

DISTRICT I
1823 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 July 18, 2010
Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-38397	Pool Code 96210	Pool Name Empire; Glorieta-Yeso
Property Code 38428	Property Name MAYARO "22" STATE	Well Number 16
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3583'

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	22	17 S	28 E		2130	SOUTH	810	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
I	22	17 S	28 E		2310	SOUTH	330	EAST	EDDY
Dedicated Acres 40	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

SURFACE LOCATION Lat - N 32°49'07.137" Long - W 104°09'27.770" NAD-83 NADSPCE- N 661602.0 E 595288.2 BOTTOM HOLE LOCATION Lat - N 32°49'08.925" Long - W 104°09'22.057" NAD-83 NADSPCE- N 661783.64 E 595775.42 BH 330 520.09' 810' 2130' 2310'	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 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. <i>Natalie Krueger</i> 1/4/2011 Signature Date Natalie Krueger Printed Name nkrueger@cimarex.com Email 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. GARY L. JONES OCTOBER 8 2010 Date Surveyed Signature & Seal of Professional Surveyor W.O. No. 23471 Certificate No. Gary L. Jones 7977 BASIN SURVEYS 23471
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Mud, Casing, Cementing, and BOP Attachment
Mayaro 22 State No. 16
 Cimarex Energy Co. of Colorado
 Unit I, Section 22
 T17S-R28E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

Location: SHL 2130 FSL & 810 FEL
 BHL 2310 FSL & 330 FEL

Elevation above sea level: 3583' GR

Proposed drilling depth: 5047 MD, 5000 TVD

Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 400'	8.4 - 8.6	28	NC	FW
0' to 5010'	10.0	30-32	NC	Brine water

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Casing & Cementing Plan:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	12¼"	0' to 400'	New 8⅝"	24#	STC	J-55
Production	7⅞"	0' to 5047'	New 5½"	17#	LTC	J-55

Cementing Plan:

Surface Lead: 600 sx Class H
 Tail: 500 sx Class H
TOC Surface

Production Lead: 700 sx Class H
Tail: 600 sx Class H
TOC 0'

Fresh water zones will be protected by setting 8⅝" casing at 400 and cementing to surface. Hydrocarbon zones will be protected by setting 5½" casing at 5047 and cementing to surface.

Collapse Factor

1.125

Burst Factor

1.125

Tension Factor

1.6

Directional Plan:

Drill 7⅞" hole to KOP @ 2000 and then build and hold to TD @ 5047 MD, 5000 TVD. Run 5½" csg from 0-5047 and cement.



Cimarex Energy Co.

Location: Eddy County, NM
Field: (Mayaro) Sec 22, T17S, R28E
Facility: Mayaro 22 State No.16

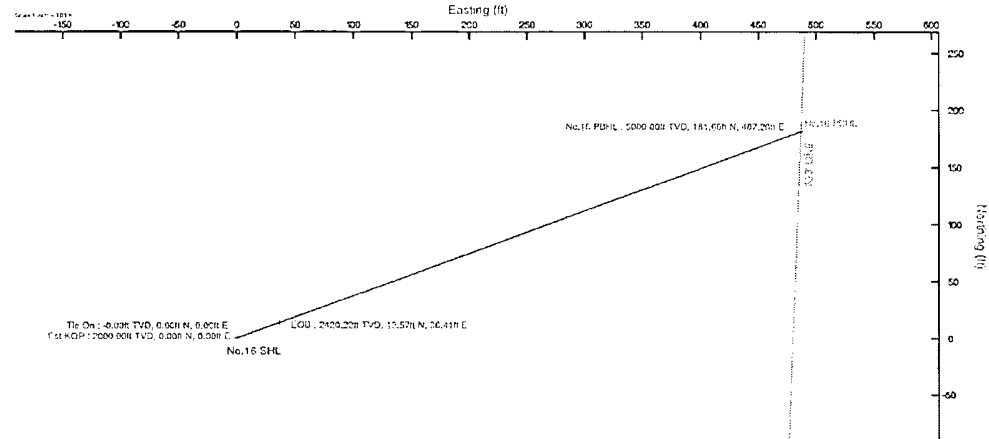
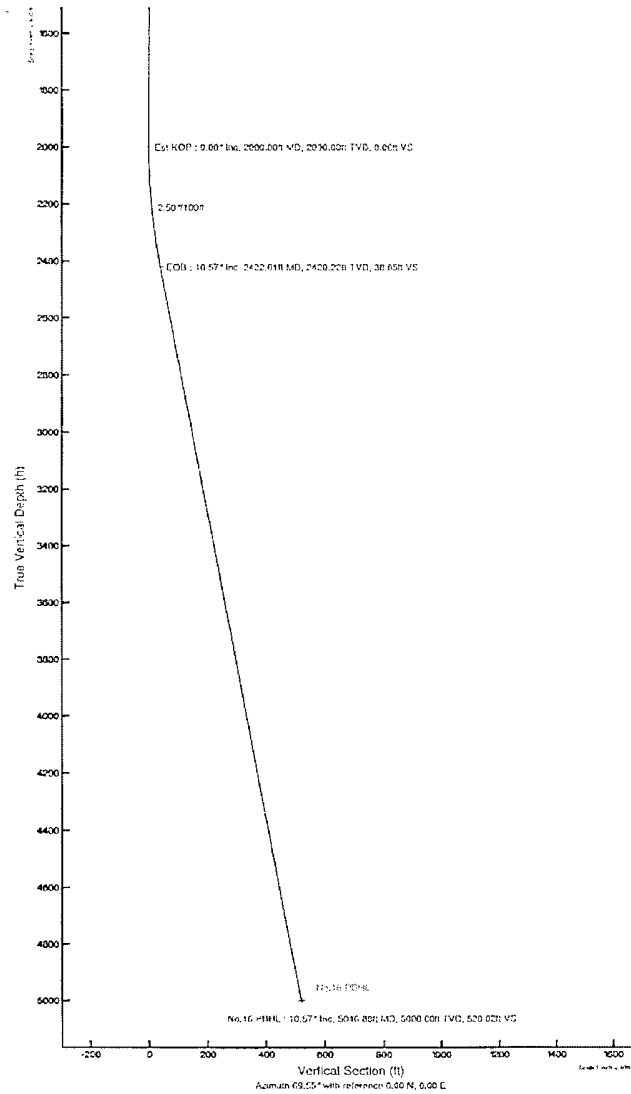
Slot: No.16 SHL
Well: No.16
Wellbore: No.16 PWB



Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	D.S. (°100ft)	VS (ft)
Tie On	0.00	0.000	59.554	0.00	0.00	0.00	0.00	0.00
Est KOP	2000.00	0.000	59.554	2000.00	0.00	0.00	0.00	0.00
EOB	2422.61	10.565	69.554	2420.20	13.57	36.41	2.50	36.05
No.16 PBHL	5046.85	10.565	69.554	5000.00	181.60	487.20	0.00	520.02

Plot reference wellpath is: Prelim_1	
True vertical depths are referenced to Rig on No.16 SHL (RT)	Grid System: NAD83 / TV New Mexico State Plane, Eastern Zone (3001) US feet
Measured depths are referenced to Rig on No.16 SHL (RT)	North Reference: Grid north
Run on No.16 SHL (RT) is Mean Sea Level: 3583 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Mayaro 22 State No.16): -3583 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: noneamer on 12/20/2015



N
W
E
S

11545.0 to 2011.0) Del: 96.66° Field: 41232.4 nT
Magnetic North is 7.95 degrees East of True North (at 12/30/2010)
Grid North is 0.10 degrees East of True North
To correct azimuth from True to Grid subtract 0.10 degrees
To correct azimuth from Magnetic to Grid add 7.95 degrees
For example, if the Magnetic North Azimuth = 50 degrees, then the Grid North Azimuth = 50 + 7.95 = 57.95



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPLATE IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.16 SHL
Area	Eddy County, NM	Well	No.16
Field	(Mayaro) Sec 22, T17S, R28E	Wellbore	No.16 PWB
Facility	Mayaro 22 State No.16		

REPORT SETTING INFORMATION			
Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Gomeoscr
Scale	0.999912	Report Generated	12/30/2010 at 3:04:28 PM
Convergence at slot	0.10° East	Database/Source file	WA Midland/No.16_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	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W
Facility Reference Pt			595288.20	661602.00	32°49'07.136"N	104°09'27.770"W
Field Reference Pt			594612.60	661200.10	32°49'03.170"N	104°09'35.695"W

WELLPLATE INFORMATION			
Calculation method	Minimum curvature	Rig on No.16 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.16 SHL (RT) to Mean Sea Level	3583.00ft
Vertical Reference Pt	Rig on No.16 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No.16 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	69.55°



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.16 SHL
Area	Eddy County, NM	Well	No.16
Field	(Mayaro) Sec 22, T17S, R28E	Wellbore	No.16 PWB
Facility	Mayaro 22 State No.16		

WELLPATH DATA (53 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	69.554	0.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	Tie On
100.00†	0.000	69.554	100.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
200.00†	0.000	69.554	200.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
300.00†	0.000	69.554	300.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
400.00†	0.000	69.554	400.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
500.00†	0.000	69.554	500.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
600.00†	0.000	69.554	600.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
700.00†	0.000	69.554	700.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
800.00†	0.000	69.554	800.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
900.00†	0.000	69.554	900.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1000.00†	0.000	69.554	1000.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1100.00†	0.000	69.554	1100.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1200.00†	0.000	69.554	1200.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1300.00†	0.000	69.554	1300.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1400.00†	0.000	69.554	1400.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1500.00†	0.000	69.554	1500.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1600.00†	0.000	69.554	1600.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1700.00†	0.000	69.554	1700.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1800.00†	0.000	69.554	1800.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
1900.00†	0.000	69.554	1900.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	
2000.00	0.000	69.554	2000.00	0.00	0.00	0.00	595288.20	661602.00	32°49'07.136"N	104°09'27.770"W	0.00	Est KOP
2100.00†	2.500	69.554	2099.97	2.18	0.76	2.04	595290.24	661602.76	32°49'07.144"N	104°09'27.746"W	2.50	
2200.00†	5.000	69.554	2199.75	8.72	3.05	8.17	595296.37	661605.05	32°49'07.166"N	104°09'27.674"W	2.50	
2300.00†	7.500	69.554	2299.14	19.61	6.85	18.37	595306.57	661608.85	32°49'07.204"N	104°09'27.555"W	2.50	
2400.00†	10.000	69.554	2397.97	34.82	12.16	32.62	595320.82	661614.16	32°49'07.256"N	104°09'27.388"W	2.50	
2422.61	10.565	69.554	2420.22	38.85	13.57	36.41	595324.60	661615.57	32°49'07.270"N	104°09'27.343"W	2.50	EOB
2500.00†	10.565	69.554	2496.30	53.04	18.53	49.70	595337.90	661620.53	32°49'07.319"N	104°09'27.187"W	0.00	
2600.00†	10.565	69.554	2594.60	71.38	24.93	66.88	595355.08	661626.93	32°49'07.382"N	104°09'26.986"W	0.00	
2700.00†	10.565	69.554	2692.91	89.71	31.34	84.06	595372.26	661633.34	32°49'07.445"N	104°09'26.785"W	0.00	
2800.00†	10.565	69.554	2791.21	108.05	37.74	101.24	595389.43	661639.74	32°49'07.508"N	104°09'26.583"W	0.00	
2900.00†	10.565	69.554	2889.52	126.39	44.15	118.42	595406.61	661646.15	32°49'07.571"N	104°09'26.382"W	0.00	
3000.00†	10.565	69.554	2987.82	144.72	50.55	135.60	595423.79	661652.55	32°49'07.634"N	104°09'26.180"W	0.00	
3100.00†	10.565	69.554	3086.13	163.06	56.96	152.78	595440.97	661658.95	32°49'07.697"N	104°09'25.979"W	0.00	
3200.00†	10.565	69.554	3184.43	181.39	63.36	169.96	595458.15	661665.36	32°49'07.760"N	104°09'25.777"W	0.00	
3300.00†	10.565	69.554	3282.73	199.73	69.77	187.14	595475.33	661671.76	32°49'07.823"N	104°09'25.576"W	0.00	
3400.00†	10.565	69.554	3381.04	218.06	76.17	204.32	595492.51	661678.17	32°49'07.886"N	104°09'25.375"W	0.00	
3500.00†	10.565	69.554	3479.34	236.40	82.58	221.51	595509.69	661684.57	32°49'07.949"N	104°09'25.173"W	0.00	
3600.00†	10.565	69.554	3577.65	254.73	88.98	238.69	595526.86	661690.98	32°49'08.013"N	104°09'24.972"W	0.00	
3700.00†	10.565	69.554	3675.95	273.07	95.39	255.87	595544.04	661697.38	32°49'08.076"N	104°09'24.770"W	0.00	
3800.00†	10.565	69.554	3774.26	291.40	101.79	273.05	595561.22	661703.78	32°49'08.139"N	104°09'24.569"W	0.00	
3900.00†	10.565	69.554	3872.56	309.74	108.20	290.23	595578.40	661710.19	32°49'08.202"N	104°09'24.367"W	0.00	
4000.00†	10.565	69.554	3970.87	328.07	114.60	307.41	595595.58	661716.59	32°49'08.265"N	104°09'24.166"W	0.00	
4100.00†	10.565	69.554	4069.17	346.41	121.01	324.59	595612.76	661723.00	32°49'08.328"N	104°09'23.964"W	0.00	
4200.00†	10.565	69.554	4167.48	364.75	127.41	341.77	595629.94	661729.40	32°49'08.391"N	104°09'23.763"W	0.00	
4300.00†	10.565	69.554	4265.78	383.08	133.82	358.95	595647.12	661735.81	32°49'08.454"N	104°09'23.562"W	0.00	



Planned Wellpath Report

Prelim_1

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INTEQ

REFERENCE INFORMATION			
Operator	Cimarex Energy Co.	Slot	No.16 SHL
Area	Eddy County, NM	Well	No.16
Field	(Mayaro) Sec 22, T17S, R28E	Wellbore	No.16 PWB
Facility	Mayaro 22 State No.16		

WELLPATH DATA (53 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00†	10.565	69.554	4364.09	401.42	140.22	376.13	595664.29	661742.21	32°49'08.517"N	104°09'23.360"W	0.00	
4500.00†	10.565	69.554	4462.39	419.75	146.63	393.31	595681.47	661748.62	32°49'08.580"N	104°09'23.159"W	0.00	
4600.00†	10.565	69.554	4560.70	438.09	153.03	410.49	595698.65	661755.02	32°49'08.643"N	104°09'22.957"W	0.00	
4700.00†	10.565	69.554	4659.00	456.42	159.44	427.67	595715.83	661761.42	32°49'08.707"N	104°09'22.756"W	0.00	
4800.00†	10.565	69.554	4757.31	474.76	165.84	444.85	595733.01	661767.83	32°49'08.770"N	104°09'22.554"W	0.00	
4900.00†	10.565	69.554	4855.61	493.09	172.25	462.03	595750.19	661774.23	32°49'08.833"N	104°09'22.353"W	0.00	
5000.00†	10.565	69.554	4953.91	511.43	178.65	479.21	595767.37	661780.64	32°49'08.896"N	104°09'22.152"W	0.00	
5046.88	10.565	69.554	5000.00 ¹	520.02	181.66	487.26	595775.42	661783.64	32°49'08.925"N	104°09'22.057"W	0.00	No.16 PBHL

HOLE & CASING SECTIONS Ref Wellbore: No.16 PWB Ref Wellpath: Prelim_1									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
8.625in Casing	0.00	400.00	400.00	0.00	400.00	0.00	0.00	0.00	0.00
7.875in Open Hole	400.00	5046.88	4646.88	400.00	5000.00	0.00	0.00	181.66	487.26

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No.16 PBHL	5046.88	5000.00	181.66	487.26	595775.42	661783.64	32°49'08.925"N	104°09'22.057"W	point

SURVEY PROGRAM Ref Wellbore: No.16 PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	5046.88	NaviTrak (Standard)		No.16 PWB