

SECRETARY'S POTASH

HOBBS OCD

OCD-HOBBS

OCT 31 2011

Form 3160-3
(April 2004)

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate

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. NMLC066126	
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. of Colorado		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. Hanson 26 Federal No. 1 #	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 40327	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At Surface 660 FNL & 440 FWL At proposed prod. Zone 660 FNL & 330 FEL		10. Field and Pool, or Exploratory Lea; Bone Spring, SOUTH	
14. Distance in miles and direction from nearest town or post office*		11. Sec., T R. M or Blk. and Survey or Area 26-20S-34E	
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any) 440'		12. County or Parish Lea	
16. No of acres in lease NMLC066126 - 800 acres		13. State NM	
17. Spacing Unit dedicated to this well N2N2 160		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1650'	
19. Proposed Depth MD 15475' TVD 11050'		20. BLM/BIA Bond No. on File NM-2575	
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3683' GR		22. Approximate date work will start* 09.01.11	
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 07.01.11
Title Manager Operations Administration		
Approved By (Signature) <i>/s/ Jesse J. Juen</i>	Name (Printed/Typed) <i>/s/ Jesse J. Juen</i>	Date OCT 20 2011
Title ACTING 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

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

CAPTAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

NOV 08 2011

11-865

Operator - Landowner Agreement

HOBBS OCD

OCT 31 2011

RECEIVED

Company: Cimarex Energy Co. of Colorado
Proposed Well: Hanson 26 Federal No. 1
Federal Lease Number: NMLC066126

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.

September 6, 2011
Date

Zeno Farris
Signature Zeno Farris
Manager, Operations Administration

Application to Drill
Hanson 26 Federal No. 1
 Cimarex Energy Co. of Colorado
 Unit D, Section 26
 T20S-R34E, Lea County, NM

HOBBS OCD

OCT 31 2011

RECEIVED

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 FNL & 440 FWL
 BHL 660 FNL & 330 FEL

- 2 Elevation above sea level: 3683' 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 15475' TVD 11050'

- 6 Estimated tops of geological markers:

Rustler	1600'	Cherry Canyon	5700'
Top Salt	1960'	Bone Spring	8380'
Bottom Salt	3400'	Avalon Shale	8800'
Yates	3500'	FBSS	9600'
Capitan	3650'	SBSS	10150'
Delaware	5180'	TBSS	10900'

- 7 Possible mineral bearing formation:

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' 1665'	8.4 - 8.6	28	NC	FW
1700' to 5500'	10.0	30-32	NC	Brine water
5500' to 10750'	8.4 - 9.5	30-32	NC	FW, brine
10750' to 15475'	8.4	28-29	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 10750. Run 7" casing from 0-10750 and cement. Drill out of the bottom of the 7" casing with a 6½" bit and kick off 6½" lateral @ 10790 and drill to TD @ 15475 MD, 11050 TVD. Run 4½" liner from 10450 to TD and cement.

Application to Drill
Hanson 26 Federal No. 1
 Cimarex Energy Co. of Colorado
 Unit D, Section 26
 T20S-R34E, Lea County, NM

9 Casing & Cementing Program:

see
COA

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17½"	0' to 1700'	New 13½"	54.5#	STC	J-55
Intermediate	12¼"	0' to 5500'	New 9½"	40#	LTC	N-80
Production	8¾"	0' to 10750'	New 7"	26#	LTC	P-110
Liner	6⅝"	10450' to 15475'	New 4½"	11.6#	*LTC/BTC*	P-110

**Use BTC from 10450-11240 and LTC from 11240-15475

10 Cementing:

Surface Lead: 992 sx Halcem C + Bentomite + 2% CaCl, 13.5 ppg 1.75 yield 100% Excess
 Tail: 235 sx Halcem C + 2% CaCl, 14.2 ppg, 1.34 yield, 100% Excess
TOC Surface Centralizers per Onshore Order 2.III.B.1.f

Intermediate Lead: 1925 sx Econocem + 5% Salt + 5 lbm/sk Gilsonite (wt 14.6, yld 1.54) 70% Excess
 Tail: 195 sks Halcem + 1% CaCl₂ (wt 14.8, yld 1.34) 25% Excess
TOC Surface

Production Lead: 375 SKS EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield
 Tail: 190 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 5000

Liner 471 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
**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 13½" casing at 1700' and cementing to surface. Hydrocarbon zones will be protected by setting 9½" casing at 5500' and cementing to surface, and by setting 7" casing at 10750' and cementing to 5500'.

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 13½" 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.

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

BOPS 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.

Application to Drill
Hanson 26 Federal No. 1
Cimarex Energy Co. of Colorado
Unit D, Section 26
T20S-R34E, Lea County, NM

12 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 5500' to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- 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 potential as **an oil well.**



Cimarex Energy Co.

Location: Lea County, NM
Field: (Hanson) Sec 26, T20S, R34E
Facility: Hanson 26 Federal

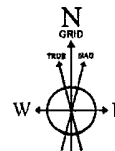
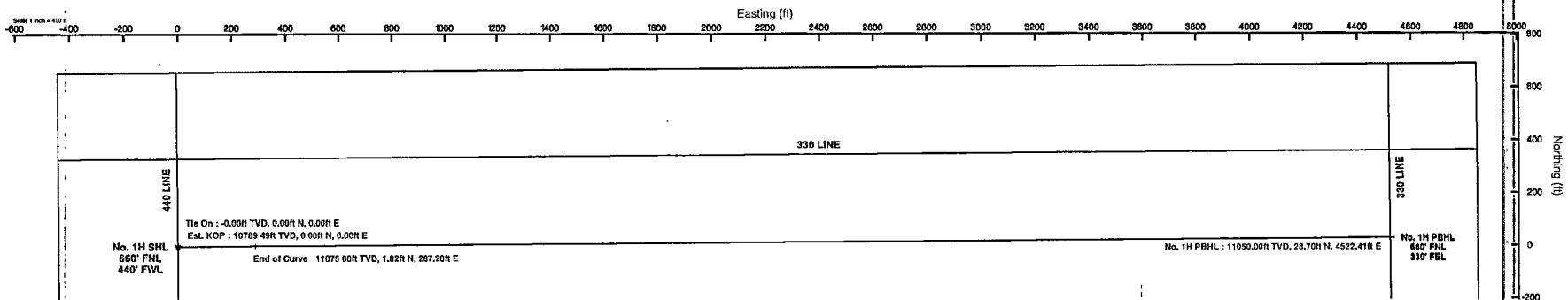
Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H PWB



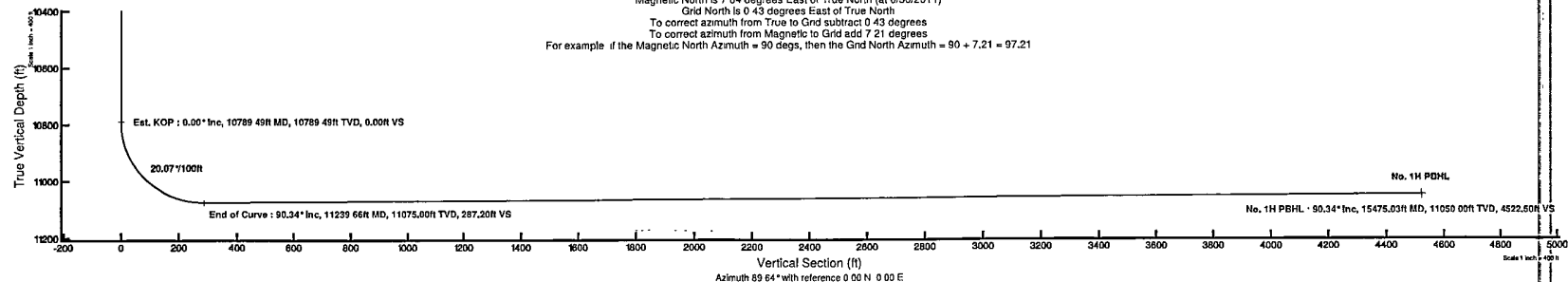
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	89.636	0.00	0.00	0.00	0.00	0.00
Est. KOP	10789.49	0.000	89.636	10789.49	0.00	0.00	0.00	0.00
End of Curve	11239.66	90.338	89.636	11075.00	1.82	287.20	20.07	287.20
No. 1H PBHL	15475.03	90.338	89.636	11050.00	28.70	4522.41	0.00	4522.50

Plot reference wellpath is Prelim 1	
True vertical depths are referenced to Rig on No. 1H SHL (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H SHL (KB)	North Reference: Grid north
Rig on No. 1H SHL (KB) to Mean Sea Level: 0 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No. 1H SHL): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: calphsk on 6/30/2011



BGGM (1945.0 to 2012.0) Dip: 60.50° Field 48873.2 nT
Magnetic North is 7.64 degrees East of True North (at 6/30/2011)
Grid North is 0.43 degrees East of True North
To correct azimuth from True to Grid subtract 0.43 degrees
To correct azimuth from Magnetic to Grid add 7.21 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.21 = 97.21





Planned Wellpath Report

Prelim 1

Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

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	Calhphik
Scale	0.999978	Report Generated	6/30/2011 at 4:44:48 PM
Convergence at slot	0.43° East	Database/Source file	WA Midland/No. 1H_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	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W
Facility Reference Pt			786380.10	564574.40	32°32'58.404"N	103°32'17.066"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. 1H SHL (KB) to GL	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 1H SHL (KB) to Mean Sea Level	0.00ft
Vertical Reference Pt	Rig on No. 1H SHL (KB)	Rig on No. 1H SHL (KB) to Mud Line at Slot (No. 1H SHL)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	89.64°

HOBBS OCD

OCT 31 2011

RECEIVED



Planned Wellpath Report

Prelim 1
Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

WELLPATH DATA (160 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	89.636	0.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	Tie On
100.00†	0.000	89.636	100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
200.00†	0.000	89.636	200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
300.00†	0.000	89.636	300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
400.00†	0.000	89.636	400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
500.00†	0.000	89.636	500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
600.00†	0.000	89.636	600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
700.00†	0.000	89.636	700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
800.00†	0.000	89.636	800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
900.00†	0.000	89.636	900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1000.00†	0.000	89.636	1000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1100.00†	0.000	89.636	1100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1200.00†	0.000	89.636	1200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1300.00†	0.000	89.636	1300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1400.00†	0.000	89.636	1400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1500.00†	0.000	89.636	1500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1600.00†	0.000	89.636	1600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1700.00†	0.000	89.636	1700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1800.00†	0.000	89.636	1800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
1900.00†	0.000	89.636	1900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2000.00†	0.000	89.636	2000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2100.00†	0.000	89.636	2100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2200.00†	0.000	89.636	2200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2300.00†	0.000	89.636	2300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2400.00†	0.000	89.636	2400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2500.00†	0.000	89.636	2500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2600.00†	0.000	89.636	2600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2700.00†	0.000	89.636	2700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2800.00†	0.000	89.636	2800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
2900.00†	0.000	89.636	2900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3000.00†	0.000	89.636	3000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3100.00†	0.000	89.636	3100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3200.00†	0.000	89.636	3200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3300.00†	0.000	89.636	3300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3400.00†	0.000	89.636	3400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3500.00†	0.000	89.636	3500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3600.00†	0.000	89.636	3600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3700.00†	0.000	89.636	3700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3800.00†	0.000	89.636	3800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
3900.00†	0.000	89.636	3900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4000.00†	0.000	89.636	4000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4100.00†	0.000	89.636	4100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4200.00†	0.000	89.636	4200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4300.00†	0.000	89.636	4300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4400.00†	0.000	89.636	4400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	



Planned Wellpath Report

Prelim-1

Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

WELLPATH DATA (160 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	89.636	4500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4600.00†	0.000	89.636	4600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4700.00†	0.000	89.636	4700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4800.00†	0.000	89.636	4800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
4900.00†	0.000	89.636	4900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5000.00†	0.000	89.636	5000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5100.00†	0.000	89.636	5100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5200.00†	0.000	89.636	5200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5300.00†	0.000	89.636	5300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5400.00†	0.000	89.636	5400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5500.00†	0.000	89.636	5500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5600.00†	0.000	89.636	5600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5700.00†	0.000	89.636	5700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5800.00†	0.000	89.636	5800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
5900.00†	0.000	89.636	5900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6000.00†	0.000	89.636	6000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6100.00†	0.000	89.636	6100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6200.00†	0.000	89.636	6200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6300.00†	0.000	89.636	6300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6400.00†	0.000	89.636	6400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6500.00†	0.000	89.636	6500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6600.00†	0.000	89.636	6600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6700.00†	0.000	89.636	6700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6800.00†	0.000	89.636	6800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
6900.00†	0.000	89.636	6900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7000.00†	0.000	89.636	7000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7100.00†	0.000	89.636	7100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7200.00†	0.000	89.636	7200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7300.00†	0.000	89.636	7300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7400.00†	0.000	89.636	7400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7500.00†	0.000	89.636	7500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7600.00†	0.000	89.636	7600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7700.00†	0.000	89.636	7700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7800.00†	0.000	89.636	7800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
7900.00†	0.000	89.636	7900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8000.00†	0.000	89.636	8000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8100.00†	0.000	89.636	8100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8200.00†	0.000	89.636	8200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8300.00†	0.000	89.636	8300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8400.00†	0.000	89.636	8400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8500.00†	0.000	89.636	8500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8600.00†	0.000	89.636	8600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8700.00†	0.000	89.636	8700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8800.00†	0.000	89.636	8800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
8900.00†	0.000	89.636	8900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	



Planned Wellpath Report

Prelim-1
Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

WELLPATH DATA (160 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	89.636	9000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9100.00†	0.000	89.636	9100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9200.00†	0.000	89.636	9200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9300.00†	0.000	89.636	9300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9400.00†	0.000	89.636	9400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9500.00†	0.000	89.636	9500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9600.00†	0.000	89.636	9600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	1st Bone Spring Shale
9700.00†	0.000	89.636	9700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9800.00†	0.000	89.636	9800.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
9900.00†	0.000	89.636	9900.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10000.00†	0.000	89.636	10000.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10100.00†	0.000	89.636	10100.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10150.00†	0.000	89.636	10150.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	2nd Bone Spring Shale
10200.00†	0.000	89.636	10200.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10300.00†	0.000	89.636	10300.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10400.00†	0.000	89.636	10400.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10500.00†	0.000	89.636	10500.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10600.00†	0.000	89.636	10600.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10700.00†	0.000	89.636	10700.00	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	
10789.49†	0.000	89.636	10789.49	0.00	0.00	0.00	786380.10	564574.40	32°32'58.404"N	103°32'17.066"W	0.00	Est. KOP
10800.00†	2.109	89.636	10800.00	0.19	0.00	0.19	786380.29	564574.40	32°32'58.404"N	103°32'17.063"W	20.07	
10900.00†	22.177	89.636	10897.26	21.12	0.13	21.12	786401.22	564574.53	32°32'58.404"N	103°32'16.819"W	20.07	
10902.96†	22.772	89.636	10900.00	22.25	0.14	22.25	786402.35	564574.54	32°32'58.404"N	103°32'16.806"W	20.07	3rd Bone Spring Shale
11000.00†	42.244	89.636	10981.44	74.15	0.47	74.15	786454.25	564574.87	32°32'58.403"N	103°32'16.199"W	20.07	
11100.00†	62.312	89.636	11042.31	152.85	0.97	152.84	786532.94	564575.37	32°32'58.402"N	103°32'15.280"W	20.07	
11200.00†	82.379	89.636	11072.48	247.65	1.57	247.65	786627.74	564575.97	32°32'58.401"N	103°32'14.172"W	20.07	
11239.66	90.338	89.636	11075.00	287.20	1.82	287.20	786667.29	564576.22	32°32'58.401"N	103°32'13.710"W	20.07	End of Curve
11300.00†	90.338	89.636	11074.64	347.54	2.21	347.53	786727.62	564576.61	32°32'58.400"N	103°32'13.005"W	0.00	
11400.00†	90.338	89.636	11074.05	447.54	2.84	447.53	786827.62	564577.24	32°32'58.399"N	103°32'11.837"W	0.00	
11500.00†	90.338	89.636	11073.46	547.54	3.47	547.52	786927.61	564577.87	32°32'58.398"N	103°32'10.669"W	0.00	
11600.00†	90.338	89.636	11072.87	647.53	4.11	647.52	787027.60	564578.51	32°32'58.397"N	103°32'09.501"W	0.00	
11700.00†	90.338	89.636	11072.28	747.53	4.74	747.52	787127.60	564579.14	32°32'58.396"N	103°32'08.332"W	0.00	
11800.00†	90.338	89.636	11071.69	847.53	5.38	847.51	787227.59	564579.78	32°32'58.395"N	103°32'07.164"W	0.00	
11900.00†	90.338	89.636	11071.10	947.53	6.01	947.51	787327.59	564580.41	32°32'58.393"N	103°32'05.996"W	0.00	
12000.00†	90.338	89.636	11070.51	1047.53	6.65	1047.51	787427.58	564581.05	32°32'58.392"N	103°32'04.828"W	0.00	
12100.00†	90.338	89.636	11069.92	1147.52	7.28	1147.50	787527.57	564581.68	32°32'58.391"N	103°32'03.660"W	0.00	
12200.00†	90.338	89.636	11069.33	1247.52	7.92	1247.50	787627.57	564582.32	32°32'58.390"N	103°32'02.491"W	0.00	
12300.00†	90.338	89.636	11068.74	1347.52	8.55	1347.49	787727.56	564582.95	32°32'58.389"N	103°32'01.323"W	0.00	
12400.00†	90.338	89.636	11068.15	1447.52	9.19	1447.49	787827.56	564583.59	32°32'58.388"N	103°32'00.155"W	0.00	
12500.00†	90.338	89.636	11067.56	1547.52	9.82	1547.49	787927.55	564584.22	32°32'58.387"N	103°31'58.987"W	0.00	
12600.00†	90.338	89.636	11066.97	1647.52	10.46	1647.48	788027.54	564584.86	32°32'58.385"N	103°31'57.818"W	0.00	
12700.00†	90.338	89.636	11066.38	1747.51	11.09	1747.48	788127.54	564585.49	32°32'58.384"N	103°31'56.650"W	0.00	
12800.00†	90.338	89.636	11065.79	1847.51	11.72	1847.48	788227.53	564586.12	32°32'58.383"N	103°31'55.482"W	0.00	
12900.00†	90.338	89.636	11065.20	1947.51	12.36	1947.47	788327.52	564586.76	32°32'58.382"N	103°31'54.314"W	0.00	
13000.00†	90.338	89.636	11064.61	2047.51	12.99	2047.47	788427.52	564587.39	32°32'58.381"N	103°31'53.146"W	0.00	



Planned Wellpath Report

Prelim-1
Page 5 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

WELLPATH DATA (160 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
13100.00†	90.338	89.636	11064.02	2147.51	13.63	2147.46	788527.51	564588.03	32°32'58.380"N	103°31'51.977"W	0.00	
13200.00†	90.338	89.636	11063.43	2247.51	14.26	2247.46	788627.51	564588.66	32°32'58.378"N	103°31'50.809"W	0.00	
13300.00†	90.338	89.636	11062.84	2347.50	14.90	2347.46	788727.50	564589.30	32°32'58.377"N	103°31'49.641"W	0.00	
13400.00†	90.338	89.636	11062.25	2447.50	15.53	2447.45	788827.49	564589.93	32°32'58.376"N	103°31'48.473"W	0.00	
13500.00†	90.338	89.636	11061.66	2547.50	16.17	2547.45	788927.49	564590.57	32°32'58.375"N	103°31'47.304"W	0.00	
13600.00†	90.338	89.636	11061.07	2647.50	16.80	2647.45	789027.48	564591.20	32°32'58.374"N	103°31'46.136"W	0.00	
13700.00†	90.338	89.636	11060.48	2747.50	17.44	2747.44	789127.48	564591.84	32°32'58.372"N	103°31'44.968"W	0.00	
13800.00†	90.338	89.636	11059.89	2847.50	18.07	2847.44	789227.47	564592.47	32°32'58.371"N	103°31'43.800"W	0.00	
13900.00†	90.338	89.636	11059.30	2947.49	18.71	2947.43	789327.46	564593.10	32°32'58.370"N	103°31'42.632"W	0.00	
14000.00†	90.338	89.636	11058.71	3047.49	19.34	3047.43	789427.46	564593.74	32°32'58.369"N	103°31'41.463"W	0.00	
14100.00†	90.338	89.636	11058.12	3147.49	19.97	3147.43	789527.45	564594.37	32°32'58.368"N	103°31'40.295"W	0.00	
14200.00†	90.338	89.636	11057.53	3247.49	20.61	3247.42	789627.44	564595.01	32°32'58.366"N	103°31'39.127"W	0.00	
14300.00†	90.338	89.636	11056.94	3347.49	21.24	3347.42	789727.44	564595.64	32°32'58.365"N	103°31'37.959"W	0.00	
14400.00†	90.338	89.636	11056.35	3447.48	21.88	3447.42	789827.43	564596.28	32°32'58.364"N	103°31'36.790"W	0.00	
14500.00†	90.338	89.636	11055.76	3547.48	22.51	3547.41	789927.43	564596.91	32°32'58.363"N	103°31'35.622"W	0.00	
14600.00†	90.338	89.636	11055.17	3647.48	23.15	3647.41	790027.42	564597.55	32°32'58.362"N	103°31'34.454"W	0.00	
14700.00†	90.338	89.636	11054.57	3747.48	23.78	3747.40	790127.41	564598.18	32°32'58.360"N	103°31'33.286"W	0.00	
14800.00†	90.338	89.636	11053.98	3847.48	24.42	3847.40	790227.41	564598.82	32°32'58.359"N	103°31'32.117"W	0.00	
14900.00†	90.338	89.636	11053.39	3947.48	25.05	3947.40	790327.40	564599.45	32°32'58.358"N	103°31'30.949"W	0.00	
15000.00†	90.338	89.636	11052.80	4047.47	25.69	4047.39	790427.40	564600.09	32°32'58.357"N	103°31'29.781"W	0.00	
15100.00†	90.338	89.636	11052.21	4147.47	26.32	4147.39	790527.39	564600.72	32°32'58.355"N	103°31'28.613"W	0.00	
15200.00†	90.338	89.636	11051.62	4247.47	26.96	4247.39	790627.38	564601.35	32°32'58.354"N	103°31'27.445"W	0.00	
15300.00†	90.338	89.636	11051.03	4347.47	27.59	4347.38	790727.38	564601.99	32°32'58.353"N	103°31'26.276"W	0.00	
15400.00†	90.338	89.636	11050.44	4447.47	28.22	4447.38	790827.37	564602.62	32°32'58.352"N	103°31'25.108"W	0.00	
15475.03	90.338	89.636	11050.00	4522.50	28.70	4522.41	790902.40	564603.10	32°32'58.351"N	103°31'24.232"W	0.00	No. 1H PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_1

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
12.25in Open Hole	0.00	5480.00	5480.00	0.00	5480.00	0.00	0.00	0.00	0.00
9.625in Casing	0.00	5480.00	5480.00	0.00	5480.00	0.00	0.00	0.00	0.00
8.75in Open Hole	5480.00	15475.03	9995.03	5480.00	11050.00	0.00	0.00	28.70	4522.40
5.5in Casing	0.00	15475.03	15475.03	0.00	11050.00	0.00	0.00	28.70	4522.40



Planned Wellpath Report

Prelim_1
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No. 1H PWB
Facility	Hanson 26 Federal		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No. 1H PBHL	15475.03	11050.00	28.70	4522.41	790902.40	564603.10	32°32'58.351"N	103°31'24.232"W	point

SURVEY PROGRAM - Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15475.03	NaviTrak (Standard)		No. 1H PWB

SR & A

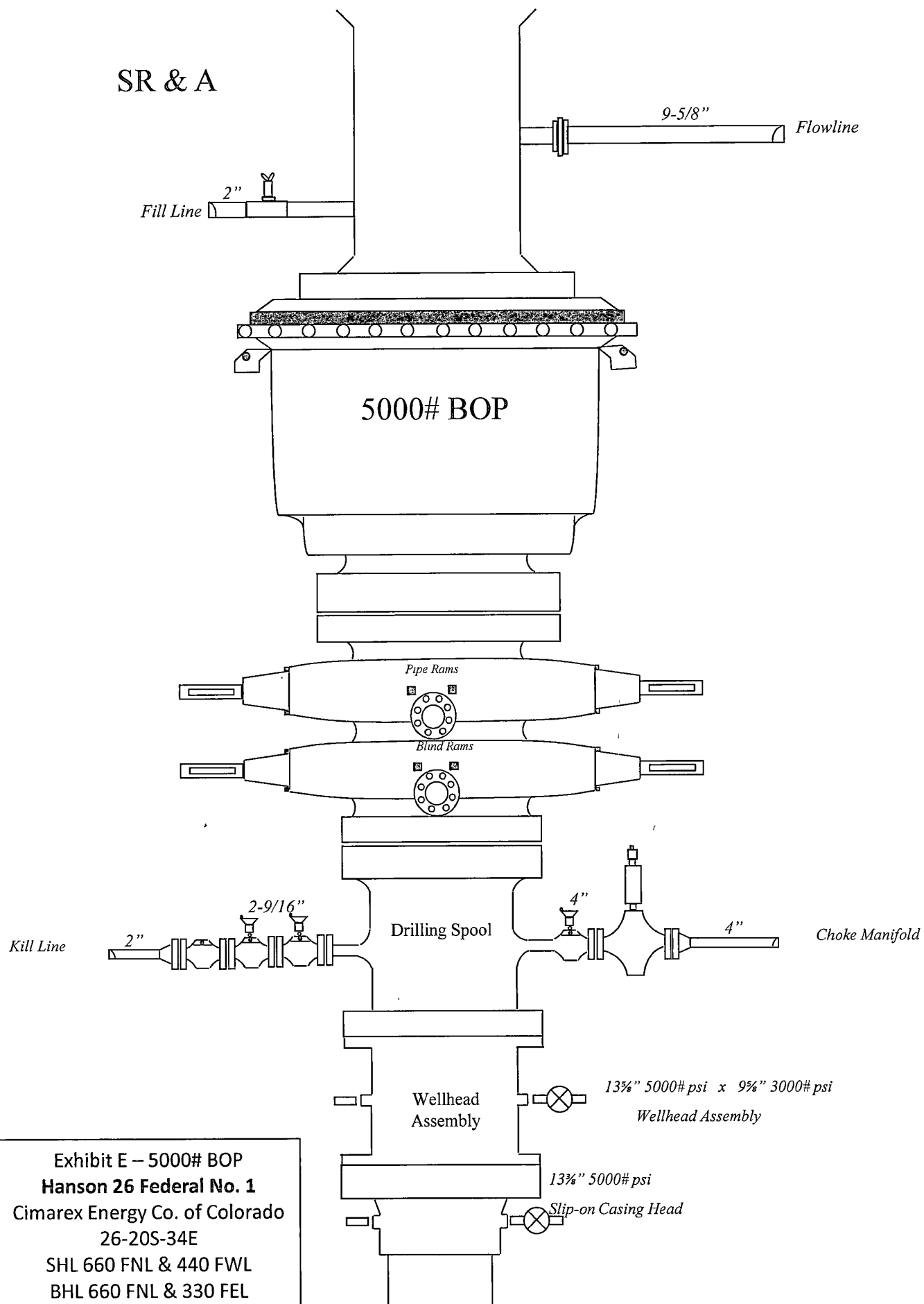
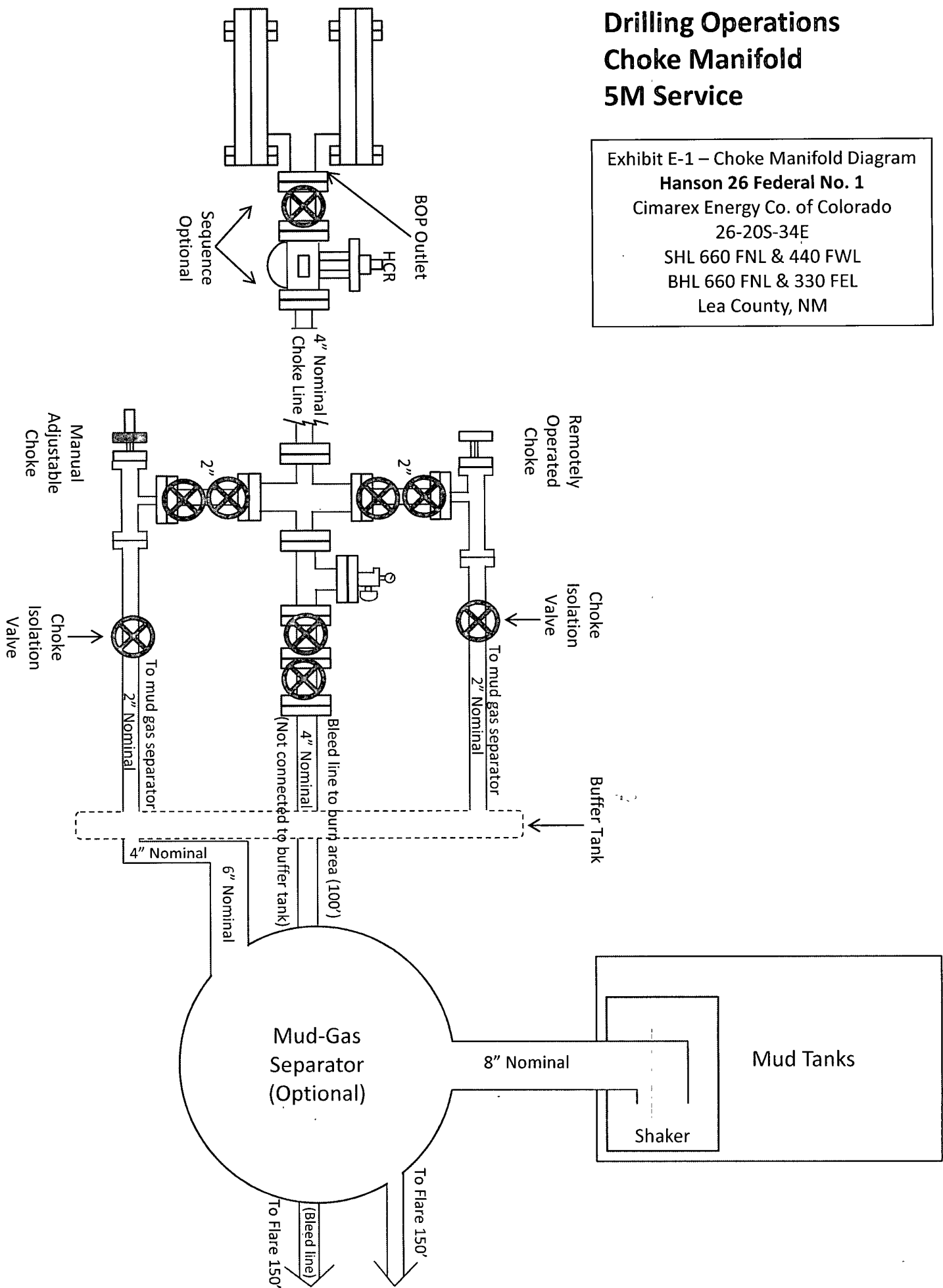


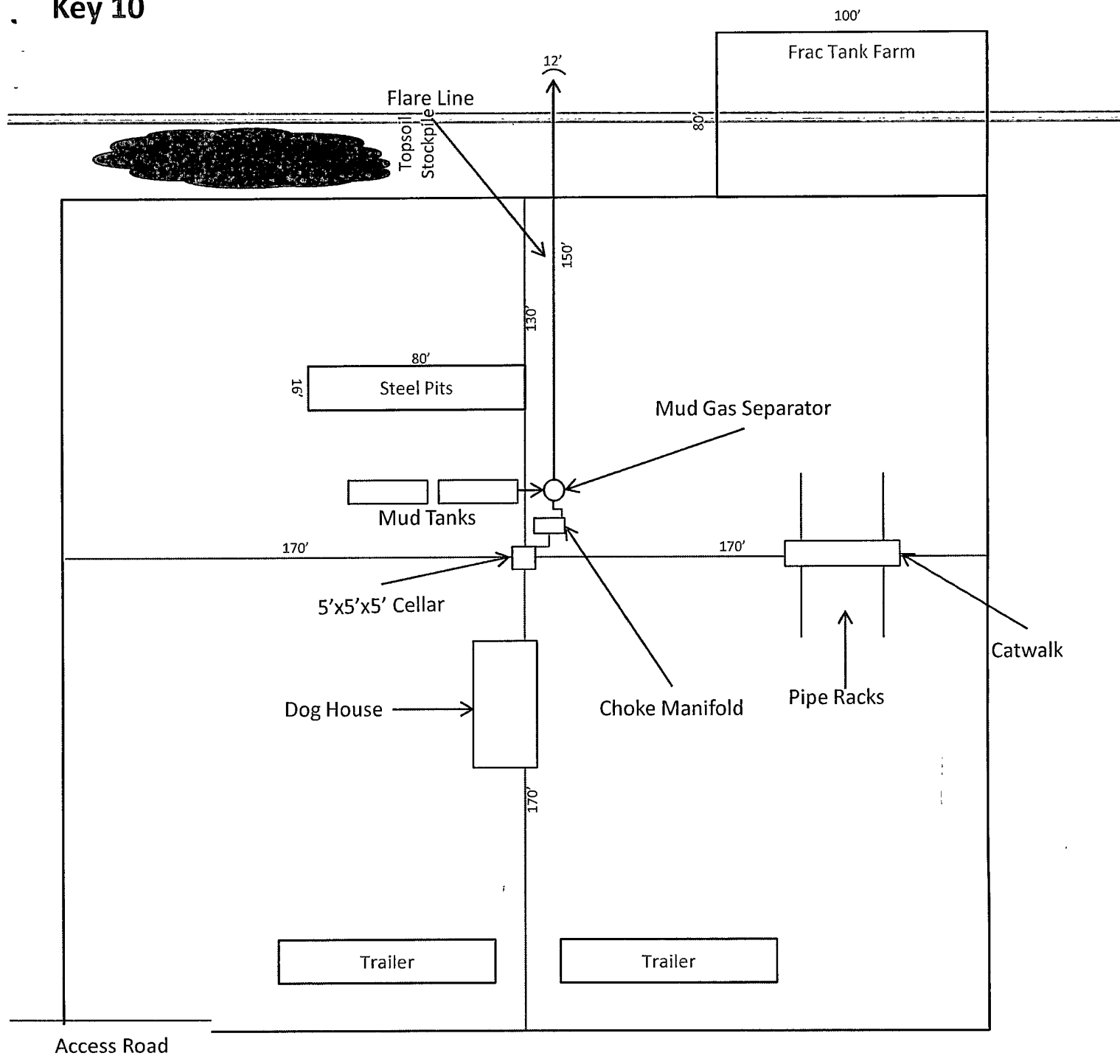
Exhibit E – 5000# BOP
Hanson 26 Federal No. 1
Cimarex Energy Co. of Colorado
26-20S-34E
SHL 660 FNL & 440 FWL
BHL 660 FNL & 330 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Hanson 26 Federal No. 1
Cimarex Energy Co. of Colorado
26-20S-34E
SHL 660 FNL & 440 FWL
BHL 660 FNL & 330 FEL
Lea County, NM



Key 10



1"=50'

N

Exhibit D – Rig Diagram
Hanson 26 Federal No. 1
Cimarex Energy Co. of Colorado
26-20S-34E
SHL 660 FNL & 440 FWL
BHL 660 FNL & 330 FEL
Lea County, NM