

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

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM-14847
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. Pere Marquette 18 Federal No. 7 H
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-015-39053
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 660 FNL & 1750 FWL At proposed prod. Zone 990 FNL & 1828 FWL		10. Field and Pool, or Exploratory Empire; Glorieta-Yeso
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 18-17S-29E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 660'	16. No of acres in lease 1054.42	12. County or Parish Eddy
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 550'	19. Proposed Depth 5318 MD, TVD 5300	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3709' GR	22. Approximate date work will start* 04.15.11	20. BLM/BIA Bond No. on File NM-2575
		23. Estimated duration 10-15 days

RECEIVED

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NMOGD 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 <i>Zeno Farris</i>	Name (Printed/Typed) Zeno Farris	Date 02.04.11
Title Manager Operations Administration		
Approved By (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date APR 29 2011
Title FIELD MANAGER		

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
Pere Marquette 18 Federal No. 7
Cimarex Energy Co. of Colorado
Unit C, Section 18
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 660 FNL & 1750 FWL
 BHL 990 FNL & 1828 FWL
- 2 Elevation above sea level: 3709' 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: 5318 MD, TVD 5300
- 6 Estimated tops of geological markers:
Rustler Surface
Top of Salt 200'
Base of Salt 700'
Tansill 777'
Yates 884'
Seven Rivers 1150'
San Andres 2403'
Glorieta 3797'
Paddock 3890'
Blinebry 4455'
Tubb 5225'
- 7 Possible mineral bearing formation:
Paddock Oil
Blinebry Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 300' 250'	8.4 - 8.8	40-45	NC	FW
300' to 5318'	9.9 - 10.1	28-32	NC	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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9 Casing Plan:

See COA

String	Hole Size	Depth		Casing OD		Weight	Thread	Collar	Grade
Surface	12¼"	0'	to 250300'	New	9½"	36#	8-R	STC	J55
Production	8¾"	0'	to 5318'	New	5½"	17#	8-R	LTC	N80

Drilling Plan

Drill 8¾" hole to KOP @ 2000' TVD. Build and hold to 5318' MD, 5300 TVD. Set and cement 5½" production casing from 0-5320.

10 Cementing:

Surface

Lead: 150 sx Class "C" + 4% D020 (Extender) + 2% S001 (CaCl2) + 0.2% D046 (Defoamer) , Mixed at 12.9 ppg, 1.97 ft3/sx

Tail: 200 sx Class C + 1% S001 (CaCl2), Mixed at 14.8 ppg, 1.34 ft3/sx

100% Excess

TOC Surface Centralizers per Onshorder 2.III.B.1.f

Production

Lead: 500 sacks 35/65 Poz/ C + 5% Salt (D044) + 10% Extender Gel (D020) + 0.02% Anti Foam (D046) + 1% Fluid Loss (D112) + 3 lbs/sx Extender (D042) + 0.125 lbs/sx Lost Circ Flakes, wt 12.4 ppg, yld 2.19 ft3/sx

Tail: 250 sx PVL+ 0.2% D167 + .2% D65 + .1% D13 + 1.3% NaCl, wt 13.0 ppg, yld 1.4 ft3/sk

25% Excess

TOC Surface

See COA

According to the State Engineer, average depth to ground water is 75.' Fresh water zones will be protected by setting 9½" casing at 300' and cementing to surface. Hydrocarbon zones will be protected by setting 5½" casing at 5318 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" - An 11" 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 utilized if drilling in H2S area.

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

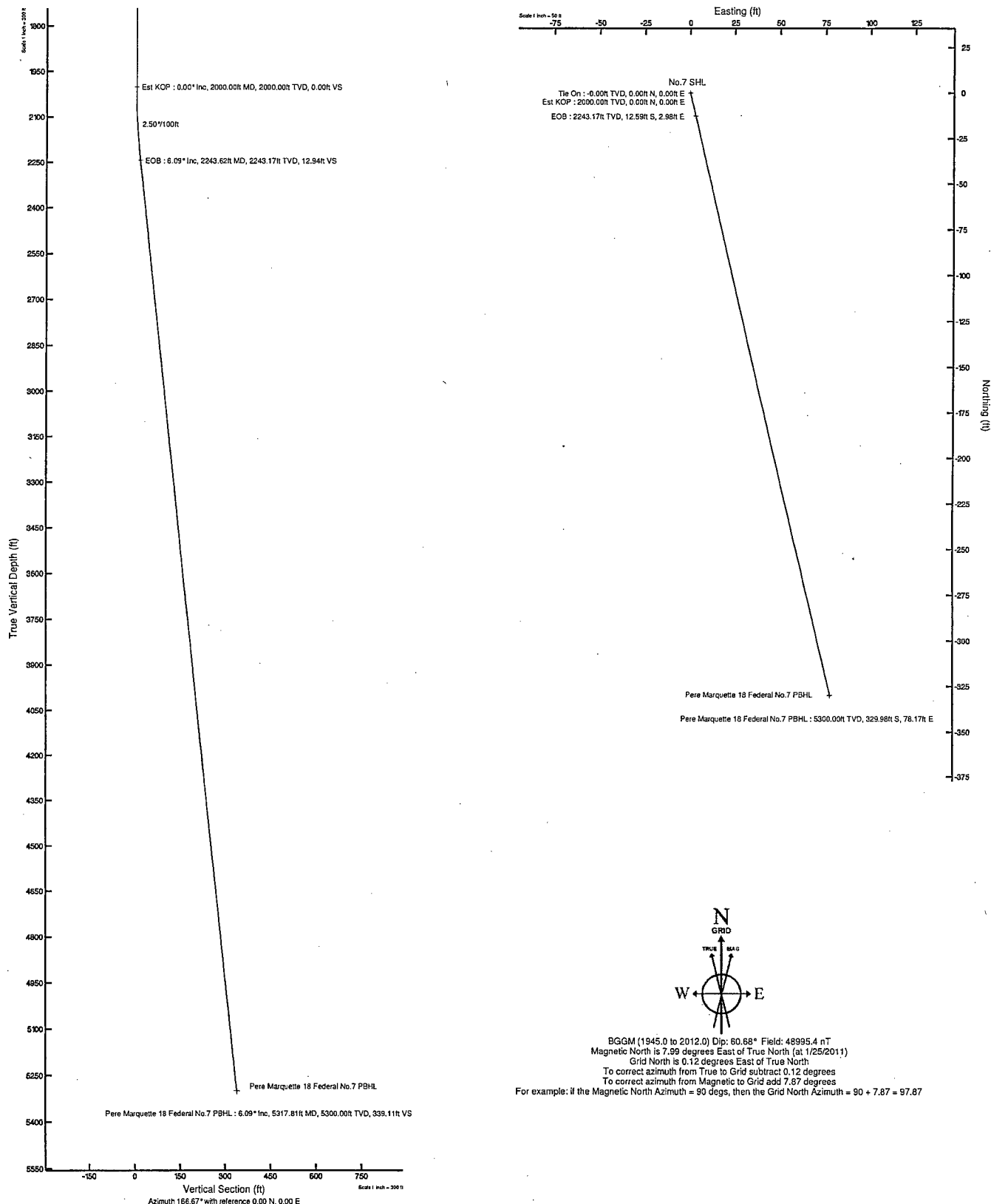
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

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 potentialized as **an oil well.**





Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.7 SHL
Area	Eddy County, NM	Well	No.7
Field	Paddock Blinebry Filed	Wellbore	No.7 PWB
Facility	Pere Marquette 18 Federal No.7		

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	0.999914	Report Generated	1/26/2011 at 4:28:14 PM
Convergence at slot	0.12° East	Database/Source file	WA Midland/No.7_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	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W
Facility Reference Pt			608188.00	669399.90	32°50'24.059"N	104°06'56.414"W
Field Reference Pt			594612.60	661200.10	32°49'03.170"N	104°09'35.695"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.7 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.7 SHL (RT) to Mean Sea Level	3709.00ft
Vertical Reference Pt	Rig on No.7 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No.7 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	166.67°



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Prelim_1

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
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Facility	Pere Marquette 18 Federal No.7		

WELLPATH DATA (56 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	166.673	0.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	Tie On
100.00†	0.000	166.673	100.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
200.00†	0.000	166.673	200.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
300.00†	0.000	166.673	300.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
400.00†	0.000	166.673	400.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
500.00†	0.000	166.673	500.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
600.00†	0.000	166.673	600.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
700.00†	0.000	166.673	700.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
800.00†	0.000	166.673	800.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
900.00†	0.000	166.673	900.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1000.00†	0.000	166.673	1000.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1100.00†	0.000	166.673	1100.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1200.00†	0.000	166.673	1200.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1300.00†	0.000	166.673	1300.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1400.00†	0.000	166.673	1400.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1500.00†	0.000	166.673	1500.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1600.00†	0.000	166.673	1600.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1700.00†	0.000	166.673	1700.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1800.00†	0.000	166.673	1800.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
1900.00†	0.000	166.673	1900.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	
2000.00	0.000	166.673	2000.00	0.00	0.00	0.00	608188.00	669399.90	32°50'24.059"N	104°06'56.414"W	0.00	Est KOP
2100.00†	2.500	166.673	2099.97	2.18	-2.12	0.50	608188.50	669397.78	32°50'24.038"N	104°06'56.409"W	2.50	
2200.00†	5.000	166.673	2199.75	8.72	-8.49	2.01	608190.01	669391.41	32°50'23.975"N	104°06'56.391"W	2.50	
2243.62	6.091	166.673	2243.17	12.94	-12.59	2.98	608190.98	669387.31	32°50'23.935"N	104°06'56.380"W	2.50	EOB
2300.00†	6.091	166.673	2299.22	18.92	-18.41	4.36	608192.36	669381.49	32°50'23.877"N	104°06'56.364"W	0.00	
2400.00†	6.091	166.673	2398.66	29.53	-28.73	6.81	608194.81	669371.17	32°50'23.775"N	104°06'56.335"W	0.00	
2500.00†	6.091	166.673	2498.09	40.14	-39.06	9.25	608197.25	669360.85	32°50'23.673"N	104°06'56.307"W	0.00	
2600.00†	6.091	166.673	2597.53	50.75	-49.38	11.70	608199.70	669350.52	32°50'23.570"N	104°06'56.279"W	0.00	
2700.00†	6.091	166.673	2696.97	61.36	-59.71	14.14	608202.14	669340.20	32°50'23.468"N	104°06'56.250"W	0.00	
2800.00†	6.091	166.673	2796.40	71.97	-70.03	16.59	608204.59	669329.88	32°50'23.366"N	104°06'56.222"W	0.00	
2900.00†	6.091	166.673	2895.84	82.58	-80.35	19.03	608207.03	669319.55	32°50'23.264"N	104°06'56.193"W	0.00	
3000.00†	6.091	166.673	2995.27	93.19	-90.68	21.48	608209.48	669309.23	32°50'23.162"N	104°06'56.165"W	0.00	
3100.00†	6.091	166.673	3094.71	103.80	-101.00	23.93	608211.92	669298.91	32°50'23.059"N	104°06'56.136"W	0.00	
3200.00†	6.091	166.673	3194.14	114.41	-111.33	26.37	608214.37	669288.58	32°50'22.957"N	104°06'56.108"W	0.00	
3300.00†	6.091	166.673	3293.58	125.02	-121.65	28.82	608216.82	669278.26	32°50'22.855"N	104°06'56.080"W	0.00	
3400.00†	6.091	166.673	3393.01	135.63	-131.98	31.26	608219.26	669267.93	32°50'22.753"N	104°06'56.051"W	0.00	
3500.00†	6.091	166.673	3492.45	146.24	-142.30	33.71	608221.71	669257.61	32°50'22.651"N	104°06'56.023"W	0.00	
3600.00†	6.091	166.673	3591.89	156.85	-152.63	36.15	608224.15	669247.29	32°50'22.548"N	104°06'55.994"W	0.00	
3700.00†	6.091	166.673	3691.32	167.46	-162.95	38.60	608226.60	669236.96	32°50'22.446"N	104°06'55.966"W	0.00	
3800.00†	6.091	166.673	3790.76	178.07	-173.27	41.05	608229.05	669226.64	32°50'22.344"N	104°06'55.938"W	0.00	
3900.00†	6.091	166.673	3890.19	188.68	-183.60	43.49	608231.49	669216.32	32°50'22.242"N	104°06'55.909"W	0.00	
4000.00†	6.091	166.673	3989.63	199.29	-193.92	45.94	608233.93	669205.99	32°50'22.140"N	104°06'55.881"W	0.00	
4100.00†	6.091	166.673	4089.06	209.90	-204.25	48.38	608236.38	669195.67	32°50'22.037"N	104°06'55.852"W	0.00	
4200.00†	6.091	166.673	4188.50	220.51	-214.57	50.83	608238.82	669185.35	32°50'21.935"N	104°06'55.824"W	0.00	
4300.00†	6.091	166.673	4287.93	231.12	-224.90	53.27	608241.27	669175.02	32°50'21.833"N	104°06'55.796"W	0.00	



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.7 SHL
Area	Eddy County, NM	Well	No.7
Field	Paddock Blinebry Filed	Wellbore	No.7 PWB
Facility	Pere Marquette 18 Federal No.7		

WELLPATH DATA (56 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†	6.091	166.673	4387.37	241.73	-235.22	55.72	608243.72	669164.70	32°50'21.731"N	104°06'55.767"W	0.00	
4500.00†	6.091	166.673	4486.81	252.34	-245.55	58.17	608246.16	669154.38	32°50'21.629"N	104°06'55.739"W	0.00	
4600.00†	6.091	166.673	4586.24	262.95	-255.87	60.61	608248.61	669144.05	32°50'21.526"N	104°06'55.710"W	0.00	
4700.00†	6.091	166.673	4685.68	273.56	-266.19	63.06	608251.05	669133.73	32°50'21.424"N	104°06'55.682"W	0.00	
4800.00†	6.091	166.673	4785.11	284.17	-276.52	65.50	608253.50	669123.41	32°50'21.322"N	104°06'55.653"W	0.00	
4900.00†	6.091	166.673	4884.55	294.78	-286.84	67.95	608255.94	669113.08	32°50'21.220"N	104°06'55.625"W	0.00	
5000.00†	6.091	166.673	4983.98	305.39	-297.17	70.39	608258.39	669102.76	32°50'21.118"N	104°06'55.597"W	0.00	
5100.00†	6.091	166.673	5083.42	316.00	-307.49	72.84	608260.83	669092.44	32°50'21.015"N	104°06'55.568"W	0.00	
5200.00†	6.091	166.673	5182.85	326.61	-317.82	75.29	608263.28	669082.11	32°50'20.913"N	104°06'55.540"W	0.00	
5300.00†	6.091	166.673	5282.29	337.22	-328.14	77.73	608265.72	669071.79	32°50'20.811"N	104°06'55.511"W	0.00	
5317.81	6.091	166.673	5300.00†	339.11	-329.98	78.17	608266.16	669069.95	32°50'20.793"N	104°06'55.506"W	0.00	Pere Marquette 18 Federal No.7 PBHL

HOLE & CASING SECTIONS Ref Wellbore: No.7 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]
9.375in Casing Surface	0.00	300.00	300.00	0.00	300.00	0.00	0.00	0.00	0.00
8.75in Open Hole	300.00	5317.81	5017.81	300.00	5300.00	0.00	0.00	-329.98	78.17

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) Pere Marquette 18 Federal No.7 PBHL	5317.81	5300.00	-329.98	78.17	608266.16	669069.95	32°50'20.793"N	104°06'55.506"W	point

SURVEY PROGRAM Ref Wellbore: No.7 PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	5317.81	NaviTrak (Standard)		No.7 PWB

SR & A

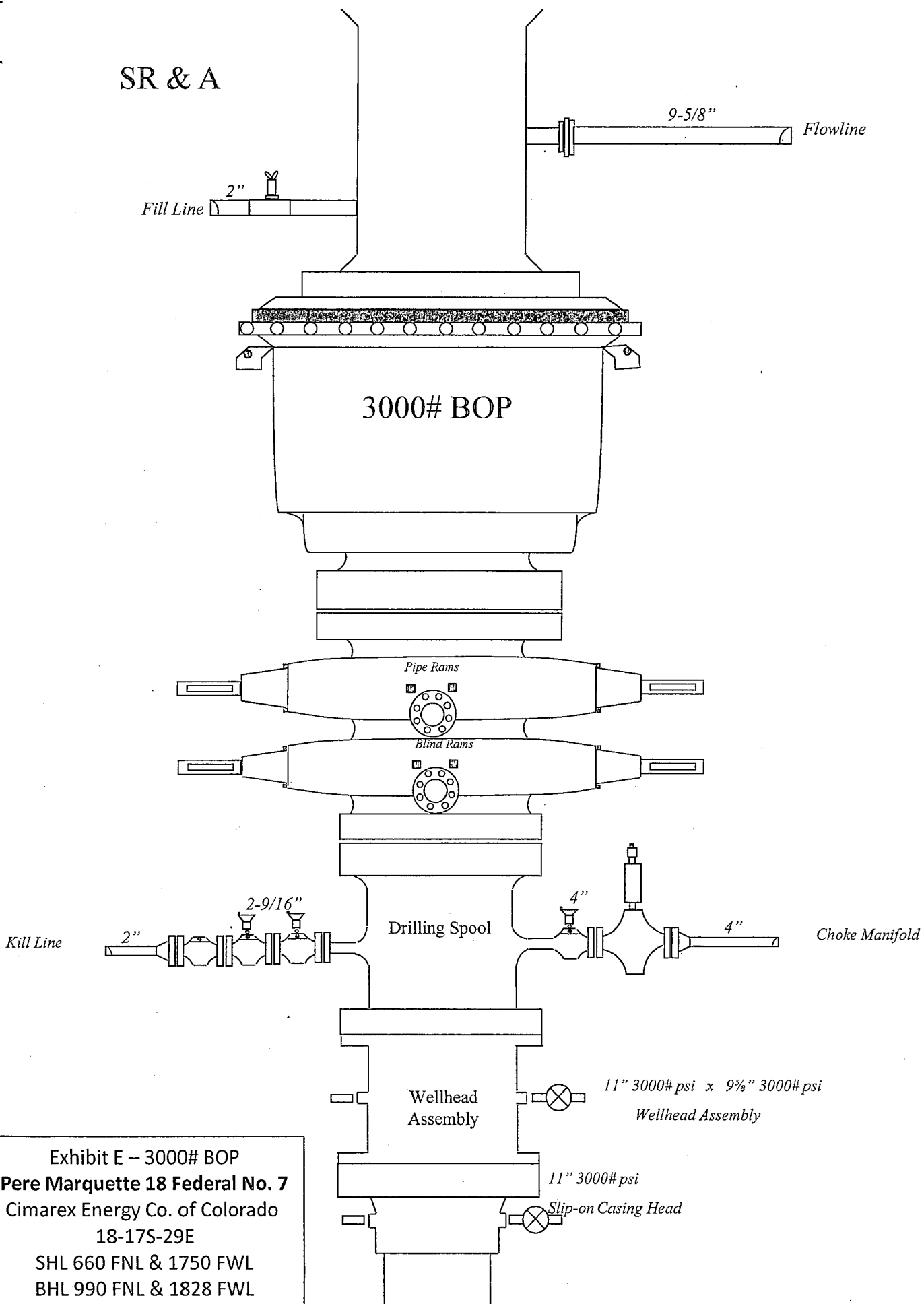


Exhibit E – 3000# BOP
Pere Marquette 18 Federal No. 7
Cimarex Energy Co. of Colorado
18-17S-29E
SHL 660 FNL & 1750 FWL
BHL 990 FNL & 1828 FWL
Eddy County, NM

Drilling Operations Choke Manifold 3M Service

Exhibit E-1 – Choke Manifold Diagram

Pere Marquette 18 Federal No. 7

Cimarex Energy Co. of Colorado

18-17S-29E

SHL 660 FNL & 1750 FWL

BHL 990 FNL & 1828 FWL

Eddy County, NM

