Form 3160-5
(November 1994)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

OCD-ARTESIA

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 reverse side

5 Lease Serial No.
NM-92160

RECEIVED
JUN 28 2010
NMOCD ARTESIA

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. Per Operator 6-17-10
Chosa Draw 27 Federal ~~Com~~ No. 3

2. Name of Operator
Cimarex Energy Co. of Colorado

9 API Well No.
30-025-37180

3a. Address
600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. *(include area code)*
432-571-7800

10. Field and Pool, or Exploratory Area
Cottonwood Draw; Delaware, North

4 Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
SHL 2480 FSL & 850 FEL 27-25S-26E
BHL 330 FSL & 850 FEL

11. County or Parish, 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	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change from
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Delaware Horizontal to
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	Wolfcamp Horizontal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, included 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 shall 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 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's APD for the Chosa Draw 27 Federal Com No. 3 is for a horizontal Delaware test comprising the E2SE 27-25S-26E. Cimarex proposes to change to a horizontal Wolfcamp gas well test comprising the S2 27-25S-26E. Please see attached C-102, drilling/casing/cement plan, and revised preliminary directional plan. NSL will be amended.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Permitted Location
27-25S-26E
SHL 2480 FSL & 850 FEL
BHL 330 FSL & 850 FEL
Eddy County, NM
Delaware Test - E2SE

SUBJECT TO LIKE APPROVAL BY STATE

Proposed Location
27-25S-26E
SHL 2480 FSL & 850 FEL
BHL 2450 FSL & 660 FWL
Eddy County, NM
Wolfcamp Test - S2

14. *I hereby certify that the foregoing is true and correct*
Name *(Printed/Typed)*
Natalie Krueger

Title
Regulatory

Signature
Natalie Krueger

Date
May 12, 2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED
JUN 24 2010
/s/ Dustin Winkler
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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

Title 18 U.S.C. Section 1001, makes 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 reverse)

3160-5 Revised Drilling Plans - Switch to Wolfcamp Test

Chosa Draw 27 Federal Com No. 3

Cimarex Energy Co. of Colorado

Eddy County, NM

Casing

String	Hole Size	Csg Size	Csg Wt	Csg Grd	Collar	From	To
Surface	17½"	13⅜"	48#	H-40	STC	0'	375'
Intermediate	12¼"	9⅝"	40#	J-55	LTC	0'	1766'
Production	8¾"	7"	26#	P-110	LTC	0'	9208'
Fiberglass	8¾"	2⅞"	2.18#	IJ		9208'	10250'
Lateral Pt. 1	6⅛"	4½"	11.6#	P-110	BTC	9108'	9726'
Lateral Pt. 2	6⅛"	4½"	11.6#	P-110	LTC	9726'	13240'

Cement

Surface 500 sx Premium Plus + 0.125# Poly-e-flake + 2% $CaCl_2$ (wt 14.8, yld 1.34)

Intermediate Lead: 250 sx Interfill C + 1/4# Flocele (wt 11.9, yld 2.45)
Tail: 250 sks Premium Plus + 1% $CaCl_2$ (wt 14.8, yld 1.33)

Production Lead: 620 sx Interfill H with 0.3% HR-601, 5 lb/sx Gilsonite, 0.125 lb/sx Poly-E-Flake (wt 11.9, yld 2.47)
Tail: 480 sx Super H with 0.5% Halad ® 344, 0.25% D-Air 3000, 0.4% CFR-3, 1 lb/sx Salt, 5 lb/sx Gilsonite, 0.125 lb/sx Poly-E-Flake, 0.35% HR-7 (wt 13.2, yld 1.61) **Estimated TOC 1600'**

Lateral Lateral liner will be PEAK completion assembly liner and will require no cement.

Drilling Plans

After drilling and setting surface and intermediate casing, drill to vertical TD 10250' and log. Set 7" casing to 9208' and cross over to 2⅞" 2000 psi IJ fiberglass tubing underneath (to 10250') and cement in place. Drill out of the bottom of the 7" with a 6⅛" bit and through cement and fiberglass tubing to KOP @ 9268' and kick off to drill the lateral. The fiberglass tubing effectively circulates cement to surface and plugs back the open hole.

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-37180		Wolfcamp Wildcat

Property Code	Property Name	Well Number
32670	CHOSA DRAW "27" FEDERAL	3

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3272'

Surface Location

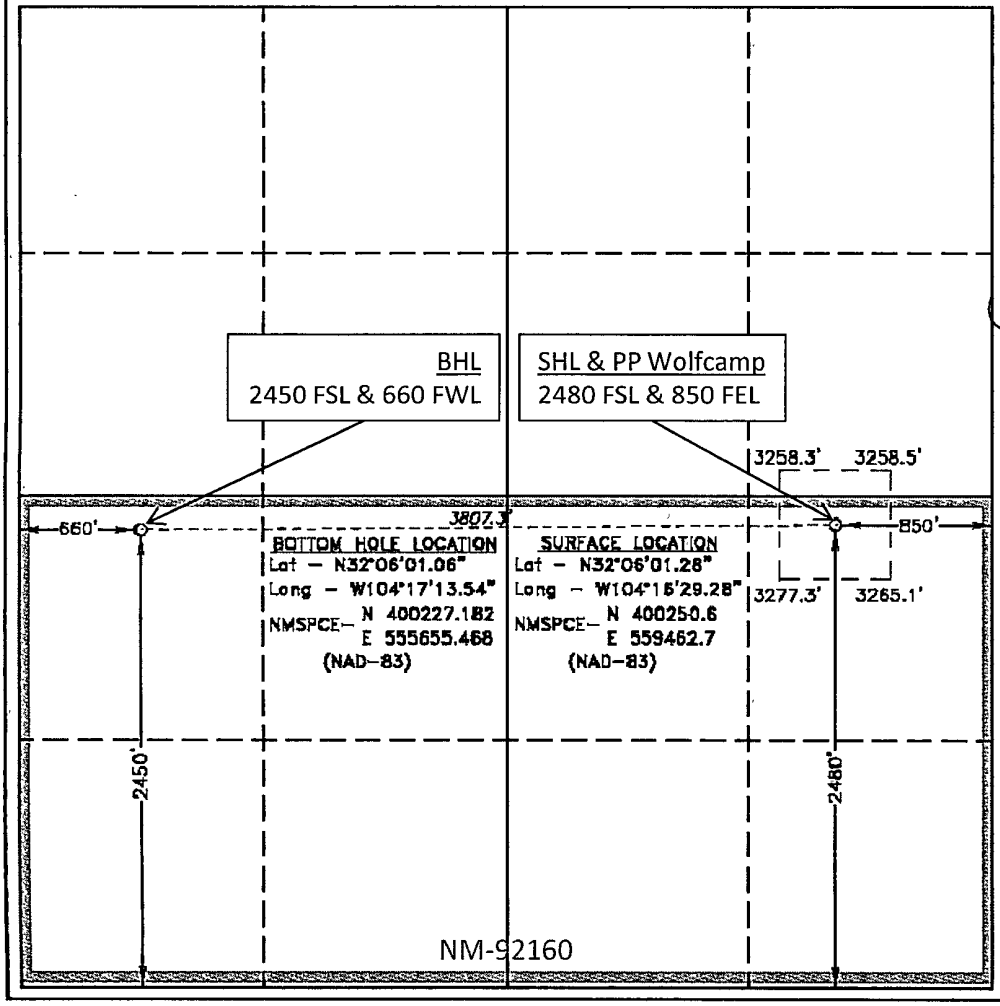
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	27	25 S	26 E		2480	SOUTH	850	EAST	EDDY

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
L	27	25 S	26 E		2450	SOUTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			NSL Amendment Pending

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 unleased mineral interest in the land including the proposed bottom hole 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.

Signature — Date: 5/12/2010

Natalie Krueger
Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 8, 2009
Date Surveyed

Signature & Seal of Professional Surveyor

W.O. Number: 210

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

Cimarex Energy Co.

Eddy County (NM83E)
Sec 27-T25S-R26E
Chosa Draw 27 Federal #3

Wellbore #1

Plan: Plan #1

Standard Planning Report

12 May, 2010

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Chosa Draw 27 Federal #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 27-T25S-R26E	**North Reference:**	Grid
Well:	Chosa Draw 27 Federal #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project Eddy County (NM83E)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 27-T25S-R26E

Site Position:		**Northing:**	398,100.70 usft	**Latitude:**	32° 5' 40.000 N
From:	Map	**Easting:**	559,691.10 usft	**Longitude:**	104° 16' 26.634 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.03 °

Well Chosa Draw 27 Federal #3

Well Position	**+N/-S**	2,149.9 usft	**Northing:**	400,250.60 usft	**Latitude:**	32° 6' 1.277 N
	+E/-W	-228.4 usft	**Easting:**	559,462.70 usft	**Longitude:**	104° 16' 29.276 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	0.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2008/11/24	8.19	60.02	48,768

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	269.65

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,268.0	0.00	0.00	9,268.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,725.5	91.50	269.65	9,554.4	-1.8	-294.0	20.00	20.00	0.00	269.65	
13,240.0	91.50	269.65	9,462.4	-23.3	-3,807.2	0.00	0.00	0.00	0.00	PBHL Chosa Draw

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Chosa Draw 27 Federal #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 27-T25S-R26E	**North Reference:**	Grid
Well:	Chosa Draw 27 Federal #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,268.0	0.00	0.00	9,268.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP 20°/100 DLS @ 269.65° AZI									
9,275.0	1.40	269.65	9,275.0	0.0	-0.1	0.1	20.00	20.00	0.00
9,300.0	6.40	269.65	9,299.9	0.0	-1.8	1.8	20.00	20.00	0.00
9,325.0	11.40	269.65	9,324.6	0.0	-5.7	5.7	20.00	20.00	0.00
9,350.0	16.40	269.65	9,348.9	-0.1	-11.7	11.7	20.00	20.00	0.00
9,375.0	21.40	269.65	9,372.5	-0.1	-19.8	19.8	20.00	20.00	0.00
9,400.0	26.40	269.65	9,395.4	-0.2	-29.9	29.9	20.00	20.00	0.00
9,425.0	31.40	269.65	9,417.3	-0.3	-42.0	42.0	20.00	20.00	0.00
9,450.0	36.40	269.65	9,438.0	-0.3	-55.9	55.9	20.00	20.00	0.00
9,475.0	41.40	269.65	9,457.5	-0.4	-71.6	71.6	20.00	20.00	0.00
9,500.0	46.40	269.65	9,475.5	-0.5	-88.9	88.9	20.00	20.00	0.00
9,525.0	51.40	269.65	9,491.9	-0.7	-107.7	107.8	20.00	20.00	0.00
9,550.0	56.40	269.65	9,506.6	-0.8	-127.9	127.9	20.00	20.00	0.00
9,575.0	61.40	269.65	9,519.5	-0.9	-149.3	149.3	20.00	20.00	0.00
9,600.0	66.40	269.65	9,530.5	-1.0	-171.8	171.8	20.00	20.00	0.00
9,625.0	71.40	269.65	9,539.5	-1.2	-195.1	195.1	20.00	20.00	0.00
9,650.0	76.40	269.65	9,546.4	-1.3	-219.1	219.1	20.00	20.00	0.00
9,675.0	81.40	269.65	9,551.3	-1.5	-243.6	243.6	20.00	20.00	0.00
9,700.0	86.40	269.65	9,553.9	-1.6	-268.5	268.5	20.00	20.00	0.00
9,725.5	91.50	269.65	9,554.4	-1.8	-294.0	294.0	20.00	20.00	0.00
EOC - Hold to TD									
9,800.0	91.50	269.65	9,552.4	-2.3	-368.4	368.5	0.00	0.00	0.00
9,900.0	91.50	269.65	9,549.8	-2.9	-468.4	468.4	0.00	0.00	0.00
10,000.0	91.50	269.65	9,547.2	-3.5	-568.4	568.4	0.00	0.00	0.00
10,100.0	91.50	269.65	9,544.6	-4.1	-668.3	668.3	0.00	0.00	0.00
10,200.0	91.50	269.65	9,542.0	-4.7	-768.3	768.3	0.00	0.00	0.00
10,300.0	91.50	269.65	9,539.3	-5.3	-868.3	868.3	0.00	0.00	0.00
10,400.0	91.50	269.65	9,536.7	-5.9	-968.2	968.2	0.00	0.00	0.00
10,500.0	91.50	269.65	9,534.1	-6.5	-1,068.2	1,068.2	0.00	0.00	0.00
10,600.0	91.50	269.65	9,531.5	-7.1	-1,168.2	1,168.2	0.00	0.00	0.00
10,700.0	91.50	269.65	9,528.9	-7.7	-1,268.1	1,268.1	0.00	0.00	0.00
10,800.0	91.50	269.65	9,526.3	-8.4	-1,368.1	1,368.1	0.00	0.00	0.00
10,900.0	91.50	269.65	9,523.6	-9.0	-1,468.0	1,468.1	0.00	0.00	0.00
11,000.0	91.50	269.65	9,521.0	-9.6	-1,568.0	1,568.0	0.00	0.00	0.00
11,100.0	91.50	269.65	9,518.4	-10.2	-1,668.0	1,668.0	0.00	0.00	0.00
11,200.0	91.50	269.65	9,515.8	-10.8	-1,767.9	1,768.0	0.00	0.00	0.00
11,300.0	91.50	269.65	9,513.2	-11.4	-1,867.9	1,867.9	0.00	0.00	0.00
11,400.0	91.50	269.65	9,510.5	-12.0	-1,967.9	1,967.9	0.00	0.00	0.00
11,500.0	91.50	269.65	9,507.9	-12.6	-2,067.8	2,067.9	0.00	0.00	0.00
11,600.0	91.50	269.65	9,505.3	-13.2	-2,167.8	2,167.8	0.00	0.00	0.00
11,700.0	91.50	269.65	9,502.7	-13.9	-2,267.8	2,267.8	0.00	0.00	0.00
11,800.0	91.50	269.65	9,500.1	-14.5	-2,367.7	2,367.8	0.00	0.00	0.00
11,900.0	91.50	269.65	9,497.5	-15.1	-2,467.7	2,467.7	0.00	0.00	0.00
12,000.0	91.50	269.65	9,494.8	-15.7	-2,567.7	2,567.7	0.00	0.00	0.00
12,100.0	91.50	269.65	9,492.2	-16.3	-2,667.6	2,667.7	0.00	0.00	0.00
12,200.0	91.50	269.65	9,489.6	-16.9	-2,767.6	2,767.6	0.00	0.00	0.00
12,300.0	91.50	269.65	9,487.0	-17.5	-2,867.5	2,867.6	0.00	0.00	0.00
12,400.0	91.50	269.65	9,484.4	-18.1	-2,967.5	2,967.6	0.00	0.00	0.00
12,500.0	91.50	269.65	9,481.8	-18.7	-3,067.5	3,067.5	0.00	0.00	0.00
12,600.0	91.50	269.65	9,479.1	-19.3	-3,167.4	3,167.5	0.00	0.00	0.00
12,700.0	91.50	269.65	9,476.5	-20.0	-3,267.4	3,267.5	0.00	0.00	0.00
12,800.0	91.50	269.65	9,473.9	-20.6	-3,367.4	3,367.4	0.00	0.00	0.00
12,900.0	91.50	269.65	9,471.3	-21.2	-3,467.3	3,467.4	0.00	0.00	0.00

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Chosa Draw 27 Federal #3
Company:	Cimarex Energy Co.	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 27-T25S-R26E	**North Reference:**	Grid
Well:	Chosa Draw 27 Federal #3	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,000.0	91.50	269.65	9,468.7	-21.8	-3,567.3	3,567.4	0.00	0.00	0.00
13,100.0	91.50	269.65	9,466.0	-22.4	-3,667.3	3,667.3	0.00	0.00	0.00
13,200.0	91.50	269.65	9,463.4	-23.0	-3,767.2	3,767.3	0.00	0.00	0.00
13,240.0	91.50	269.65	9,462.4	-23.3	-3,807.2	3,807.2	0.00	0.00	0.00
PBHL Chosa Draw 27 Federal #3									
13,240.0	91.50	269.65	9,462.4	-23.3	-3,807.2	3,807.3	0.00	0.00	0.00
TD at 13240.0									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Chosa Draw 27	0.00	359.97	9,465.0	-23.4	-3,807.2	400,227.18	555,655.47	32° 6' 1.064 N	104° 17' 13.539 W
- plan misses target center by 2.6usft at 13240.0usft MD (9462.4 TVD, -23.3 N, -3807.2 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,268.0	9,268.0	0.0	0.0	KOP 20°/100 DLS @ 269.65° AZI
9,725.5	9,554.4	-1.8	-294.0	EOC - Hold to TD
13,240.0	9,462.4	-23.3	-3,807.2	TD at 13240.0

Cimarex Energy Co.

Project: Eddy County (NM83E)
Site: Sec 27-T25S-R26E
Well: Chosa Draw 27 Federal #3
Wellbore: Wellbore #1
Design: Plan #1

WELL DETAILS: Chosa Draw 27 Federal #3

GREAT WHITE DIRECTIONAL SERVICES, L.L.C.

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	400250.60	559462.70	32° 6' 1.277 N	104° 16' 29.276 W

SHL: 2480' FSL / 850' FEL
BHL: 2450' FSL / 660' FWL

Azimuths to Grid North
Total Correction: 8.16°
Magnetic Field
Strength: 48768.4snT
Dip Angle 60.02°
Date 2008/11/24
Model: IGRF200510

WELLBORE TARGET DETAILS

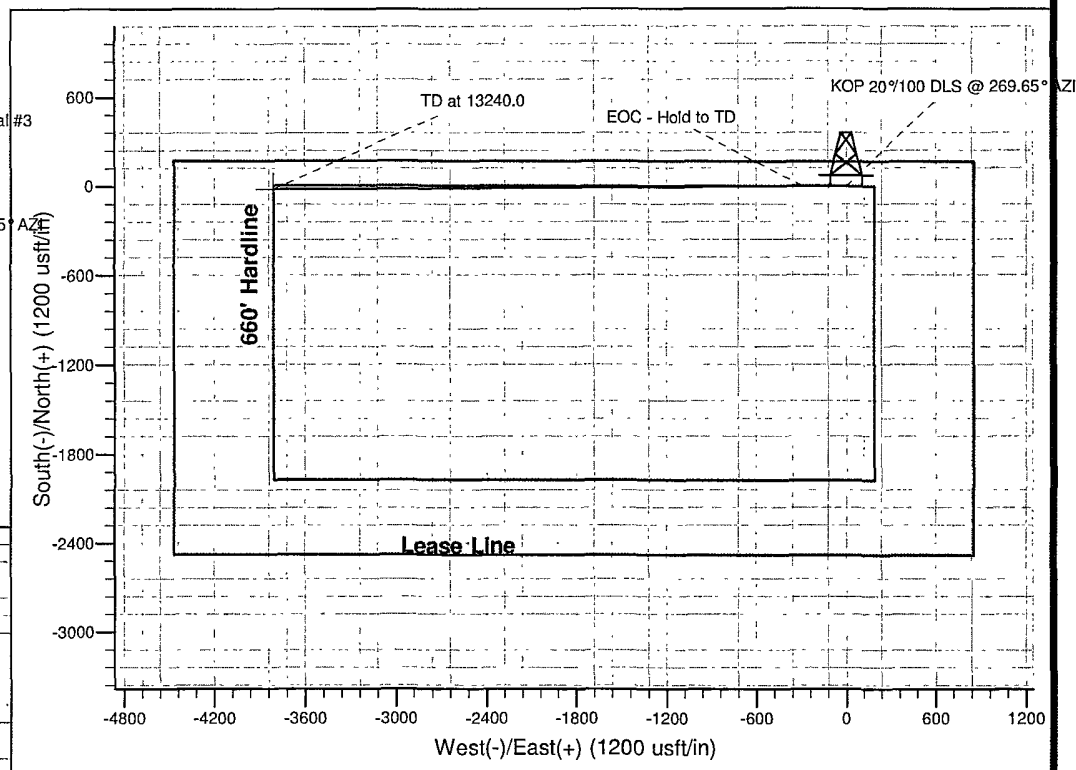
Name	TVD	+N/-S	+E/-W	Northing	Easting	
PBHL Chosa Draw 27 Federal #3	9465.0	-23.4	-3807.2	400227.18	555655.47	Point

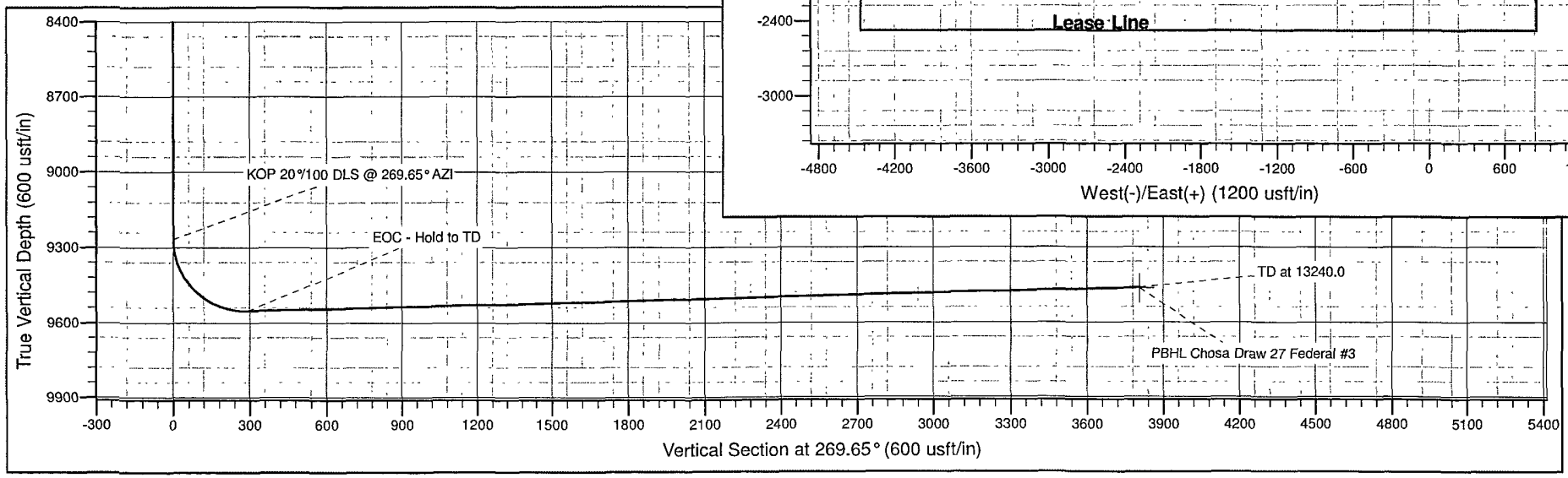
PLAN DETAILS

ID	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
9268.0	0.00	0.00	9268.0	0.0	0.0	0.00	0.00	0.0	
9725.5	91.50	269.65	9554.4	-1.8	-294.0	20.00	269.65	294.0	
13240.0	91.50	269.65	9462.4	-23.3	-3807.2	0.00	0.00	3807.3	PBHL Chosa Draw 27 Federal #3

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
9268.0	9268.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP 20°/100 DLS @ 269.65° AZI
9554.4	9725.5	91.50	269.65	-1.8	-294.0	294.0	294.0	EOC - Hold to TD
9462.4	13240.0	91.50	269.65	-23.3	-3807.2	3807.3	3807.3	TD at 13240.0





PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex Energy Co. of Colorado**
LEASE NO.:	**NM-92160**
WELL NAME & NO.:	**Chosa Draw 27 Federal #3**
SURFACE HOLE FOOTAGE:	**2480' FSL & 850' FEL**
BOTTOM HOLE FOOTAGE	**2450' FSL & 660' FWL**
LOCATION:	**Section 27, T. 25 S., R 26 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Delaware** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

HIGH CAVE/KARST – A MINIMUM OF THREE CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN CRITICAL CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. A DV TOOL WILL BE REQUIRED.

Possible lost circulation in the Delaware

1. The **13-3/8** inch surface casing shall be set at **approximately 375 feet** and cemented to the surface.

    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 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.**

3. The minimum required fill of cement behind the **7** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

4. The minimum required fill of cement behind the **4-1/2** inch production casing is:

   ☒ Cement not required – Packer system to be used. **Must overlap a minimum of 100 feet into previous casing string.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi. **Operator installing a 5M system, and testing as a 3M.**

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.

    b. The tests shall be done by an independent service company utilizing a test plug.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. 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.**

    e. 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.

    f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

    g. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Proposed mud weight may not be adequate for drilling through Wolfcamp.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

DHW 061510