HOBBS OCD

AUG 10 2011

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OCD-HOBBS

ATS-11-540

Form 3160-3
(April 2004)

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.
LC-060329

6. If Indian, Allotee or Tribe Name

1a. Type of Work ☒ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No

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

8 Lease Name and Well No. (38399)
HT 18 Federal No. 3

2. Name of Operator
Cimarex Energy Co. of Colorado (162683)

9. API Well No
30-~~015-~~ 025-40232

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
Maljamar; Yeso-West (44525)

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

At Surface 2310 FSL & 890 FWL Unit L

At proposed prod Zone 1650 FSL & 990 FWL Unit L

11 Sec , T. R M or Blk and Survey or Area
18-17S-32E

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

12 County or Parish
Lea

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any)	16 No of acres in lease	17. Spacing Unit dedicated to this well
330	323.76	NWSW 40.95
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	**19 Proposed Depth**	**20 BLM/BIA Bond No on File**
594'	MD 6898 TVD 6850	NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc)	**22 Approximate date work will start***	**23 Estimated duration**
3948' GR	06.01.11	10-15 days

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

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

25 Signature	Name *(Printed/Typed)*	Date
Zeno Farris	Zeno Farris	03.23.11

Title
Manager Operations Administration

Approved By *(Signature)*	Name (Printed/Typed)	Date
/s/ Don Peterson		AUG - 5 2011
Title	**Office**	
FIELD MANAGER	CARLSBAD FIELD 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)*

Roswell Controlled Water Basin

Kz 08/11/11

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

AUG 15 2011

Approval Subject to General Requirements & Special Stipulations Attached

I & E Copy
11-540

Application to Drill
HT 18 Federal No. 3
Cimarex Energy Co. of Colorado
Lot 3, Section 18
T17S R32E, 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 2310 FSL & 890 FWL
BHL 1650 FSL & 990 FWL

2 Elevation above sea level: 3948' 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 6898 TVD 6850

6 Estimated tops of geological markers:

Rustler	740'
T. Salt	900'
B. Salt	1600'
Yates	2025'
7 Rivers	2340'
Queen	2960'
San Andres	3690'
Glorieta	5235'
Paddock	5290'
Blinebry	5875'
Tubb	6715'

7 Possible mineral bearing formation:

Paddock	Oil
Blinebry	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 725'	8.4 - 8.8	40-45	NC	FW
725' to 1950'	9.9 - 10.1	28-32	NC	Brine
1950' to 6988'	9.1	28-32	NC	Cut Brine

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

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Application to Drill
HT 18 Federal No. 3
Cimarex Energy Co. of Colorado
Lot 3, Section 18
T17S R32E, Lea County, NM

9 Directional Plan:

With 7⅞" bit, drill out of bottom of 8⅝" casing shoe to KOP of 2100. Build and hold to TD @ 6988. Set 5½" casing to TD and cement to 1740.

10 Casing Plan:

See COA

String	Hole Size	Depth			Casing OD		Weight	Thread	Collar	Grade
Surface	16"	0'	to	725 ~~765~~'	New	11¾"	42#	8-R	STC	H-40
Intermediate	11"	0'	to	1950'	New	8⅝"	24#	8-R	STC	K-55
Production	7⅞"	0'	to	6988'	New	5½"	17#	8-R	LTC	J-55

11 Cementing Plan:

Surface
100% Excess

Lead: 450 sx Class C + 4% D-20 + 0.2% D-46 + 0.125 ppg D-130 (wt 12.9 ppg, yield 1.99)
Tail: 200 sx Class C + 0.125 pps D130 (wt 14.80, yield 1.34)
TOC Surface Centralizers per Onshorder 2.III.B.1.f

Intermediate
70% Excess

Lead: 270 sx 35:65 Poz: Class C + 0.2% Defoamer (D046) + 5% D044 (Salt) + 6% D020 (Extender Gel) + 1/8 pps Polyflake (D130) + 2 pps Gilsonite (D042) (wt 12.6, yld 2.07)
Tail: 200 sx Class C + 0.2% D-13 (wt 14.8, yld 1.33)
TOC Surface

Production
25% Excess

Lead: 575 sacks 35:65 POZC + 0.2% Defoamer (D046) + 0.6% Fluid Loss (D167) + 1 lb/sx Extender (D042) + 0.02% Retarder (D013) + 23 lbs/sx Silica (D178) + 40 lbs/sx Extender (D124) (wt 9.9, yield 2.35)
Tail: 450 sacks PVL + 1.3% NaCl (D044) + 0.2% Fluid Loss (D167) + 0.2% Cement Retarder (D013) + 0.2% Dispersant (D065) (wt 13, yld 1.4)
TOC 1750' Centralizers bottom 10 joints, then every other joint above zone of interest (Blinebry / Paddock)

According to the State Engineer, depth to groundwater is 200.' Fresh water zones will be protected by setting 11¾" casing at ~~765~~ 725' and cementing to surface. Hydrocarbon zones will be protected by setting 8⅝" casing at 1950' and cementing to surface and by setting 5½" casing at 6988' and cementing to 1750.'

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

12 Pressure control Equipment:
A 13⅝" 3000 PSI working pressure B.O.P. consisting of a one set of blind rams and one set of pipe rams and a 3000 psi annular-type preventor. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. 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. Test BOP equipment and choke manifold to 250 psi low and 3000 psi high and annular BOP to 250 psi low and 1500 psi high by an independent service company. Mud gas seperator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. Below intermediate casing shoe, BOP will be 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 surface pipe through the running of production casing, the well will be equipped with a 3000 psi BOP system.

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.

13 Testing, Logging and Coring Program: * See COA
A. Mud logging No mud logging program.
B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
C. No DSTs or cores are planned at this time.

14 Potential Hazards:
No abnormal pressures or temperatures are expected. The area has a potiential H2S hazard. An H2S drilling plan is attached. 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 **2300 psi** Estimated BHT **110°**

15 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take 10-15 days
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

16 Other Facets of Operations:
After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.
Blinebry pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **an oil well.**

Cimarex Energy Co.

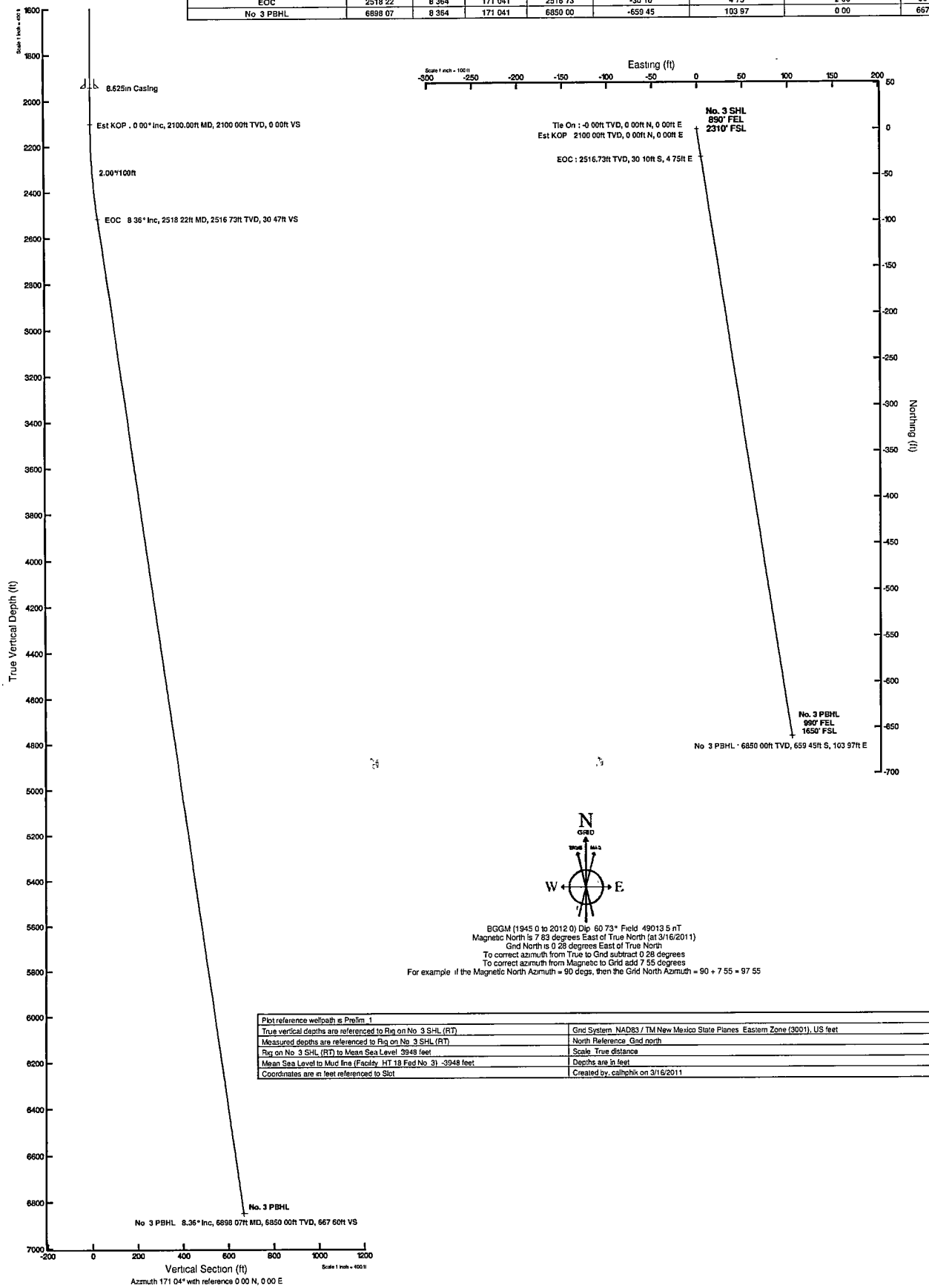
Location: Lea County, NM
Field: (HT) Sec 18, T17S, R32E
Facility: HT 18 Fed No. 3

Slot: No. 3 SHL
Well: No. 3
Wellbore: No. 3 PWB

BAKER HUGHES INTEQ

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	171.041	0.00	0.00	0.00	0.00	0.00
Est KOP	2100.00	0.000	171.041	2100.00	0.00	0.00	0.00	0.00
EOC	2518.22	8.364	171.041	2516.73	-30.10	4.75	2.00	30.47
No. 3 PBHL	6898.07	8.364	171.041	6850.00	-659.45	103.97	0.00	667.60



BGGM (1945.0 to 2012.0) Dip 60.73° Field 49013.5 nT
Magnetic North is 7.83 degrees East of True North (at 3/16/2011)
Grid North is 0.28 degrees East of True North
To correct azimuth from True to Grid subtract 0.28 degrees
To correct azimuth from Magnetic to Grid add 7.55 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.55 = 97.55

Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No. 3 SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 3 SHL (RT)	North Reference: Grid north
Rig on No. 3 SHL (RT) to Mean Sea Level: 3948 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: HT 18 Fed No. 3): -3948 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: calhphlx on 3/16/2011

Planned Wellpath Report

Prelim_1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 3 SHL**
Area	**Lea County, NM**	Well	**No. 3**
Field	**(HT) Sec 18, T17S, R32E**	Wellbore	**No. 3 PWB**
Facility	**HT 18 Fed No. 3**		

REPORT SETUP INFORMATION			
Projection System	**NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 2.0**
North Reference	**Grid**	User	**Calhphik**
Scale	**0.999939**	Report Generated	**3/16/2011** at **11:23:59 AM**
Convergence at slot	**0.28° East**	Database/Source file	**WA Midland/No._3_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[USft]**	**Northing[USft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W
Facility Reference Pt			**701587.80**	**667456.00**	32°50'01.591"N	103°48'41.773"W
Field Reference Pt			**701281.80**	**665775.50**	32°49'44.978"N	103°48'45.456"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No. 3 SHL (RT) to GL	**0.00ft**
Horizontal Reference Pt	**Slot**	Rig on No. 3 SHL (RT) to Mean Sea Level	**3948.00ft**
Vertical Reference Pt	**Rig on No. 3 SHL (RT)**	GL to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**Rig on No. 3 SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**171.04°**

Planned Wellpath Report

Prelim_1

CIMAREX

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3 SHL
Area	Lea County, NM	Well	No. 3
Field	(HT) Sec 18, T17S, R32E	Wellbore	No. 3 PWB
Facility	HT 18 Fed No. 3		

WELLPATH DATA (71 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	171.041	0.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	Tie On
100.00†	0.000	171.041	100.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
200.00†	0.000	171.041	200.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
300.00†	0.000	171.041	300.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
400.00†	0.000	171.041	400.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
500.00†	0.000	171.041	500.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
600.00†	0.000	171.041	600.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
700.00†	0.000	171.041	700.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
800.00†	0.000	171.041	800.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
900.00†	0.000	171.041	900.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1000.00†	0.000	171.041	1000.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1100.00†	0.000	171.041	1100.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1200.00†	0.000	171.041	1200.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1300.00†	0.000	171.041	1300.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1400.00†	0.000	171.041	1400.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1500.00†	0.000	171.041	1500.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1600.00†	0.000	171.041	1600.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1700.00†	0.000	171.041	1700.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1800.00†	0.000	171.041	1800.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
1900.00†	0.000	171.041	1900.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
2000.00†	0.000	171.041	2000.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	
2100.00	0.000	171.041	2100.00	0.00	0.00	0.00	701587.80	667456.00	32°50'01.591"N	103°48'41.773"W	0.00	Est KOP
2200.00†	2.000	171.041	2199.98	1.75	-1.72	0.27	701588.07	667454.28	32°50'01.574"N	103°48'41.770"W	2.00	
2300.00†	4.000	171.041	2299.84	6.98	-6.89	1.09	701588.89	667449.11	32°50'01.523"N	103°48'41.760"W	2.00	
2400.00†	6.000	171.041	2399.45	15.69	-15.50	2.44	701590.24	667440.50	32°50'01.437"N	103°48'41.745"W	2.00	
2500.00†	8.000	171.041	2498.70	27.88	-27.54	4.34	701592.14	667428.46	32°50'01.318"N	103°48'41.723"W	2.00	
2518.22	8.364	171.041	2516.73	30.47	-30.10	4.75	701592.55	667425.90	32°50'01.293"N	103°48'41.719"W	2.00	EOC
2600.00†	8.364	171.041	2597.65	42.37	-41.85	6.60	701594.40	667414.15	32°50'01.177"N	103°48'41.698"W	0.00	
2700.00†	8.364	171.041	2696.58	56.92	-56.22	8.86	701596.66	667399.78	32°50'01.034"N	103°48'41.672"W	0.00	
2800.00†	8.364	171.041	2795.52	71.46	-70.59	11.13	701598.93	667385.41	32°50'00.892"N	103°48'41.646"W	0.00	
2900.00†	8.364	171.041	2894.46	86.01	-84.96	13.39	701601.19	667371.05	32°50'00.750"N	103°48'41.621"W	0.00	
3000.00†	8.364	171.041	2993.39	100.56	-99.33	15.66	701603.46	667356.68	32°50'00.607"N	103°48'41.595"W	0.00	
3100.00†	8.364	171.041	3092.33	115.10	-113.70	17.93	701605.72	667342.31	32°50'00.465"N	103°48'41.569"W	0.00	
3200.00†	8.364	171.041	3191.26	129.65	-128.07	20.19	701607.99	667327.94	32°50'00.323"N	103°48'41.543"W	0.00	
3300.00†	8.364	171.041	3290.20	144.20	-142.44	22.46	701610.25	667313.57	32°50'00.181"N	103°48'41.518"W	0.00	
3400.00†	8.364	171.041	3389.14	158.74	-156.81	24.72	701612.52	667299.20	32°50'00.038"N	103°48'41.492"W	0.00	
3500.00†	8.364	171.041	3488.07	173.29	-171.18	26.99	701614.79	667284.84	32°49'59.896"N	103°48'41.466"W	0.00	
3600.00†	8.364	171.041	3587.01	187.84	-185.54	29.25	701617.05	667270.47	32°49'59.754"N	103°48'41.441"W	0.00	
3700.00†	8.364	171.041	3685.95	202.38	-199.91	31.52	701619.32	667256.10	32°49'59.611"N	103°48'41.415"W	0.00	
3800.00†	8.364	171.041	3784.88	216.93	-214.28	33.78	701621.58	667241.73	32°49'59.469"N	103°48'41.389"W	0.00	
3900.00†	8.364	171.041	3883.82	231.48	-228.65	36.05	701623.85	667227.36	32°49'59.327"N	103°48'41.363"W	0.00	
4000.00†	8.364	171.041	3982.75	246.02	-243.02	38.31	701626.11	667212.99	32°49'59.185"N	103°48'41.338"W	0.00	
4100.00†	8.364	171.041	4081.69	260.57	-257.39	40.58	701628.38	667198.63	32°49'59.042"N	103°48'41.312"W	0.00	
4200.00†	8.364	171.041	4180.63	275.12	-271.76	42.84	701630.64	667184.26	32°49'58.900"N	103°48'41.286"W	0.00	
4300.00†	8.364	171.041	4279.56	289.66	-286.13	45.11	701632.91	667169.89	32°49'58.758"N	103°48'41.261"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3 SHL
Area	Lea County, NM	Well	No. 3
Field	(HT) Sec 18, T17S, R32E	Wellbore	No. 3 PWB
Facility	HT 18 Fed No. 3		

WELLPATH DATA (71 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00†	8.364	171.041	4378.50	304.21	-300.50	47.38	701635.17	667155.52	32°49'58.615"N	103°48'41.235"W	0.00	
4500.00†	8.364	171.041	4477.44	318.76	-314.87	49.64	701637.44	667141.15	32°49'58.473"N	103°48'41.209"W	0.00	
4600.00†	8.364	171.041	4576.37	333.30	-329.24	51.91	701639.70	667126.78	32°49'58.331"N	103°48'41.183"W	0.00	
4700.00†	8.364	171.041	4675.31	347.85	-343.61	54.17	701641.97	667112.42	32°49'58.189"N	103°48'41.158"W	0.00	
4800.00†	8.364	171.041	4774.25	362.40	-357.98	56.44	701644.23	667098.05	32°49'58.046"N	103°48'41.132"W	0.00	
4900.00†	8.364	171.041	4873.18	376.94	-372.34	58.70	701646.50	667083.68	32°49'57.904"N	103°48'41.106"W	0.00	
5000.00†	8.364	171.041	4972.12	391.49	-386.71	60.97	701648.76	667069.31	32°49'57.762"N	103°48'41.081"W	0.00	
5100.00†	8.364	171.041	5071.05	406.04	-401.08	63.23	701651.03	667054.94	32°49'57.619"N	103°48'41.055"W	0.00	
5200.00†	8.364	171.041	5169.99	420.58	-415.45	65.50	701653.29	667040.57	32°49'57.477"N	103°48'41.029"W	0.00	
5300.00†	8.364	171.041	5268.93	435.13	-429.82	67.76	701655.56	667026.21	32°49'57.335"N	103°48'41.003"W	0.00	
5400.00†	8.364	171.041	5367.86	449.68	-444.19	70.03	701657.82	667011.84	32°49'57.193"N	103°48'40.978"W	0.00	
5500.00†	8.364	171.041	5466.80	464.22	-458.56	72.29	701660.09	666997.47	32°49'57.050"N	103°48'40.952"W	0.00	
5600.00†	8.364	171.041	5565.74	478.77	-472.93	74.56	701662.36	666983.10	32°49'56.908"N	103°48'40.926"W	0.00	
5700.00†	8.364	171.041	5664.67	493.32	-487.30	76.83	701664.62	666968.73	32°49'56.766"N	103°48'40.901"W	0.00	
5800.00†	8.364	171.041	5763.61	507.86	-501.67	79.09	701666.89	666954.36	32°49'56.624"N	103°48'40.875"W	0.00	
5900.00†	8.364	171.041	5862.54	522.41	-516.04	81.36	701669.15	666940.00	32°49'56.481"N	103°48'40.849"W	0.00	
6000.00†	8.364	171.041	5961.48	536.96	-530.41	83.62	701671.42	666925.63	32°49'56.339"N	103°48'40.823"W	0.00	
6100.00†	8.364	171.041	6060.42	551.50	-544.78	85.89	701673.68	666911.26	32°49'56.197"N	103°48'40.798"W	0.00	
6200.00†	8.364	171.041	6159.35	566.05	-559.14	88.15	701675.95	666896.89	32°49'56.054"N	103°48'40.772"W	0.00	
6300.00†	8.364	171.041	6258.29	580.60	-573.51	90.42	701678.21	666882.52	32°49'55.912"N	103°48'40.746"W	0.00	
6400.00†	8.364	171.041	6357.23	595.14	-587.88	92.68	701680.48	666868.15	32°49'55.770"N	103°48'40.721"W	0.00	
6500.00†	8.364	171.041	6456.16	609.69	-602.25	94.95	701682.74	666853.79	32°49'55.628"N	103°48'40.695"W	0.00	
6600.00†	8.364	171.041	6555.10	624.24	-616.62	97.21	701685.01	666839.42	32°49'55.485"N	103°48'40.669"W	0.00	
6700.00†	8.364	171.041	6654.03	638.78	-630.99	99.48	701687.27	666825.05	32°49'55.343"N	103°48'40.643"W	0.00	
6800.00†	8.364	171.041	6752.97	653.33	-645.36	101.74	701689.54	666810.68	32°49'55.201"N	103°48'40.618"W	0.00	
6898.07	8.364	171.041	6850.00[1]	667.60	-659.45	103.97	701691.76	666796.59	32°49'55.061"N	103°48'40.592"W	0.00	No. 3 PBHL

HOLE & CASING SECTIONS Ref Wellbore: No. 3 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]
16in Open Hole	0.00	775.00	775.00	0.00	775.00	0.00	0.00	0.00	0.00
11.75in Casing	0.00	775.00	775.00	0.00	775.00	0.00	0.00	0.00	0.00
11in Open Hole	775.00	1940.00	1165.00	775.00	1940.00	0.00	0.00	0.00	0.00
8.625in Casing	0.00	1940.00	1940.00	0.00	1940.00	0.00	0.00	0.00	0.00
7.875in Open Hole	1940.00	6898.00	4958.00	1940.00	6849.93	0.00	0.00	-659.44	103.96
5.5in Casing	0.00	6898.00	6898.00	0.00	6849.93	0.00	0.00	-659.44	103.96

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3 SHL
Area	Lea County, NM	Well	No. 3
Field	(HT) Sec 18, T17S, R32E	Wellbore	No. 3 PWB
Facility	HT 18 Fed No. 3		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 3 PBHL	6898.07	6850.00	-659.45	103.97	701691.76	666796.59	32°49'55.061"N	103°48'40.592"W	point

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

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	6898.07	NaviTrak (Standard)		No. 3 PWB

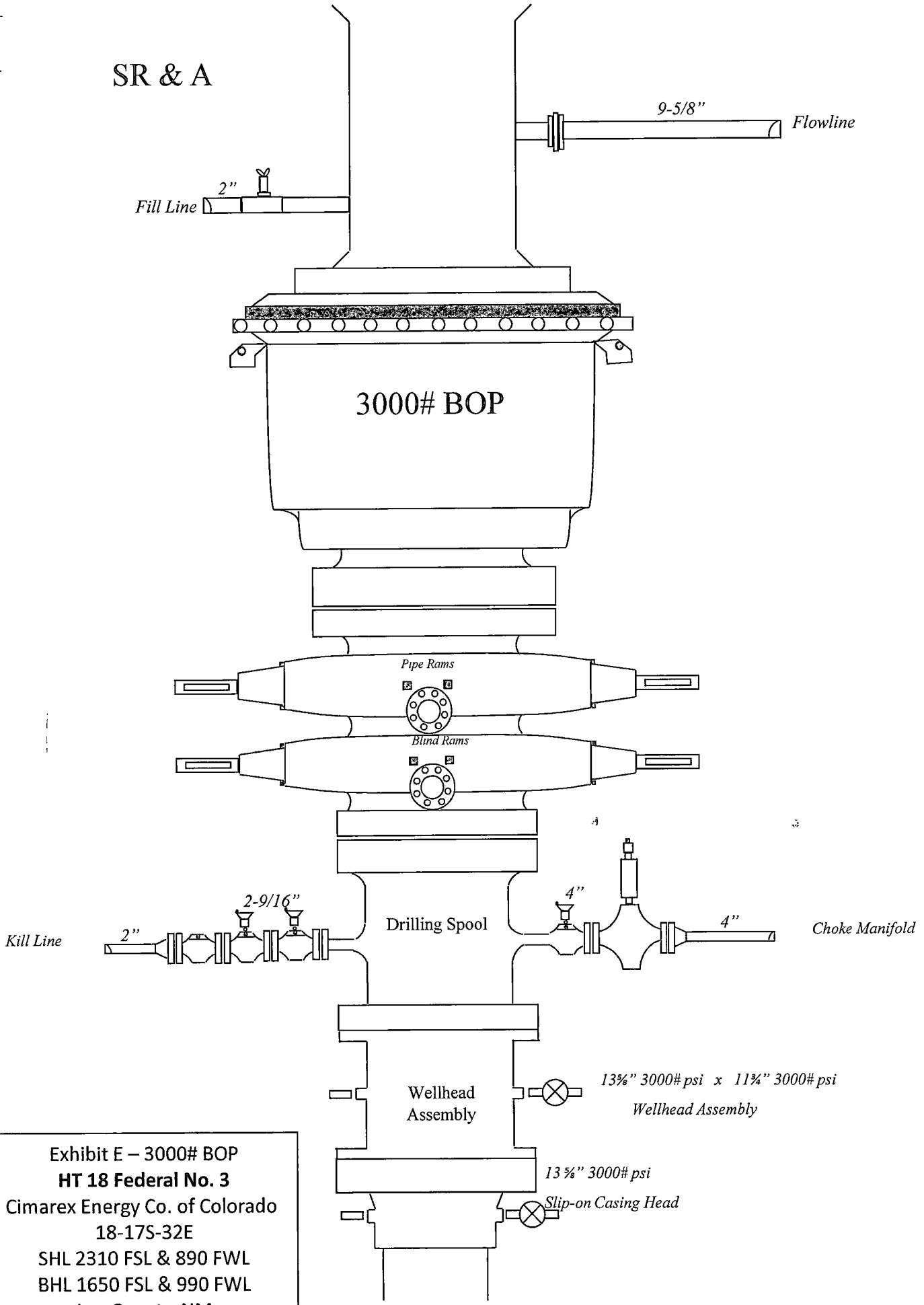
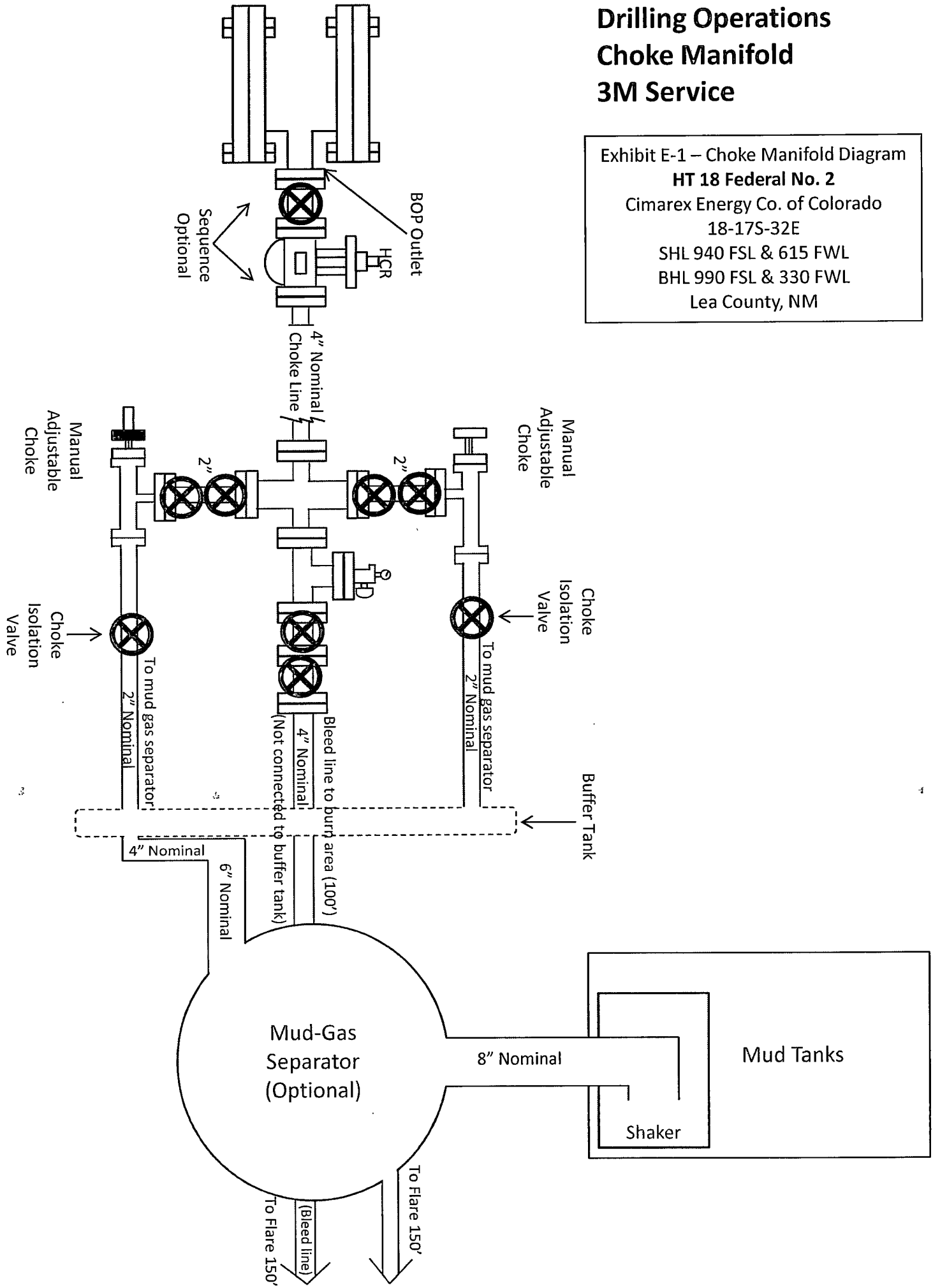


Exhibit E – 3000# BOP
HT 18 Federal No. 3
Cimarex Energy Co. of Colorado
18-17S-32E
SHL 2310 FSL & 890 FWL
BHL 1650 FSL & 990 FWL
Lea County, NM

Drilling Operations
Choke Manifold
3M Service

Exhibit E-1 – Choke Manifold Diagram
HT 18 Federal No. 2
Cimarex Energy Co. of Colorado
18-17S-32E
SHL 940 FSL & 615 FWL
BHL 990 FSL & 330 FWL
Lea County, NM



Silver Oak #3

1"=50'

N

Exhibit D – Rig Diagram
HT 18 Federal No. 3
Cimarex Energy Co. of Colorado
18-17S-32E
SHL 2310 FSL & 890 FWL
BHL 1650 FSL & 990 FWL
Lea County, NM