

SECRETARY'S POTASH HOBBS OCD

OCD Hobbs

Form 3160-3
(April 2004)

OCT 01 2012

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

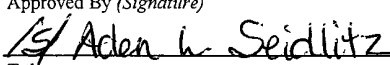
RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work. ☒ DRILL ☐ REENTER		5 Lease Serial No SHL NMLC066126 BHL NMLC0066126C	
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 <39480> Hanson 26 Federal Com No. 4 H	
3b Phone No (include area code) 432-571-7800		9 API Well No 30-025- 40804	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At Surface 330 FNL & 660 FEL Unit A At proposed prod Zone 330 FSL & 660 FEL Unit P Horizontal Bone Spring test		10. Field and Pool, or Exploratory Lea; Bone Spring, S <37580>	
14. Distance in miles and direction from nearest town or post office*		11 Sec., T R M or Blk and Survey or Area	
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any) 330'		12 County or Parish Lea	
16 No of acres in lease NMLC066126 800 acres NMLC0066126C 320 acres		13. State NM	
17. Spacing Unit dedicated to this well E2E2 160		18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 330'	
19 Proposed Depth MD 15542' TVD 11100'		20 BLM/BIA Bond No on File NMB000835 NM-2575	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3691' GR		22 Approximate date work will start* 07.10.12	
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 	Name (Printed/Typed) Tracie J Cherry	Date 07.23.12
Title Sr Regulatory Analyst		
Approved By (Signature) 	Name (Printed/Typed)	Date SEP 24 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.

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

Kz 10/01/12

SEE ATTACHED FOR
CONDITIONS OF APP

OCT 02 2012 Approval Subject to General Requirements & Special Stipulations Attached

Operator - Landowner Agreement

Company: Cimarex Energy Co. of Colorado
Proposed Well: Hanson 26 Federal Com No. 4
Federal Lease Number: SHL NMLC066126 BHL NMLC0066126C

This is to advise that Cimarex Energy Co. of Colorado has an agreement with: Daniel C. Berry (PO Box 160 89 Berry Ranch Road Eunice NM 88231, 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.

July 23, 2012
Date


Signature Tracie J Cherry

Application to Drill
Hanson 26 Federal Com No. 4
 Cimarex Energy Co. of Colorado
 Unit A, Section 26
 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 330 FNL & 660 FEL
BHL 330 FSL & 660 FEL

- 2 Elevation above sea level: 3691' 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 15542' TVD 11100'

- 6 Estimated tops of geological markers:

Rustler	1650'	Cherry Canyon	6700'
Top Salt	1800'	Brushy Canyon	8110'
Bottom Salt	3400'	Bone Spring	8400'
Yates	3500'	Avalon Shale	8900'
Capitan	3970'	FBSS	9600'
Delaware/Bell Canyon	5180'	SBSS	10150'
		TBSS	11050'

- 7 Possible mineral bearing formation:

Bone Spring	Oil
Delaware	Oil
Yates/7 Rivers	Oil

8 Proposed Mud Circulating System: *See COA*

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1675'	8.4 - 9.0	28	NC	FW
1675' to 5480'	10.0	30-32	NC	Brine water
5480' to 10750'	8.4-9.0	28-29	NC	FW and brine, use hi-vis sweeps to keep hole clean
10750' to 15542'	8.4 - 9.5	30-32	NC	Brine, KCL 2%

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 7 7/8" hole to 10750. Set whipstock and kick off 7 7/8" lateral @ 10750 and drill to TD @ 15542 MD, 11100 TVD. Run 5 1/2" 17# P-110 LTC from 0-15542 and cement.

Application to Drill
Hanson 26 Federal Com No. 4
Cimarex Energy Co. of Colorado
Unit A, Section 26
T20S-R34E, Lea County, NM

9 Casing & Cementing Program:

** See COA*

See COA

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 1675'	New 13 3/4"	54.5#	STC	J-55
Intermediate	12 1/4"	0' to 5480'	New 9 5/8"	40#	LTC	N-80
Production	7 7/8"	0' to 15542'	New 5 1/2"	17#	LTC	P-110

10 Cementing:

Surface

Lead: 1175 sx Halcem C + Bentomite + 2% CaCl₂, 13.5 ppg 1.75 yield 100% Excess

Tail: 235 sx Halcem C + 2% CaCl₂, 14.2 ppg, 1.34 yield, 100% Excess

TOC Surface Centralizers per Onshore Order 2.III.B.1.f

Intermediate

Lead: 1695 sx Econocem + 5% Salt + 5 lbm/sk Gilsonite (wt 12.9, yld 1.92) 70% Excess

Tail: 235 sks Halcem + 1% CaCl₂ (wt 14.8, yld 1.34) 25% Excess

TOC Surface

Production

Lead: 1010 SKS EconoCem - H + 0.2 % HR-601 11.9ppg 2.44 yield 50% Excess

Tail: 1310 SKS Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess

TOC Surface

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

See COA

See COA

According to the State engineer, depth to ground water is 115'. Fresh water zones will be protected by setting 13 3/4" casing at 1675' and cementing to surface. Hydrocarbon zones will be protected by setting 9 5/8" casing at 5480' and cementing to surface, and by setting 5 1/2" casing at 15542' and cementing to surface.

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 13 5/8" 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 separator will be available if drilling in H2S areas.

See COA

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 13 3/4" casing through the running of production casing, the well will be equipped with a 5000 psi BOP system.

** See COA*

Before drilling out of 13 3/8" 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 9 5/8" intermediate casing BOP's will be tested by an independent service company to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 psi high.

** See COA*

Cimarex Energy Co. of Colorado requests a variance if Cactus 115 is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 59473

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

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

See COA

Application to Drill
Hanson 26 Federal Com No. 4
Cimarex Energy Co. of Colorado
Unit A, Section 26
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 **3000 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.

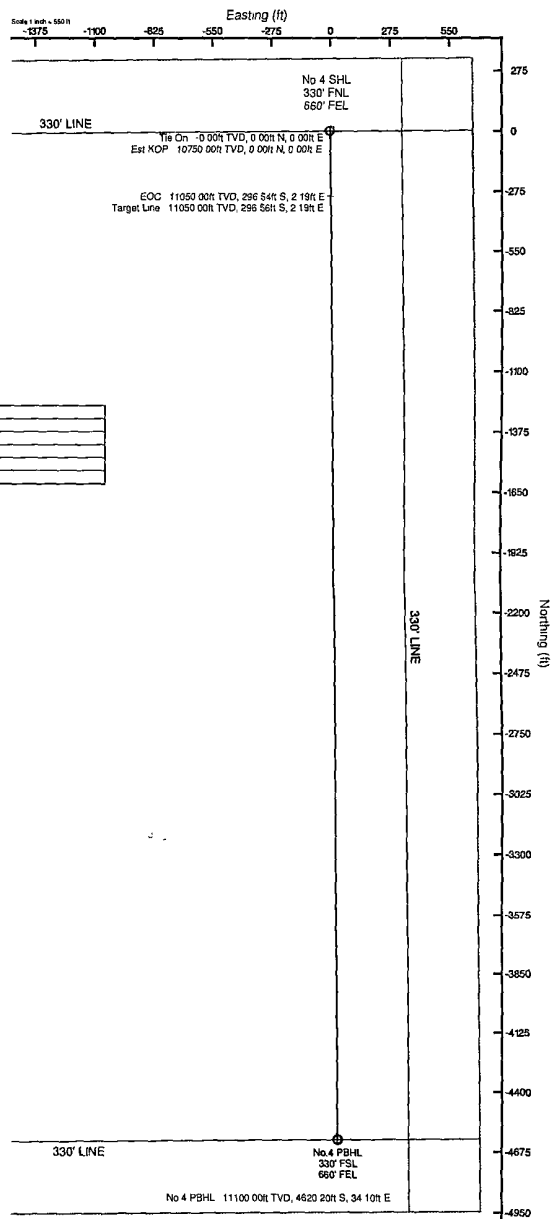
Location Lea County, NM
Field (Hanson) Sec 26, T20S, R34E
Facility Hanson 26 Fed Com No 4

Slot No 4 SHL
Well No 4
Wellbore No 4 PWB

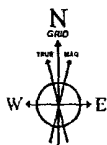


Well Profile Data

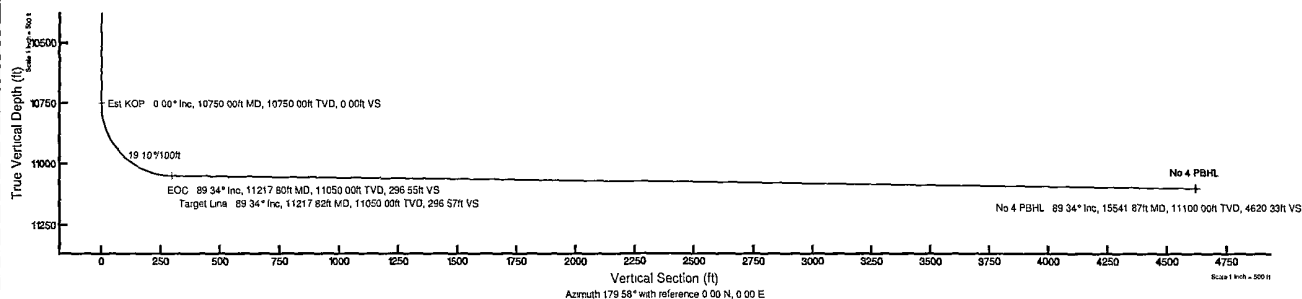
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	179.577	0.00	0.00	0.00	0.00	0.00
Est KOP	10750.00	0.000	179.577	10750.00	0.00	0.00	0.00	0.00
EOC	11217.80	89.337	179.577	11050.00	-296.54	2.19	19.10	296.55
Target Line	11217.82	89.337	179.577	11050.00	-296.56	2.19	2.00	296.57
No 4 PBHL	15541.87	89.337	179.577	11100.00	-4620.20	34.10	0.00	4620.33



Plot reference wellbore is Profile 1	
True vertical depths are referenced to Rig on No 4 SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001) US feet
Measured depths are referenced to Rig on No 4 SHL (RT)	North Reference: Grid north
Rig on No 4 SHL (RT) to Mean Sea Level: 3591 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No 4 SHL): 3691 feet	Depth: as in feet
Coordinates are in feet referenced to Slot	Created by: genbby on 3/1/2012



BGGM (1945.0 to 2013.0) Dip 60.45° Field 48755.2 nT
Magnetic North is 7.58 degrees East of True North (at 3/1/2012)
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





Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

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	3/1/2012 at 1:52:00 PM
Convergence at slot	0.44° East	Database/Source file	WA Midland/No.4_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	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W
Facility Reference Pt			790569.90	564930.70	32°33'01.617"N	103°31'28.087"W
Field Reference Pt			786380.10	564574.40	32°32'58.404"N	103°32'17.066"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.4 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.4 SHL (RT) to Mean Sea Level	3691.00ft
Vertical Reference Pt	Rig on No.4 SHL (RT)	Rig on No.4 SHL (RT) to Mud Line at Slot (No.4 SHL)	0.00ft
MD Reference Pt	Rig on No.4 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.58°



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

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	179.577	0.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	Tie On
100.00†	0.000	179.577	100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
200.00†	0.000	179.577	200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
300.00†	0.000	179.577	300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
400.00†	0.000	179.577	400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
500.00†	0.000	179.577	500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
600.00†	0.000	179.577	600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
700.00†	0.000	179.577	700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
800.00†	0.000	179.577	800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
900.00†	0.000	179.577	900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1000.00†	0.000	179.577	1000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1100.00†	0.000	179.577	1100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1200.00†	0.000	179.577	1200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1300.00†	0.000	179.577	1300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1400.00†	0.000	179.577	1400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1500.00†	0.000	179.577	1500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1600.00†	0.000	179.577	1600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1700.00†	0.000	179.577	1700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1800.00†	0.000	179.577	1800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
1900.00†	0.000	179.577	1900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2000.00†	0.000	179.577	2000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2100.00†	0.000	179.577	2100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2200.00†	0.000	179.577	2200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2300.00†	0.000	179.577	2300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2400.00†	0.000	179.577	2400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2500.00†	0.000	179.577	2500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2600.00†	0.000	179.577	2600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2700.00†	0.000	179.577	2700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2800.00†	0.000	179.577	2800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
2900.00†	0.000	179.577	2900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3000.00†	0.000	179.577	3000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3100.00†	0.000	179.577	3100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3200.00†	0.000	179.577	3200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3300.00†	0.000	179.577	3300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3400.00†	0.000	179.577	3400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3500.00†	0.000	179.577	3500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3600.00†	0.000	179.577	3600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3700.00†	0.000	179.577	3700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3800.00†	0.000	179.577	3800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
3900.00†	0.000	179.577	3900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4000.00†	0.000	179.577	4000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4100.00†	0.000	179.577	4100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4200.00†	0.000	179.577	4200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4300.00†	0.000	179.577	4300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4400.00†	0.000	179.577	4400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

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
4500.00†	0.000	179.577	4500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4600.00†	0.000	179.577	4600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4700.00†	0.000	179.577	4700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4800.00†	0.000	179.577	4800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
4900.00†	0.000	179.577	4900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5000.00†	0.000	179.577	5000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5100.00†	0.000	179.577	5100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5200.00†	0.000	179.577	5200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5300.00†	0.000	179.577	5300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5400.00†	0.000	179.577	5400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5500.00†	0.000	179.577	5500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5600.00†	0.000	179.577	5600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5700.00†	0.000	179.577	5700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	Cherry Canyon
5800.00†	0.000	179.577	5800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
5900.00†	0.000	179.577	5900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6000.00†	0.000	179.577	6000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6100.00†	0.000	179.577	6100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6200.00†	0.000	179.577	6200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6300.00†	0.000	179.577	6300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6400.00†	0.000	179.577	6400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6500.00†	0.000	179.577	6500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6600.00†	0.000	179.577	6600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6700.00†	0.000	179.577	6700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6800.00†	0.000	179.577	6800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
6900.00†	0.000	179.577	6900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7000.00†	0.000	179.577	7000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7100.00†	0.000	179.577	7100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7200.00†	0.000	179.577	7200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7300.00†	0.000	179.577	7300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7400.00†	0.000	179.577	7400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7500.00†	0.000	179.577	7500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7600.00†	0.000	179.577	7600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7700.00†	0.000	179.577	7700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7800.00†	0.000	179.577	7800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
7900.00†	0.000	179.577	7900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8000.00†	0.000	179.577	8000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8100.00†	0.000	179.577	8100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8200.00†	0.000	179.577	8200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8300.00†	0.000	179.577	8300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8400.00†	0.000	179.577	8400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	Bone Spring
8500.00†	0.000	179.577	8500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8600.00†	0.000	179.577	8600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8700.00†	0.000	179.577	8700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8800.00†	0.000	179.577	8800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
8900.00†	0.000	179.577	8900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	Avalon Shale



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

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
9000.00†	0.000	179.577	9000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9100.00†	0.000	179.577	9100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9200.00†	0.000	179.577	9200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9300.00†	0.000	179.577	9300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9400.00†	0.000	179.577	9400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9500.00†	0.000	179.577	9500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9600.00†	0.000	179.577	9600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	1st BSS
9700.00†	0.000	179.577	9700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9800.00†	0.000	179.577	9800.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
9900.00†	0.000	179.577	9900.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10000.00†	0.000	179.577	10000.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10100.00†	0.000	179.577	10100.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10150.00†	0.000	179.577	10150.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	2nd BSS
10200.00†	0.000	179.577	10200.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10300.00†	0.000	179.577	10300.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10400.00†	0.000	179.577	10400.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10500.00†	0.000	179.577	10500.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10600.00†	0.000	179.577	10600.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10630.00†	0.000	179.577	10630.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	3rd Carbonate
10700.00†	0.000	179.577	10700.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	
10750.00	0.000	179.577	10750.00	0.00	0.00	0.00	790569.90	564930.70	32°33'01.617"N	103°31'28.087"W	0.00	Est KOP
10800.00†	9.549	179.577	10799.77	4.16	-4.16	0.03	790569.93	564926.54	32°33'01.576"N	103°31'28.087"W	19.10	
10900.00†	28.646	179.577	10893.83	36.72	-36.72	0.27	790570.17	564893.98	32°33'01.254"N	103°31'28.087"W	19.10	
10936.85†	35.683	179.577	10925.00	56.33	-56.32	0.42	790570.32	564874.38	32°33'01.060"N	103°31'28.087"W	19.10	3rd BSS
11000.00†	47.743	179.577	10972.06	98.27	-98.27	0.73	790570.63	564832.43	32°33'00.645"N	103°31'28.087"W	19.10	
11074.86†	62.040	179.577	11015.00	159.35	-159.35	1.18	790571.08	564771.35	32°33'00.041"N	103°31'28.087"W	19.10	3rd BS "C" SS
11100.00†	66.841	179.577	11025.84	182.03	-182.02	1.34	790571.24	564748.68	32°32'59.816"N	103°31'28.087"W	19.10	
11200.00†	85.938	179.577	11049.27	278.77	-278.76	2.06	790571.96	564651.95	32°32'58.859"N	103°31'28.088"W	19.10	
11217.80	89.337	179.577	11050.00	296.55	-296.54	2.19	790572.09	564634.17	32°32'58.683"N	103°31'28.088"W	19.10	EOC
11217.82	89.337	179.577	11050.00	296.57	-296.56	2.19	790572.09	564634.14	32°32'58.683"N	103°31'28.088"W	2.00	Target Line
11300.00†	89.337	179.577	11050.95	378.74	-378.73	2.80	790572.70	564551.97	32°32'57.870"N	103°31'28.088"W	0.00	
11400.00†	89.337	179.577	11052.11	478.74	-478.72	3.53	790573.43	564451.99	32°32'56.880"N	103°31'28.088"W	0.00	
11500.00†	89.337	179.577	11053.26	578.73	-578.72	4.27	790574.17	564352.00	32°32'55.891"N	103°31'28.088"W	0.00	
11600.00†	89.337	179.577	11054.42	678.72	-678.71	5.01	790574.91	564252.01	32°32'54.902"N	103°31'28.089"W	0.00	
11700.00†	89.337	179.577	11055.58	778.72	-778.70	5.75	790575.65	564152.02	32°32'53.912"N	103°31'28.089"W	0.00	
11800.00†	89.337	179.577	11056.73	878.71	-878.69	6.49	790576.39	564052.03	32°32'52.923"N	103°31'28.089"W	0.00	
11900.00†	89.337	179.577	11057.89	978.70	-978.68	7.22	790577.12	563952.04	32°32'51.933"N	103°31'28.089"W	0.00	
12000.00†	89.337	179.577	11059.04	1078.70	-1078.67	7.96	790577.86	563852.06	32°32'50.944"N	103°31'28.090"W	0.00	
12100.00†	89.337	179.577	11060.20	1178.69	-1178.66	8.70	790578.60	563752.07	32°32'49.955"N	103°31'28.090"W	0.00	
12200.00†	89.337	179.577	11061.36	1278.68	-1278.65	9.44	790579.34	563652.08	32°32'48.965"N	103°31'28.090"W	0.00	
12300.00†	89.337	179.577	11062.51	1378.68	-1378.64	10.18	790580.08	563552.09	32°32'47.976"N	103°31'28.090"W	0.00	
12400.00†	89.337	179.577	11063.67	1478.67	-1478.63	10.91	790580.81	563452.10	32°32'46.986"N	103°31'28.091"W	0.00	
12500.00†	89.337	179.577	11064.83	1578.66	-1578.62	11.65	790581.55	563352.11	32°32'45.997"N	103°31'28.091"W	0.00	
12600.00†	89.337	179.577	11065.98	1678.66	-1678.61	12.39	790582.29	563252.12	32°32'45.008"N	103°31'28.091"W	0.00	
12700.00†	89.337	179.577	11067.14	1778.65	-1778.60	13.13	790583.03	563152.14	32°32'44.018"N	103°31'28.091"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

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†	89.337	179.577	11068.30	1878.64	-1878.59	13.87	790583.77	563052.15	32°32'43.029"N	103°31'28.092"W	0.00	
12900.00†	89.337	179.577	11069.45	1978.64	-1978.58	14.60	790584.50	562952.16	32°32'42.039"N	103°31'28.092"W	0.00	
13000.00†	89.337	179.577	11070.61	2078.63	-2078.57	15.34	790585.24	562852.17	32°32'41.050"N	103°31'28.092"W	0.00	
13100.00†	89.337	179.577	11071.76	2178.62	-2178.56	16.08	790585.98	562752.18	32°32'40.061"N	103°31'28.092"W	0.00	
13200.00†	89.337	179.577	11072.92	2278.62	-2278.56	16.82	790586.72	562652.19	32°32'39.071"N	103°31'28.093"W	0.00	
13300.00†	89.337	179.577	11074.08	2378.61	-2378.55	17.56	790587.46	562552.21	32°32'38.082"N	103°31'28.093"W	0.00	
13400.00†	89.337	179.577	11075.23	2478.60	-2478.54	18.29	790588.19	562452.22	32°32'37.092"N	103°31'28.093"W	0.00	
13500.00†	89.337	179.577	11076.39	2578.60	-2578.53	19.03	790588.93	562352.23	32°32'36.103"N	103°31'28.093"W	0.00	
13600.00†	89.337	179.577	11077.55	2678.59	-2678.52	19.77	790589.67	562252.24	32°32'35.114"N	103°31'28.094"W	0.00	
13700.00†	89.337	179.577	11078.70	2778.58	-2778.51	20.51	790590.41	562152.25	32°32'34.124"N	103°31'28.094"W	0.00	
13800.00†	89.337	179.577	11079.86	2878.58	-2878.50	21.25	790591.15	562052.26	32°32'33.135"N	103°31'28.094"W	0.00	
13900.00†	89.337	179.577	11081.01	2978.57	-2978.49	21.98	790591.88	561952.28	32°32'32.145"N	103°31'28.094"W	0.00	
14000.00†	89.337	179.577	11082.17	3078.56	-3078.48	22.72	790592.62	561852.29	32°32'31.156"N	103°31'28.095"W	0.00	
14100.00†	89.337	179.577	11083.33	3178.56	-3178.47	23.46	790593.36	561752.30	32°32'30.167"N	103°31'28.095"W	0.00	
14200.00†	89.337	179.577	11084.48	3278.55	-3278.46	24.20	790594.10	561652.31	32°32'29.177"N	103°31'28.095"W	0.00	
14300.00†	89.337	179.577	11085.64	3378.54	-3378.45	24.94	790594.84	561552.32	32°32'28.188"N	103°31'28.095"W	0.00	
14400.00†	89.337	179.577	11086.80	3478.54	-3478.44	25.67	790595.57	561452.33	32°32'27.198"N	103°31'28.096"W	0.00	
14500.00†	89.337	179.577	11087.95	3578.53	-3578.43	26.41	790596.31	561352.35	32°32'26.209"N	103°31'28.096"W	0.00	
14600.00†	89.337	179.577	11089.11	3678.52	-3678.42	27.15	790597.05	561252.36	32°32'25.220"N	103°31'28.096"W	0.00	
14700.00†	89.337	179.577	11090.27	3778.52	-3778.41	27.89	790597.79	561152.37	32°32'24.230"N	103°31'28.096"W	0.00	
14800.00†	89.337	179.577	11091.42	3878.51	-3878.40	28.63	790598.53	561052.38	32°32'23.241"N	103°31'28.097"W	0.00	
14900.00†	89.337	179.577	11092.58	3978.50	-3978.40	29.36	790599.26	560952.39	32°32'22.251"N	103°31'28.097"W	0.00	
15000.00†	89.337	179.577	11093.73	4078.50	-4078.39	30.10	790600.00	560852.40	32°32'21.262"N	103°31'28.097"W	0.00	
15100.00†	89.337	179.577	11094.89	4178.49	-4178.38	30.84	790600.74	560752.41	32°32'20.273"N	103°31'28.097"W	0.00	
15200.00†	89.337	179.577	11096.05	4278.48	-4278.37	31.58	790601.48	560652.43	32°32'19.283"N	103°31'28.098"W	0.00	
15300.00†	89.337	179.577	11097.20	4378.48	-4378.36	32.32	790602.22	560552.44	32°32'18.294"N	103°31'28.098"W	0.00	
15400.00†	89.337	179.577	11098.36	4478.47	-4478.35	33.05	790602.95	560452.45	32°32'17.304"N	103°31'28.098"W	0.00	
15500.00†	89.337	179.577	11099.52	4578.46	-4578.34	33.79	790603.69	560352.46	32°32'16.315"N	103°31'28.098"W	0.00	
15541.87	89.337	179.577	11100.00†	4620.33	-4620.20	34.10	790604.00	560310.60	32°32'15.901"N	103°31'28.098"W	0.00	No.4 PBHL; Wolfcamp



Planned Wellpath Report

Prelim_1
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.4 SHL
Area	Lea County, NM	Well	No.4
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.4 PWB
Facility	Hanson 26 Fed Com No.4		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.4 PBHL	15541.87	11100.00	-4620.20	34.10	790604.00	560310.60	32°32'15.901"N	103°31'28.098"W	point

SURVEY PROGRAM - Ref Wellbore: No.4 PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15541.87	NaviTrak (Standard)		No.4 PWB

SR & A

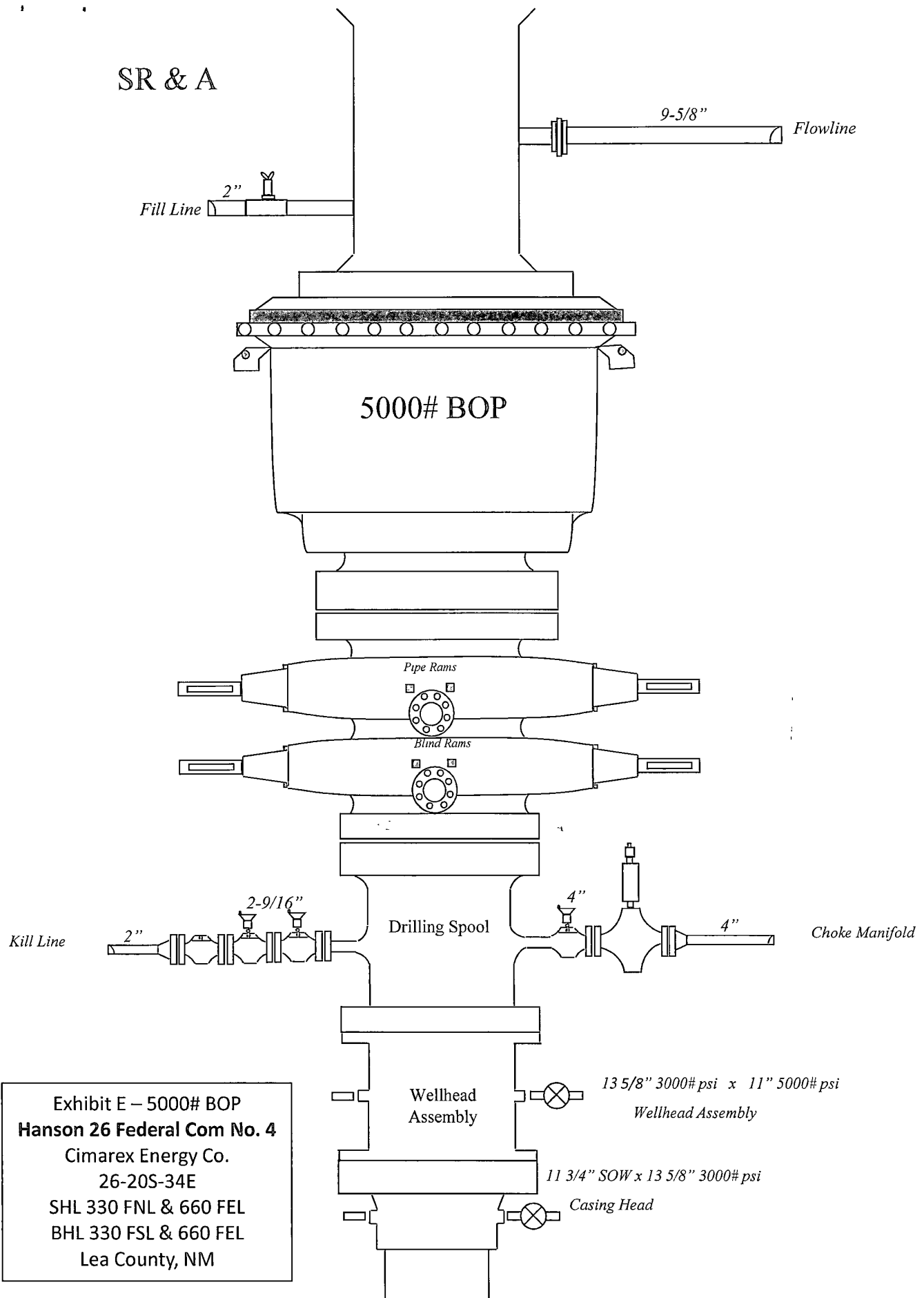
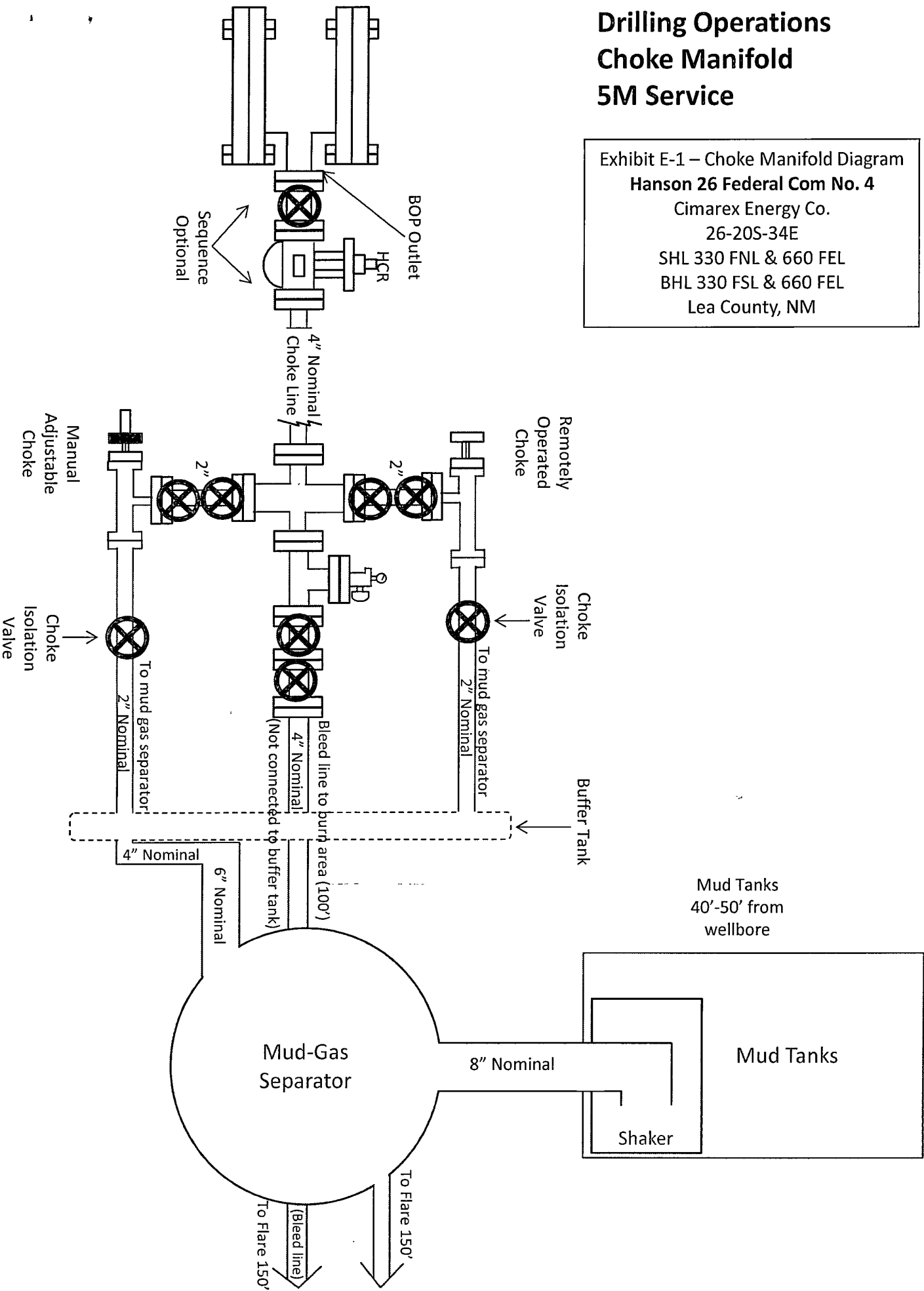
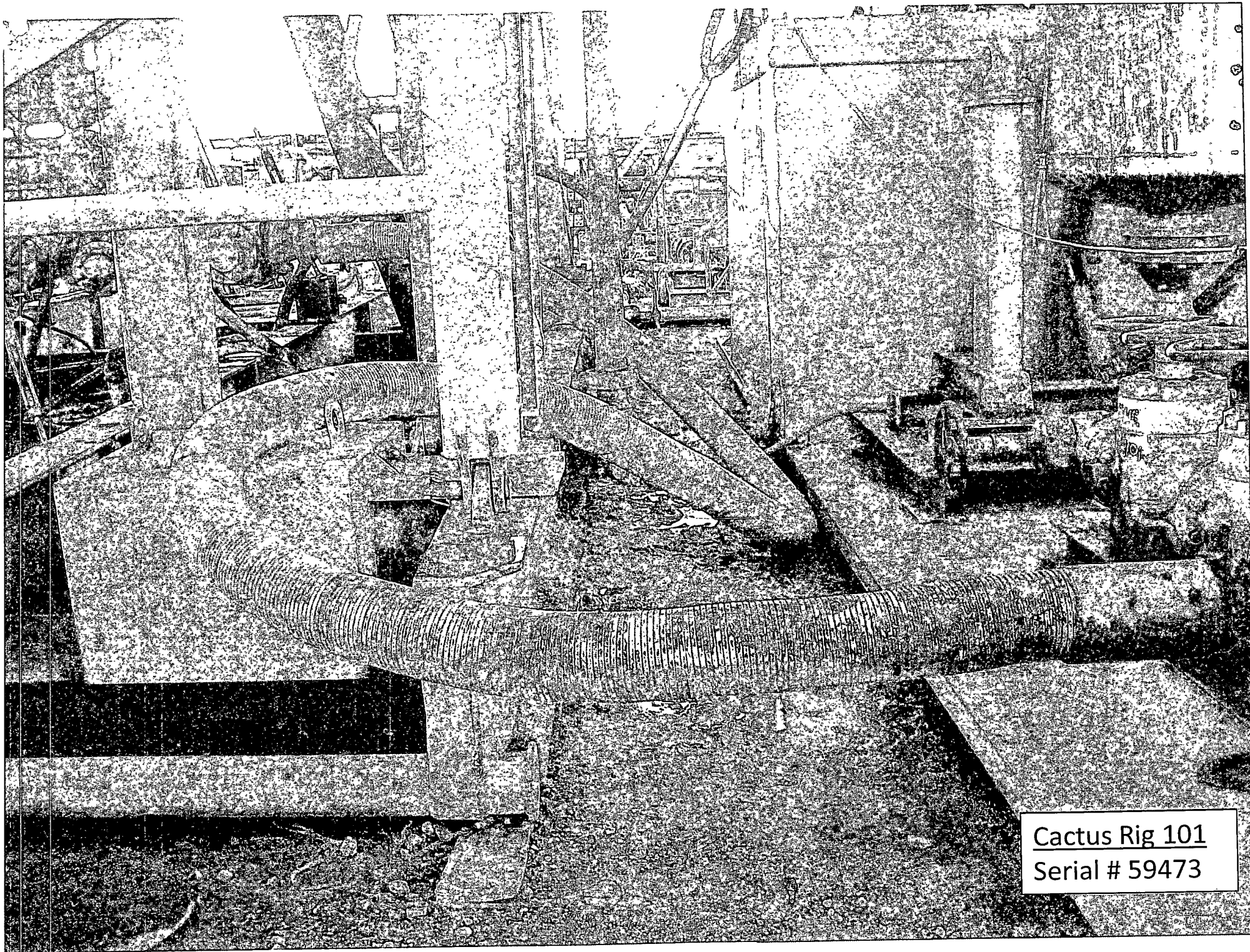


Exhibit E – 5000# BOP
Hanson 26 Federal Com No. 4
Cimarex Energy Co.
26-20S-34E
SHL 330 FNL & 660 FEL
BHL 330 FSL & 660 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Hanson 26 Federal Com No. 4
Cimarex Energy Co.
26-20S-34E
SHL 330 FNL & 660 FEL
BHL 330 FSL & 660 FEL
Lea County, NM





Cactus Rig 101
Serial # 59473

M I D W E S T
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT			
Customer: CACTUS		P.O. Number: Rig#101 Asset#M5358	
HOSE SPECIFICATIONS			
Type: CHOKER LINE		Length: 35'	
I.D. 4" INCHES		O.D. 8" INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI		BURST PRESSURE PSI
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY	
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: s/n#59473 Asset#M5358 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 5/19/2010	Tested By: BOBBY FINK		Approved: MENDI JACKSON

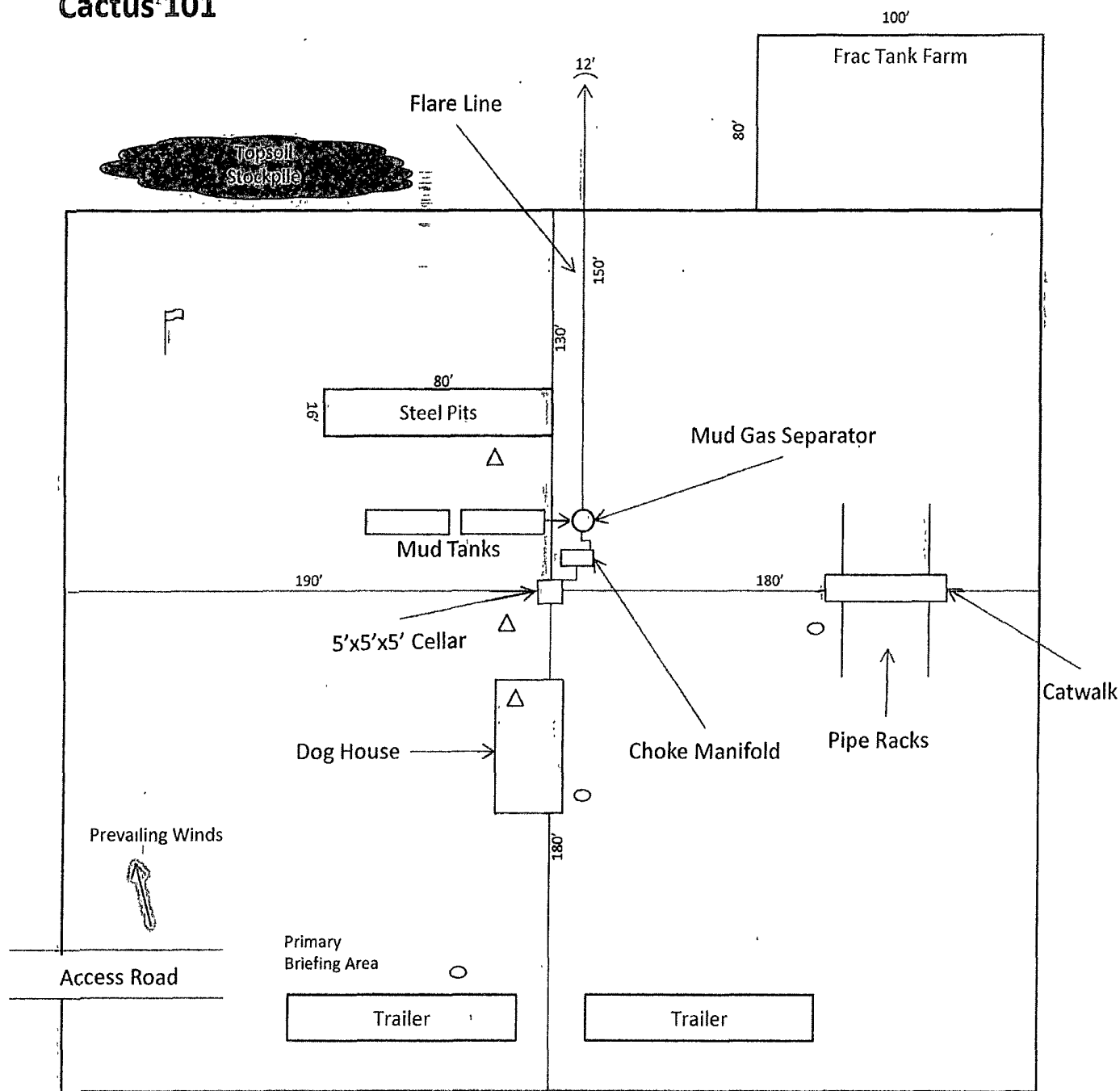


Midwest Hose
& Specialty, Inc.

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

N

Exhibit D – Rig Diagram
Hanson 26 Federal Com No. 4
Cimarex Energy Co.
26-20S-34E
SHL 330 FNL & 660 FEL
BHL 330 FSL & 660 FEL
Lea County, NM