

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources



Oil Conservation Division
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

JAN 15 2009**OCD-ARTESIA**

Form C-101

May 27, 2004

Submit to appropriate District Office

☐ AMENDED REPORT**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Cimarex Energy Co. of Colorado PO Box 140907 Irving, TX 75014-0907		² OGRID Number 162683
³ Property Code	⁴ Property Name Palmillo State Com	⁵ Well No. 004
⁹ Proposed Pool 1 Palmillo; Bone Spring, East		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	32	18S	29E		1980	South	660	West	Eddy

⁸ Proposed 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
M, Lot 4	32	18S	29E		330	South	330	West	Eddy

Additional Well Information

¹¹ Work Type Code A	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3421' GL
¹⁶ Multiple N	¹⁷ Proposed Depth 9191' MD, 7590' TVD	¹⁸ Formation Bone Spring	¹⁹ Contractor N/A	²⁰ Spud Date When Approved
Depth to Groundwater		Distance from nearest fresh water well		Distance from nearest surface water
Pit: Liner: Synthetic ☐ _____ mils thick Clay ☐ Pit Volume: _____ bbls Drilling Method: _____ Closed-Loop System ☒ Flowback Tanks Fresh Water ☐ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17½"	13¾"	48#	444'	618	Surface
12¼"	8⅝"	32#	3200'	1402	Surface
7⅞"	5½"	17#	11475'	1370	2000'
6⅝"	3½"	9.3#	9191'	No cmt, PEAK	

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Well currently producing from Morrow 11116-11125.' Cimarex proposes the following operations to recomplate horizontally in the Bone Spring:

- Kill well. NU 5K BOP. Set CIBP @ 11066' (over Morrow) w/ 35' cmt. Set CIBP @ 7412' w/ 2 sx sand.
- Mill window from 7390' to 7405.' Kick off 6⅝" hole at 7400.' Land curve @ 7699' MD and drill to TD of 9191' MD and 7590' TVD.
- Run 3½" 9.3# P-110 EUE 8rd liner from RSB packer at 7300' to TD of 9191' MD. Liner will be PEAK completion assembly with no cement.
- Fracture treat in several stages as needed through iso-ports (separated by iso-packers).

Please see attached preliminary directional survey and C-102.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Natalie Krueger
 Printed name: Natalie Krueger

Title: Regulatory Analyst

E-mail Address: nkrueger@cimarex.com

Date: January 14, 2009

Phone: 469-420-2723

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: 1/20/09

Expiration Date: 1/20/11

Conditions of Approval Attached ☐

1-22-09

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Artec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-31497	Pool Code 49553	Pool Name Palmillo; Bone Spring, East
Property Code	Property Name Palmillo State Com	Well Number 4
OGRID No. 162683	Operator Name Cimarex Energy Co. of Colorado	Elevation 3421

Surface Location

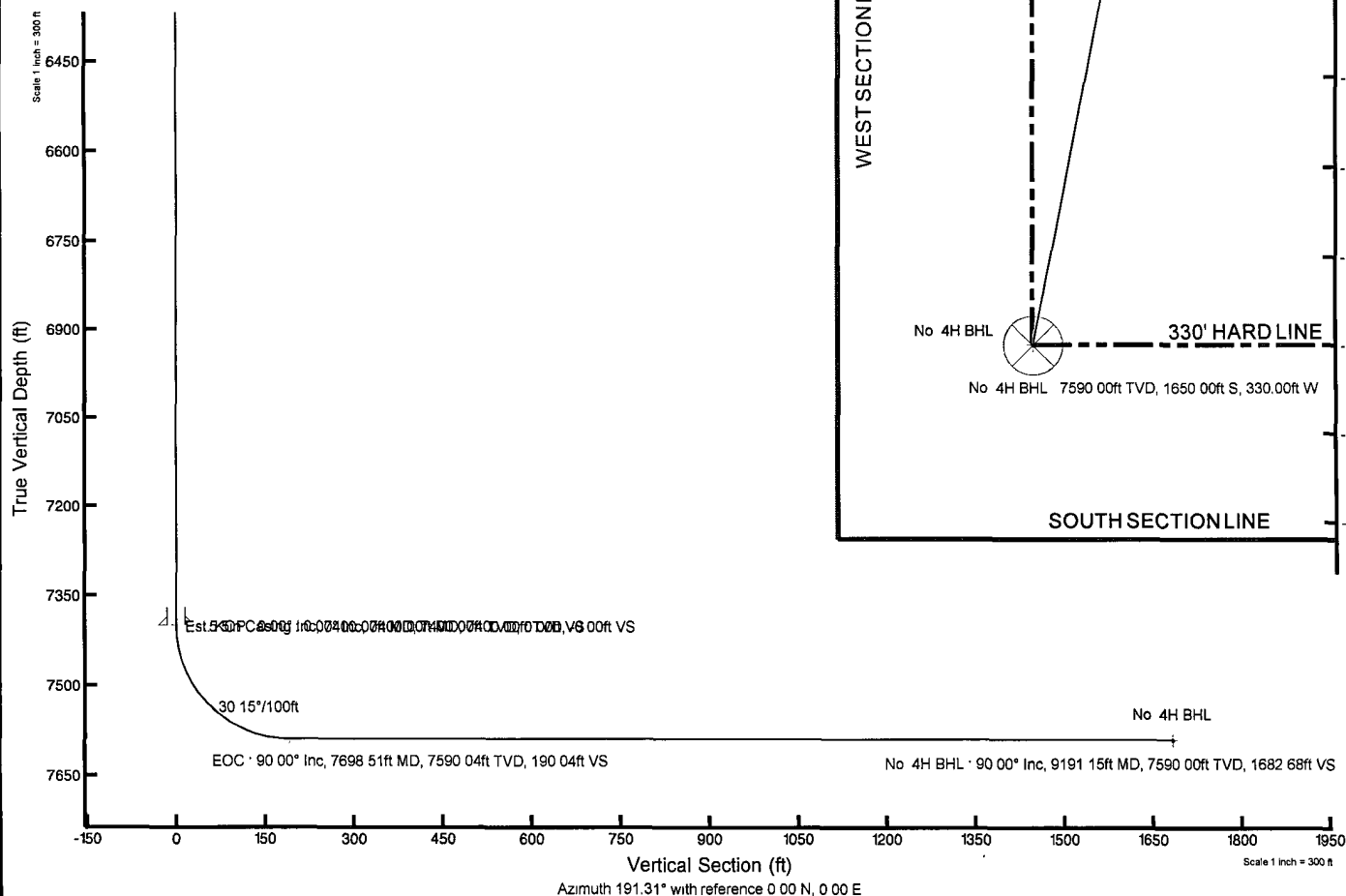
UL or lot No. L	Section 32	Township 18 S	Range 29 E	Lot Idn	Feet from the 1980	North/South line SOUTH	Feet from the 660	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No. M (Lot 4)	Section 32	Township 18 S	Range 29 E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 330	East/West line WEST	County EDDY
Dedicated Acres 73.57	Joint or Infill	Consolidation Code	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. <u>Zeno Farris</u> Signature Zeno Farris Printed Name Mgr Operations Admin Title 1/14/2009 Date
	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. NOVEMBER 20, 2000 Date Surveyed LMP Signature & Seal of Professional Surveyor <u>Ronald J. Eidson</u> 12/01/00 00-11-1385 Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641





Planned Wellpath Report

Preliminary Plan

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Palmillo)Sec. 32, T18S, R29E	Wellbore	No. 4H PWB
Facility	Palmillo State Com. No. 4H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Gomeoscr
Scale	1.00024	Report Generated	1/9/2009 at 11:24:55 AM
Convergence at slot	n/a	Database/Source file	WA_Midland/No. 4H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	0.00	0.00	30°59'18.404"N	106°03'38.987"W
Facility Reference Pt			0.00	0.00	30°59'18.404"N	106°03'38.987"W
Field Reference Pt			0.00	0.00	30°59'18.404"N	106°03'38.987"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 4H SHL (RT) to Facility Vertical Datum	17.50ft
Horizontal Reference Pt	Facility Center	Rig on No. 4H SHL (RT) to Mean Sea Level	3438.50ft
Vertical Reference Pt	Rig on No. 4H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 4H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	191.31°



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**BAKER
HUGHES**

INTEQ

REFERENCE WELLPATH IDENTIFICATION			
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Area	Eddy County, NM	Well	No. 4H
Field	(Palmillo)Sec. 32, T18S, R29E	Wellbore	No. 4H PWB
Facility	Palmillo State Com. No. 4H		

WELLPATH DATA (23 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	191.310	0.00	0.00	0.00	0.00	0.00	Tie On
6590.00†	0.000	191.310	6590.00	0.00	0.00	0.00	0.00	1st BSS
7400.00	0.000	191.310	7400.00	0.00	0.00	0.00	0.00	Est. KOP
7420.04†	6.041	191.310	7420.00	1.06	-1.03	-0.21	30.15	2nd BSS
7500.00†	30.150	191.310	7495.45	25.71	-25.21	-5.04	30.15	
7600.00†	60.300	191.310	7565.07	95.88	-94.02	-18.80	30.15	
7698.51	90.001	191.310	7590.04	190.04	-186.35	-37.27	30.15	EOC
7700.00†	90.001	191.310	7590.04	191.53	-187.81	-37.56	0.00	
7800.00†	90.001	191.310	7590.03	291.53	-285.87	-57.17	0.00	
7900.00†	90.001	191.310	7590.03	391.53	-383.93	-76.79	0.00	
8000.00†	90.001	191.310	7590.03	491.53	-481.98	-96.40	0.00	
8100.00†	90.001	191.310	7590.03	591.53	-580.04	-116.01	0.00	
8200.00†	90.001	191.310	7590.02	691.53	-678.10	-135.62	0.00	
8300.00†	90.001	191.310	7590.02	791.53	-776.16	-155.23	0.00	
8400.00†	90.001	191.310	7590.02	891.53	-874.22	-174.84	0.00	
8500.00†	90.001	191.310	7590.02	991.53	-972.27	-194.45	0.00	
8600.00†	90.001	191.310	7590.01	1091.53	-1070.33	-214.07	0.00	
8700.00†	90.001	191.310	7590.01	1191.53	-1168.39	-233.68	0.00	
8800.00†	90.001	191.310	7590.01	1291.53	-1266.45	-253.29	0.00	
8900.00†	90.001	191.310	7590.01	1391.53	-1364.51	-272.90	0.00	
9000.00†	90.001	191.310	7590.00	1491.53	-1462.56	-292.51	0.00	
9100.00†	90.001	191.310	7590.00	1591.53	-1560.62	-312.12	0.00	
9191.15	90.001	191.310	7590.00†	1682.68	-1650.00	-330.00	0.00	No. 4H BHL

HOLE & CASING SECTIONS Ref Wellbore: No. 4H PWB Ref Wellpath: Preliminary Plan									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
8.625in Casing	0.00	3200.00	3200.00	0.00	3200.00	0.00	0.00	0.00	0.00
5.5in Casing	3200.00	7400.00	4200.00	3200.00	7400.00	0.00	0.00	0.00	0.00
4.75in Open Hole	7400.00	9191.15	1791.15	7400.00	NA	0.00	0.00	NA	NA



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Facility	Palmillo State Com. No. 4H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 4H BHL	9191.15	7590.00	-1650.00	-330.00	-330.08	-1650.40	30°59'02.025"N	106°03'42.483"W	point