ATS-12-659

HOBBS OCD

AUG 09 2012

RECEIVED

OCD-HOBBS

Form 3160-3
(April 2004)

Split Estate

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
SHL NM-123524, BHL NM-028880

6 If Indian, Allotee or Tribe Name

1a. Type of Work. ☒ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.
Pending

1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Lynch 23 Federal Com No. 3 <38591>

2 Name of Operator
Cimarex Energy Co. of Colorado <162683>

9. API Well No
30-025-40724

3a Address
600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No *(include area code)*
432-571-7800

10 Field and Pool, or Exploratory
Lea; Bone Spring, S <37580>

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*

At Surface 305 FNL & 560 FEL At Bottom Hole 330 FSL & 660 FEL

At proposed prod Zone 330 FSL & 660 FEL *Horizontal Bone Spring test*

11 Sec , T. R M or Blk. and Survey or Area
23-20S-34E

14. Distance in miles and direction from nearest town or post office*

12 County or Parish
Lea

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line if any)	16 No of acres in lease	17. Spacing Unit dedicated to this well
305'	NM-125173 - 160 acres NM-028880 - 160.75 acres	E2E2 160
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19 Proposed Depth**	**20 BLM/BIA Bond No on File**
103' NE from #2	MD 14975' TVD 10500'	NM-2575
21 Elevations (Show whether DF, KDB, RT, GL, etc)	**22. Approximate date work will start***	**23. Estimated duration**
3658' GR	09.01.12	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
2 A Drilling Plan
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).
4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
5 Operator Certification
6. Such other site specific information and/or plans as may be required by the authorized officer

25 Signature	Name *(Printed/Typed)*	Date
Celeste G. Dale	Celeste G. Dale	05.01.12

Title
Regulatory Analyst

Approved By *(Signature)* /s/ Jesse J. Juen	Name (Printed/Typed) /s/ Jesse J. Juen	Date AUG - 1 2012
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.

Capitan Controlled Water Basin

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)*

APPROVAL FOR TWO YEARS

Approval Subject to General Requirements & Special Stipulations Attached
AUG 16 2012

ATTACHED FOR
CONDITIONS OF APPROVAL

Operator - Landowner Agreement

Company: Cimarex Energy Co. of Colorado

Proposed Well: Lynch 23 Federal Com No. 3

Federal Lease Number: SHL NM-123524, BHL NM-028880

This is to advise that Cimarex Energy Co. of Colorado has an agreement with: Kenneth Smith Inc. (267 Ranch Road Hobbs NM 88240, the surface owner, concerning entry and, surface restoration after completion of drilling operations at the above described well.

After abandonment of the well, all equipment and trash will be removed from the well site. No other requirements were made concerning restoration of the well site.

May 1, 2012
Date

Signature

Zeno Farris
Manager, Operations Administration

Drilling Plan
Lynch 23 Federal Com No.3
Cimarex Energy Co. of Colorado
Unit A, Section 23
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 305 FNL & 560 FEL
BHL 330 FSL & 660 FEL

2 **Elevation Above Sea Level:** 3658' GR

3 **Geologic Name of Surface Formation:** Quaternery 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 14975' TVD 10500'

6 **Estimated Tops of Geological Markers:**

Rustler	1600'	Capitan	4040'
Top Salt	1850'	Delaware	5760'
Bottom Salt	3440'	Bone Spring	8300'
Yates	3730'		

7 **Possible Mineral Bearing Formations:**

Bone Spring	Oil
Delaware	Oil
Yates/7 Rivers	Oil

8 **Proposed Mud Circulating System:**

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1700'	8.4 - 8.6	28	NC	FW
1700' to 5600'	10.0	30-32	NC	Brine water
5600' to 14975'	8.4 - 9.5	30-32	NC	FW, brine

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 with kickoff point @ 10164' TVD. Drill through curve to to TMD 14975', TVD 10500'. Run 5½ casing from 0-14975' and cement.

Drilling Plan
Lynch 23 Federal Com No.3
Cimarex Energy Co. of Colorado
Unit A, Section 23
T20S-R34E, Lea County, NM

9 **Casing & Cementing Program:**

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
Surface	17½"	0'	to	1700'	New	13⅜"	54.5#	STC	J-55
Intermediate	12¼"	0'	to	5600'	New	9⅝"	40#	LTC	**N-80
Production	8¾"	0'	to	14975'	New	5 ½"	26#	LTC	P-110

10 **Cementing:**

Surface Lead:1100 sks Class C + 4% Bentonite + 2% CaCl, 13.5 ppg 1.75 yield
Tail: 270 sks Class C + 2% CaCl, 14.8 ppg, 1.34 yield, 100% excess
TOC Surface Centralizers per Onshore Order 2.III.B.1.f

Intermediate Lead: 1200 sks 35:65 Poz C + 6% Bentonite, 12.9 ppg, 1.88 yield,
Tail: 350 sks Class C + 1% CaCl, 14.8 ppg , 1.34 yield, 50% excess
TOC Surface

Production Lead: 660 sks 50:50 Poz H + 10% Bentonite, 11.9 ppg, 2.45 yield, 25% excess
Tail: 1390 sks 50:50 Poz H, 14.5ppg, 1.22 yield, 25% excess

TOC 5100'

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

According to the State engineer, depth to ground water is 115.' Fresh water zones will be protected by setting 13⅜" casing at 1700' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 5600 ' and cementing to surface; and by setting 5½" casing at 14975' and cementing to 5100.'

Collapse Factor	*Burst Factor*	*Tension Factor*
1.125	1.125	1.6

**Intermediate casing will be kept liquid filled while running in hole to meet BLM minimum collapse safety factor.

11 **Pressure Control Equipment:**

Exhibit "E". A 13⅝" 5000 PSI working pressure BOP system 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 as needed. 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 seperator will be installed before drilling out of the surface casing.

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. From the base of the 13⅜" casing through the running of production casing, the well will be equipped with a 5000 psi BOP system.

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

Drilling Plan
Lynch 23 Federal Com No.3
Cimarex Energy Co. of Colorado
Unit A, Section 23
T20S-R34E, Lea County, NM

12 Testing, Logging and Coring Program: See COA

A. Mud logging program: 2 man unit from 5600' 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 H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S 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 **4725 psi** Estimated BHT **130°**

14 Road and Location Construction:

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 potentialed as **an oil well.**

Cimarex Energy Co. of Colorado

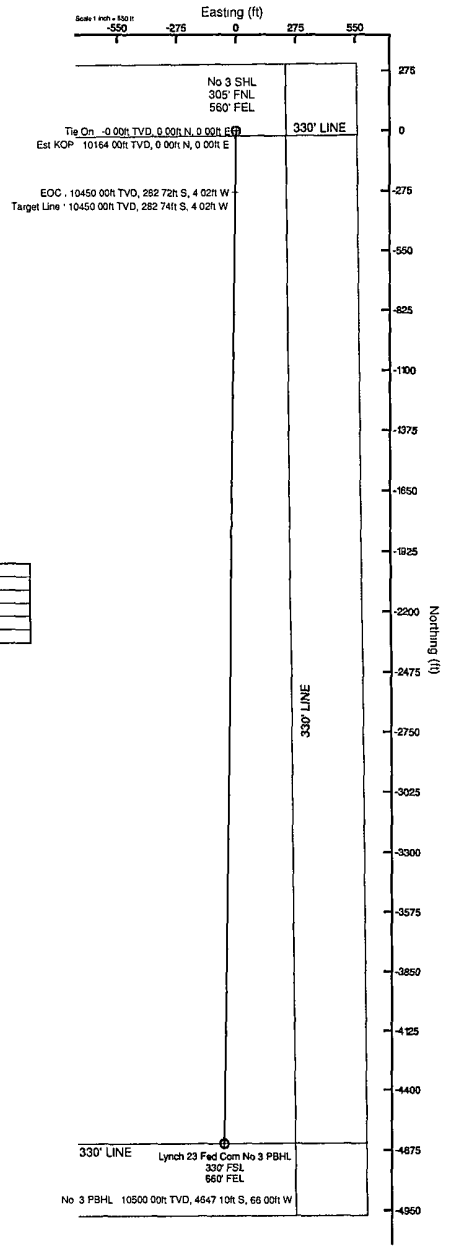
Location Lea County, NM
Field (Lynch) Sec 23, T20S, R34E
Facility Lynch 23 Fed Com No 3

Slot No 3 SHL
Well No 3
Wellbore No 3 PWB

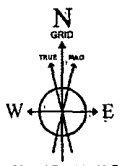
BAKER HUGHES

Well Profile Data

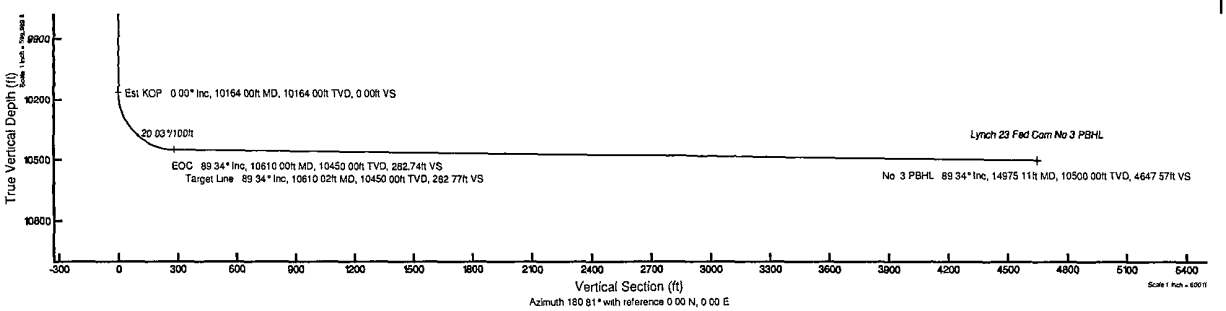
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0 00	0 000	180 814	0 00	0 00	0 00	0 00	0 00
Est KOP	10164 00	0 000	180 814	10164 00	0 00	0 00	0 00	0 00
EOC	10610 00	89 344	180 814	10450 00	-282 72	-4 02	20 03	282 74
Target Line	10610 02	89 344	180 814	10450 00	-282 74	-4 02	2 00	282 77
No 3 PBHL	14975 11	89 344	180 814	10500 00	-4647 10	-66 00	0 00	4647 57



Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No 3 SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.3 SHL (RT)	North Reference Grid north
Rig on No 3 SHL (RT) to Mean Sea Level 3658 feet	Scale True distance
Mean Sea Level to Mud line (At Slot No 3 SHL) -3658 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 46° Field 48765 3 nT
Magnetic North is 7 58 degrees East of True North (at 2/27/2012)
Grid North is 0 44 degrees East of True North
To correct azimuth from True to Grid subtract 0 44 degrees
To correct azimuth from Magnetic to Grid add 7 15 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 15 = 97 15



Azimuth 180 81° with reference 0 00 N, 0 00 E

Planned Wellpath Report

Prelim_1

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No.3 SHL**
Area	**Lea County, NM**	Well	**No.3**
Field	**(Lynch) Sec 23, T20S, R34E**	Wellbore	**No.3 PWB**
Facility	**Lynch 23 Fed Com No.3**		

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	**0.99998**	Report Generated	**2/27/2012** at **11:53:33 AM**
Convergence at slot	**0.44° East**	Database/Source file	**WA Midland/No.3_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**	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W
Facility Reference Pt			**790631.30**	**570237.80**	32°33'54.124"N	103°31'26.898"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.3 SHL (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Slot**	Rig on No.3 SHL (RT) to Mean Sea Level	**3658.00ft**
Vertical Reference Pt	**Rig on No.3 SHL (RT)**	Rig on No.3 SHL (RT) to Mud Line at Slot (No.3 SHL)	**0.00ft**
MD Reference Pt	**Rig on No.3 SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**180.81°**

Planned Wellpath Report

Prelim_1

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.3 PWB
Facility	Lynch 23 Fed Com No.3		

WELLPATH DATA (157 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	180.814	0.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	Tie On
100.00†	0.000	180.814	100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
200.00†	0.000	180.814	200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
300.00†	0.000	180.814	300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
400.00†	0.000	180.814	400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
500.00†	0.000	180.814	500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
600.00†	0.000	180.814	600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
700.00†	0.000	180.814	700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
800.00†	0.000	180.814	800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
900.00†	0.000	180.814	900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1000.00†	0.000	180.814	1000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1100.00†	0.000	180.814	1100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1200.00†	0.000	180.814	1200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1300.00†	0.000	180.814	1300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1400.00†	0.000	180.814	1400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1500.00†	0.000	180.814	1500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1600.00†	0.000	180.814	1600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1700.00†	0.000	180.814	1700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1800.00†	0.000	180.814	1800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
1900.00†	0.000	180.814	1900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2000.00†	0.000	180.814	2000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2100.00†	0.000	180.814	2100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2200.00†	0.000	180.814	2200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2300.00†	0.000	180.814	2300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2400.00†	0.000	180.814	2400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2500.00†	0.000	180.814	2500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2600.00†	0.000	180.814	2600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2700.00†	0.000	180.814	2700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2800.00†	0.000	180.814	2800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
2900.00†	0.000	180.814	2900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3000.00†	0.000	180.814	3000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3100.00†	0.000	180.814	3100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3200.00†	0.000	180.814	3200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3300.00†	0.000	180.814	3300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3400.00†	0.000	180.814	3400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3500.00†	0.000	180.814	3500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3600.00†	0.000	180.814	3600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3700.00†	0.000	180.814	3700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3800.00†	0.000	180.814	3800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
3900.00†	0.000	180.814	3900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4000.00†	0.000	180.814	4000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4100.00†	0.000	180.814	4100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4200.00†	0.000	180.814	4200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4300.00†	0.000	180.814	4300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4400.00†	0.000	180.814	4400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.3 PWB
Facility	Lynch 23 Fed Com No.3		

WELLPATH DATA (157 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
4500.00†	0.000	180.814	4500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4600.00†	0.000	180.814	4600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4700.00†	0.000	180.814	4700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4800.00†	0.000	180.814	4800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
4900.00†	0.000	180.814	4900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5000.00†	0.000	180.814	5000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5100.00†	0.000	180.814	5100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5200.00†	0.000	180.814	5200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5300.00†	0.000	180.814	5300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5400.00†	0.000	180.814	5400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5500.00†	0.000	180.814	5500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5600.00†	0.000	180.814	5600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	Cherry Canyon
5700.00†	0.000	180.814	5700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5800.00†	0.000	180.814	5800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
5900.00†	0.000	180.814	5900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6000.00†	0.000	180.814	6000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6100.00†	0.000	180.814	6100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6200.00†	0.000	180.814	6200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6300.00†	0.000	180.814	6300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6400.00†	0.000	180.814	6400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6500.00†	0.000	180.814	6500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6600.00†	0.000	180.814	6600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6700.00†	0.000	180.814	6700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6800.00†	0.000	180.814	6800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
6900.00†	0.000	180.814	6900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7000.00†	0.000	180.814	7000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7100.00†	0.000	180.814	7100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7200.00†	0.000	180.814	7200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7300.00†	0.000	180.814	7300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7400.00†	0.000	180.814	7400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7500.00†	0.000	180.814	7500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7600.00†	0.000	180.814	7600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7700.00†	0.000	180.814	7700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7800.00†	0.000	180.814	7800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
7900.00†	0.000	180.814	7900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8000.00†	0.000	180.814	8000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8100.00†	0.000	180.814	8100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8200.00†	0.000	180.814	8200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8250.00†	0.000	180.814	8250.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	Bone Spring
8300.00†	0.000	180.814	8300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8400.00†	0.000	180.814	8400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8500.00†	0.000	180.814	8500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8600.00†	0.000	180.814	8600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8700.00†	0.000	180.814	8700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
8800.00†	0.000	180.814	8800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	

Planned Wellpath Report

Prelim_1

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.3 PWB
Facility	Lynch 23 Fed Com No.3		

WELLPATH DATA (157 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
8900.00†	0.000	180.814	8900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9000.00†	0.000	180.814	9000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9100.00†	0.000	180.814	9100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9200.00†	0.000	180.814	9200.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9300.00†	0.000	180.814	9300.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9400.00†	0.000	180.814	9400.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9500.00†	0.000	180.814	9500.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9510.00†	0.000	180.814	9510.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	1st BSS
9600.00†	0.000	180.814	9600.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9700.00†	0.000	180.814	9700.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9800.00†	0.000	180.814	9800.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
9900.00†	0.000	180.814	9900.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
10000.00†	0.000	180.814	10000.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
10070.00†	0.000	180.814	10070.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	2nd BSS
10100.00†	0.000	180.814	10100.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	
10164.00	0.000	180.814	10164.00	0.00	0.00	0.00	790631.30	570237.80	32°33'54.124"N	103°31'26.898"W	0.00	Est KOP
10200.00†	7.212	180.814	10199.91	2.26	-2.26	-0.03	790631.27	570235.54	32°33'54.102"N	103°31'26.899"W	20.03	
10300.00†	27.244	180.814	10294.93	31.73	-31.73	-0.45	790630.85	570206.07	32°33'53.810"N	103°31'26.906"W	20.03	
10400.00†	47.276	180.814	10374.12	91.96	-91.95	-1.31	790629.99	570145.85	32°33'53.214"N	103°31'26.922"W	20.03	
10500.00†	67.308	180.814	10427.88	175.68	-175.66	-2.50	790628.80	570062.14	32°33'52.386"N	103°31'26.943"W	20.03	
10600.00†	87.340	180.814	10449.71	272.75	-272.72	-3.87	790627.43	569965.09	32°33'51.426"N	103°31'26.968"W	20.03	
10610.00	89.344	180.814	10450.00	282.74	-282.72	-4.02	790627.28	569955.09	32°33'51.327"N	103°31'26.970"W	20.03	EOC
10610.02	89.344	180.814	10450.00	282.77	-282.74	-4.02	790627.28	569955.07	32°33'51.327"N	103°31'26.970"W	2.00	Target Line
10700.00†	89.344	180.814	10451.03	372.74	-372.70	-5.29	790626.01	569865.11	32°33'50.437"N	103°31'26.993"W	0.00	
10800.00†	89.344	180.814	10452.18	472.73	-472.68	-6.71	790624.59	569765.13	32°33'49.448"N	103°31'27.019"W	0.00	
10900.00†	89.344	180.814	10453.32	572.72	-572.66	-8.13	790623.17	569665.15	32°33'48.458"N	103°31'27.044"W	0.00	
11000.00†	89.344	180.814	10454.47	672.72	-672.65	-9.55	790621.75	569565.17	32°33'47.469"N	103°31'27.070"W	0.00	
11100.00†	89.344	180.814	10455.61	772.71	-772.63	-10.97	790620.33	569465.19	32°33'46.480"N	103°31'27.095"W	0.00	
11200.00†	89.344	180.814	10456.76	872.70	-872.61	-12.39	790618.91	569365.20	32°33'45.491"N	103°31'27.121"W	0.00	
11300.00†	89.344	180.814	10457.90	972.70	-972.60	-13.81	790617.49	569265.22	32°33'44.502"N	103°31'27.146"W	0.00	
11400.00†	89.344	180.814	10459.05	1072.69	-1072.58	-15.23	790616.07	569165.24	32°33'43.513"N	103°31'27.172"W	0.00	
11500.00†	89.344	180.814	10460.19	1172.68	-1172.56	-16.65	790614.65	569065.26	32°33'42.524"N	103°31'27.197"W	0.00	
11600.00†	89.344	180.814	10461.34	1272.68	-1272.55	-18.07	790613.23	568965.28	32°33'41.534"N	103°31'27.223"W	0.00	
11700.00†	89.344	180.814	10462.49	1372.67	-1372.53	-19.49	790611.81	568865.30	32°33'40.545"N	103°31'27.248"W	0.00	
11800.00†	89.344	180.814	10463.63	1472.66	-1472.52	-20.91	790610.39	568765.32	32°33'39.556"N	103°31'27.273"W	0.00	
11900.00†	89.344	180.814	10464.78	1572.66	-1572.50	-22.33	790608.97	568665.34	32°33'38.567"N	103°31'27.299"W	0.00	
12000.00†	89.344	180.814	10465.92	1672.65	-1672.48	-23.75	790607.55	568565.35	32°33'37.578"N	103°31'27.324"W	0.00	
12100.00†	89.344	180.814	10467.07	1772.64	-1772.47	-25.17	790606.13	568465.37	32°33'36.589"N	103°31'27.350"W	0.00	
12200.00†	89.344	180.814	10468.21	1872.64	-1872.45	-26.59	790604.71	568365.39	32°33'35.599"N	103°31'27.375"W	0.00	
12300.00†	89.344	180.814	10469.36	1972.63	-1972.43	-28.01	790603.29	568265.41	32°33'34.610"N	103°31'27.401"W	0.00	
12400.00†	89.344	180.814	10470.50	2072.62	-2072.42	-29.43	790601.87	568165.43	32°33'33.621"N	103°31'27.426"W	0.00	
12500.00†	89.344	180.814	10471.65	2172.62	-2172.40	-30.85	790600.45	568065.45	32°33'32.632"N	103°31'27.452"W	0.00	
12600.00†	89.344	180.814	10472.79	2272.61	-2272.38	-32.27	790599.03	567965.47	32°33'31.643"N	103°31'27.477"W	0.00	
12700.00†	89.344	180.814	10473.94	2372.60	-2372.37	-33.69	790597.61	567865.49	32°33'30.654"N	103°31'27.503"W	0.00	
12800.00†	89.344	180.814	10475.09	2472.60	-2472.35	-35.11	790596.19	567765.51	32°33'29.664"N	103°31'27.528"W	0.00	

Planned Wellpath Report

Prelim_1

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Lynch) Sec 23, T20S, R34E	Wellbore	No.3 PWB
Facility	Lynch 23 Fed Com No.3		

WELLPATH DATA (157 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
12900.00†	89.344	180.814	10476.23	2572.59	-2572.33	-36.53	790594.77	567665.52	32°33'28.675"N	103°31'27.554"W	0.00	
13000.00†	89.344	180.814	10477.38	2672.58	-2672.32	-37.95	790593.35	567565.54	32°33'27.686"N	103°31'27.579"W	0.00	
13100.00†	89.344	180.814	10478.52	2772.58	-2772.30	-39.37	790591.93	567465.56	32°33'26.697"N	103°31'27.605"W	0.00	
13200.00†	89.344	180.814	10479.67	2872.57	-2872.28	-40.79	790590.51	567365.58	32°33'25.708"N	103°31'27.630"W	0.00	
13300.00†	89.344	180.814	10480.81	2972.57	-2972.27	-42.21	790589.09	567265.60	32°33'24.719"N	103°31'27.655"W	0.00	
13400.00†	89.344	180.814	10481.96	3072.56	-3072.25	-43.63	790587.67	567165.62	32°33'23.729"N	103°31'27.681"W	0.00	
13500.00†	89.344	180.814	10483.10	3172.55	-3172.23	-45.05	790586.25	567065.64	32°33'22.740"N	103°31'27.706"W	0.00	
13600.00†	89.344	180.814	10484.25	3272.55	-3272.22	-46.47	790584.83	566965.66	32°33'21.751"N	103°31'27.732"W	0.00	
13700.00†	89.344	180.814	10485.39	3372.54	-3372.20	-47.89	790583.41	566865.67	32°33'20.762"N	103°31'27.757"W	0.00	
13800.00†	89.344	180.814	10486.54	3472.53	-3472.18	-49.31	790581.99	566765.69	32°33'19.773"N	103°31'27.783"W	0.00	
13900.00†	89.344	180.814	10487.69	3572.53	-3572.17	-50.73	790580.57	566665.71	32°33'18.784"N	103°31'27.808"W	0.00	
14000.00†	89.344	180.814	10488.83	3672.52	-3672.15	-52.15	790579.15	566565.73	32°33'17.794"N	103°31'27.834"W	0.00	
14100.00†	89.344	180.814	10489.98	3772.51	-3772.13	-53.57	790577.73	566465.75	32°33'16.805"N	103°31'27.859"W	0.00	
14200.00†	89.344	180.814	10491.12	3872.51	-3872.12	-54.99	790576.31	566365.77	32°33'15.816"N	103°31'27.885"W	0.00	
14300.00†	89.344	180.814	10492.27	3972.50	-3972.10	-56.41	790574.89	566265.79	32°33'14.827"N	103°31'27.910"W	0.00	
14400.00†	89.344	180.814	10493.41	4072.49	-4072.08	-57.83	790573.47	566165.81	32°33'13.838"N	103°31'27.936"W	0.00	
14500.00†	89.344	180.814	10494.56	4172.49	-4172.07	-59.25	790572.05	566065.82	32°33'12.849"N	103°31'27.961"W	0.00	
14600.00†	89.344	180.814	10495.70	4272.48	-4272.05	-60.67	790570.63	565965.84	32°33'11.859"N	103°31'27.987"W	0.00	
14700.00†	89.344	180.814	10496.85	4372.47	-4372.03	-62.09	790569.21	565865.86	32°33'10.870"N	103°31'28.012"W	0.00	
14800.00†	89.344	180.814	10497.99	4472.47	-4472.02	-63.51	790567.79	565765.88	32°33'09.881"N	103°31'28.037"W	0.00	
14900.00†	89.344	180.814	10499.14	4572.46	-4572.00	-64.93	790566.37	565665.90	32°33'08.892"N	103°31'28.063"W	0.00	
14975.11	89.344	180.814	10500.00[1]	4647.57	-4647.10	-66.00	790565.30	565590.80	32°33'08.149"N	103°31'28.082"W	0.00	No. 3 PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Lynch 23 Fed Com No.3 PBHL	14975.11	10500.00	-4647.10	-66.00	**790565.30**	**565590.80**	32°33'08.149"N	103°31'28.082"W	point

SURVEY PROGRAM - Ref Wellbore: No.3 PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	14975.11	NaviTrak (Standard)		No.3 PWB

SR & A

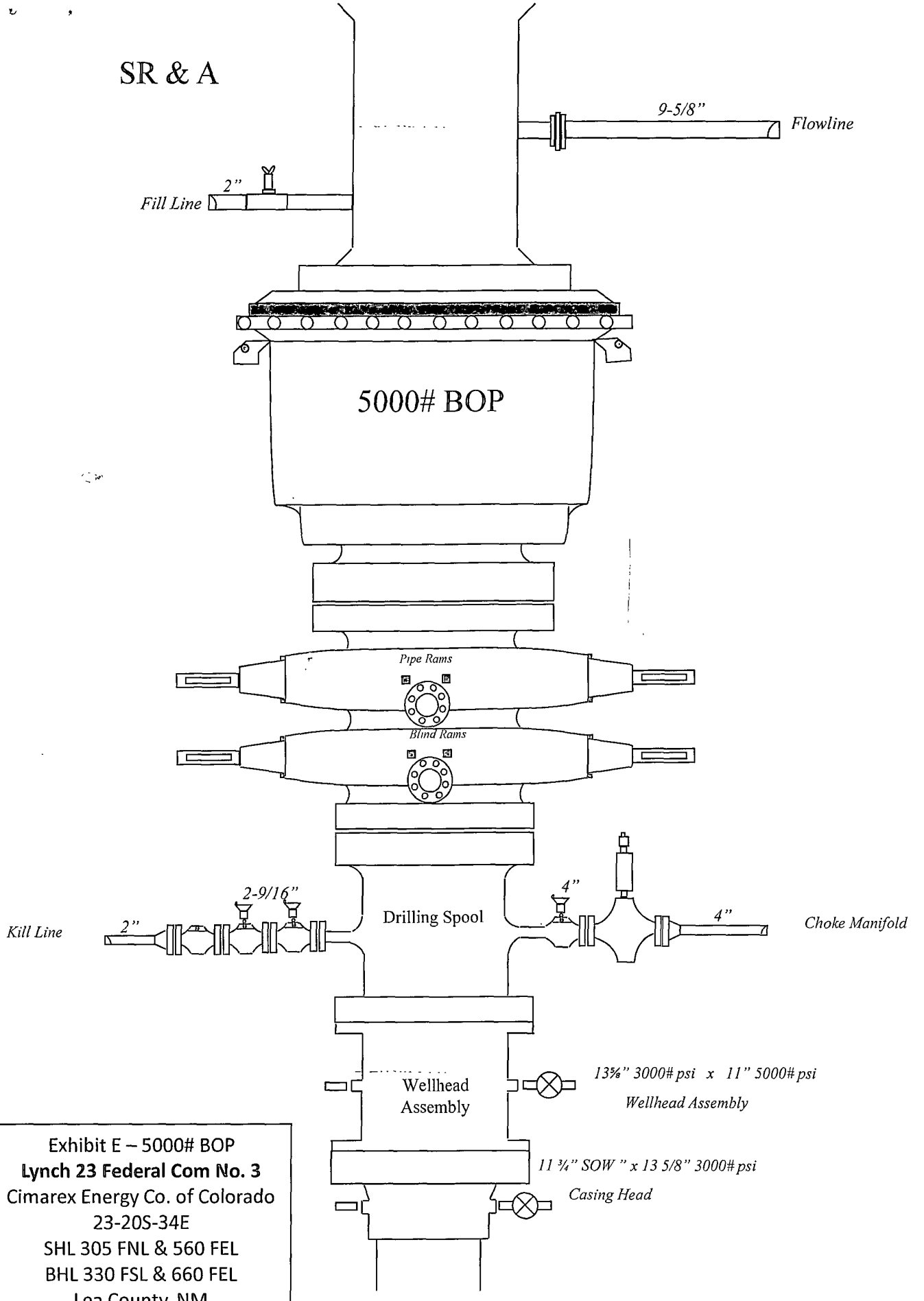
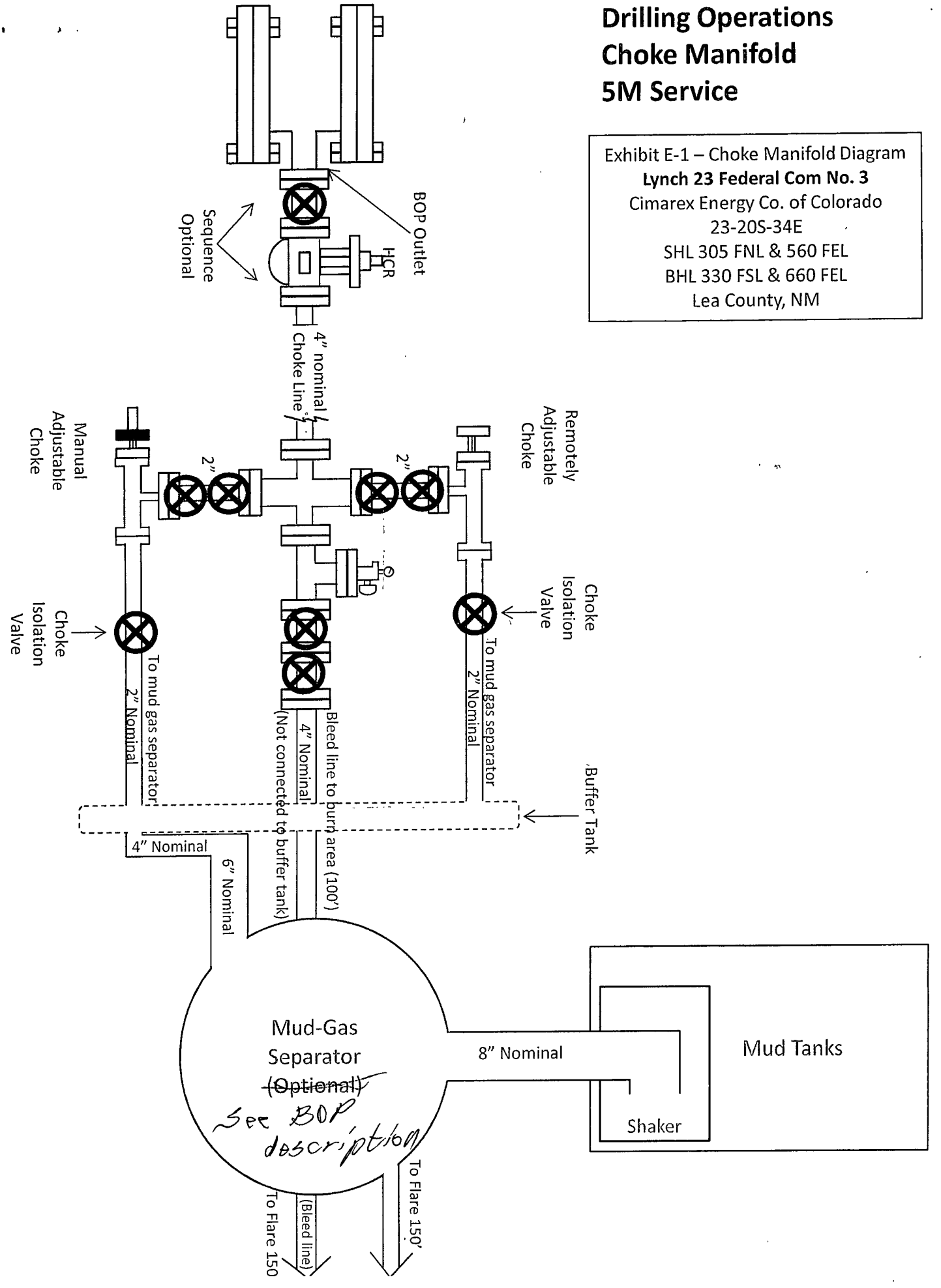


Exhibit E – 5000# BOP
Lynch 23 Federal Com No. 3
Cimarex Energy Co. of Colorado
23-20S-34E
SHL 305 FNL & 560 FEL
BHL 330 FSL & 660 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Lynch 23 Federal Com No. 3
Cimarex Energy Co. of Colorado
23-20S-34E
SHL 305 FNL & 560 FEL
BHL 330 FSL & 660 FEL
Lea County, NM



Equipment List

- Primary Shakers
- Mud Cleaner – hydro-cyclones
- 1 or 2 Centrifuges (depending on well depth)
- De-watering system with pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing (may not be necessary for shallower wells)
- Drying Augur
- Sump Drying Augur
- Sump
- Cuttings Boxes
- Reserve Fluids Tank Farm
- Wire Mesh Trash Enclosure (spent motor oils kept in separate containers and later sent to approved landfill)

Operation and Maintenance

The Cimarex Zero Discharge system is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This ensures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

These closed loop operations can be monitored by our service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

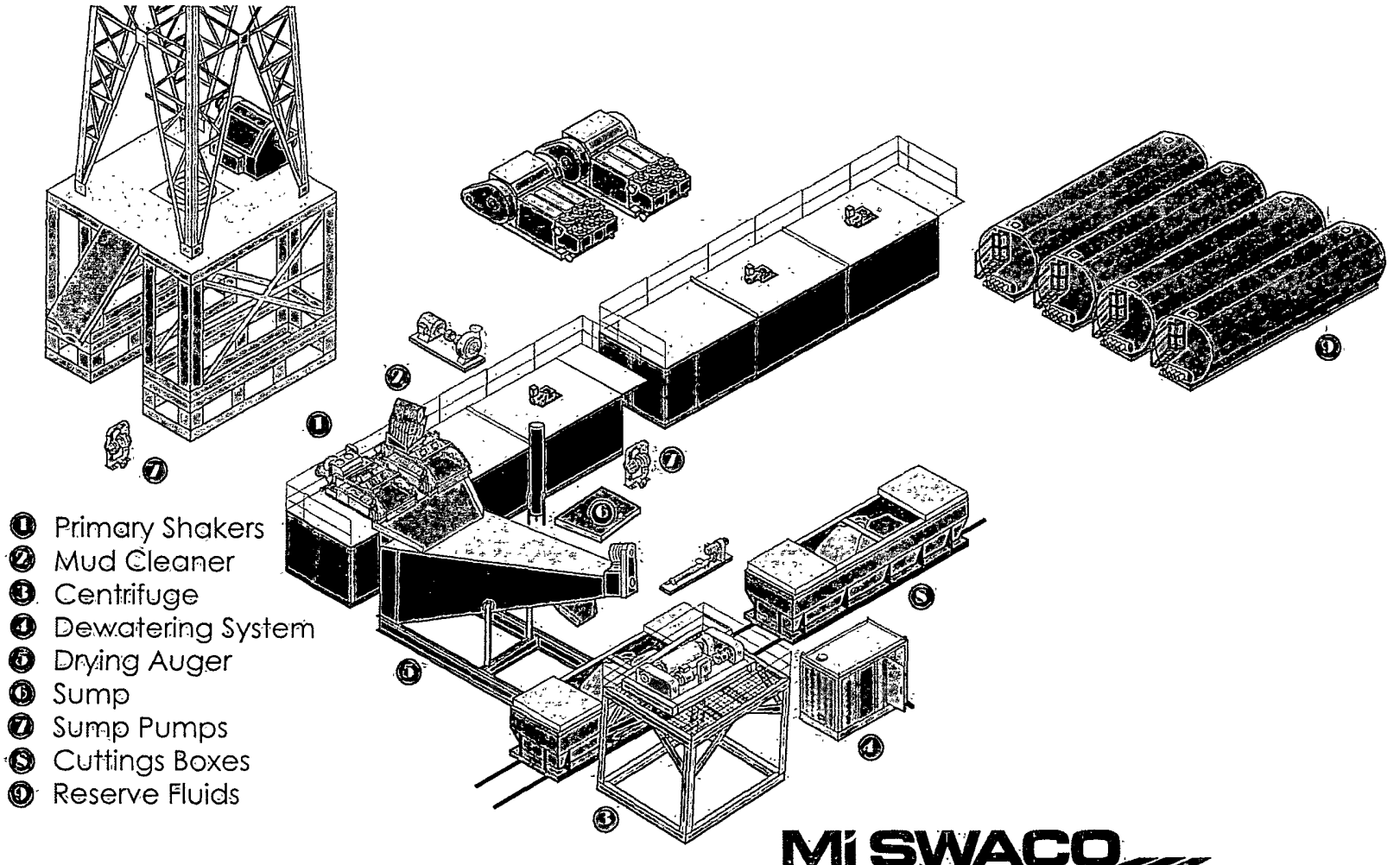
Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and tested for all regulated toxic materials. If found they are removed and disposed of per regulatory requirements.

Closure Plan

During drilling operations, all liquids, drilling fluids, and cuttings will be hauled off via CRI (Controlled Recovery Incorporated, Permit R-9166).

CIMAREX

Closed Loop with Drying Auger and Dewatering System

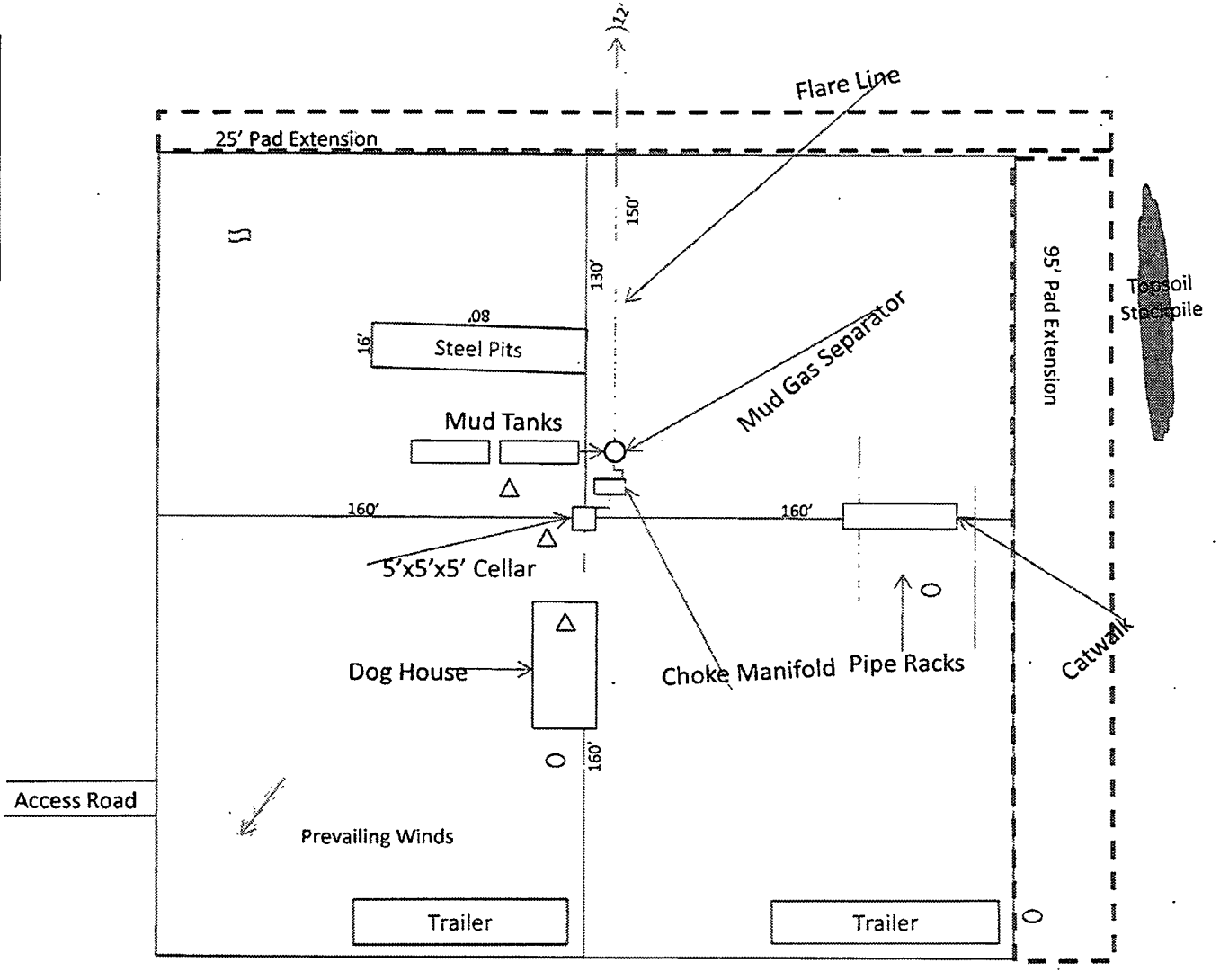


1. Primary Shakers
2. Mud Cleaner
3. Centrifuge
4. Dewatering System
5. Drying Auger
6. Sump
7. Sump Pumps
8. Cuttings Boxes
9. Reserve Fluids

MI SWACO

Key 881

Exhibit D – Rig Diagram
Lynch '23' Fed Com 3
Cimarex Energy Co. of Colorado
23-20S-34E
SHL 305 FNL & 560 FEL
BHL 330 FSL & 660 FEL
Lea County, NM



Wind Direction Indicators (wind sock or streamers)

• H2S Monitors (alarms at bell nipple and shale shaker)

Briefing Areas