

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.*5. Lease Serial No.
NMNM117116

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

KLEIN 33 FEDERAL COM 1H

2. Name of Operator

CIMAREX ENERGY COMPANY

Contact

ARICKA EASTERLING

E-Mail: aeasterling@cimarex.com

9. API Well No.

30-015-42105

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
WOLFCAMP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 33 T26S R27E.SWSW 210FSL 810FWL

11. County or Parish, and State

EDDY COUNTY, NM

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Fracture Treat☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original A
PD

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 recompleat 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall 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 & BHL there by changing the directional plan. 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 & 810 FWL

BHL: 660 FNL & 710 FWL

Proposed

SHL: 290 FSL & 780 FWL

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

Accepted for record

NMOC 9/30/15

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 30 2015

RECEIVED

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

Electronic Submission #316843 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Carlsbad

Name (Printed/Typed) ARICKA EASTERLING

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 09/17/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

PETROLEUM ENGINEER
SEP 18 2015

Kenneth Bennick

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.

BUREAU OF LAND MANAGEMENT

CARLSBAD FIELD OFFICE

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

Additional data for EC transaction #316843 that would not fit on the form

32. Additional remarks, continued

BHL: 330 FNL & 500 FWL

Please see attached proposed drilling plan and other related documents

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SHL: NMNM117116; BHL: NMNM114350

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Klein 33 Federal Com 1H

9. API Well No.
3001542105

10. Field and Pool, or Exploratory
Wildcat Bone Spring

11. Sec., T. R. M. or Blk. and Survey or Area
33, 26S, 27E

12. County or Parish
Eddy

13. State
NM

1a. Type of Work ☒ DRILL ☐ REENTER
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other
1c. Type of Completion ☒ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
Cimarex Energy Co.

3a. Address
202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

3b. Phone No. (include area code)
918-585-1100

4. Location of Well (Report location clearly and in accordance with any State requirements. *)
At Surface 290 FSL & 780 FWL; Sec. 33, 26S, 27E
At proposed prod. Zone 330 FNL & 500 FWL; Sec. 28, 26S, 27E Bone Spring

14. Distance in miles and direction from nearest town or post office*
Malaga, NM is 17.2 miles Northeasterly of location

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 210

16. No of acres in lease
NMNM117116=1365.00 acres
NMNM114350=1200.00 acres

17. Spacing Unit dedicated to this well 446.77

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 40' from #2H

19. Proposed Depth
Pilot Hole TD: N/A
14,029 MD 7,380 TVD

20. BLM/BIA Bond No. in file NMB001188; NMB001187


21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3215 GR

22. Approximate date work will start*
2/15/16

23. Estimated duration 35 days

24. Attachments

- The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)
- Well plat certified by a registered surveyor
 - A Drilling Plan
 - A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
 - Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
 - Operator Certification
 - Such other site specific information and/or plans as may be required by the BLM.

25. Signature  Name (Printed/Typed) Aricka Easterling Date 9/17/15

Title Regulatory Compliance

Approved By (Signature) _____ Name (Printed/Typed) _____ Date _____

Title _____ 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.

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.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Urmos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-42105	² Pool Code 98018	³ Pool Name Wildcat; Bone Spring
⁴ Property Code 40358	⁵ Property Name KLEIN 33 FEDERAL COM	⁶ Well Number 1H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3192'

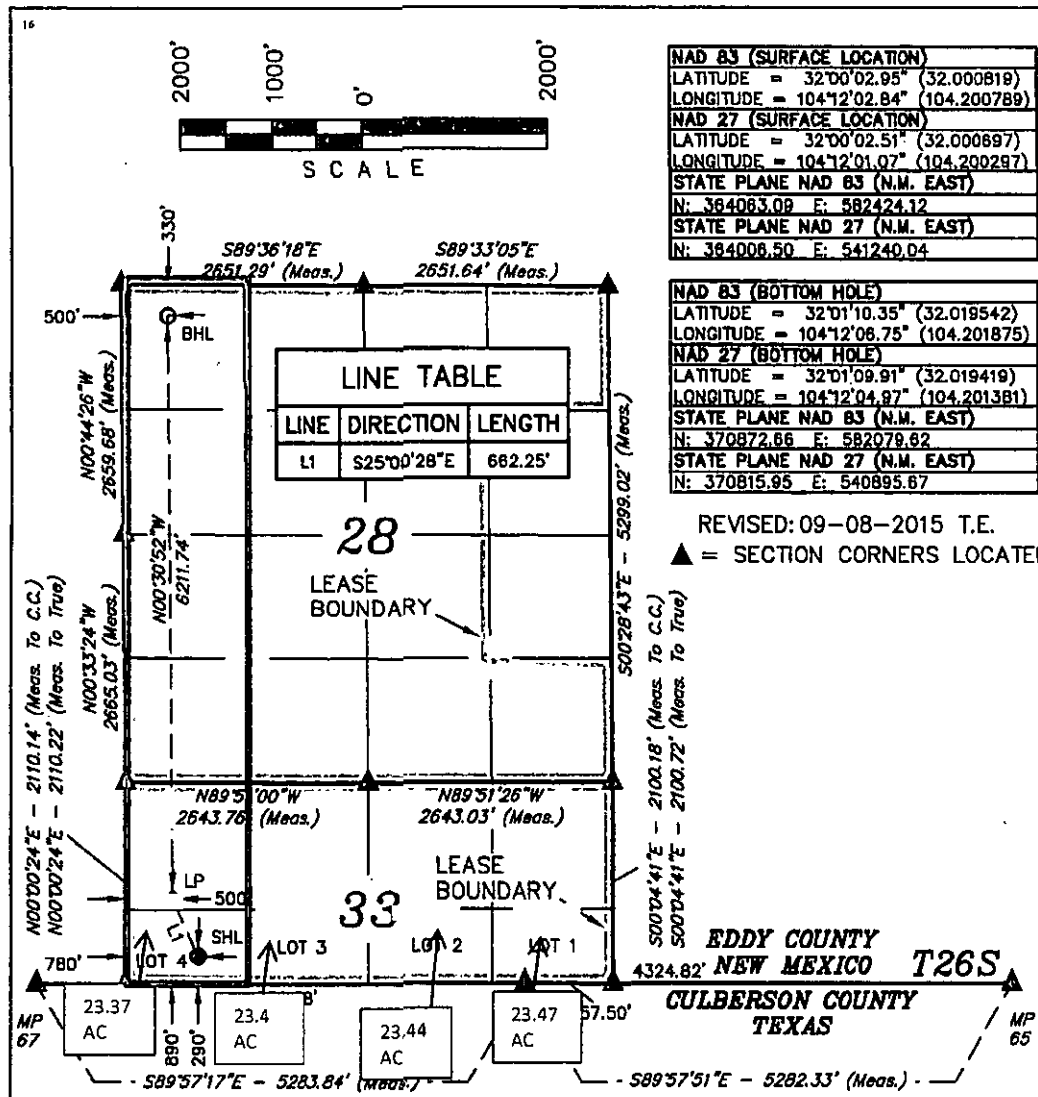
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	33	26S	27E		290	SOUTH	780	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	28	26S	27E		330	NORTH	500	WEST	EDDY
¹² Dedicated Acres 223.37	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



"OPERATOR
CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or leased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Aricka Easterling
Signature Date 9/17/15

Aricka Easterling

Printed Name

aeasterling@cimarex.com

E-mail Address

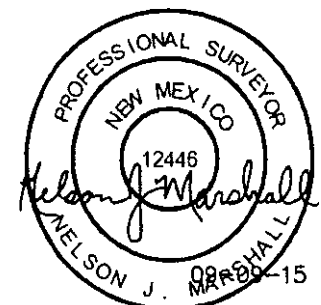
"SURVEYOR
CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

August 29, 2013

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number:

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

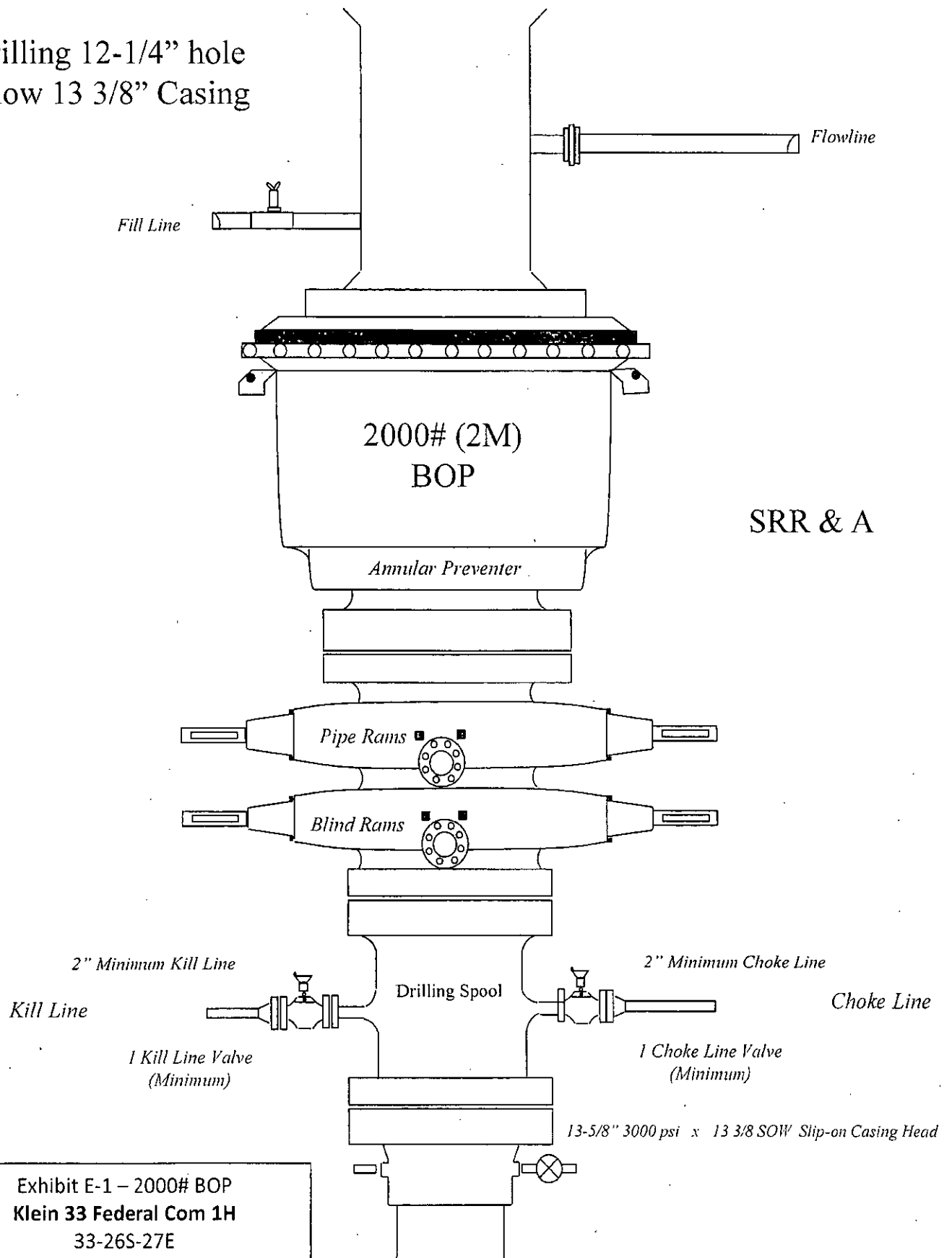
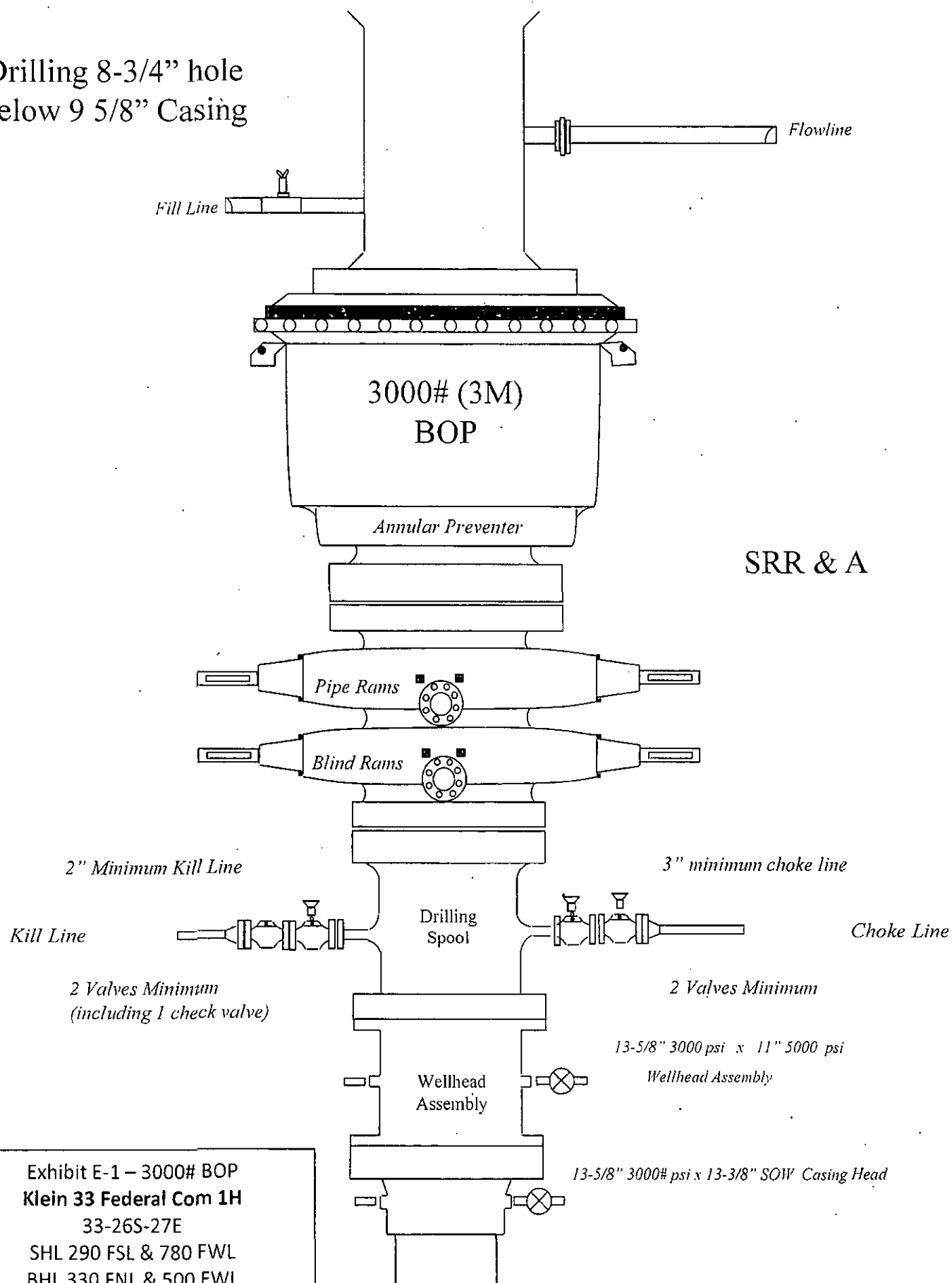


Exhibit E-1 – 2000# BOP
Klein 33 Federal Com 1H
33-26S-27E
SHL 290 FSL & 780 FWL
BHL 330 FNL & 500 FWL
Eddy County, NM

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



SRR & A

Exhibit E-1 – 3000# BOP
Klein 33 Federal Com 1H
33-26S-27E
SHL 290 FSL & 780 FWL
BHL 330 FNL & 500 FWL
Eddy County, NM

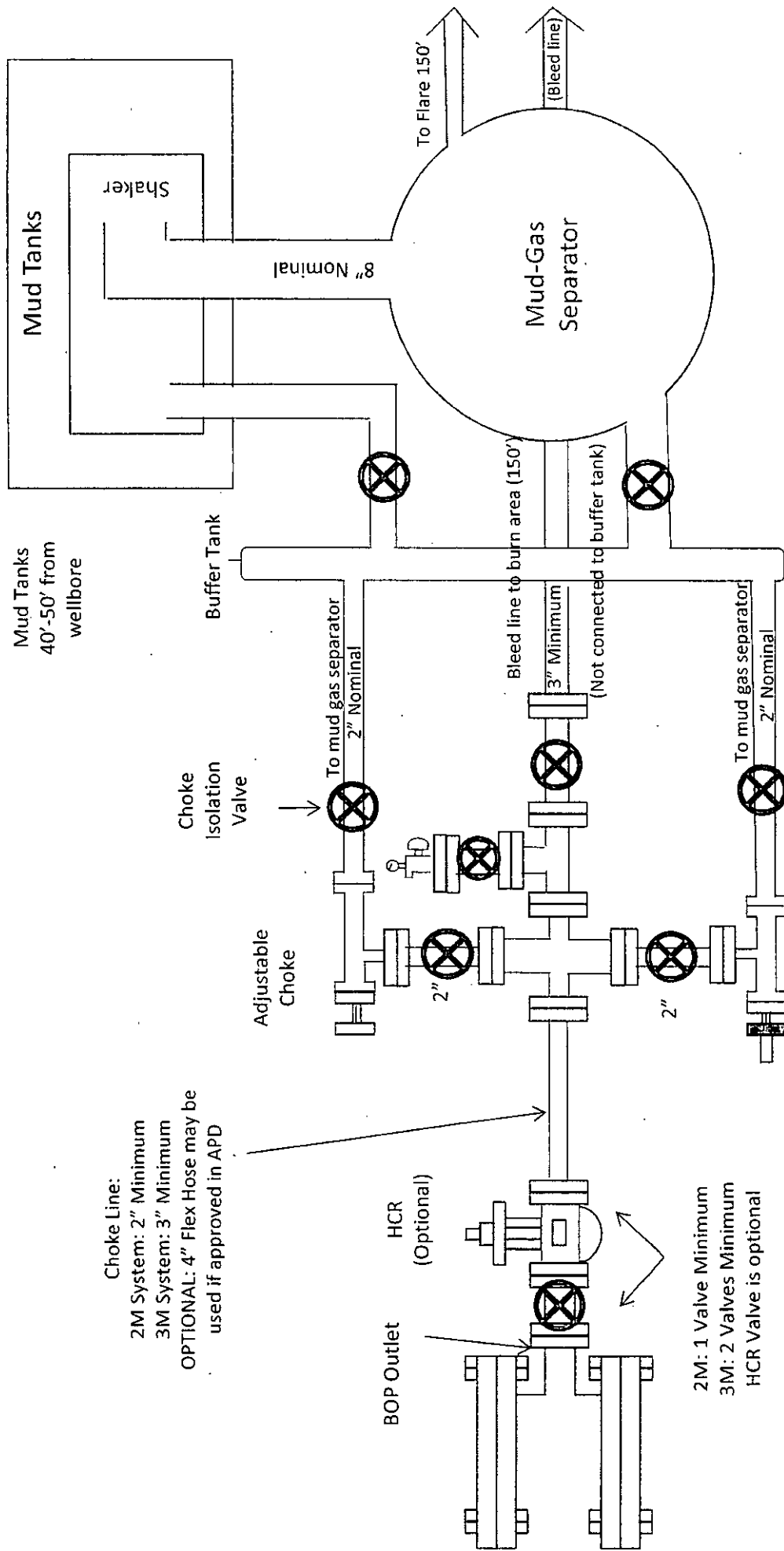


Exhibit E-1 – Choke Manifold Diagram

Klein 33 Federal Com 1H

33-26S-27E

SHL 290 FSL & 780 FWL

BHL 330 FNL & 500 FWL

Eddy County, NM

Drilling Operations

Choke Manifold

2M/3M Service

Cimarex Klein 33 Federal Com 1H Rev4 RJS 17-Sep-2014

(Non-Def Plan)

Report Date: September 17, 2015 - 10:44 AM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: TBD / Cimarex Klein 33 Federal #1H
Well: Cimarex Klein 33 Federal Com #1H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Klein 33 Federal Com 1H Rev4 RJS 17-Sep-2014
Survey Date: October 01, 2013
Tort / AHD / DDI / ERD Ratio: 114.998 ° / 6952.183 ft / 6.182 / 0.942
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 0' 2.95284", W 104° 12' 2.84263"
Location Grid N/E Y/X: N 364063.090 RUS, E 582424.120 RUS
CRS Grid Convergence Angle: 0.0702 °
Grid Scale Factor: 0.99991102
Version / Patch: 2.8.551.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 356.888 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3192.000 ft above MSL
Seabed / Ground Elevation: 3192.000 ft above MSL
Magnetic Declination: 7.567 °
Total Gravity Field Strength: 998.6854mgm (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 48166.953 nT
Magnetic Dip Angle: 59.708 °
Declination Date: July 08, 2015
Magnetic Declination Model: HDGM 2015
North Reference: Grid North
Total Corr Mag North->Grid North: 0.0702 °
Local Coord Referenced To: 7.4965 °
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 ° ' ")
SHL Cimarex Klein 33 Federal Com 1H	0.00	0.00	297.50	0.00	0.00	0.00	0.00	N/A	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	100.00	0.00	297.50	100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	200.00	0.00	297.50	200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	300.00	0.00	297.50	300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	400.00	0.00	297.50	400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	500.00	0.00	297.50	500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	600.00	0.00	297.50	600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	700.00	0.00	297.50	700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	800.00	0.00	297.50	800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	900.00	0.00	297.50	900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1000.00	0.00	297.50	1000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1100.00	0.00	297.50	1100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1200.00	0.00	297.50	1200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1300.00	0.00	297.50	1300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1400.00	0.00	297.50	1400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1500.00	0.00	297.50	1500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1600.00	0.00	297.50	1600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1700.00	0.00	297.50	1700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1800.00	0.00	297.50	1800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	1900.00	0.00	297.50	1900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84

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 ° ' ")
	2000.00	0.00	297.50	2000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2100.00	0.00	297.50	2100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2200.00	0.00	297.50	2200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2300.00	0.00	297.50	2300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2400.00	0.00	297.50	2400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2500.00	0.00	297.50	2500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2600.00	0.00	297.50	2600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2700.00	0.00	297.50	2700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2800.00	0.00	297.50	2800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	2900.00	0.00	297.50	2900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3000.00	0.00	297.50	3000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3100.00	0.00	297.50	3100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3200.00	0.00	297.50	3200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3300.00	0.00	297.50	3300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3400.00	0.00	297.50	3400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3500.00	0.00	297.50	3500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3600.00	0.00	297.50	3600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3700.00	0.00	297.50	3700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3800.00	0.00	297.50	3800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	3900.00	0.00	297.50	3900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4000.00	0.00	297.50	4000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4100.00	0.00	297.50	4100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4200.00	0.00	297.50	4200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4300.00	0.00	297.50	4300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4400.00	0.00	297.50	4400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4500.00	0.00	297.50	4500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4600.00	0.00	297.50	4600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4700.00	0.00	297.50	4700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4800.00	0.00	297.50	4800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	4900.00	0.00	297.50	4900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5000.00	0.00	297.50	5000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5100.00	0.00	297.50	5100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5200.00	0.00	297.50	5200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5300.00	0.00	297.50	5300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5400.00	0.00	297.50	5400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5500.00	0.00	297.50	5500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5600.00	0.00	297.50	5600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5700.00	0.00	297.50	5700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5800.00	0.00	297.50	5800.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	5900.00	0.00	297.50	5900.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6000.00	0.00	297.50	6000.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6100.00	0.00	297.50	6100.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6200.00	0.00	297.50	6200.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6300.00	0.00	297.50	6300.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6400.00	0.00	297.50	6400.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6500.00	0.00	297.50	6500.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6600.00	0.00	297.50	6600.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6700.00	0.00	297.50	6700.00	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84

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 ° ' ")
KOP - Build @ 12°/100' DLS	6771.50	0.00	297.50	6771.50	0.00	0.00	0.00	0.00	364063.09	582424.12	N 32 0 2.95 W 104 12	2.84
	6800.00	3.42	297.50	6799.98	0.43	0.39	-0.75	12.00	364063.48	582423.37	N 32 0 2.96 W 104 12	2.85
	6900.00	15.41	297.50	6898.46	8.75	7.93	-15.24	12.00	364071.02	582408.88	N 32 0 3.03 W 104 12	3.02
	7000.00	27.41	297.50	6991.38	27.30	24.76	-47.56	12.00	364087.85	582376.56	N 32 0 3.20 W 104 12	3.39
Build and Turn @ 12°/100' DLS	7100.00	39.40	297.50	7074.71	55.29	50.13	-96.31	12.00	364113.22	582327.82	N 32 0 3.45 W 104 12	3.96
	7138.32	44.00	297.50	7103.31	68.27	61.90	-118.91	12.00	364124.99	582305.22	N 32 0 3.57 W 104 12	4.22
	7200.00	46.99	307.00	7146.59	93.74	85.40	-155.98	12.00	364148.48	582268.15	N 32 0 3.80 W 104 12	4.65
	7300.00	53.28	320.34	7210.83	149.70	138.45	-210.96	12.00	364201.53	582213.18	N 32 0 4.33 W 104 12	5.29
Landing Point	7400.00	60.81	331.49	7265.31	221.59	207.92	-257.55	12.00	364270.99	582166.60	N 32 0 5.01 W 104 12	5.83
	7500.00	69.14	341.03	7307.65	306.28	290.76	-293.70	12.00	364353.83	582130.44	N 32 0 5.83 W 104 12	6.25
	7600.00	77.94	349.55	7336.00	400.06	383.37	-317.85	12.00	364446.43	582106.30	N 32 0 6.75 W 104 12	6.53
	7700.00	86.98	357.51	7349.13	498.84	481.70	-328.93	12.00	364544.74	582095.22	N 32 0 7.72 W 104 12	6.66
	7730.16	89.73	359.86	7350.00	528.97	511.83	-329.63	12.00	364574.87	582094.52	N 32 0 8.02 W 104 12	6.66
	7800.00	89.73	359.86	7350.34	598.72	581.67	-329.79	0.00	364644.71	582094.36	N 32 0 8.71 W 104 12	6.66
	7900.00	89.73	359.86	7350.82	698.58	681.67	-330.03	0.00	364744.70	582094.12	N 32 0 9.70 W 104 12	6.67
	8000.00	89.73	359.86	7351.29	798.44	781.67	-330.26	0.00	364844.69	582093.89	N 32 0 10.69 W 104 12	6.67
	8100.00	89.73	359.86	7351.77	898.31	881.67	-330.50	0.00	364944.68	582093.65	N 32 0 11.68 W 104 12	6.67
	8200.00	89.73	359.86	7352.25	998.17	981.67	-330.74	0.00	365044.67	582093.41	N 32 0 12.67 W 104 12	6.67
	8300.00	89.73	359.86	7352.73	1098.04	1081.66	-330.97	0.00	365144.66	582093.18	N 32 0 13.66 W 104 12	6.67
	8400.00	89.73	359.86	7353.21	1197.90	1181.66	-331.21	0.00	365244.65	582092.94	N 32 0 14.65 W 104 12	6.67
	8500.00	89.73	359.86	7353.69	1297.76	1281.66	-331.45	0.00	365344.64	582092.70	N 32 0 15.64 W 104 12	6.67
	8600.00	89.73	359.86	7354.17	1397.63	1381.66	-331.68	0.00	365444.62	582092.47	N 32 0 16.63 W 104 12	6.67
	8700.00	89.73	359.86	7354.65	1497.49	1481.66	-331.92	0.00	365544.61	582092.23	N 32 0 17.62 W 104 12	6.68
	8800.00	89.73	359.86	7355.13	1597.36	1581.66	-332.16	0.00	365644.60	582091.99	N 32 0 18.61 W 104 12	6.68
	8900.00	89.73	359.86	7355.61	1697.22	1681.66	-332.39	0.00	365744.59	582091.76	N 32 0 19.60 W 104 12	6.68
	9000.00	89.73	359.86	7356.09	1797.08	1781.65	-332.63	0.00	365844.58	582091.52	N 32 0 20.59 W 104 12	6.68
	9100.00	89.73	359.86	7356.56	1896.95	1881.65	-332.87	0.00	365944.57	582091.28	N 32 0 21.58 W 104 12	6.68
	9200.00	89.73	359.86	7357.04	1996.81	1981.65	-333.10	0.00	366044.56	582091.05	N 32 0 22.57 W 104 12	6.68
	9300.00	89.73	359.86	7357.52	2096.68	2081.65	-333.34	0.00	366144.55	582090.81	N 32 0 23.56 W 104 12	6.68
	9400.00	89.73	359.86	7358.00	2196.54	2181.65	-333.58	0.00	366244.54	582090.57	N 32 0 24.55 W 104 12	6.69
	9500.00	89.73	359.86	7358.48	2296.40	2281.65	-333.81	0.00	366344.53	582090.34	N 32 0 25.53 W 104 12	6.69
	9600.00	89.73	359.86	7358.95	2396.27	2381.65	-334.05	0.00	366444.52	582090.10	N 32 0 26.52 W 104 12	6.69
	9700.00	89.73	359.86	7359.43	2496.13	2481.64	-334.29	0.00	366544.51	582089.86	N 32 0 27.51 W 104 12	6.69
	9800.00	89.73	359.86	7359.91	2596.00	2581.64	-334.52	0.00	366644.50	582089.63	N 32 0 28.50 W 104 12	6.69
	9900.00	89.73	359.86	7360.39	2695.86	2681.64	-334.76	0.00	366744.49	582089.39	N 32 0 29.49 W 104 12	6.69
	10000.00	89.73	359.86	7360.86	2795.72	2781.64	-335.00	0.00	366844.48	582089.15	N 32 0 30.48 W 104 12	6.69
	10100.00	89.73	359.86	7361.34	2895.59	2881.64	-335.23	0.00	366944.47	582088.92	N 32 0 31.47 W 104 12	6.69
	10200.00	89.73	359.86	7361.82	2995.45	2981.64	-335.47	0.00	367044.46	582088.68	N 32 0 32.46 W 104 12	6.70
	10300.00	89.73	359.86	7362.30	3095.32	3081.64	-335.71	0.00	367144.45	582088.44	N 32 0 33.45 W 104 12	6.70
	10400.00	89.73	359.86	7362.77	3195.18	3181.63	-335.94	0.00	367244.44	582088.21	N 32 0 34.44 W 104 12	6.70
	10500.00	89.73	359.86	7363.25	3295.04	3281.63	-336.18	0.00	367344.42	582087.97	N 32 0 35.43 W 104 12	6.70
	10600.00	89.73	359.86	7363.73	3394.91	3381.63	-336.42	0.00	367444.41	582087.73	N 32 0 36.42 W 104 12	6.70
	10700.00	89.73	359.86	7364.20	3494.77	3481.63	-336.65	0.00	367544.40	582087.50	N 32 0 37.41 W 104 12	6.70
	10800.00	89.73	359.86	7364.68	3594.64	3581.63	-336.89	0.00	367644.39	582087.26	N 32 0 38.40 W 104 12	6.70
	10900.00	89.73	359.86	7365.16	3694.50	3681.63	-337.13	0.00	367744.38	582087.02	N 32 0 39.39 W 104 12	6.71
	11000.00	89.73	359.86	7365.63	3794.36	3781.63	-337.36	0.00	367844.37	582086.79	N 32 0 40.38 W 104 12	6.71
	11100.00	89.73	359.86	7366.11	3894.23	3881.62	-337.60	0.00	367944.36	582086.55	N 32 0 41.37 W 104 12	6.71

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 ° ' ")
	11200.00	89.73	359.86	7366.58	3994.09	3981.62	-337.84	0.00	368044.35	582086.31	N 32 0 42.36 W 104 12 6.71	
	11300.00	89.73	359.86	7367.06	4093.96	4081.62	-338.07	0.00	368144.34	582086.08	N 32 0 43.35 W 104 12 6.71	
	11400.00	89.73	359.86	7367.54	4193.82	4181.62	-338.31	0.00	368244.33	582085.84	N 32 0 44.34 W 104 12 6.71	
	11500.00	89.73	359.86	7368.01	4293.68	4281.62	-338.55	0.00	368344.32	582085.60	N 32 0 45.33 W 104 12 6.71	
	11600.00	89.73	359.86	7368.49	4393.55	4381.62	-338.78	0.00	368444.31	582085.37	N 32 0 46.32 W 104 12 6.71	
	11700.00	89.73	359.86	7368.96	4493.41	4481.62	-339.02	0.00	368544.30	582085.13	N 32 0 47.30 W 104 12 6.72	
	11800.00	89.73	359.86	7369.44	4593.28	4581.61	-339.26	0.00	368644.29	582084.89	N 32 0 48.29 W 104 12 6.72	
	11900.00	89.73	359.86	7369.91	4693.14	4681.61	-339.49	0.00	368744.28	582084.66	N 32 0 49.28 W 104 12 6.72	
	12000.00	89.73	359.86	7370.39	4793.00	4781.61	-339.73	0.00	368844.27	582084.42	N 32 0 50.27 W 104 12 6.72	
	12100.00	89.73	359.86	7370.86	4892.87	4881.61	-339.97	0.00	368944.26	582084.18	N 32 0 51.26 W 104 12 6.72	
	12200.00	89.73	359.86	7371.34	4992.73	4981.61	-340.20	0.00	369044.25	582083.95	N 32 0 52.25 W 104 12 6.72	
	12300.00	89.73	359.86	7371.81	5092.60	5081.61	-340.44	0.00	369144.24	582083.71	N 32 0 53.24 W 104 12 6.72	
	12400.00	89.73	359.86	7372.29	5192.46	5181.61	-340.68	0.00	369244.23	582083.47	N 32 0 54.23 W 104 12 6.73	
	12500.00	89.73	359.86	7372.76	5292.32	5281.61	-340.91	0.00	369344.21	582083.24	N 32 0 55.22 W 104 12 6.73	
	12600.00	89.73	359.86	7373.24	5392.19	5381.60	-341.15	0.00	369444.20	582083.00	N 32 0 56.21 W 104 12 6.73	
	12700.00	89.73	359.86	7373.71	5492.05	5481.60	-341.39	0.00	369544.19	582082.76	N 32 0 57.20 W 104 12 6.73	
	12800.00	89.73	359.86	7374.18	5591.92	5581.60	-341.62	0.00	369644.18	582082.53	N 32 0 58.19 W 104 12 6.73	
	12900.00	89.73	359.86	7374.66	5691.78	5681.60	-341.86	0.00	369744.17	582082.29	N 32 0 59.18 W 104 12 6.73	
	13000.00	89.73	359.86	7375.13	5791.64	5781.60	-342.10	0.00	369844.16	582082.05	N 32 1 0 17 W 104 12 6.73	
	13100.00	89.73	359.86	7375.61	5891.51	5881.60	-342.33	0.00	369944.15	582081.82	N 32 1 1 16 W 104 12 6.73	
	13200.00	89.73	359.86	7376.08	5991.37	5981.60	-342.57	0.00	370044.14	582081.58	N 32 1 2 15 W 104 12 6.74	
	13300.00	89.73	359.86	7376.55	6091.24	6081.59	-342.81	0.00	370144.13	582081.34	N 32 1 3 14 W 104 12 6.74	
	13400.00	89.73	359.86	7377.03	6191.10	6181.59	-343.04	0.00	370244.12	582081.11	N 32 1 4 13 W 104 12 6.74	
	13500.00	89.73	359.86	7377.50	6290.96	6281.59	-343.28	0.00	370344.11	582080.87	N 32 1 5 12 W 104 12 6.74	
	13600.00	89.73	359.86	7377.97	6390.83	6381.59	-343.52	0.00	370444.10	582080.63	N 32 1 6 11 W 104 12 6.74	
	13700.00	89.73	359.86	7378.45	6490.69	6481.59	-343.75	0.00	370544.09	582080.40	N 32 1 7 10 W 104 12 6.74	
	13800.00	89.73	359.86	7378.92	6590.56	6581.59	-343.99	0.00	370644.08	582080.16	N 32 1 8 08 W 104 12 6.74	
	13900.00	89.73	359.86	7379.39	6690.42	6681.59	-344.23	0.00	370744.07	582079.92	N 32 1 9 07 W 104 12 6.75	
	14000.00	89.73	359.86	7379.86	6790.28	6781.58	-344.46	0.00	370844.06	582079.69	N 32 1 10 06 W 104 12 6.75	
Cimarex Klein 33 Federal 1H - PBHL	14028.61	89.73	359.86	7380.00	6818.85	6810.19	-344.53	0.00	370872.66	582079.62	N 32 1 10 35 W 104 12 6.75	

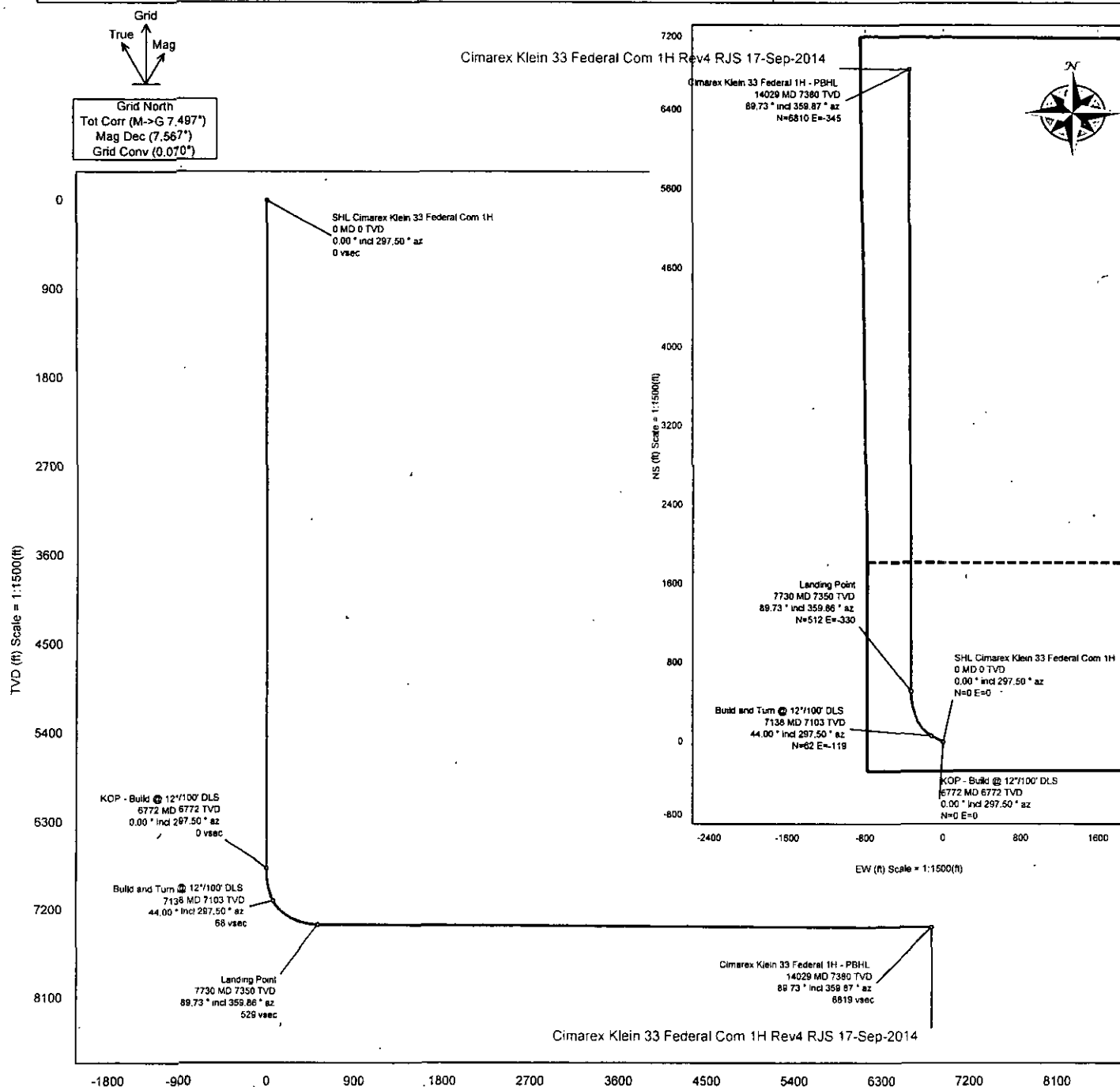
Survey Type: Non-Def Plan

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	14028.606	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Klein 33 Federal Com 1H Rev4 RJS 17-

Borehole:	Well:	Field:	Structure:
Original Borehole	Klein 33 Federal Com #1H	NM Eddy County	TBD

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: HDGM 2015 Dip: 58.708° Date: 08-Jul-2015	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Slot: Klein 33
MagDec: 7.567° FS: 48166.953nT Gravity FS: 998.685mgm (9.80665 Based)	Lat: N 32 0 2.95 Northing: 364063.09NUS Grid Conv: 0.0702°	Federal #1H
	Lon: W 104 12 2.84 Easting: 582424.12NUS Scale Fact: 0.99991102	Plan: Rev4 RJS 17-Sep-2014



Vertical Section (ft) Azim = 356.888° Scale = 1:1500(ft) Origin = 0N/-S, 0E/-W

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL Cimarex Klein 33 Federal Com 1H	0.00	0.00	297.50	0.00	0.00	0.00	0.00	
KOP - Build @ 12°/100' DLS	6771.50	0.00	297.50	6771.50	0.00	0.00	0.00	0.00
Build and Turn @ 12°/100' DLS	7138.32	44.00	297.50	7103.31	68.27	61.90	-118.91	12.00
Landing Point	7730.16	89.72	359.86	7350.00	528.97	511.83	-329.63	12.00
Cimarex Klein 33 Federal 1H - PBHL	14028.81	89.73	359.86	7380.00	6818.85	6810.19	-344.53	0.00

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?

See
CDA

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 400'	FW Spud Mud	8.30 - 8.80	28	N/C
400' to 1925'	Brine Water	9.70 - 10.20	30-32	N/C
1925' to 14029'	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
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6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	3530 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

1. Geological Formations

TVD of target 7,380
MD at TD 14,029

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
OSE Ground Water	100	N/A	
Salado	1200	N/A	
Castille	1780	N/A	
Bell Canyon	1900	N/A	
Cherry Canyon	3005	N/A	
Brushy Canyon	4030	N/A	
Brushy Canyon Lower	5430	N/A	
Bone Spring	5590	Hydrocarbons	
Bone Spring A Shale	5805	Hydrocarbons	
Bone Spring C Shale	6215	Hydrocarbons	
1st Bone Spring SS	6550	Hydrocarbons	
2nd Bone Spring SS	7000	Hydrocarbons	
2nd Bs Sd Horz target	7330	Hydrocarbons	
3rd BS Limestone	7375	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/J-55 Hybrid	ST&C	4.04	9.45	16.77
12 1/4	0	1925	9-5/8"	36.00	J-55	LT&C	1.98	3.45	6.54
8 3/4	0	6772	5-1/2"	17.00	L-80	LT&C	1.94	2.39	2.69
8 3/4	6772	14029	5-1/2"	17.00	L-80	BT&C	1.78	2.19	38.41
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

Cimarex Energy Co., Klein 33 Federal Com 1H

	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	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	61	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	366	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	112	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	666	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	1552	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	10
Intermediate	0	44
Production	1800	16

See COA

1725

15

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Co. of Colorado
LEASE NO.:	NMM-114350
WELL NAME & NO.:	Klein 33 Federal Com 1H
SURFACE HOLE FOOTAGE:	0290' FSL & 0780' FWL
BOTTOM HOLE FOOTAGE:	0660' FNL & 0710' FWL Sec. 28, T. 26 S., R 27 E
LOCATION:	Section 33, T. 26 S., R 27 E., NMPM
COUNTY:	Eddy County, New Mexico

The following are the replacement conditions within the Casing Section (VII. B) for the setting and cement fill of the proposed casing. As well as the replacement for the Pressure Section (VII. C.) which is replaced entirely. The rest of the original COA still applies.

B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately 400 feet and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt. Excess calculates to 10% - Additional cement may be required.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing, which shall be set at approximately 1925 feet, is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

3. The minimum required fill of cement behind the 5 1/2-inch production casing is:

☒ Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess calculates to 15% - Additional cement may be required.**

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **3000 (3M) psi**.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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