"W	0.00	
11300.00†	89.350	269.509	10951.37	525.52	-4.50	-525.50	795874.91	560684.80	32°32'19.203"N	103°30'26.496"W	0.00	
11400.00†	89.350	269.509	10952.51	625.52	-5.36	-625.49	795774.92	560683.94	32°32'19.202"N	103°30'27.664"W	0.00	
11500.00†	89.350	269.509	10953.64	725.51	-6.22	-725.48	795674.93	560683.08	32°32'19.201"N	103°30'28.832"W	0.00	
11600.00†	89.350	269.509	10954.78	825.50	-7.07	-825.47	795574.94	560682.23	32°32'19.201"N	103°30'30.000"W	0.00	
11700.00†	89.350	269.509	10955.92	925.50	-7.93	-925.46	795474.96	560681.37	32°32'19.200"N	103°30'31.168"W	0.00	
11800.00†	89.350	269.509	10957.05	1025.49	-8.79	-1025.45	795374.97	560680.51	32°32'19.199"N	103°30'32.336"W	0.00	
11900.00†	89.350	269.509	10958.19	1125.48	-9.64	-1125.44	795274.98	560679.66	32°32'19.198"N	103°30'33.504"W	0.00	
12000.00†	89.350	269.509	10959.32	1225.48	-10.50	-1225.43	795174.99	560678.80	32°32'19.197"N	103°30'34.672"W	0.00	
12100.00†	89.350	269.509	10960.46	1325.47	-11.36	-1325.42	795075.00	560677.94	32°32'19.197"N	103°30'35.840"W	0.00	
12200.00†	89.350	269.509	10961.59	1425.46	-12.21	-1425.41	794975.01	560677.09	32°32'19.196"N	103°30'37.008"W	0.00	
12300.00†	89.350	269.509	10962.73	1525.46	-13.07	-1525.40	794875.03	560676.23	32°32'19.195"N	103°30'38.176"W	0.00	
12400.00†	89.350	269.509	10963.86	1625.45	-13.93	-1625.39	794775.04	560675.37	32°32'19.194"N	103°30'39.344"W	0.00	
12500.00†	89.350	269.509	10965.00	1725.44	-14.78	-1725.38	794675.05	560674.52	32°32'19.193"N	103°30'40.512"W	0.00	
12600.00†	89.350	269.509	10966.13	1825.44	-15.64	-1825.37	794575.06	560673.66	32°32'19.192"N	103°30'41.680"W	0.00	
12700.00†	89.350	269.509	10967.27	1925.43	-16.50	-1925.36	794475.07	560672.80	32°32'19.192"N	103°30'42.848"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12800.00†	89.350	269.509	10968.40	2025.42	-17.35	-2025.35	794375.09	560671.95	32°32'19.191"N	103°30'44.016"W	0.00	
12900.00†	89.350	269.509	10969.54	2125.42	-18.21	-2125.34	794275.10	560671.09	32°32'19.190"N	103°30'45.184"W	0.00	
13000.00†	89.350	269.509	10970.67	2225.41	-19.07	-2225.33	794175.11	560670.24	32°32'19.189"N	103°30'46.352"W	0.00	
13100.00†	89.350	269.509	10971.81	2325.41	-19.92	-2325.32	794075.12	560669.38	32°32'19.188"N	103°30'47.520"W	0.00	
13200.00†	89.350	269.509	10972.94	2425.40	-20.78	-2425.31	793975.13	560668.52	32°32'19.187"N	103°30'48.689"W	0.00	
13300.00†	89.350	269.509	10974.08	2525.39	-21.64	-2525.30	793875.15	560667.67	32°32'19.186"N	103°30'49.857"W	0.00	
13400.00†	89.350	269.509	10975.21	2625.39	-22.49	-2625.29	793775.16	560666.81	32°32'19.186"N	103°30'51.025"W	0.00	
13500.00†	89.350	269.509	10976.35	2725.38	-23.35	-2725.28	793675.17	560665.95	32°32'19.185"N	103°30'52.193"W	0.00	
13600.00†	89.350	269.509	10977.48	2825.37	-24.20	-2825.27	793575.18	560665.10	32°32'19.184"N	103°30'53.361"W	0.00	
13700.00†	89.350	269.509	10978.62	2925.37	-25.06	-2925.26	793475.19	560664.24	32°32'19.183"N	103°30'54.529"W	0.00	
13800.00†	89.350	269.509	10979.75	3025.36	-25.92	-3025.25	793375.21	560663.38	32°32'19.182"N	103°30'55.697"W	0.00	
13900.00†	89.350	269.509	10980.89	3125.35	-26.77	-3125.24	793275.22	560662.53	32°32'19.181"N	103°30'56.865"W	0.00	
14000.00†	89.350	269.509	10982.02	3225.35	-27.63	-3225.23	793175.23	560661.67	32°32'19.180"N	103°30'58.033"W	0.00	
14100.00†	89.350	269.509	10983.16	3325.34	-28.49	-3325.22	793075.24	560660.81	32°32'19.179"N	103°30'59.201"W	0.00	
14200.00†	89.350	269.509	10984.29	3425.33	-29.34	-3425.21	792975.25	560659.96	32°32'19.178"N	103°31'00.369"W	0.00	
14300.00†	89.350	269.509	10985.43	3525.33	-30.20	-3525.20	792875.27	560659.10	32°32'19.178"N	103°31'01.537"W	0.00	
14400.00†	89.350	269.509	10986.56	3625.32	-31.06	-3625.19	792775.28	560658.24	32°32'19.177"N	103°31'02.705"W	0.00	
14500.00†	89.350	269.509	10987.70	3725.32	-31.91	-3725.18	792675.29	560657.39	32°32'19.176"N	103°31'03.873"W	0.00	
14600.00†	89.350	269.509	10988.83	3825.31	-32.77	-3825.17	792575.30	560656.53	32°32'19.175"N	103°31'05.041"W	0.00	
14700.00†	89.350	269.509	10989.97	3925.30	-33.63	-3925.16	792475.31	560655.67	32°32'19.174"N	103°31'06.209"W	0.00	
14800.00†	89.350	269.509	10991.10	4025.30	-34.48	-4025.15	792375.33	560654.82	32°32'19.173"N	103°31'07.377"W	0.00	
14900.00†	89.350	269.509	10992.24	4125.29	-35.34	-4125.14	792275.34	560653.96	32°32'19.172"N	103°31'08.545"W	0.00	
15000.00†	89.350	269.509	10993.37	4225.28	-36.20	-4225.13	792175.35	560653.10	32°32'19.171"N	103°31'09.713"W	0.00	
15100.00†	89.350	269.509	10994.51	4325.28	-37.05	-4325.12	792075.36	560652.25	32°32'19.170"N	103°31'10.881"W	0.00	
15200.00†	89.350	269.509	10995.64	4425.27	-37.91	-4425.11	791975.37	560651.39	32°32'19.169"N	103°31'12.049"W	0.00	
15300.00†	89.350	269.509	10996.78	4525.26	-38.77	-4525.10	791875.39	560650.53	32°32'19.168"N	103°31'13.217"W	0.00	
15400.00†	89.350	269.509	10997.91	4625.26	-39.62	-4625.09	791775.40	560649.68	32°32'19.168"N	103°31'14.385"W	0.00	
15500.00†	89.350	269.509	10999.05	4725.25	-40.48	-4725.08	791675.41	560648.82	32°32'19.167"N	103°31'15.553"W	0.00	
15584.12	89.350	269.509	14000.00†	4809.36	-41.20	-4809.19	791591.30	560648.10	32°32'19.166"N	103°31'16.536"W	0.00	No. 2 PBHL



Planned Wellpath Report

Prelim_1

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.2 SHL
Area	Lea County, NM	Well	No.2
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.2 PWB
Facility	Lynch 25 Federal No.2		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Lynch 25 Fed No.2 PBHL	15584.12	11000.00	-41.20	-4809.19	791591.30	560648.10	32°32'19.166"N	103°31'16.536"W	point

SURVEY PROGRAM - Ref Wellbore: No.2 PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15584.12	NaviTrak (Standard)		No.2 PWB

SR & A

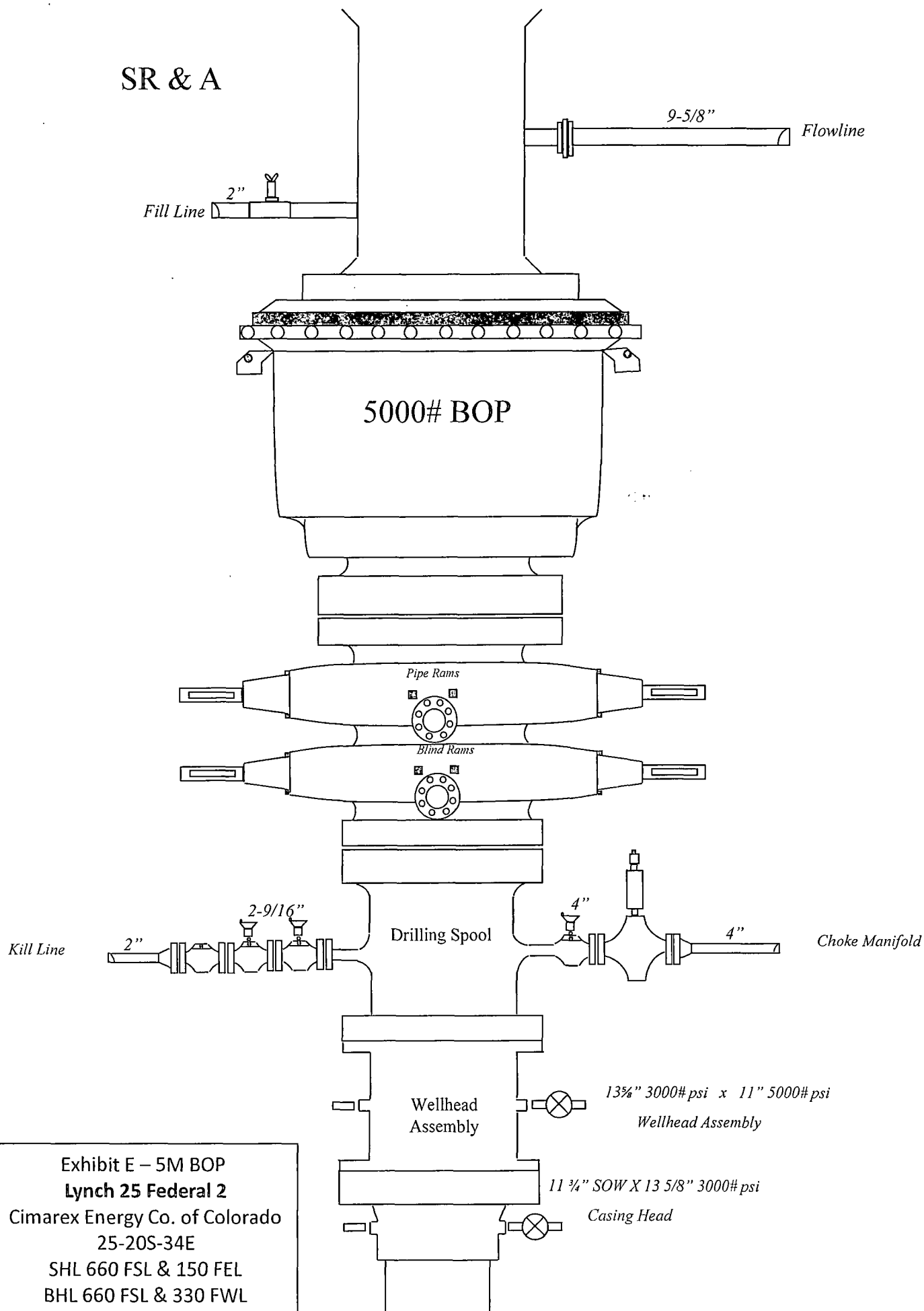
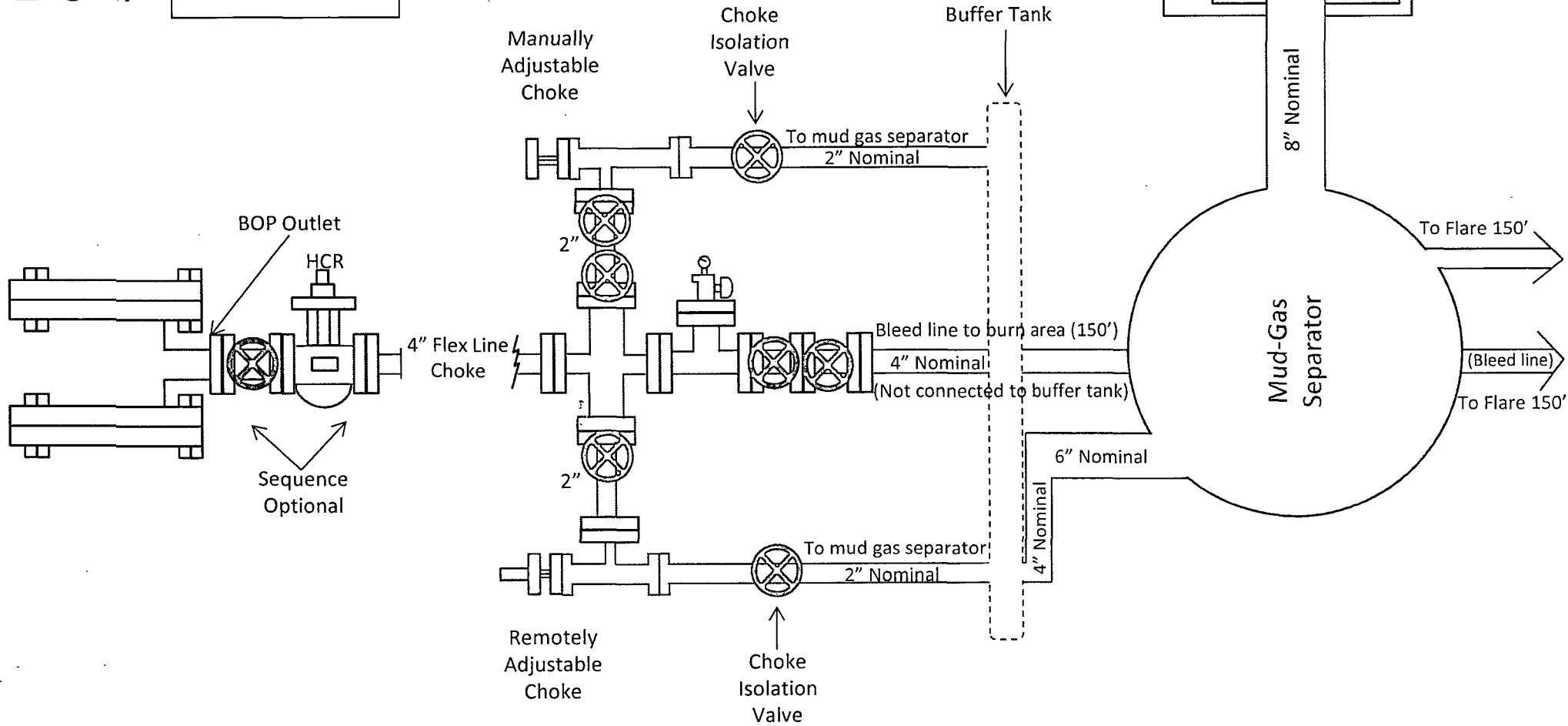
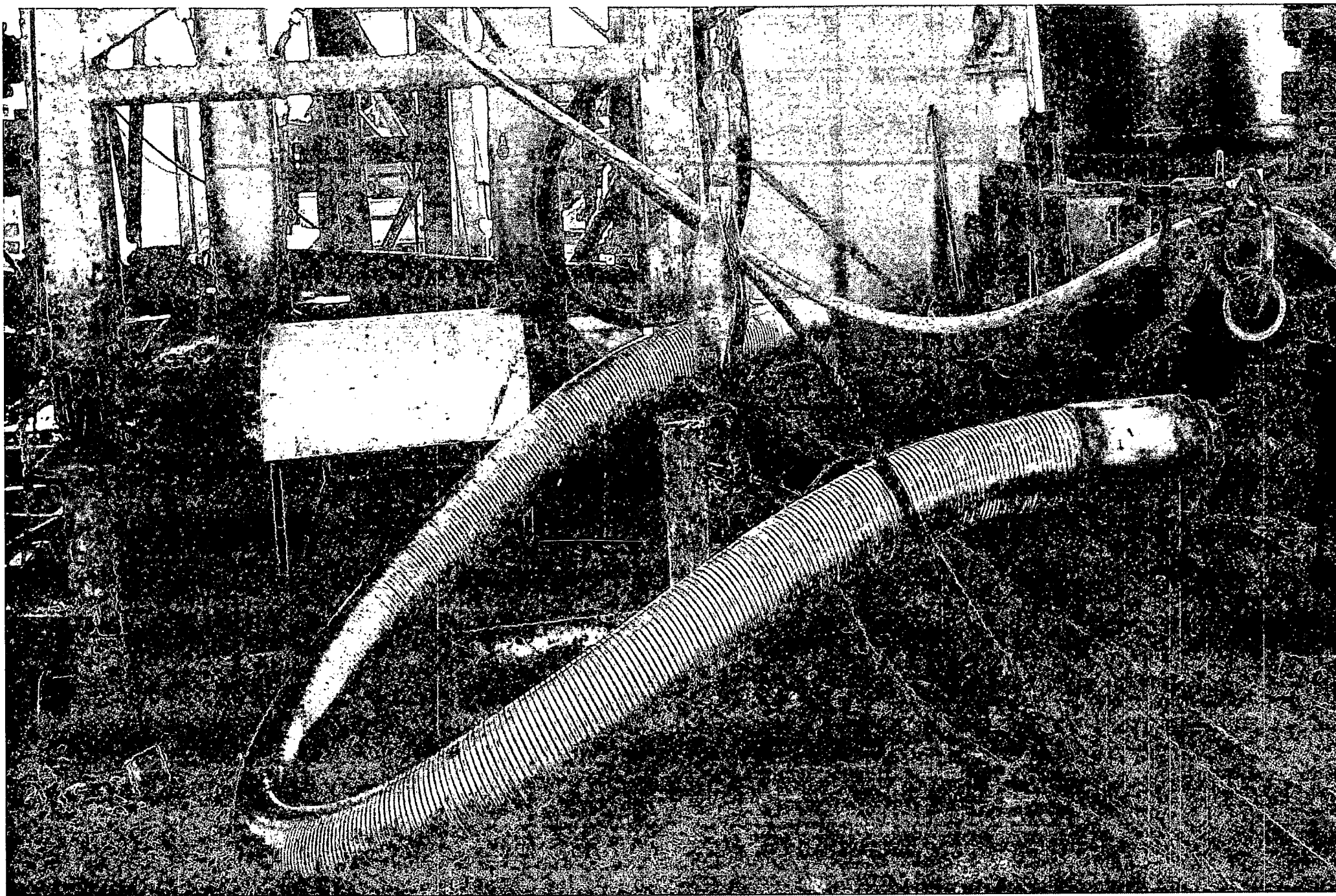


Exhibit E – 5M BOP
Lynch 25 Federal 2
Cimarex Energy Co. of Colorado
25-20S-34E
SHL 660 FSL & 150 FEL
BHL 660 FSL & 330 FWL
Lea County, NM

Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram
Lynch 25 Federal 2
 Cimarex Energy Co. of Colorado
 25-20S-34E
 SHL 660 FSL & 150 FEL
 BHL 660 FSL & 330 FWL
 Lea County, NM





Cactus Rig 115
Serial # 63270

MIDWEST
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: CACTUS DRILLING		P.O. Number: RIG#147
HOSE SPECIFICATIONS		
Type: CHOK & KILL		Length: 35'
I.D. 4" INCHES		O.D. 8"
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000	BURST PRESSURE
COUPLINGS		
Stem Part No. E4.0X64WB		Ferrule No. FERRULE-128
Type of Coupling: 4-1/16 10K FLANGE(BX-155)		Die Size:
PROCEDURE		
<i>Hose assembly pressure tested with water at ambient temperature.</i>		
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI
COMMENTS: SERIAL#63270		
Date: 7/14/2010	Tested By: BOBBY FINK	Approved: BRENT BURNETT

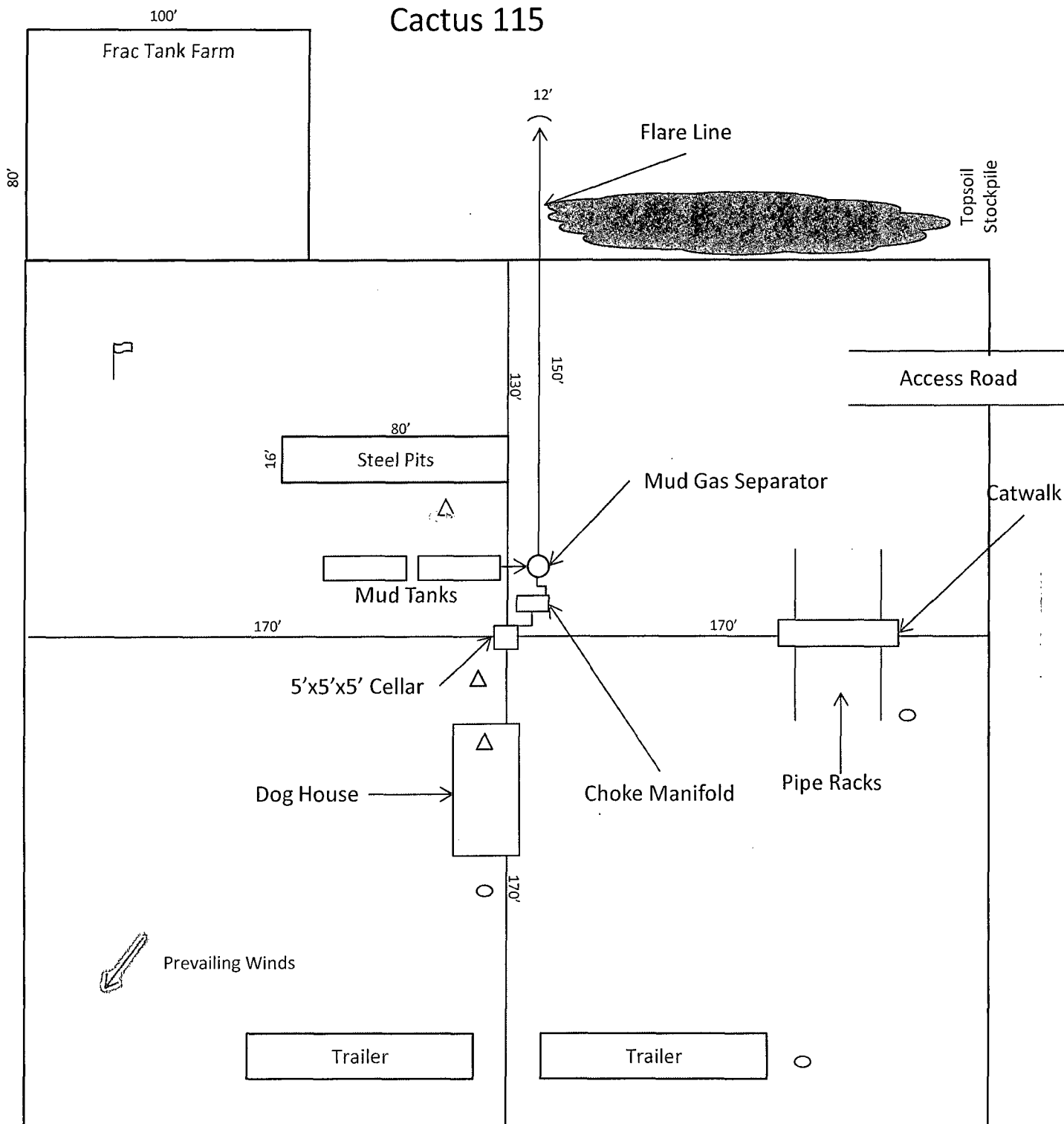


Midwest Hose
& Specialty, Inc.

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)



-  Wind Direction Indicators
(wind sock or streamers)
-  H2S Monitors
(alarms at bell nipple and shale shaker)
-  Briefing Areas

Exhibit D – Rig Diagram
Lynch 25 Federal 2
 Cimarex Energy Co. of Colorado
 25-20S-34E
 SHL 660 FSL & 150 FEL
 BHL 660 FSL & 330 FWL
 Lea County, NM

