OCD Hobbs

ATS-11-696

R-111-POTASH

HOBBS OCD

Form 3160-3
(April 2004)

DEC 12 2011

RECEIVED

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-0362177, BHL NM-0202296

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. <38843>
Hat Mesa 10 Federal Com No. 2H per operator 10/20/11 J.H.

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

9. API Well No
30-025- 40365

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 <96403>
Bone Spring Wildcat

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

At Surface 660 FNL & 330 FEL Unit A per Operator 10/20/11 J.H.

At proposed prod. Zone 330 FNL & 660 FEL Unit P Horizontal Bone Spring test

11. Sec., T. R. M. or Blk and Survey or Area
10-21S-32E

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

12. County or Parish
~~Eddy~~ LEA

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line if any) 330'	16 No of acres in lease NM-0362177 - 160 acres NM-10470 - 959.48 acres	17. Spacing Unit dedicated to this well N2N2 160 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 467'	19. Proposed Depth Pilot Hole 11950 MD 14731 TVD 10550	20. BLM/BIA Bond No on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3783' GR	22 Approximate date work will start* 10.30.11	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
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 Zeno Farris	Name *(Printed/Typed)* Zeno Farris	Date 06.30.11

Title
Manager Operations Administration

Approved By *(Signature)* /s/ Tony J. Herrell	Name (Printed/Typed)	Date DEC 1 2011
Title STATE DIRECTOR	Office NM STATE OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U S S Section 1001 and Title 43 U S C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

* *(Instructions on page 2)*

CAPITAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Kzp 12/13/11

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DEC 14 2011

Application to Drill
Hat Mesa 10 Federal Com No. 2 H
Cimarex Energy Co. of Colorado
Unit A, Section 10
T21S-R32E; Lea County, NM

HOBBS OCD

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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 & 330 FEL
BHL 330 FSL & 660 FEL

2 Elevation above sea level: 3783 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 14731 TVD 10550 Pilot Hole 11950

6 Estimated tops of geological markers:

Rustler	1450
T. Salt	1880
B. Salt	3320
Capitan	3675
Delaware	5300
Bone Spring	8720
Upper Bone Spring Sh	9030
3rd Bone Spring Carb	10900
Base Bone Spring Car	11950

7 Possible mineral bearing formation:

Delaware	Oil
Bone Spring	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1475'	8.4 - 8.6	28	NC	FW
1475' to 3450'	10.0	30-32	NC	Brine water
3450' to 5465'	8.4 10.0	30-32	NC	FW
5465' to 14731'	8.4	30-32	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

After setting surface 1 & 2 and intermediate casing, drill to pilot hole depth of 11950 and log. Set 700 sx Halcem H + 0.5% CFR + 0.1% HR-601 (wt 16.6, yld 1.06, excess 50%) cement plug from 10200-11950. Drill through cement and kick off 8¾" lateral at 10264 and drill to TD at 15631 MD, 10550 TVD. Run 5½" 17# P110 LTC from 0-14731 and cement to min 50' above Capitan reef.

Application to Drill
Hat Mesa 10 Federal Com No. 2
Cimarex Energy Co. of Colorado
Unit A, Section 10
T21S-R32E; Lea County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface 1	18 1/2"	0' to 1580 ~~1475~~'	New 16"	84#	STC	J-55
Surface 2	14 3/4"	0' to ok ~~3450~~'	New 11 3/4"	54#	STC	J/K-55
Intermediate	10 5/8"	0' to 5310 ~~5465~~'	New 8 5/8"	~~32~~ 36#	LTC	~~N~~K-80
Production	7 7/8"	0' to 14731'	New 5 1/2"	17#	LTC	P-110

10 Cementing:

Surface Lead:690 SKS Halcem C + 2% CaCl 13.5ppg 1.75yield 100% Excess
Tail:130 SKS Class C + 4% D20, 1% S001, 0.2% D46, 0.125 lb/sk D130 14.2ppg 1.34 yield 25% Excess
TOC Surface Centralizers per Onshorder 2.III.B.1.f

Surface 2 Lead:1665 SKS Econocem + 5% Salt + 5# Gilsonite 13.5ppg 1.75yield 75% Excess
Tail: 110SKS Halcem + 2% CaCl 14.2ppg 1.34 yield 25% Excess
TOC Surface

Intermediate Lead: 890 SKS Econocem + 5% Salt + 5# Gilsonite 14.6ppg 1.54yield 70% Excess
Tail: 110SKS Halcem + 1% CaCl 14.8ppg 1.34 yield 25% Excess
TOC Surface

Production Lead: 615 SKS Econocem H + 0.5% CFR-3 + 0.1% HR-601 11.9ppg 2.44 yield 50% Excess
Tail: 670 SKS Versacem H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess
TOC 3250' Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.

Depth to ground water is 140 according to the State Engineer. Fresh water zones will be protected by setting 16" casing at ~~1475~~ and cementing to surface and 11 3/4" casing at 3450 and cementing to surface. Hydrocarbon zones will be protected by setting 8⅝" casing at 5465 and cementing to surface, and by setting 5½" casing at 14731 and cementing to 3250.

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

11 Pressure control Equipment:
Exhibit "E". A 13 5/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 5465.' 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 available if drilling in H2S areas.

BOP unit will be hydraulically operated. BOP will be nippled 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 16" surface pipe, the well will be equipped with a 2M diverter system with rotating head (see exhibit E-1). From the base of the 11 3/4" surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

Before drilling out of 16" surface pipe the diverter system will be tested to 250 psi low and 500 psi high by rig equipment. Before drilling out of 11 3/4" surface pipe BOP's will be tested to 250 psi low and 3000 psi high by an independent service company. Hydril will be tested to 250 psi low and 1500 psi high. Before drilling out of intermediate pipe BOP's will be tested to 250 psi low and 5000 psi high by an independent service company. Hydril will be tested to 250 psi low and 2500 psi high.

12 Testing, Logging and Coring Program: See COA

A. Mud logging program: 2 man unit from 5465 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 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 **4750 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 potentialed as **an oil well.**

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

Manufacturer: Midwest Hose & Specialty

Serial Number: 63270

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

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

Cimarex Energy Co.

Location Lea County, NM
Field (Hat Mesa) Sec 10, T21S, R32E
Facility Hat Mesa 10 Fed Com

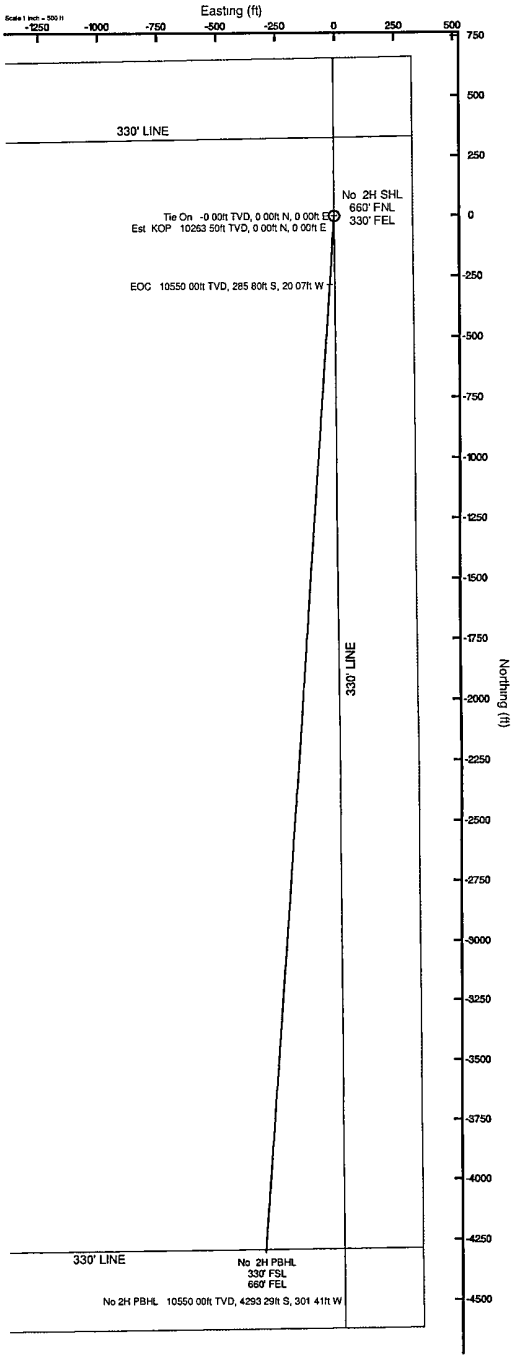
Slot No 2H SHL
Well No 2H
Wellbore No 2H PWB

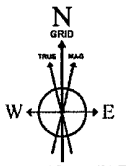
BAKER HUGHES

Well Profile Data

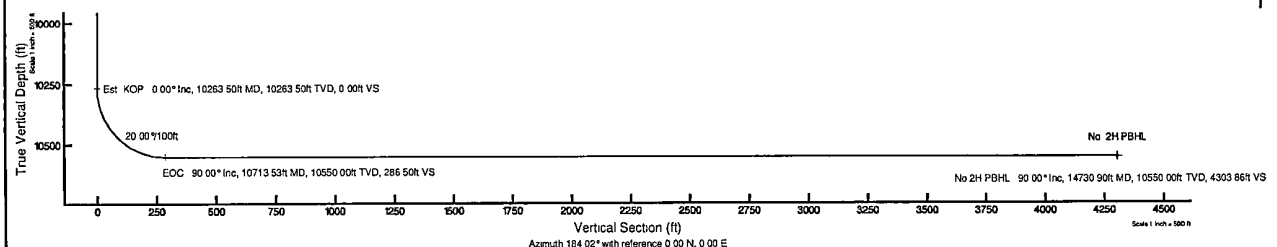
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0 00	0 000	184 016	0 00	0 00	0 00	0 00	0 00
Est KOP	10263 50	0 000	184 016	10263 50	0 00	0 00	0 00	0 00
EOC	10713 53	90 000	184 016	10550 00	-285 80	-20 07	20 00	286 50
No 2H PBHL	14730 90	90 000	184 016	10550 00	-4293 29	-301 41	0 00	4303 86

Plot reference wellpath is Prelim_3	
True vertical depths are referenced to Rig on No 2H SHL (RT)	Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No 2H SHL (RT)	North Reference Grid north
Rig on No 2H SHL (RT) to Mean Sea Level 3783 feet	Scale True distance
Mean Sea Level to Mud line (At Slot No 2H SHL) 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by gentbry on 9/23/2011





BGGM (1945 0 to 2012 0) Dip: 60 43° Field: 48826 nT
Magnetic North is 7 69 degrees East of True North (at 6/29/2011)
Grid North is 0 36 degrees East of True North
To correct azimuth from True to Grid subtract 0 36 degrees
To correct azimuth from Magnetic to Grid add 7 32 degrees
For example If the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 32 = 97 32



Azimuth 184 02° with reference 0 00 N, 0 00 E

Planned Wellpath Report

Prelim_3

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 2H SHL**
Area	**Lea County, NM**	Well	**No. 2H**
Field	**(Hat Mesa) Sec 10, T21S, R32E**	Wellbore	**No. 2H PWB**
Facility	**Hat Mesa 10 Fed Com**		

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	**0.999959**	Report Generated	**9/23/2011 at 2:29:15 PM**
Convergence at slot	**0.36° East**	Database/Source file	**WA Midland/No._2H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	1279.95	-8.70	**750433.00**	**545871.60**	32°29'55.803"N	103°39'18.414"W
Facility Reference Pt			**750441.70**	**544591.70**	32°29'43.138"N	103°39'18.407"W
Field Reference Pt			**750441.70**	**544591.70**	32°29'43.138"N	103°39'18.407"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No. 2H SHL (RT) to GL	**3783.00ft**
Horizontal Reference Pt	**Slot**	Rig on No. 2H SHL (RT) to Mean Sea Level	**3783.00ft**
Vertical Reference Pt	**Rig on No. 2H SHL (RT)**	Rig on No. 2H SHL (RT) to Mud Line at Slot (No. 2H SHL)	**3783.00ft**
MD Reference Pt	**Rig on No. 2H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**184.02°**

Planned Wellpath Report

Prelim_3

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Hat Mesa) Sec 10, T21S, R32E	Wellbore	No. 2H PWB
Facility	Hat Mesa 10 Fed Com		

WELLPATH DATA (151 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	184.016	0.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	Tie On
100.00†	0.000	184.016	100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
200.00†	0.000	184.016	200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
300.00†	0.000	184.016	300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
400.00†	0.000	184.016	400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
500.00†	0.000	184.016	500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
600.00†	0.000	184.016	600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
700.00†	0.000	184.016	700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
800.00†	0.000	184.016	800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
900.00†	0.000	184.016	900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1000.00†	0.000	184.016	1000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1100.00†	0.000	184.016	1100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1200.00†	0.000	184.016	1200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1300.00†	0.000	184.016	1300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1400.00†	0.000	184.016	1400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1500.00†	0.000	184.016	1500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1600.00†	0.000	184.016	1600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1700.00†	0.000	184.016	1700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1800.00†	0.000	184.016	1800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
1900.00†	0.000	184.016	1900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2000.00†	0.000	184.016	2000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2100.00†	0.000	184.016	2100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2200.00†	0.000	184.016	2200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2300.00†	0.000	184.016	2300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2400.00†	0.000	184.016	2400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2500.00†	0.000	184.016	2500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2600.00†	0.000	184.016	2600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2700.00†	0.000	184.016	2700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2800.00†	0.000	184.016	2800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
2900.00†	0.000	184.016	2900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3000.00†	0.000	184.016	3000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3100.00†	0.000	184.016	3100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3200.00†	0.000	184.016	3200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3300.00†	0.000	184.016	3300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3400.00†	0.000	184.016	3400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3500.00†	0.000	184.016	3500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3600.00†	0.000	184.016	3600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3700.00†	0.000	184.016	3700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3800.00†	0.000	184.016	3800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
3900.00†	0.000	184.016	3900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4000.00†	0.000	184.016	4000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4100.00†	0.000	184.016	4100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4200.00†	0.000	184.016	4200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4300.00†	0.000	184.016	4300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4400.00†	0.000	184.016	4400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	

Planned Wellpath Report

Prelim_3

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Hat Mesa) Sec 10, T21S, R32E	Wellbore	No. 2H PWB
Facility	Hat Mesa 10 Fed Com		

WELLPATH DATA (151 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	184.016	4500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4600.00†	0.000	184.016	4600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4700.00†	0.000	184.016	4700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4800.00†	0.000	184.016	4800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
4900.00†	0.000	184.016	4900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5000.00†	0.000	184.016	5000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5100.00†	0.000	184.016	5100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5200.00†	0.000	184.016	5200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5300.00†	0.000	184.016	5300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5400.00†	0.000	184.016	5400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5500.00†	0.000	184.016	5500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5600.00†	0.000	184.016	5600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5700.00†	0.000	184.016	5700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5800.00†	0.000	184.016	5800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
5900.00†	0.000	184.016	5900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6000.00†	0.000	184.016	6000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6100.00†	0.000	184.016	6100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6200.00†	0.000	184.016	6200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6300.00†	0.000	184.016	6300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6400.00†	0.000	184.016	6400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6500.00†	0.000	184.016	6500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6600.00†	0.000	184.016	6600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6700.00†	0.000	184.016	6700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6800.00†	0.000	184.016	6800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
6900.00†	0.000	184.016	6900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7000.00†	0.000	184.016	7000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7100.00†	0.000	184.016	7100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7200.00†	0.000	184.016	7200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7300.00†	0.000	184.016	7300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7400.00†	0.000	184.016	7400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7500.00†	0.000	184.016	7500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7600.00†	0.000	184.016	7600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7700.00†	0.000	184.016	7700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7800.00†	0.000	184.016	7800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
7900.00†	0.000	184.016	7900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8000.00†	0.000	184.016	8000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8100.00†	0.000	184.016	8100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8200.00†	0.000	184.016	8200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8300.00†	0.000	184.016	8300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8400.00†	0.000	184.016	8400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8500.00†	0.000	184.016	8500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8600.00†	0.000	184.016	8600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8700.00†	0.000	184.016	8700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8800.00†	0.000	184.016	8800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
8900.00†	0.000	184.016	8900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	

Planned Wellpath Report

Prelim_3

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Hat Mesa) Sec 10, T21S, R32E	Wellbore	No. 2H PWB
Facility	Hat Mesa 10 Fed Com		

WELLPATH DATA (151 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	184.016	9000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9100.00†	0.000	184.016	9100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9200.00†	0.000	184.016	9200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9300.00†	0.000	184.016	9300.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9400.00†	0.000	184.016	9400.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9500.00†	0.000	184.016	9500.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9600.00†	0.000	184.016	9600.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9700.00†	0.000	184.016	9700.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9800.00†	0.000	184.016	9800.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
9900.00†	0.000	184.016	9900.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
10000.00†	0.000	184.016	10000.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
10100.00†	0.000	184.016	10100.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
10200.00†	0.000	184.016	10200.00	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	
10263.50	0.000	184.016	10263.50	0.00	0.00	0.00	750433.00	545871.60	32°29'55.803"N	103°39'18.414"W	0.00	Est. KOP
10300.00†	7.299	184.016	10299.90	2.32	-2.32	-0.16	750432.84	545869.28	32°29'55.780"N	103°39'18.416"W	20.00	
10400.00†	27.298	184.016	10394.89	31.91	-31.83	-2.23	750430.77	545839.77	32°29'55.489"N	103°39'18.442"W	20.00	
10500.00†	47.297	184.016	10474.04	92.19	-91.97	-6.46	750426.54	545779.64	32°29'54.894"N	103°39'18.496"W	20.00	
10600.00†	67.295	184.016	10527.80	175.92	-175.48	-12.32	750420.68	545696.12	32°29'54.068"N	103°39'18.570"W	20.00	
10700.00†	87.294	184.016	10549.68	272.97	-272.30	-19.12	750413.88	545599.31	32°29'53.110"N	103°39'18.657"W	20.00	
10713.53	90.000	184.016	10550.00	286.50	-285.80	-20.07	750412.94	545585.82	32°29'52.977"N	103°39'18.669"W	20.00	EOC
10800.00†	90.000	184.016	10550.00	372.97	-372.05	-26.12	750406.88	545499.56	32°29'52.124"N	103°39'18.746"W	0.00	
10900.00†	90.000	184.016	10550.00	472.97	-471.81	-33.12	750399.88	545399.81	32°29'51.137"N	103°39'18.835"W	0.00	
11000.00†	90.000	184.016	10550.00	572.97	-571.56	-40.13	750392.87	545300.06	32°29'50.151"N	103°39'18.924"W	0.00	
11100.00†	90.000	184.016	10550.00	672.97	-671.31	-47.13	750385.87	545200.31	32°29'49.164"N	103°39'19.014"W	0.00	
11200.00†	90.000	184.016	10550.00	772.97	-771.07	-54.13	750378.87	545100.56	32°29'48.177"N	103°39'19.103"W	0.00	
11300.00†	90.000	184.016	10550.00	872.97	-870.82	-61.14	750371.86	545000.81	32°29'47.191"N	103°39'19.192"W	0.00	
11400.00†	90.000	184.016	10550.00	972.97	-970.58	-68.14	750364.86	544901.06	32°29'46.204"N	103°39'19.281"W	0.00	
11500.00†	90.000	184.016	10550.00	1072.97	-1070.33	-75.15	750357.86	544801.31	32°29'45.218"N	103°39'19.370"W	0.00	
11600.00†	90.000	184.016	10550.00	1172.97	-1170.09	-82.15	750350.86	544701.56	32°29'44.231"N	103°39'19.460"W	0.00	
11700.00†	90.000	184.016	10550.00	1272.97	-1269.84	-89.15	750343.85	544601.81	32°29'43.244"N	103°39'19.549"W	0.00	
11800.00†	90.000	184.016	10550.00	1372.97	-1369.60	-96.16	750336.85	544502.06	32°29'42.258"N	103°39'19.638"W	0.00	
11900.00†	90.000	184.016	10550.00	1472.97	-1469.35	-103.16	750329.85	544402.31	32°29'41.271"N	103°39'19.727"W	0.00	
12000.00†	90.000	184.016	10550.00	1572.97	-1569.10	-110.16	750322.84	544302.56	32°29'40.285"N	103°39'19.816"W	0.00	
12100.00†	90.000	184.016	10550.00	1672.97	-1668.86	-117.17	750315.84	544202.81	32°29'39.298"N	103°39'19.905"W	0.00	
12200.00†	90.000	184.016	10550.00	1772.97	-1768.61	-124.17	750308.84	544103.06	32°29'38.312"N	103°39'19.995"W	0.00	
12300.00†	90.000	184.016	10550.00	1872.97	-1868.37	-131.17	750301.83	544003.31	32°29'37.325"N	103°39'20.084"W	0.00	
12400.00†	90.000	184.016	10550.00	1972.97	-1968.12	-138.18	750294.83	543903.56	32°29'36.338"N	103°39'20.173"W	0.00	
12500.00†	90.000	184.016	10550.00	2072.97	-2067.88	-145.18	750287.83	543803.81	32°29'35.352"N	103°39'20.262"W	0.00	
12600.00†	90.000	184.016	10550.00	2172.97	-2167.63	-152.18	750280.82	543704.06	32°29'34.365"N	103°39'20.351"W	0.00	
12700.00†	90.000	184.016	10550.00	2272.97	-2267.39	-159.19	750273.82	543604.31	32°29'33.379"N	103°39'20.440"W	0.00	
12800.00†	90.000	184.016	10550.00	2372.97	-2367.14	-166.19	750266.82	543504.56	32°29'32.392"N	103°39'20.530"W	0.00	
12900.00†	90.000	184.016	10550.00	2472.97	-2466.89	-173.19	750259.82	543404.81	32°29'31.405"N	103°39'20.619"W	0.00	
13000.00†	90.000	184.016	10550.00	2572.97	-2566.65	-180.20	750252.81	543305.06	32°29'30.419"N	103°39'20.708"W	0.00	
13100.00†	90.000	184.016	10550.00	2672.97	-2666.40	-187.20	750245.81	543205.31	32°29'29.432"N	103°39'20.797"W	0.00	
13200.00†	90.000	184.016	10550.00	2772.97	-2766.16	-194.20	750238.81	543105.56	32°29'28.446"N	103°39'20.886"W	0.00	

Planned Wellpath Report

Prelim_3

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Hat Mesa) Sec 10, T21S, R32E	Wellbore	No. 2H PWB
Facility	Hat Mesa 10 Fed Com		

WELLPATH DATA (151 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
13300.00†	90.000	184.016	10550.00	2872.97	-2865.91	-201.21	750231.80	543005.81	32°29'27.459"N	103°39'20.975"W	0.00	
13400.00†	90.000	184.016	10550.00	2972.97	-2965.67	-208.21	750224.80	542906.06	32°29'26.473"N	103°39'21.064"W	0.00	
13500.00†	90.000	184.016	10550.00	3072.97	-3065.42	-215.21	750217.80	542806.31	32°29'25.486"N	103°39'21.154"W	0.00	
13600.00†	90.000	184.016	10550.00	3172.97	-3165.18	-222.22	750210.79	542706.56	32°29'24.499"N	103°39'21.243"W	0.00	
13700.00†	90.000	184.016	10550.00	3272.97	-3264.93	-229.22	750203.79	542606.81	32°29'23.513"N	103°39'21.332"W	0.00	
13800.00†	90.000	184.016	10550.00	3372.97	-3364.68	-236.22	750196.79	542507.06	32°29'22.526"N	103°39'21.421"W	0.00	
13900.00†	90.000	184.016	10550.00	3472.97	-3464.44	-243.22	750189.79	542407.31	32°29'21.540"N	103°39'21.510"W	0.00	
14000.00†	90.000	184.016	10550.00	3572.97	-3564.19	-250.23	750182.78	542307.56	32°29'20.553"N	103°39'21.599"W	0.00	
14100.00†	90.000	184.016	10550.00	3672.97	-3663.95	-257.23	750175.78	542207.81	32°29'19.566"N	103°39'21.689"W	0.00	
14200.00†	90.000	184.016	10550.00	3772.97	-3763.70	-264.23	750168.78	542108.06	32°29'18.580"N	103°39'21.778"W	0.00	
14300.00†	90.000	184.016	10550.00	3872.97	-3863.46	-271.24	750161.77	542008.31	32°29'17.593"N	103°39'21.867"W	0.00	
14400.00†	90.000	184.016	10550.00	3972.97	-3963.21	-278.24	750154.77	541908.56	32°29'16.607"N	103°39'21.956"W	0.00	
14500.00†	90.000	184.016	10550.00	4072.97	-4062.97	-285.24	750147.77	541808.81	32°29'15.620"N	103°39'22.045"W	0.00	
14600.00†	90.000	184.016	10550.00	4172.97	-4162.72	-292.25	750140.77	541709.06	32°29'14.634"N	103°39'22.134"W	0.00	
14700.00†	90.000	184.016	10550.00	4272.97	-4262.48	-299.25	750133.76	541609.31	32°29'13.647"N	103°39'22.223"W	0.00	
14730.90	90.000	184.016	10550.00[1]	4303.86	-4293.29	-301.41	750131.60	541578.49	32°29'13.342"N	103°39'22.251"W	0.00	No.2H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No. 2H PBHL	14730.90	10550.00	-4293.29	-301.41	**750131.61**	**541578.49**	32°29'13.342"N	103°39'22.251"W	point

SURVEY PROGRAM - Ref Wellbore: No. 2H PWB Ref Wellpath: Prelim_3

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
3783.00	14730.90	NaviTrak (Standard)		No. 2H PWB

16" Diverter System

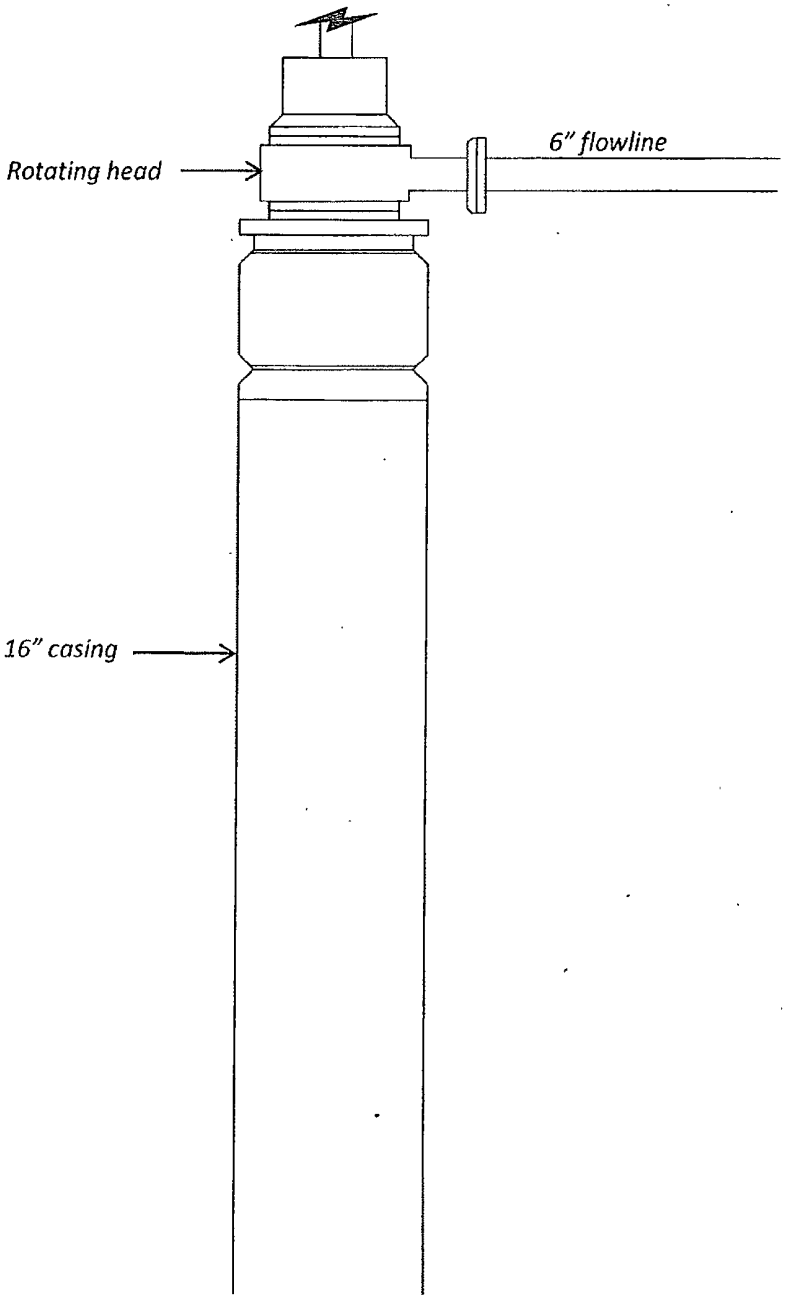


Exhibit E-1 – 16" Diverter System
Hat Mesa 10 Federal Com No. 2
Cimarex Energy Co. of Colorado
10-21S-32E
SHL 660 FNL & 330 FEL
BHL 330 FSL & 660 FEL
Lea County, NM

SR & A

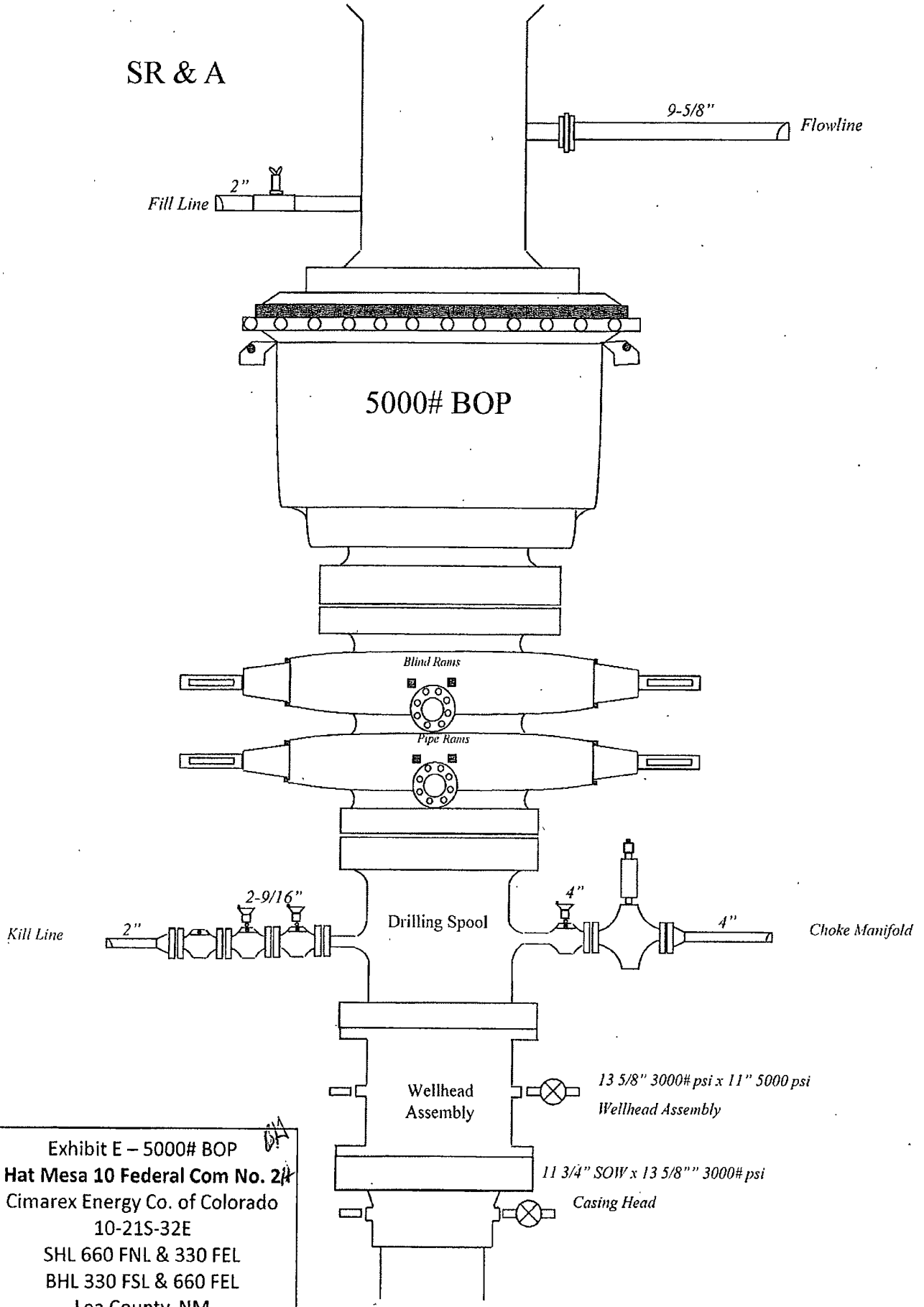
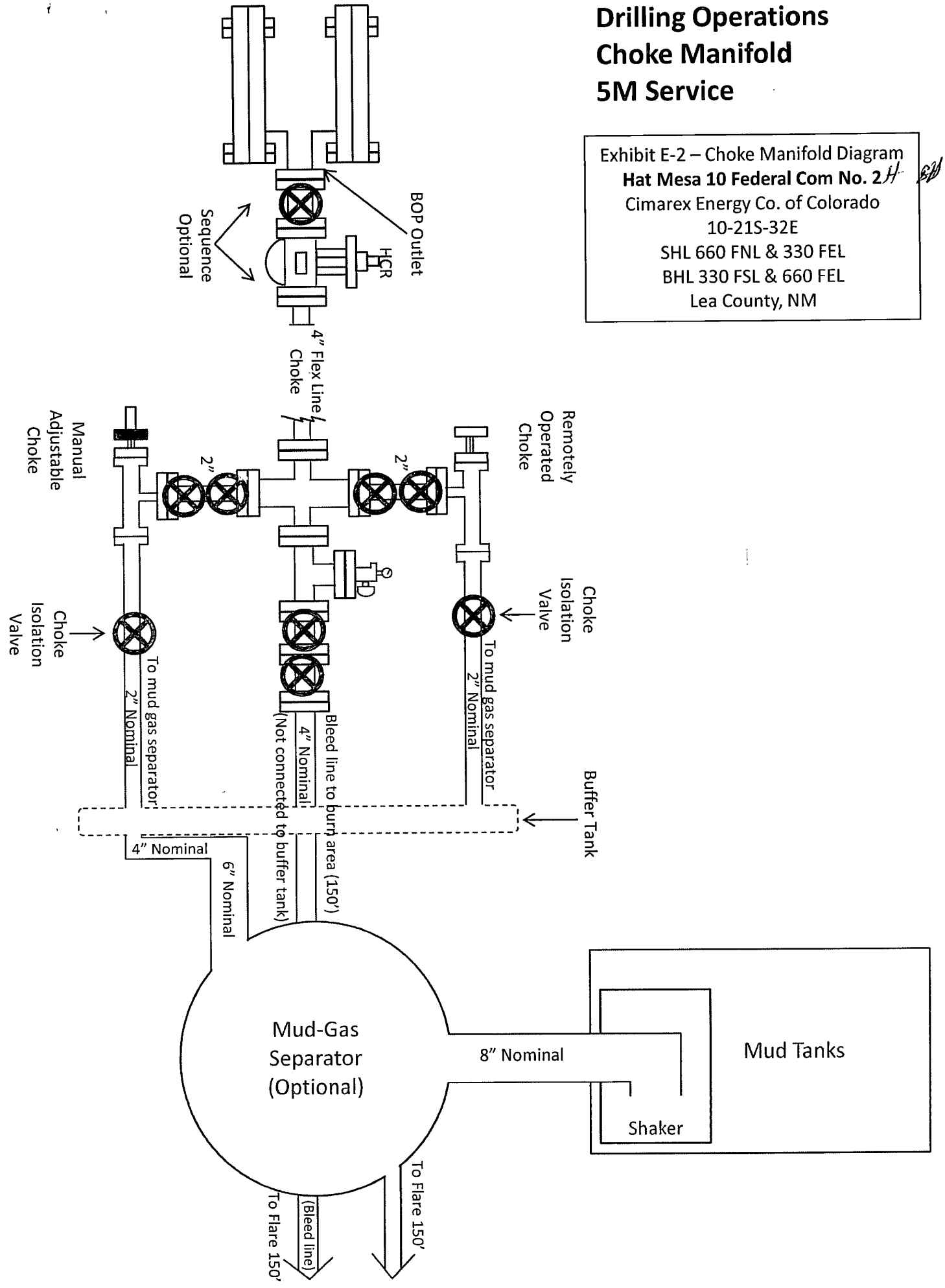
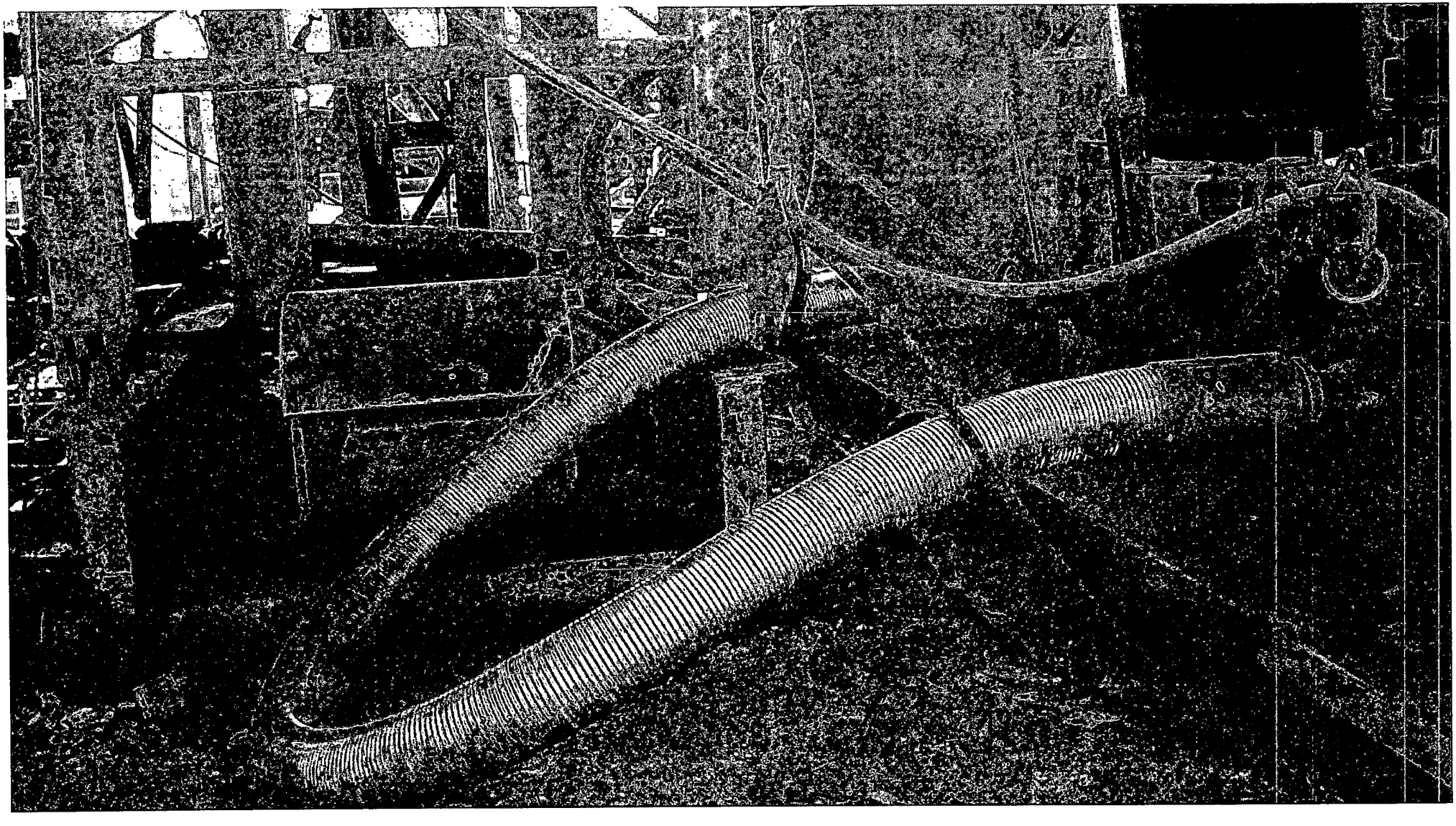


Exhibit E – 5000# BOP
Hat Mesa 10 Federal Com No. 2H
Cimarex Energy Co. of Colorado
10-21S-32E
SHL 660 FNL & 330 FEL
BHL 330 FSL & 660 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-2 – Choke Manifold Diagram
Hat Mesa 10 Federal Com No. 2H
Cimarex Energy Co. of Colorado
10-21S-32E
SHL 660 FNL & 330 FEL
BHL 330 FSL & 660 FEL
Lea County, NM





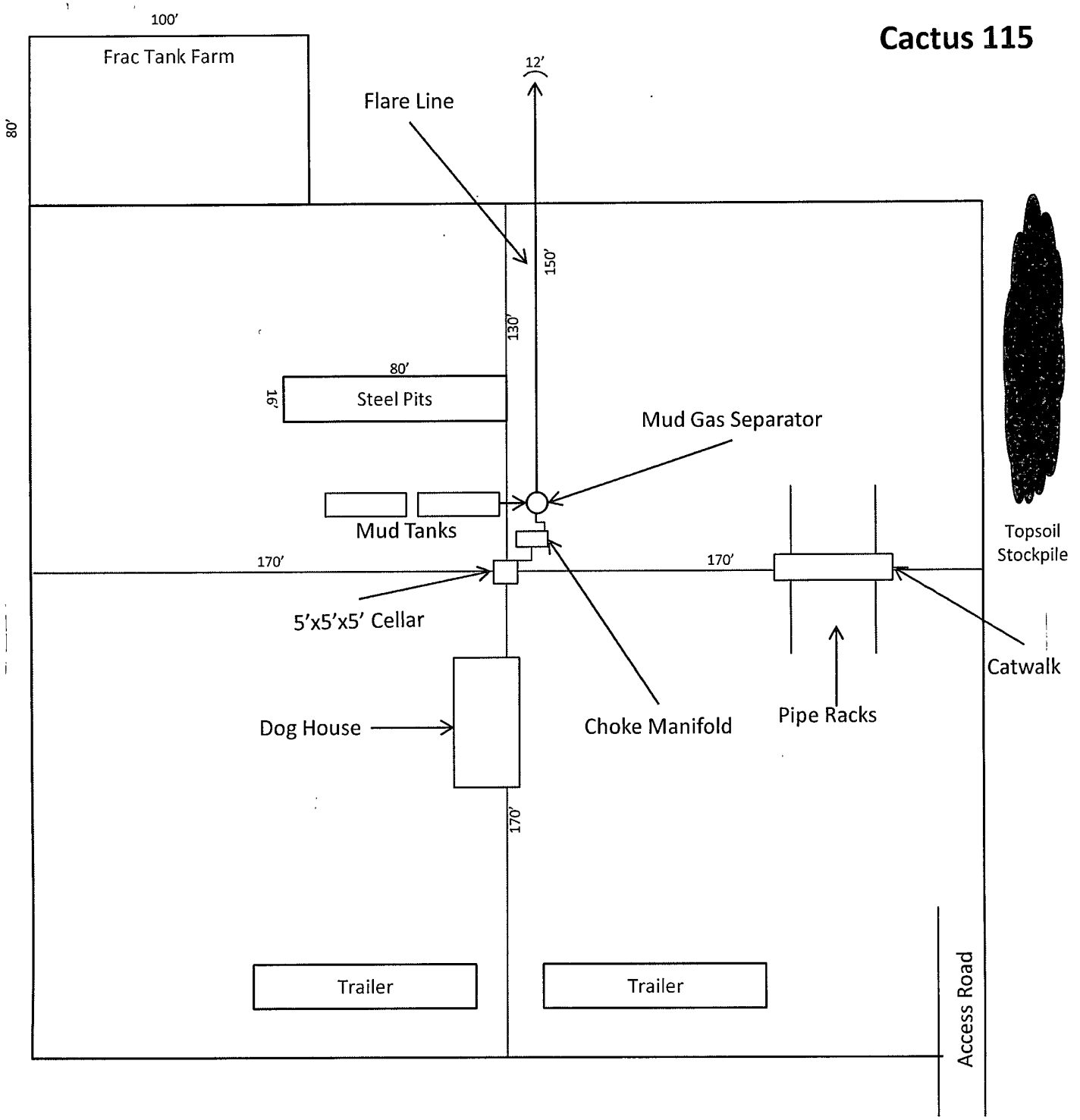
Cactus Rig 115
Serial # 63270

MIDWEST

HOSE AND SPECIALTY INC.

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

Cactus 115



1"=50'

N

Exhibit D – Rig Diagram
Hat Mesa 10 Federal Com No. 2H
Cimarex Energy Co. of Colorado
10-21S-32E
SHL 660 FNL & 330 FEL
BHL 330 FSL & 660 FEL
Lea County, NM