

Form 3160-3
(April 2004)FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.

LC-028480-B

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Hawker 7 Federal No. 3

9. API Well No

30-015- 39396

10 Field and Pool, or Exploratory

Empire; Glorieta-Yeso

11. Sec., T. R. M. or Blk. and Survey or Area

7-17S-29E

12 County or Parish

Eddy

13. State

NM

15 Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig unit line if
any)

480

16 No of acres in lease

120

17 Spacing Unit dedicated to this well

SENE 40

18 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

50'

19 Proposed Depth

MD 5243, TVD 5200

20. BLM/BIA Bond No. on File

NM-2575

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3677' GR

22 Approximate date work will start*

06.01.11

23. Estimated duration

10-15 days

RECEIVED
AUG 31 2011
NMOCD ARTESIA

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

Zeno Farris

Name (Printed/Typed)

Zeno Farris

Date

03.29.11

Title

Manager Operations Administration

Approved By (Signature)

Is/ Don Peterson

Name (Printed/Typed)

Date

AUG 23 2011

Title

FIELD MANAGER

Office

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

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

Application to Drill
Hawker 7 Federal No. 3
Cimarex Energy Co. of Colorado
Unit H, Section 7
T17S R29E, Eddy 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 1800 FNL & 890 FEL
- 2 Elevation above sea level: 3677' 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 5243, TVD 5200
- 6 Estimated tops of geological markers:

Rustler	294'
Top of Salt	250'
Base of Salt	600'
Tansill	700'
Yates	830'
Seven Rivers	1057'
San Andres	2393'
Glorieta	3760'
Paddock	3880'
Blinbry	4330'
Tubb	5200'
- 7 Possible mineral bearing formation:

Paddock	Oil
Blinbry	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 210'	8.4 - 8.8	40-45	NC	FW
210' to 1100'	9.9 - 10.1	28-32	NC	Brine***
1100' to 5243'	9.1 - 9.5	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.

*** This is for the intermediate contingency plan.

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9 Casing Plan:

Cimarex plans to set surface casing, then drill 11" hole to 1100. If no lost returns, occur, switch to 7½" hole and drill to TD and set 5½" casing from 0-5240. If lost returns do occur, set 8½" casing at 1100 and cement, then drill to TD and set 5½" casing to TD and cement. Kick off for directional at 1200, regardless of intermediate casing situation. Build and hold to 5240 MD, 5200 TVD.

String	Hole Size	Depth		Casing OD		Weight	Thread	Collar	Grade
Surface	12¼"	0	to 210	New	9½"	36#	8-R	STC	J55
Int Contingency	11"	0	to 1100	New	8½"	24#	8-R	STC	J55
Production	8¾"	0	to 5243	New	5½"	17#	8-R	LTC	N80

10 Cementing:

Surface Lead: 160 sx Class "C" + 10% W-60 + 1% CaCl₂ + 0.25% R-38 + 5# Gilsonite per sx, 14.4 ppg, 1.56 cuft/sx, 7.04 gal fw.
Tail: 225 sx Class C + 2% CaCl₂ + 0.25% R-38, 14.8 ppg, 1.35 cuft/sx, 6.34 gal fw.
100% Excess
TOC Surface Centralizers per Onshorder 2.III.B.1.f

Production Lead Slurry: 700 sacks Class C 50/50 Poz + 10% Bentonite + 0.3% FL-10 + 0.25% R-38 + 5% Salt, Mixed at 11.92 ppg. Yeild 2.37 cuft/sx, 13.52 gal/sx Fresh Water.
Tail Slurry: 320 sacks C Star Bond + 0.3% FL-10 + 0.1% C-20 + 0.25% R-38. Mixed at 13.2 ppg, Yeild 1.55 cuft/sx, 7.86 gal/sx Fresh Water.
50% Excess
TOC Surface Centralizers bottom 10 joints, then every other joint to above zone of interest (Blinebry/Paddock)

In case of lost returns while drilling 11" hole to 1100, Cimarex will run a contingency Intermediate casing string.

Intermediate Lead: 200 sx 50:50 Poz: C +0.2% Defoamer (D046) +5% D044 (Salt) +10% D020 (Extender) +1/8 pps
Contingency Cement Polyflake (D130) +2 pps Gilsonite (D042), 11.8 ppg, Yeild 2.57, 15.061 gal/sx water.
Tail: 300 sx C +1% S001 (CaCl₂), 14.8 ppg, 1.35 yeild, 6.365 gal/sx water.
50% Excess

TOC Surface

Production Cement in Lead Slurry: 460 sacks Class C 50/50 Poz + 10% Bentonite + 0.3% FL-10 + 0.25% R-38 + 5% Salt, Mixed at 11.92 ppg. Yeild 2.37 cuft/sx, 13.52 gal/sx Fresh Water.
case of Intermediate

Contingency Tail Slurry: 320 sacks C Star Bond + 0.3% FL-10 + 0.1% C-20 + 0.25% R-38. Mixed at 13.2 ppg, Yeild 1.55 cuft/sx, 7.86 gal/sx Fresh Water.
50% Excess

TOC Surface Centralizers bottom 10 joints, then every other joint to above zone of interest (Blinebry/Paddock)

According to the State Engineer, average depth to ground water is 60.' Fresh water zones will be protected by setting 9½" casing at 210 and cementing to surface. Hydrocarbon zones will be protected by setting 5½" casing at 5243 and cementing to surface, and if needed, setting 8½" casing at 1100 and cementing to surface.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

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11 Pressure control Equipment:

Exhibit "E-1" - A 13 $\frac{3}{4}$ " 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. Mud gas separator 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.

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.

12 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.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potential 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°**

14 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.

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.

Blinebry pay will be perforated and stimulated.

The proposed well will be tested and potential as **an oil well.**

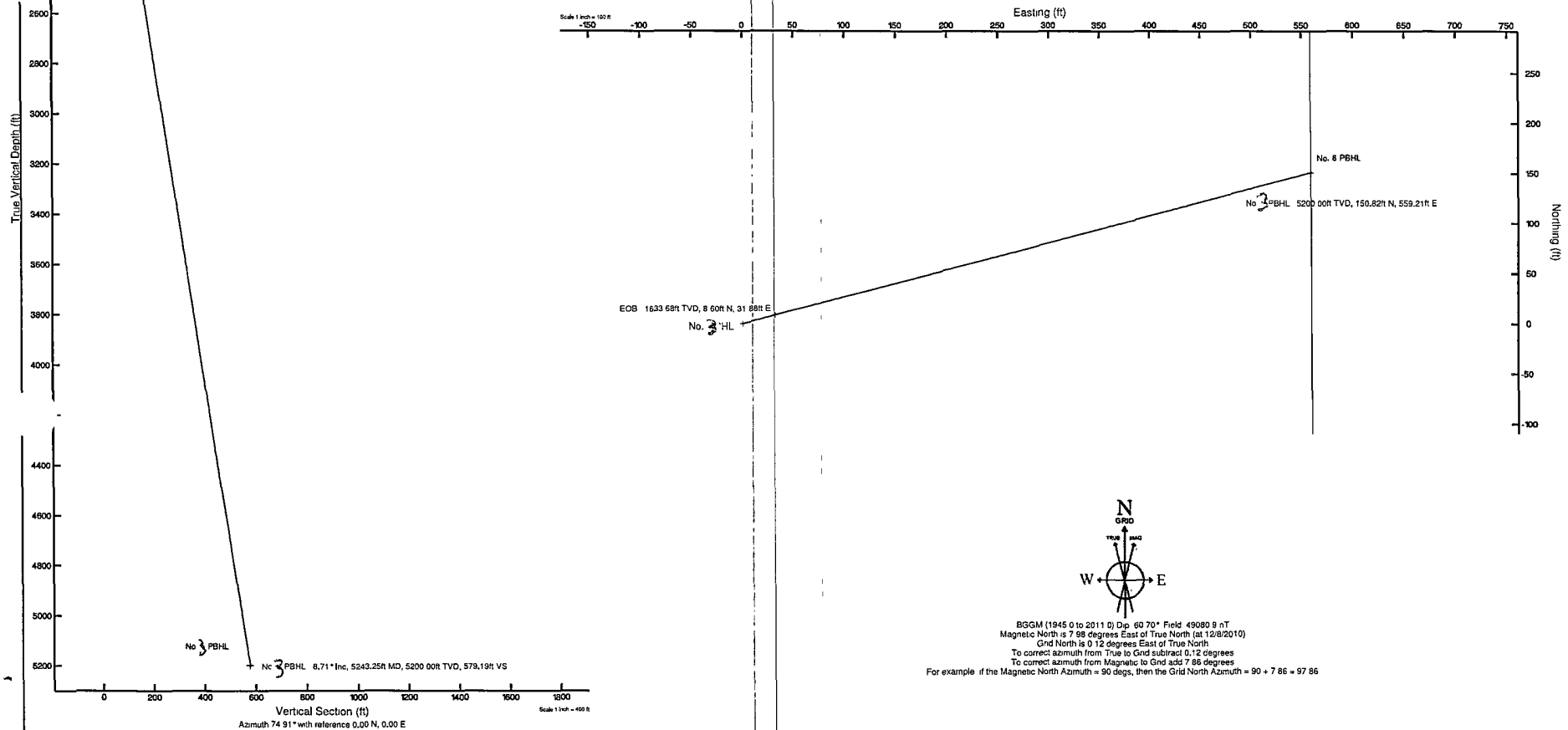
Location Eddy County, NM
Field (Hawker) Sec 7 T17S, R29E
Facility Hawker 7 Fed No 3

Slot.	No	3	SHL
Well	No	3	
Wellbore	No	3	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	74 906	0 00	0 00	0 00	0 00	0 00
Est KOP	1200 00	0 000	74 906	1200 00	0 00	0 00	0 00	0 00
EOB	1835 35	8 707	74 906	1633 68	8 60	31 88	2 00	33 02
No. 3 PBHL	5243 25	8 707	74 906	5200 00	150 82	559 21	0 00	579 19

True vertical depths are referenced to Rig on No. 8 SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 8 SHL (RT)	North Reference: Grid north
Rig on No. 8 SHL (RT) to Mean Sea Level: 3677 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Hawker 7 Fed No 8), -3677 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by gomeoscr on 12/8/2010





Planned Wellpath Report

Prelim_1
Page 1 of 3



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3 SHL
Area	Eddy County, NM	Well	No. 3
Field	(Hawker) Sec 7 T17S, R29E	Wellbore	No. 3 PWB
Facility	Hawker 7 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	Gomeoscr
Scale	0.999915	Report Generated	12/8/2010 at 12:52:12 PM
Convergence at slot	0.12° East	Database/Source file	WA Midland/No. 8_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	610378.20	673547.10	32°51'05.050"N	104°06'30.639"W
Facility Reference Pt			610378.20	673547.10	32°51'05.050"N	104°06'30.639"W
Field Reference Pt			610380.00	673036.90	32°51'00.002"N	104°06'30.630"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 3 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 3 SHL (RT) to Mean Sea Level	3677.00ft
Vertical Reference Pt	Rig on No. 3 SHL (RT)	Facility Vertical Datum 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	74.91°



Planned Wellpath Report

Prelim_1

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3 SHL
Area	Eddy County, NM	Well	No. 3
Field	(Hawker) Sec 7 T17S, R29E	Wellbore	No. 3 PWB
Facility	Hawker 7 Fed No. 3		

WELLPATH DATA (55 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†	8.707	74.906	4366.46	451.54	117.58	435.96	610814.12	673664.67	32°51'06.205"N	104°06'25.526"W	0.00	
4500.00†	8.707	74.906	4465.31	466.67	121.52	450.57	610828.74	673668.61	32°51'06.243"N	104°06'25.354"W	0.00	
4600.00†	8.707	74.906	4564.16	481.81	125.47	465.19	610843.35	673672.55	32°51'06.282"N	104°06'25.183"W	0.00	
4700.00†	8.707	74.906	4663.01	496.95	129.41	479.81	610857.96	673676.50	32°51'06.321"N	104°06'25.011"W	0.00	
4800.00†	8.707	74.906	4761.85	512.09	133.35	494.42	610872.58	673680.44	32°51'06.359"N	104°06'24.840"W	0.00	
4900.00†	8.707	74.906	4860.70	527.23	137.29	509.04	610887.19	673684.38	32°51'06.398"N	104°06'24.669"W	0.00	
5000.00†	8.707	74.906	4959.55	542.37	141.23	523.65	610901.81	673688.32	32°51'06.437"N	104°06'24.497"W	0.00	
5100.00†	8.707	74.906	5058.40	557.50	145.18	538.27	610916.42	673692.26	32°51'06.475"N	104°06'24.326"W	0.00	
5200.00†	8.707	74.906	5157.24	572.64	149.12	552.89	610931.04	673696.21	32°51'06.514"N	104°06'24.154"W	0.00	
5243.25	8.707	74.906	5200.00	579.19	150.82	559.21	610937.36	673697.91	32°51'06.531"N	104°06'24.080"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]
8.625in Casing	0.00	1100.00	1100.00	0.00	1100.00	0.00	0.00	0.00	0.00
7.875in Open Hole	1100.00	5243.25	4143.25	1100.00	5200.00	0.00	0.00	150.82	559.21

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	5243.25	5200.00	150.82	559.21	610937.36	673697.91	32°51'06.531"N	104°06'24.080"W	point

SR & A

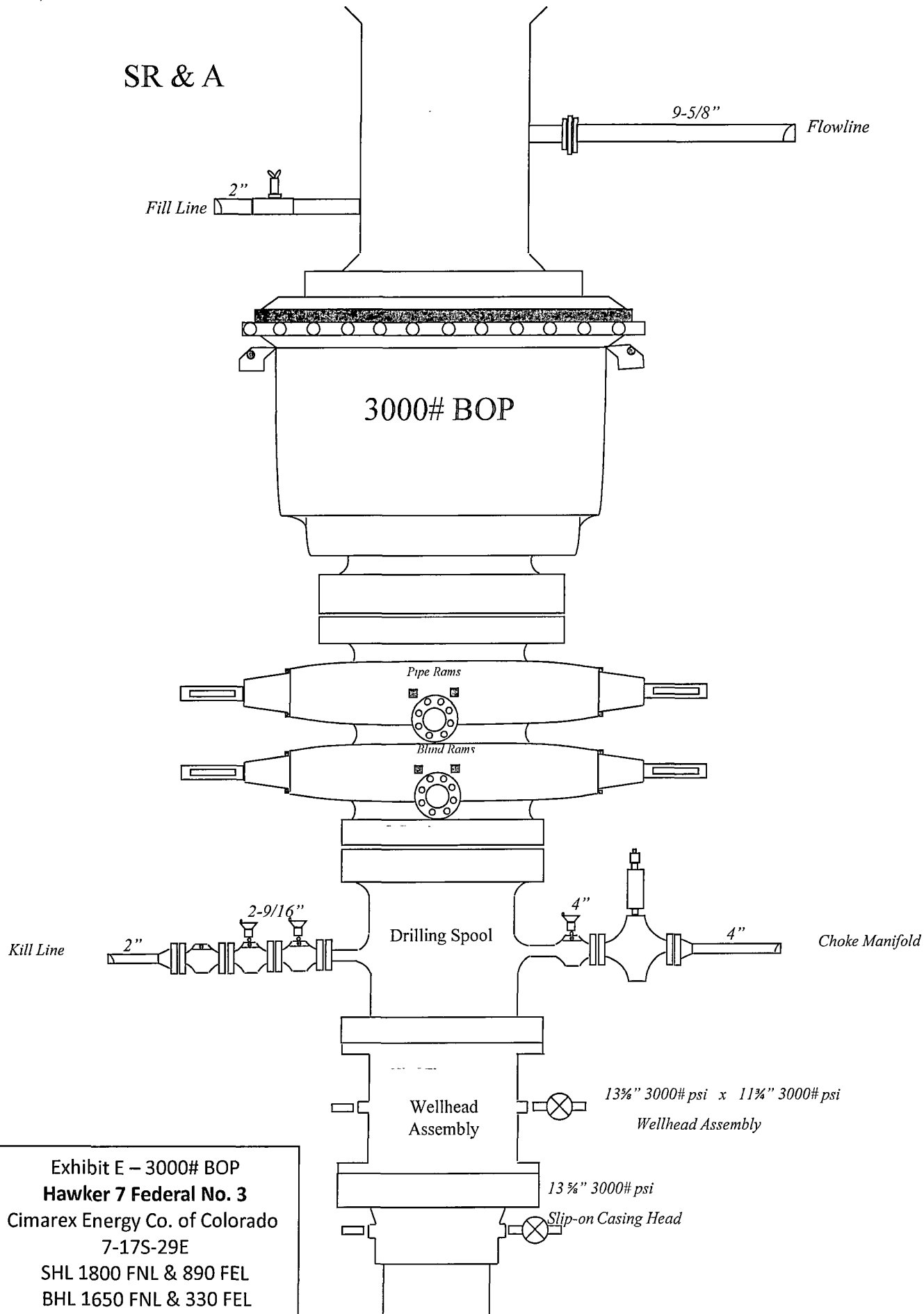


Exhibit E – 3000# BOP
Hawker 7 Federal No. 3
Cimarex Energy Co. of Colorado
7-17S-29E
SHL 1800 FNL & 890 FEL
BHL 1650 FNL & 330 FEL
Eddy County, NM

Drilling Operations
Choke Manifold
3M Service

Exhibit E-1 – Choke Manifold Diagram

Hawker 7 Federal No. 3

Cimarex Energy Co. of Colorado

7-17S-29E

SHL 1800 FNL & 890 FEL

BHL 1650 FNL & 330 FEL

Eddy County, NM

