Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NM OIL CONSERVATION
ARTESIA DISTRICT
OCD Artesia 2016
RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM120350

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
HORNSBY 35 FEDERAL COM 7H

2. Name of Operator
CIMAREX ENERGY COMPANY
Contact: ARICKA EASTERLING
E-Mail: aeasterling@cimarex.com

9. API Well No.
30-015-42168

3a. Address
202 S CHEYENNE AVE, SUITE 1000
TULSA, OK 74103

3b. Phone No. (include area code)
Ph: 918-560-7060

10. Field and Pool or Exploratory Area
WILDCAT; BONE SPRING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 35 T26S R27E SESE 210FSL 790FEL

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Cimarex respectfully request approval to change the original drilling plan for the above referenced well. Cimarex proposes to change the SHL there by changing the directional plan. Cimarex also proposes to move the well closer to other wells on the pad. No additional disturbance is required for the well pad. This well was approved as a Wolfcamp, however Cimarex is proposing to drill it as a Bone Spring Oil Well.
Approved:
SHL 210 FSL & 2020 FEL Sec. 35-26S-27E

Proposed:
SHL 290 FSL & 2050 FEL Sec. 35-26S-27E

Eng. Okay 10/27/2016 JRW

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #321185 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Carlsbad
Committed to AFMSS for processing by LINDA DENNISTON on 10/26/2015 ()

Name *(Printed/Typed)* ARICKA EASTERLING — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 10/23/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By [signature] — Title LPET — Date 12-12-16

Conditions of approval, if any, are attached. Approval of this notice 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. — Office CFO

Title 18 U.S.C. 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)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Additional data for EC transaction #321185 that would not fit on the form

32. Additional remarks, continued

Please see attached proposed drilling plan and other related documents.

Schlumberger

Cimarex Hornsby 35 Federal Com 7H Rev3 JLP 22-Oct-15 Proposal
Geodetic Report
(Non-Def Plan)

CIMAREX

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 22 2016
RECEIVED

Report Date:	October 22, 2015 - 04:31 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	359.777 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Hornsby 35 Federal Com 7H / Cimarex Hornsby 35 Federal Com 7H	**TVD Reference Datum:**	Ground level
Well:	Cimarex Hornsby 35 Federal Com 7H	**TVD Reference Elevation:**	3240.600 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3240.600 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.502 °
Survey Name:	Cimarex Hornsby 35 Federal Com 7H Rev3 JLP 22-Oct-15	**Total Gravity Field Strength:**	998.6837mgn (9.80665 Based)
Survey Date:	July 20, 2015	**Gravity Model:**	DOX
Tort / AHD / DDI / ERD Ratio:	94.480 ° / 6807.816 ft / 6.076 / 0.877	**Total Magnetic Field Strength:**	48180.544 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.721 °
Location Lat / Long:	N 32° 0' 2.85840", W 104° 9' 31.96080"	**Declination Date:**	July 20, 2015
Location Grid N/E Y/X:	N 364071.993 ftUS, E 595416.142 ftUS	**Magnetic Declination Model:**	HDGM 2015
CRS Grid Convergence Angle:	0.0924 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99991244	**Grid Convergence Used:**	0.0924 °
Version / Patch:	2.8.572.0	**Total Corr Mag North->Grid North:**	7.4100 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-in	0.00	0.00	250.00	0.00	0.00	0.00	0.00	N/A	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	100.00	0.00	250.00	100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	200.00	0.00	250.00	200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	300.00	0.00	250.00	300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	400.00	0.00	250.00	400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	500.00	0.00	250.00	500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	600.00	0.00	250.00	600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	700.00	0.00	250.00	700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	800.00	0.00	250.00	800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	900.00	0.00	250.00	900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1000.00	0.00	250.00	1000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1100.00	0.00	250.00	1100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1200.00	0.00	250.00	1200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1300.00	0.00	250.00	1300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1400.00	0.00	250.00	1400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1500.00	0.00	250.00	1500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1600.00	0.00	250.00	1600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1700.00	0.00	250.00	1700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1800.00	0.00	250.00	1800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	1900.00	0.00	250.00	1900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2000.00	0.00	250.00	2000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2100.00	0.00	250.00	2100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2200.00	0.00	250.00	2200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	2300.00	0.00	250.00	2300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2400.00	0.00	250.00	2400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2500.00	0.00	250.00	2500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2600.00	0.00	250.00	2600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2700.00	0.00	250.00	2700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2800.00	0.00	250.00	2800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	2900.00	0.00	250.00	2900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3000.00	0.00	250.00	3000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3100.00	0.00	250.00	3100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3200.00	0.00	250.00	3200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3300.00	0.00	250.00	3300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3400.00	0.00	250.00	3400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3500.00	0.00	250.00	3500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3600.00	0.00	250.00	3600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3700.00	0.00	250.00	3700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3800.00	0.00	250.00	3800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	3900.00	0.00	250.00	3900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4000.00	0.00	250.00	4000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4100.00	0.00	250.00	4100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4200.00	0.00	250.00	4200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4300.00	0.00	250.00	4300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4400.00	0.00	250.00	4400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4500.00	0.00	250.00	4500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4600.00	0.00	250.00	4600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4700.00	0.00	250.00	4700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4800.00	0.00	250.00	4800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	4900.00	0.00	250.00	4900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5000.00	0.00	250.00	5000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5100.00	0.00	250.00	5100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5200.00	0.00	250.00	5200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5300.00	0.00	250.00	5300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5400.00	0.00	250.00	5400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5500.00	0.00	250.00	5500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5600.00	0.00	250.00	5600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5700.00	0.00	250.00	5700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5800.00	0.00	250.00	5800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	5900.00	0.00	250.00	5900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6000.00	0.00	250.00	6000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6100.00	0.00	250.00	6100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6200.00	0.00	250.00	6200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6300.00	0.00	250.00	6300.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6400.00	0.00	250.00	6400.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6500.00	0.00	250.00	6500.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6600.00	0.00	250.00	6600.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6700.00	0.00	250.00	6700.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6800.00	0.00	250.00	6800.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	6900.00	0.00	250.00	6900.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	7000.00	0.00	250.00	7000.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7100.00	0.00	250.00	7100.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
	7200.00	0.00	250.00	7200.00	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
KOP - Build 12°/100ft DLS	7249.75	0.00	250.00	7249.75	0.00	0.00	0.00	0.00	364071.99	595416.14	N 32 0 2.86	W 104 9 31.96
Build 12°/100ft DLS	7274.75	3.00	250.00	7274.74	-0.22	-0.22	-0.61	12.00	364071.77	595415.53	N 32 0 2.86	W 104 9 31.97
	7300.00	3.46	305.42	7299.95	0.00	-0.01	-1.86	12.00	364071.98	595414.29	N 32 0 2.86	W 104 9 31.98
	7400.00	14.29	348.81	7398.68	13.92	13.90	-6.73	12.00	364085.89	595409.41	N 32 0 3.00	W 104 9 32.04
	7500.00	26.16	354.21	7492.36	48.10	48.05	-11.37	12.00	364120.04	595404.78	N 32 0 3.33	W 104 9 32.09
	7600.00	38.11	356.36	7576.89	101.03	100.97	-15.56	12.00	364172.95	595400.58	N 32 0 3.86	W 104 9 32.14
	7700.00	50.08	357.60	7648.58	170.40	170.33	-19.14	12.00	364242.30	595397.00	N 32 0 4.54	W 104 9 32.18
	7800.00	62.06	358.47	7704.30	253.18	253.10	-21.94	12.00	364325.07	595394.20	N 32 0 5.36	W 104 9 32.21
	7900.00	74.05	359.16	7741.61	345.75	345.66	-23.84	12.00	364417.62	595392.31	N 32 0 6.28	W 104 9 32.23
	8000.00	86.03	359.77	7758.87	444.06	443.97	-24.75	12.00	364515.92	595391.39	N 32 0 7.25	W 104 9 32.24
Landing point	8036.86	90.45	359.99	7760.00	480.90	480.81	-24.83	12.00	364552.76	595391.31	N 32 0 7.62	W 104 9 32.24
	8100.00	90.45	359.99	7759.50	544.03	543.94	-24.85	0.00	364615.89	595391.30	N 32 0 8.24	W 104 9 32.24
	8200.00	90.45	359.99	7758.71	644.03	643.94	-24.87	0.00	364715.87	595391.27	N 32 0 9.23	W 104 9 32.24
	8300.00	90.45	359.99	7757.92	744.03	743.94	-24.90	0.00	364815.86	595391.24	N 32 0 10.22	W 104 9 32.24
	8400.00	90.45	359.99	7757.12	844.02	843.93	-24.93	0.00	364915.85	595391.22	N 32 0 11.21	W 104 9 32.23
	8500.00	90.45	359.99	7756.33	944.02	943.93	-24.95	0.00	365015.84	595391.19	N 32 0 12.20	W 104 9 32.23
	8600.00	90.45	359.99	7755.54	1044.01	1043.93	-24.98	0.00	365115.82	595391.17	N 32 0 13.19	W 104 9 32.23
	8700.00	90.45	359.99	7754.75	1144.01	1143.92	-25.00	0.00	365215.81	595391.14	N 32 0 14.18	W 104 9 32.23
	8800.00	90.45	359.99	7753.95	1244.01	1243.92	-25.03	0.00	365315.80	595391.11	N 32 0 15.17	W 104 9 32.23
	8900.00	90.45	359.99	7753.16	1344.00	1343.92	-25.06	0.00	365415.79	595391.09	N 32 0 16.16	W 104 9 32.23
	9000.00	90.45	359.99	7752.37	1444.00	1443.91	-25.08	0.00	365515.78	595391.06	N 32 0 17.15	W 104 9 32.23
	9100.00	90.45	359.99	7751.58	1544.00	1543.91	-25.11	0.00	365615.76	595391.04	N 32 0 18.14	W 104 9 32.22
	9200.00	90.45	359.99	7750.79	1643.99	1643.91	-25.13	0.00	365715.75	595391.01	N 32 0 19.13	W 104 9 32.22
	9300.00	90.45	359.99	7750.00	1743.99	1743.90	-25.16	0.00	365815.74	595390.98	N 32 0 20.12	W 104 9 32.22
	9400.00	90.45	359.99	7749.20	1843.98	1843.90	-25.19	0.00	365915.73	595390.96	N 32 0 21.11	W 104 9 32.22
	9500.00	90.45	359.99	7748.41	1943.98	1943.90	-25.21	0.00	366015.72	595390.93	N 32 0 22.09	W 104 9 32.22
	9600.00	90.45	359.99	7747.62	2043.98	2043.89	-25.24	0.00	366115.70	595390.91	N 32 0 23.08	W 104 9 32.22
	9700.00	90.45	359.99	7746.83	2143.97	2143.89	-25.26	0.00	366215.69	595390.88	N 32 0 24.07	W 104 9 32.21
	9800.00	90.45	359.99	7746.04	2243.97	2243.89	-25.29	0.00	366315.68	595390.85	N 32 0 25.06	W 104 9 32.21
	9900.00	90.45	359.99	7745.25	2343.97	2343.88	-25.32	0.00	366415.67	595390.83	N 32 0 26.05	W 104 9 32.21
	10000.00	90.45	359.99	7744.45	2443.96	2443.88	-25.34	0.00	366515.66	595390.80	N 32 0 27.04	W 104 9 32.21
	10100.00	90.45	359.99	7743.66	2543.96	2543.88	-25.37	0.00	366615.64	595390.78	N 32 0 28.03	W 104 9 32.21
	10200.00	90.45	359.99	7742.87	2643.95	2643.88	-25.40	0.00	366715.63	595390.75	N 32 0 29.02	W 104 9 32.21
	10300.00	90.45	359.99	7742.08	2743.95	2743.87	-25.42	0.00	366815.62	595390.72	N 32 0 30.01	W 104 9 32.20
	10400.00	90.45	359.99	7741.29	2843.95	2843.87	-25.45	0.00	366915.61	595390.70	N 32 0 31.00	W 104 9 32.20
	10500.00	90.45	359.99	7740.50	2943.94	2943.87	-25.47	0.00	367015.59	595390.67	N 32 0 31.99	W 104 9 32.20
	10600.00	90.45	359.99	7739.71	3043.94	3043.86	-25.50	0.00	367115.58	595390.65	N 32 0 32.98	W 104 9 32.20
	10700.00	90.45	359.99	7738.92	3143.94	3143.86	-25.53	0.00	367215.57	595390.62	N 32 0 33.97	W 104 9 32.20
	10800.00	90.45	359.99	7738.13	3243.93	3243.86	-25.55	0.00	367315.56	595390.59	N 32 0 34.96	W 104 9 32.20
	10900.00	90.45	359.99	7737.34	3343.93	3343.85	-25.58	0.00	367415.55	595390.57	N 32 0 35.95	W 104 9 32.20
	11000.00	90.45	359.99	7736.54	3443.92	3443.85	-25.60	0.00	367515.53	595390.54	N 32 0 36.94	W 104 9 32.19
	11100.00	90.45	359.99	7735.75	3543.92	3543.85	-25.63	0.00	367615.52	595390.51	N 32 0 37.93	W 104 9 32.19
	11200.00	90.45	359.99	7734.96	3643.92	3643.84	-25.66	0.00	367715.51	595390.49	N 32 0 38.92	W 104 9 32.19
	11300.00	90.45	359.99	7734.17	3743.91	3743.84	-25.68	0.00	367815.50	595390.46	N 32 0 39.91	W 104 9 32.19
	11400.00	90.45	359.99	7733.38	3843.91	3843.84	-25.71	0.00	367915.49	595390.44	N 32 0 40.90	W 104 9 32.19

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	11500.00	90.45	359.99	7732.59	3943.91	3943.83	-25.73	0.00	368015.47	595390.41	N 32 0 41.88	W 104 9 32.19
	11600.00	90.45	359.99	7731.80	4043.90	4043.83	-25.76	0.00	368115.46	595390.38	N 32 0 42.87	W 104 9 32.18
	11700.00	90.45	359.99	7731.01	4143.90	4143.83	-25.79	0.00	368215.45	595390.36	N 32 0 43.86	W 104 9 32.18
	11800.00	90.45	359.99	7730.22	4243.89	4243.83	-25.81	0.00	368315.44	595390.33	N 32 0 44.85	W 104 9 32.18
	11900.00	90.45	359.99	7729.43	4343.89	4343.82	-25.84	0.00	368415.43	595390.31	N 32 0 45.84	W 104 9 32.18
	12000.00	90.45	359.99	7728.64	4443.89	4443.82	-25.86	0.00	368515.41	595390.28	N 32 0 46.83	W 104 9 32.18
	12100.00	90.45	359.99	7727.85	4543.88	4543.82	-25.89	0.00	368615.40	595390.25	N 32 0 47.82	W 104 9 32.18
	12200.00	90.45	359.99	7727.06	4643.88	4643.81	-25.92	0.00	368715.39	595390.23	N 32 0 48.81	W 104 9 32.17
	12300.00	90.45	359.99	7726.27	4743.87	4743.81	-25.94	0.00	368815.38	595390.20	N 32 0 49.80	W 104 9 32.17
	12400.00	90.45	359.99	7725.48	4843.87	4843.81	-25.97	0.00	368915.37	595390.18	N 32 0 50.79	W 104 9 32.17
	12500.00	90.45	359.99	7724.69	4943.87	4943.80	-25.99	0.00	369015.35	595390.15	N 32 0 51.78	W 104 9 32.17
	12600.00	90.45	359.99	7723.90	5043.86	5043.80	-26.02	0.00	369115.34	595390.12	N 32 0 52.77	W 104 9 32.17
	12700.00	90.45	359.99	7723.11	5143.86	5143.80	-26.05	0.00	369215.33	595390.10	N 32 0 53.76	W 104 9 32.17
	12800.00	90.45	359.99	7722.32	5243.86	5243.79	-26.07	0.00	369315.32	595390.07	N 32 0 54.75	W 104 9 32.17
	12900.00	90.45	359.99	7721.53	5343.85	5343.79	-26.10	0.00	369415.30	595390.05	N 32 0 55.74	W 104 9 32.16
	13000.00	90.45	359.99	7720.74	5443.85	5443.79	-26.12	0.00	369515.29	595390.02	N 32 0 56.73	W 104 9 32.16
	13100.00	90.45	359.99	7719.95	5543.84	5543.78	-26.15	0.00	369615.28	595389.99	N 32 0 57.72	W 104 9 32.16
	13200.00	90.45	359.99	7719.16	5643.84	5643.78	-26.18	0.00	369715.27	595389.97	N 32 0 58.71	W 104 9 32.16
	13300.00	90.45	359.99	7718.37	5743.84	5743.78	-26.20	0.00	369815.26	595389.94	N 32 0 59.70	W 104 9 32.16
	13400.00	90.45	359.99	7717.58	5843.83	5843.78	-26.23	0.00	369915.24	595389.92	N 32 1 0.69	W 104 9 32.16
	13500.00	90.45	359.99	7716.79	5943.83	5943.77	-26.26	0.00	370015.23	595389.89	N 32 1 1.68	W 104 9 32.15
	13600.00	90.45	359.99	7716.00	6043.83	6043.77	-26.28	0.00	370115.22	595389.86	N 32 1 2.66	W 104 9 32.15
	13700.00	90.45	359.99	7715.21	6143.82	6143.77	-26.31	0.00	370215.21	595389.84	N 32 1 3.65	W 104 9 32.15
	13800.00	90.45	359.99	7714.42	6243.82	6243.76	-26.33	0.00	370315.20	595389.81	N 32 1 4.64	W 104 9 32.15
	13900.00	90.45	359.99	7713.63	6343.81	6343.76	-26.36	0.00	370415.18	595389.79	N 32 1 5.63	W 104 9 32.15
	14000.00	90.45	359.99	7712.84	6443.81	6443.76	-26.39	0.00	370515.17	595389.76	N 32 1 6.62	W 104 9 32.15
	14100.00	90.45	359.99	7712.05	6543.81	6543.75	-26.41	0.00	370615.16	595389.73	N 32 1 7.61	W 104 9 32.14
	14200.00	90.45	359.99	7711.27	6643.80	6643.75	-26.44	0.00	370715.15	595389.71	N 32 1 8.60	W 104 9 32.14
	14300.00	90.45	359.99	7710.48	6743.80	6743.75	-26.46	0.00	370815.14	595389.68	N 32 1 9.59	W 104 9 32.14
Cimarex Hornsby 35 Federal Com 7H PBHL	14360.42	90.45	359.99	7710.00	6804.21	6804.16	-26.48	0.00	370875.55	595389.67	N 32 1 10.19	W 104 9 32.14

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	14360.418	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hornsby 35 Federal Com 7H

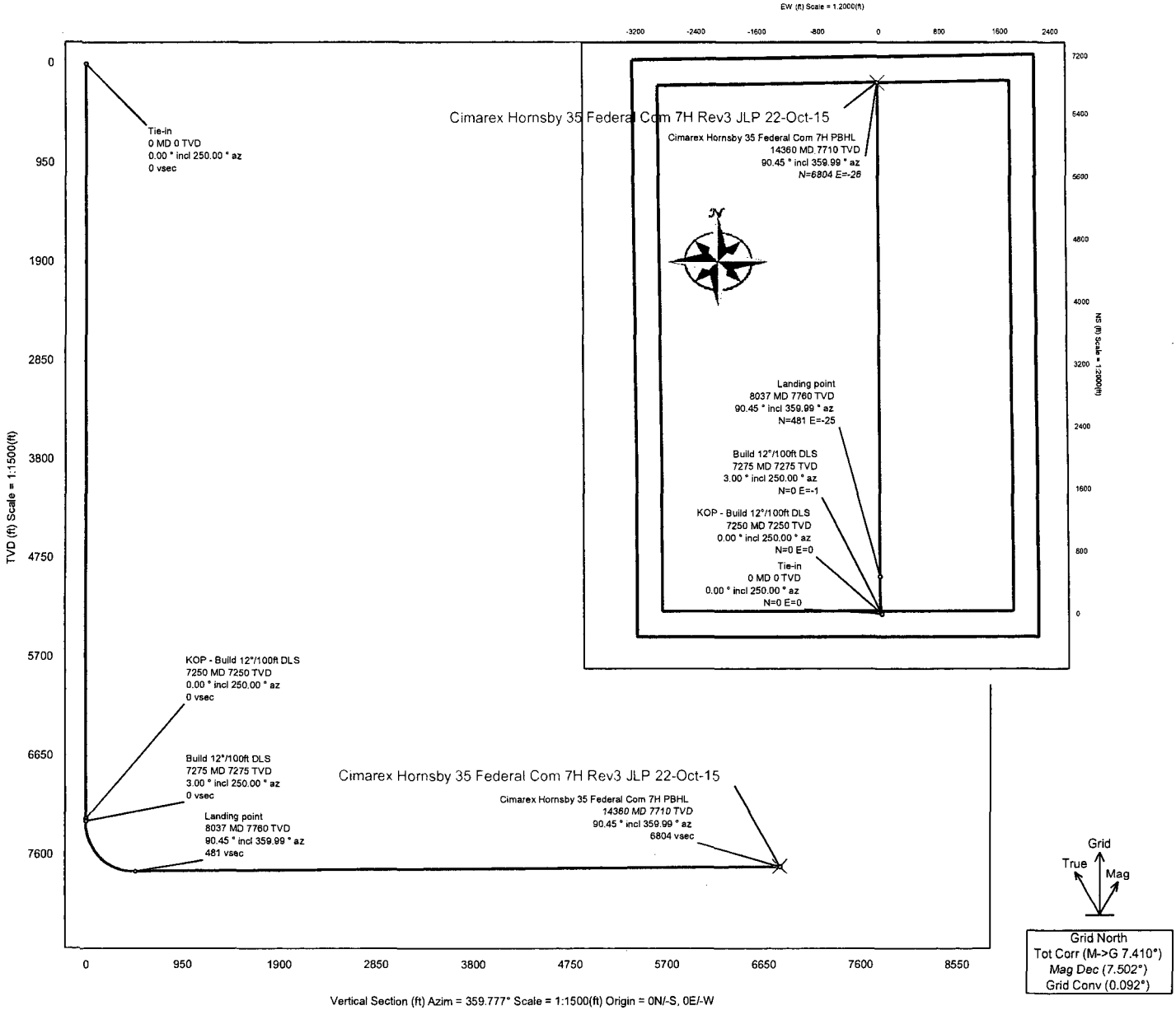
Schlumberger

Cimarex

CIMAREX

Borehole:	Well:	Field:	Structure:
Original Borehole	Hornsby 35 Federal Com 7H	NM Eddy County (NAD 83)	TBD

Gravity & Magnetic Parameters				Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet			Miscellaneous		
Model:	HDGM 2015	Dip: 59.721°	Date: 20-Jul-2015	Lat:	N 32 0 2.86	Northing:	364071.99ftUS	Grid Conv:	0.0924°	Slot: 7H TVD Ref: Ground level(3240.6ft above MSL)
MagDec:	7.502°	FS: 48180.544nT	Gravity FS: 998.684mgn (9.80665 Based)	Lon:	W 104 9 31.96	Easting:	595416.14ftUS	Scale Fact:	0.99991244	Plan: Rev3 JLP 22-Oct-15



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-in	0.00	0.00	250.00	0.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	7249.75	0.00	250.00	7249.75	0.00	0.00	0.00	0.00
Build 12°/100ft DLS	7274.75	3.00	250.00	7274.74	-0.22	-0.22	-0.61	12.00
Landing point	8036.86	90.45	359.99	7760.00	480.90	480.81	-24.83	12.00
Cimarex Hornsby 35 Federal Com 7H PBHL	14360.42	90.45	359.99	7710.00	6804.21	6804.16	-26.48	0.00

D E C	CONTROLLED
Plan ref	Cimarex Hornsby 35 Federal Com 7H Rev3 JLP 22-Oct-15
Drawing ref	
Copy number	of 3
Date	22-Oct-2015

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for

1. Geological Formations

TVD of target 7,710 Pilot Hole TD N/A
MD at TD 14,360 Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
OSE Ground water	100	N/A	
Salado	1550	N/A	
Castille	2102	N/A	
Bell Canyon	2260	N/A	
Cherry Canyon	3290	N/A	
Brushy Canyon	4470	N/A	
Brushy Canyon Lower	5735	N/A	
Bone Spring	5935	Hydrocarbons	
Bone Spring A Shale	6150	Hydrocarbons	
Bone Spring C Shale	6550	Hydrocarbons	
1st Bone Spring Ss	6850	Hydrocarbons	
2nd Bone Spring Ss	7325	Hydrocarbons	
2nd BS Ss Horz target	7770	Hydrocarbons	
3rd BS Limestone	7855	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	400	13-3/8"	48.00	H-40	ST&C	4.29	10.02	16.77
12 1/4	0	2200	9-5/8"	36.00	J-55	LT&C	1.77	3.08	5.72
8 3/4	0	7250	5-1/2"	17.00	L-80	LT&C	1.81	2.23	2.58
8 3/4	7250	14360	5-1/2"	17.00	L-80	BT&C	1.71	2.10	50.77
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	N
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	60	13.50	1.75	8.83	15.5	Lead: Class C + Bentonite + Calcium Chloride + LCM
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	421	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	129	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	702	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	1520	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	31
Intermediate	0	45
Production	2000	16

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

		Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X		A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N	Are anchors required by manufacturer?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 400'	FW Spud Mud	7.80 - 8.30	28	N/C
400' to 2200'	Brine Water	9.50 - 10.00	30-32	N/C
2200' to 14360'	FW/Cut Brine	8.70 - 9.20	30-32	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing	
	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
X	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	3688 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

8. Other Facets of Operation

Drilling 12-1/4" hole
below 13 3/8" Casing

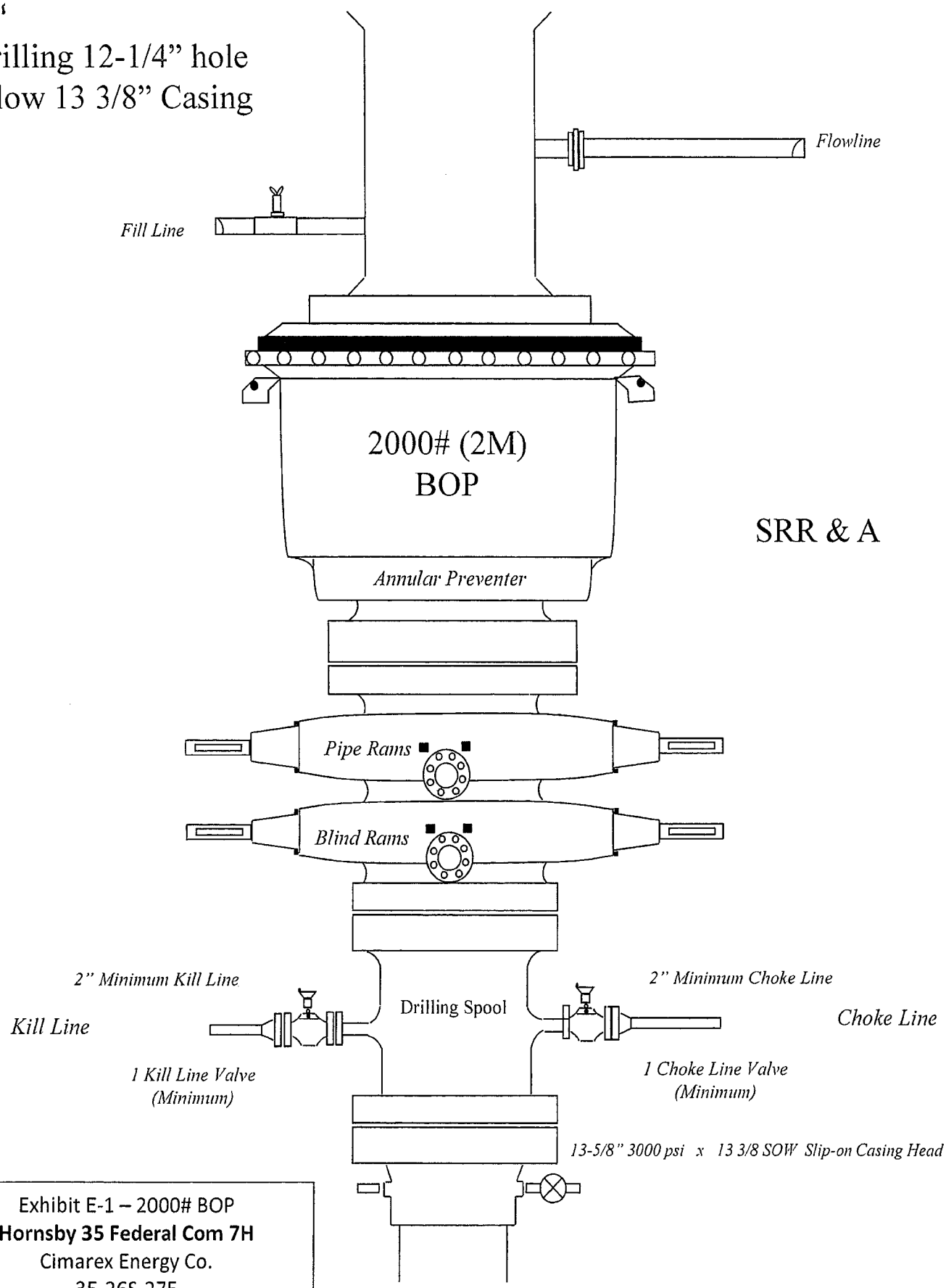
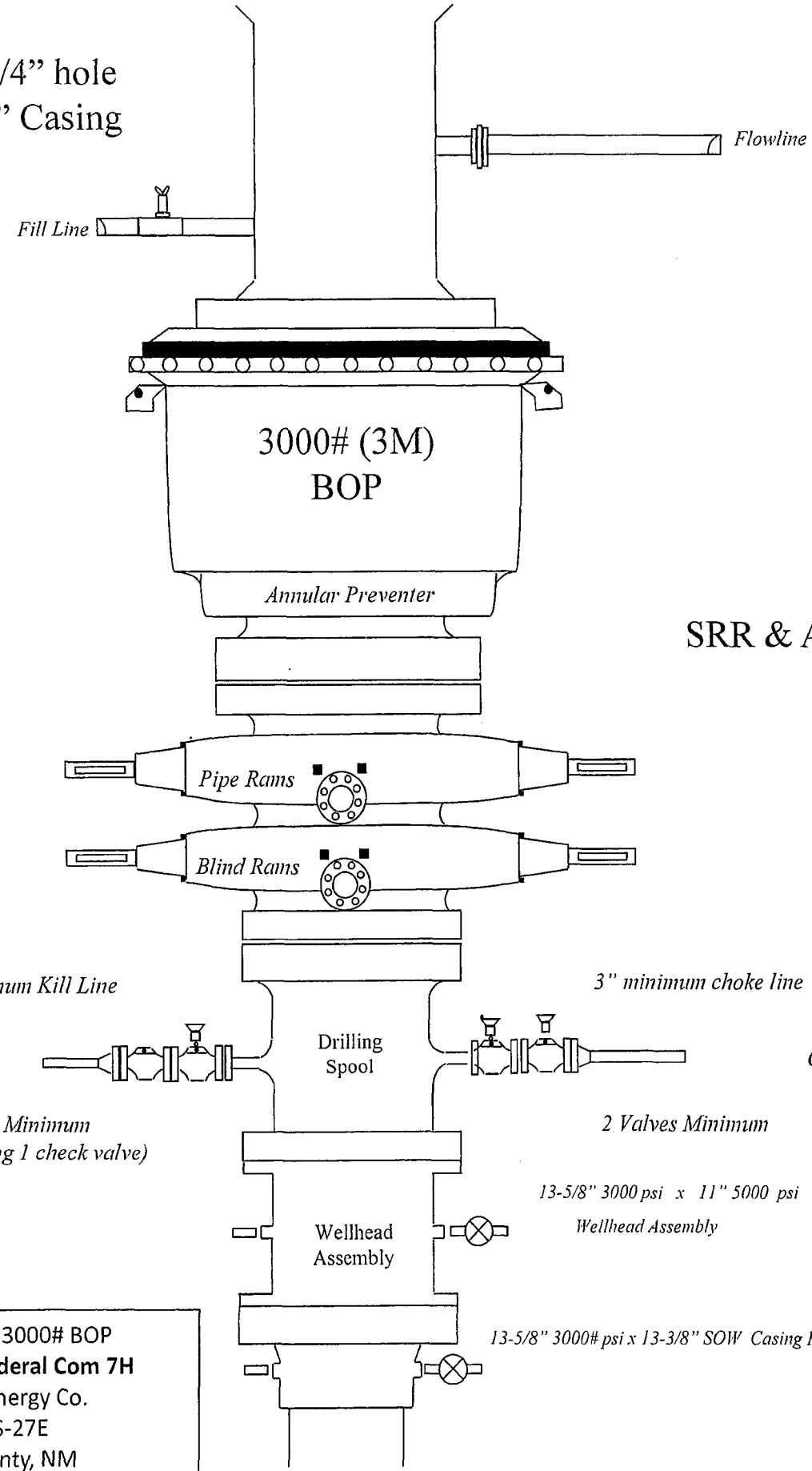


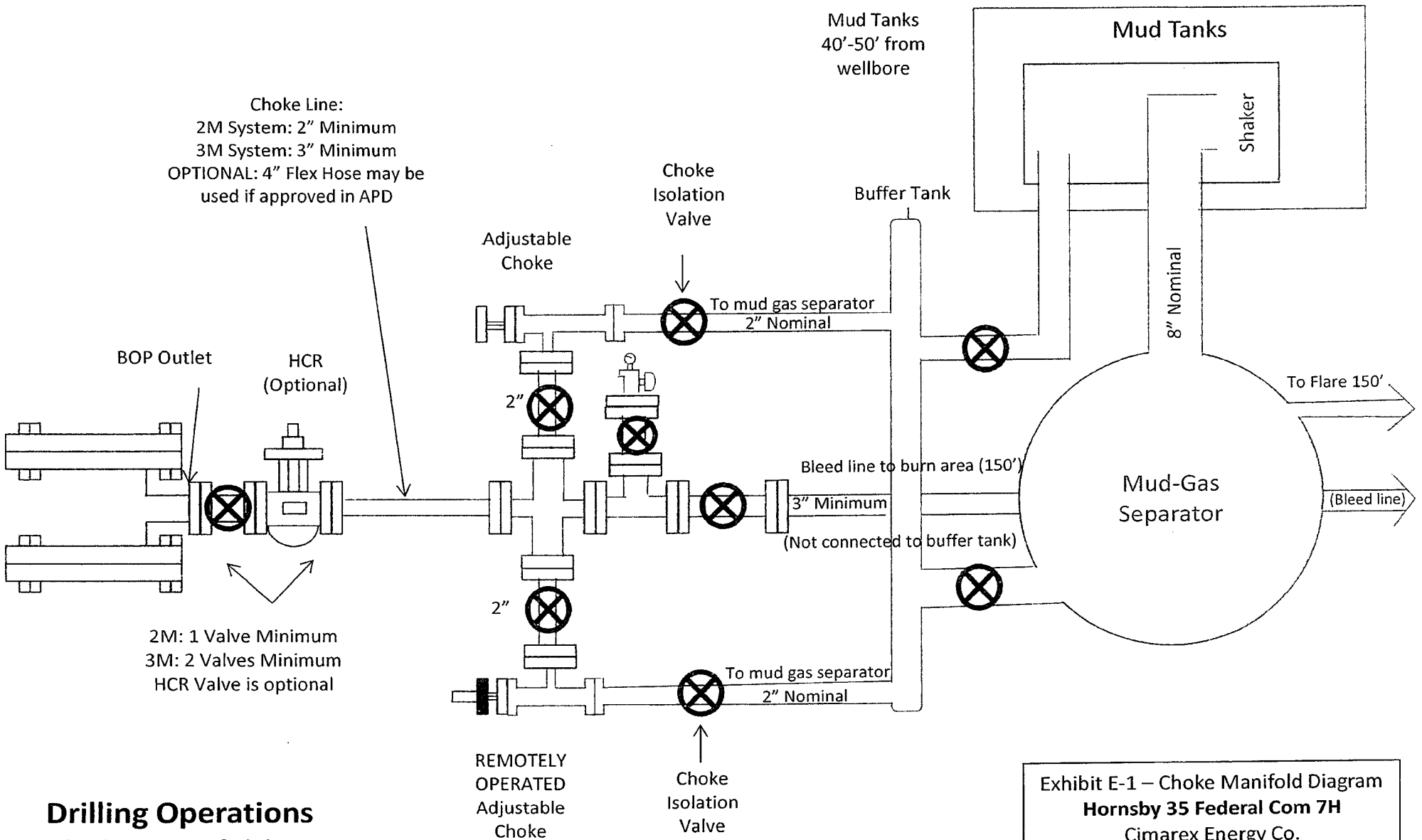
Exhibit E-1 – 2000# BOP
Hornsby 35 Federal Com 7H
Cimarex Energy Co.
35-26S-27E
Eddy County, NM

Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Hornsby 35 Federal Com 7H
Cimarex Energy Co.
35-26S-27E
Eddy County, NM



Drilling Operations
Choke Manifold
2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Hornsby 35 Federal Com 7H
Cimarex Energy Co.
35-26S-27E
Eddy County, NM