

DISTRICT I  
1825 N. Peach Tr., H-55a, NE 6210

DISTRICT II  
1531 W. Grand Avenue, Artesia, NM 87210

DISTRICT III  
1000 Rio Hrazon 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

Form C-102  
Revised July 18, 2010

Submit one copy to appropriate  
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number <b>30-025-40355</b>	Pool Code <b>90403</b>	Pool Name <b>Leas, Bone Spring, Wildcat</b>
Property Code <b>38859</b>	Property Name <b>WITHERSPOON "21" STATE COM</b>	Well Number <b>3H</b>
CCRID No. <b>162683</b>	Operator Name <b>CIMAREX ENERGY CO. OF COLORADO</b>	Elevation <b>3679'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	21	21 S	33 E		330	NORTH	1650	EAST	LEA

Bottom Hole Location If Different From Surface

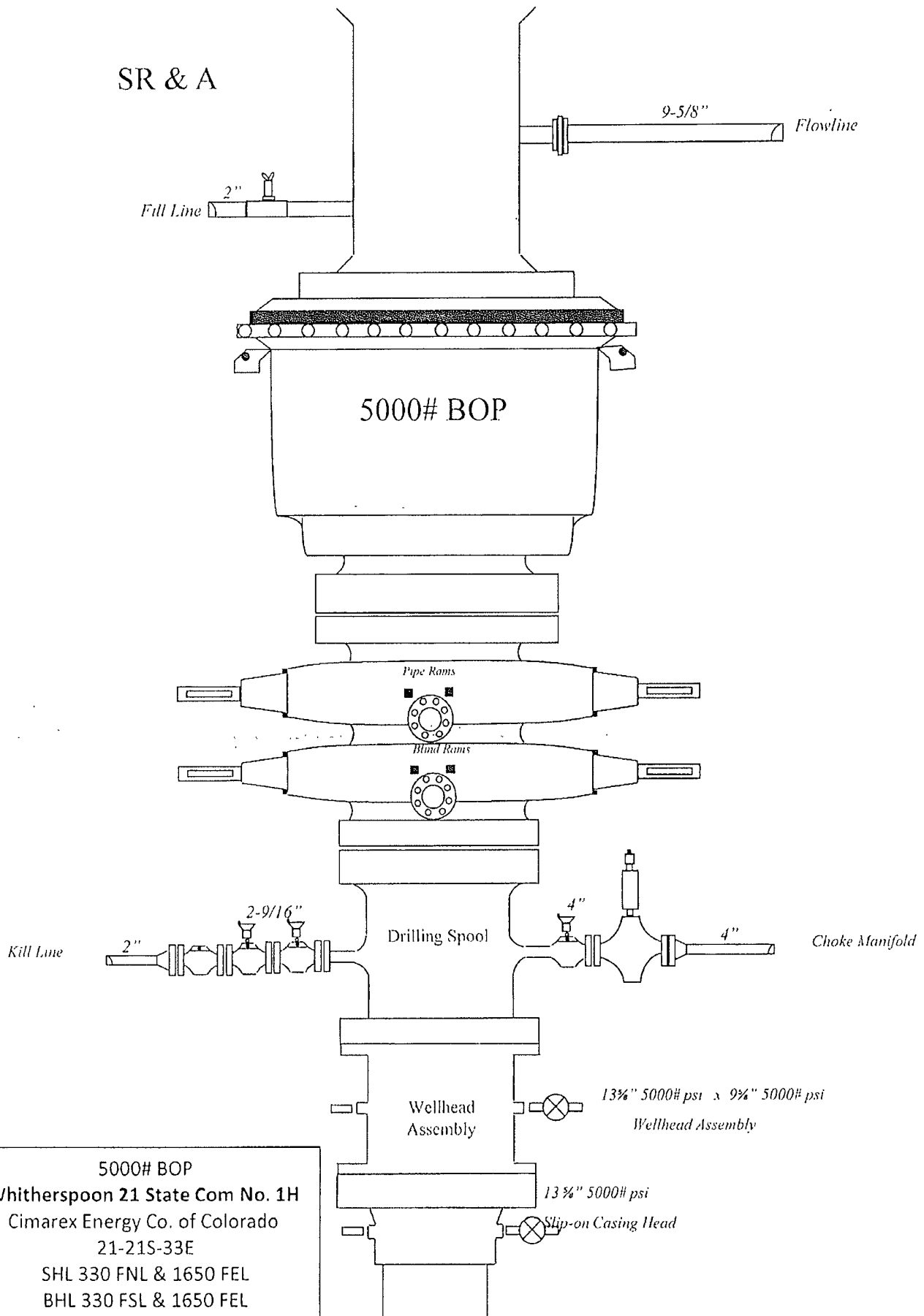
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	21	21 S	33 E		330	SOUTH	1650	EAST	LEA

Dedicated Acres <b>160</b>	Joint or Infill	Consolidation Code <b>Pending</b>	Order No.
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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

<p><b>SURFACE LOCATION</b> Lat - N 32°28'18.59" Long - W 103°34'27.63" NAD-83 (H40-H3)</p> <p>No Potash Leases</p> <p>VB-2082</p> <p>VB-2083</p>	<p><b>OPERATOR CERTIFICATION</b> 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.</p> <p><i>Zeno Farris 10-4-11</i> Signature Date <b>Zeno Farris</b></p> <p>Printed Name <b>zfarris@cimarex.com</b> Email Address</p>
	<p><b>PROPOSED BOTTOM HOLE LOCATION</b> Lat - N 32°27'29.87" Long - W 103°34'27.57" NAD-83 (H40-H3)</p> <p><b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual survey made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <p><b>GARY L. JONES</b> Date Surveyed Signature &amp; Seal of Professional Surveyor W.C. No. 25034</p> <p>Certificate No. Gary L. Jones 7977 BASIN SURVEYS 25034</p>

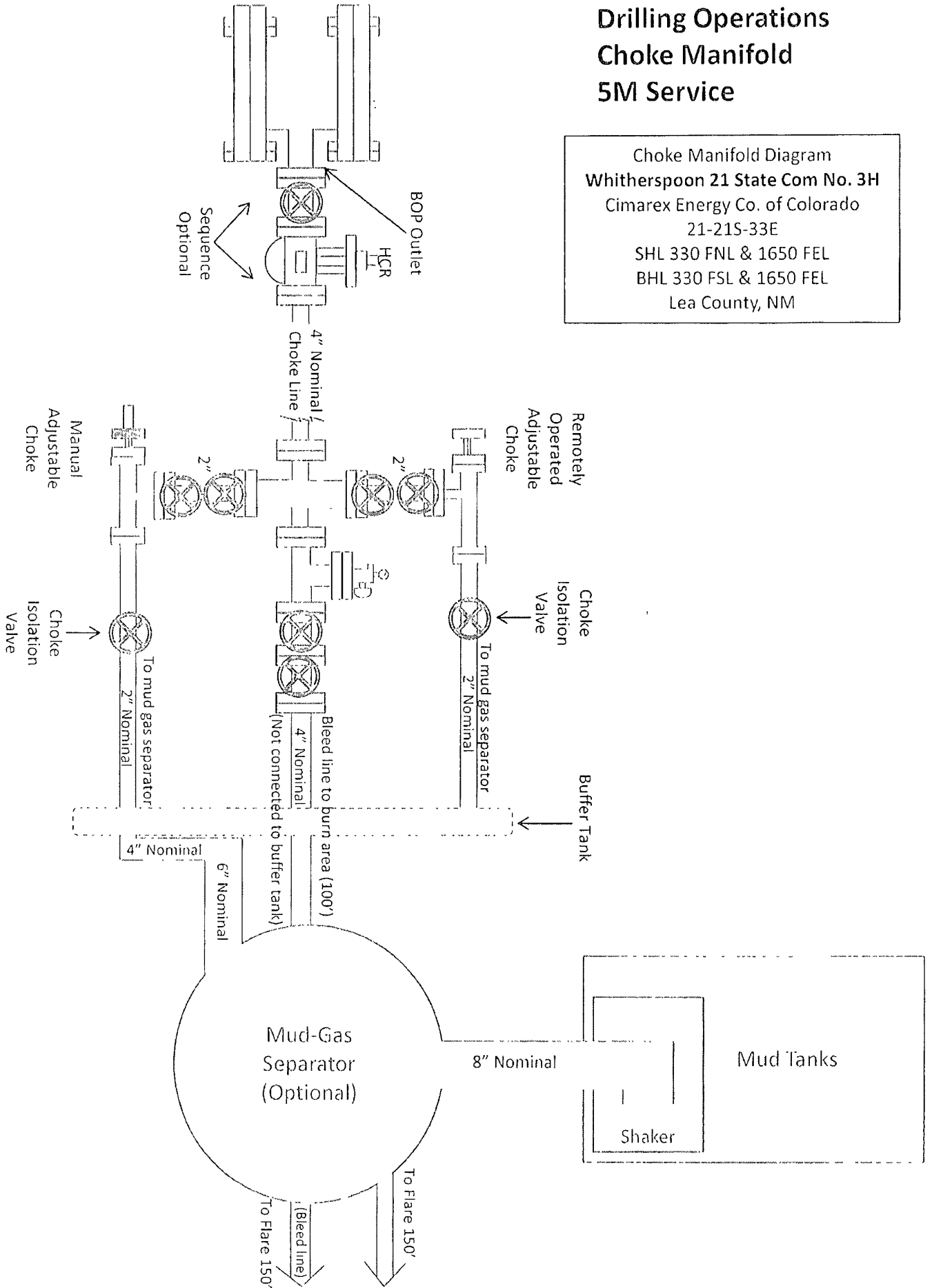
SR & A



5000# BOP  
Whitherspoon 21 State Com No. 1H  
Cimarex Energy Co. of Colorado  
21-215-33E  
SHL 330 FNL & 1650 FEL  
BHL 330 FSL & 1650 FEL  
Lea County NM

# Drilling Operations Choke Manifold 5M Service

Choke Manifold Diagram  
 Whitherspoon 21 State Com No. 3H  
 Cimarex Energy Co. of Colorado  
 21-21S-33E  
 SHL 330 FNL & 1650 FEL  
 BHL 330 FSL & 1650 FEL  
 Lea County, NM





# Cimarex Energy Co.

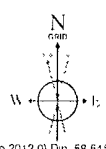
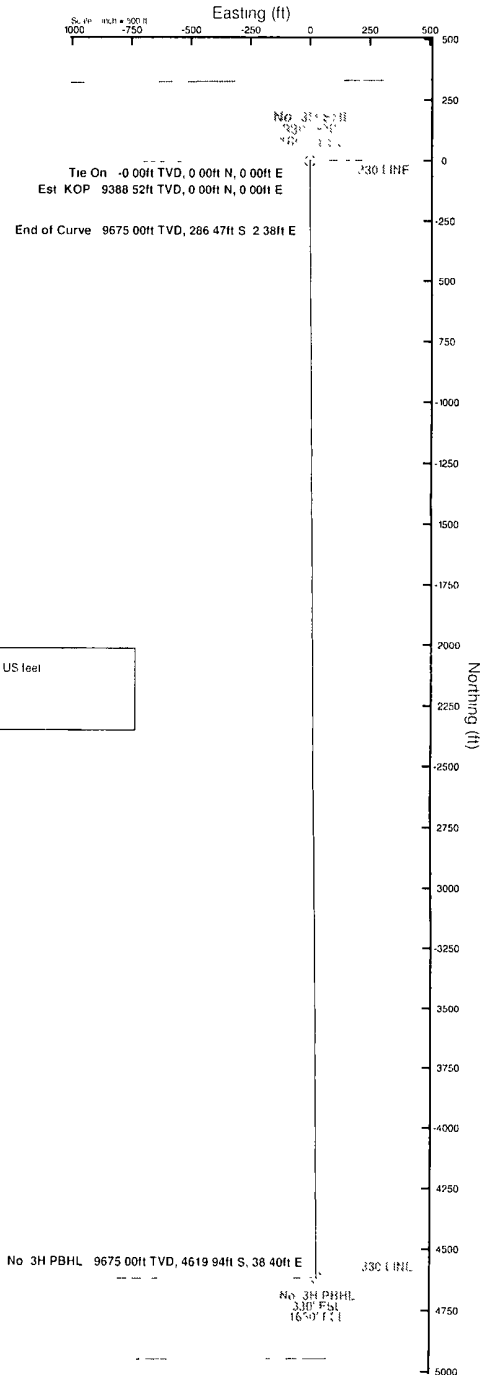
Location: Lea County, NM  
Field: (Witherspoon) Sec 21, T21S, R33E  
Facility: Witherspoon 21 Slate Com

Slot: No. 3H SHL  
Well: No. 3H  
Wellbore: No. 3H PWB



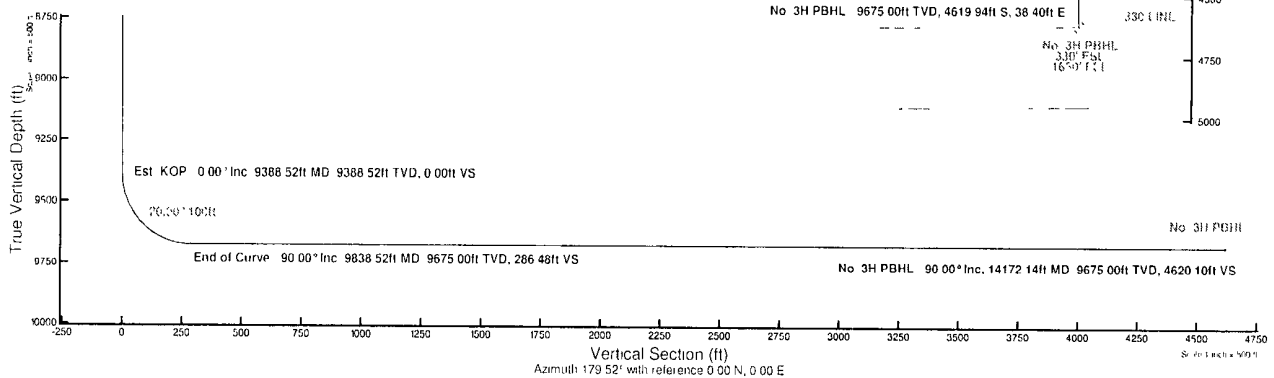
## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (%/100ft)	VS (ft)
Tie On	0 00	0.000	179.524	0.00	0.00	0.00	0.00	0.00
Est KOP	9388 52	0 000	179.524	9388.52	0.00	0.00	0.00	0.00
End of Curve	9838 52	90 000	179.524	9675.00	-286.47	2 38	20 00	286.48
No 3H PBHL	14172 14	90 000	179.524	9675.00	-4619.94	38 40	0.00	4620.10



BCCM (1345 0 to 2012 0) Dip 58.54° Field 17548 nT  
 Magnetic North is 8.56 degrees East of True North (at 6/28/2011)  
 Grid North is 0.44 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.44 degrees  
 To correct azimuth from Magnetic to Grid add 8.15 degrees  
 For example if the Magnetic North Azimuth = 90 degs then the Grid North Azimuth = 90 + 8.15 = 98.15

Plot reference wellpath is P14172\_1  
 True vertical depths are referenced to Rig on No. 3H SHL (KB)  
 Measured depths are referenced to Rig on No. 3H SHL (KB)  
 Rig on No. 3H SHL (KB) is Mean Sea Level 3679 feet  
 Mean Sea Level to Mud line (At Slot No. 3H SHL) 0 feet  
 Coordinates are in feet referenced to Slot  
 Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet  
 North Reference Grid north  
 Scale True distance  
 Depths are in feet  
 Created by callphik on 9/28/2011





# Planned Wellpath Report

Prelim\_1  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Lea County, NM	Well	No. 3H
Field	(Witherspoon) Sec 21, T21S, R33E	Wellbore	No. 3H PWB
Facility	Witherspoon 21 State Com		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Calhphik
Scale	0.999972	Report Generated	9/28/2011 at 10:24:36 AM
Convergence at slot	0.41° East	Database/Source file	WA_Midland/No._3H_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	535680.73	775220.56	775408.80	535810.80	32°28'14.588"N	103°34'27.630"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. 3H SHL (KB) to GL	3679.00ft
Horizontal Reference Pt	Slot	Rig on No. 3H SHL (KB) to Mean Sea Level	3679.00ft
Vertical Reference Pt	Rig on No. 3H SHL (KB)	Rig on No. 3H SHL (KB) to Mud Line at Slot (No. 3H SHL)	3679.00ft
MD Reference Pt	Rig on No. 3H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.52°



# Planned Wellpath Report

Prelim\_1  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Lea County, NM	Well	No. 3H
Field	(Witherspoon) Sec 21, T21S, R33E	Wellbore	No. 3H PWB
Facility	Witherspoon 21 State Com		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [1°/100ft]	Comments
0 00	0 000	179.524	0 00	0 00	0.00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Tie On
100 00†	0 000	179.524	100 00	0 00	0.00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
200 00†	0 000	179.524	200 00	0 00	0.00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
300 00†	0 000	179.524	300 00	0 00	0.00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
400 00†	0 000	179.524	400.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
500 00†	0 000	179.524	500 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
600 00†	0 000	179.524	600 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
700 00†	0.000	179.524	700.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
800 00†	0 000	179.524	800 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
900 00†	0 000	179.524	900 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
1000 00†	0 000	179.524	1000 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
1100 00†	0 000	179.524	1100 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
1200 00†	0 000	179.524	1200 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
1300 00†	0.000	179.524	1300.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
1400 00†	0 000	179.524	1400 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
1500 00†	0.000	179.524	1500 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
1600 00†	0 000	179.524	1600 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
1700 00†	0 000	179.524	1700 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
1800 00†	0.000	179.524	1800.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
1900 00†	0 000	179.524	1900 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
2000 00†	0 000	179.524	2000 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
2100 00†	0.000	179.524	2100 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
2200 00†	0.000	179.524	2200 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
2300 00†	0.000	179.524	2300 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
2400 00†	0 000	179.524	2400.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
2500 00†	0 000	179.524	2500 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
2600 00†	0.000	179.524	2600 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
2700 00†	0 000	179.524	2700 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
2800 00†	0 000	179.524	2800 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
2900 00†	0.000	179.524	2900 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3000 00†	0 000	179.524	3000 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3100 00†	0.000	179.524	3100.00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3200 00†	0 000	179.524	3200 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
3300 00†	0.000	179.524	3300 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
3400 00†	0 000	179.524	3400 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3500 00†	0 000	179.524	3500 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
3600 00†	0.000	179.524	3600 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3700 00†	0 000	179.524	3700 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
3800 00†	0.000	179.524	3800 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
3900 00†	0 000	179.524	3900 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
4000 00†	0.000	179.524	4000 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4100 00†	0 000	179.524	4100 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4200 00†	0.000	179.524	4200 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
4300 00†	0 000	179.524	4300 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	
4400 00†	0 000	179.524	4400 00	0 00	0 00	0 00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0 00	



# Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Lea County, NM	Well	No. 3H
Field	(Witherspoon) Sec 21, T21S, R33E	Wellbore	No. 3H PWB
Facility	Witherspoon 21 State Com		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [1"/100ft]	Comments
4500.00†	0.000	179.524	4500.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4600.00†	0.000	179.524	4600.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4700.00†	0.000	179.524	4700.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4800.00†	0.000	179.524	4800.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
4900.00†	0.000	179.524	4900.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5000.00†	0.000	179.524	5000.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5100.00†	0.000	179.524	5100.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5200.00†	0.000	179.524	5200.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5250.00†	0.000	179.524	5250.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Delaware
5300.00†	0.000	179.524	5300.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5400.00†	0.000	179.524	5400.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5500.00†	0.000	179.524	5500.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5600.00†	0.000	179.524	5600.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5700.00†	0.000	179.524	5700.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5800.00†	0.000	179.524	5800.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
5900.00†	0.000	179.524	5900.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6000.00†	0.000	179.524	6000.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6100.00†	0.000	179.524	6100.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6200.00†	0.000	179.524	6200.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6300.00†	0.000	179.524	6300.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6400.00†	0.000	179.524	6400.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6500.00†	0.000	179.524	6500.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6600.00†	0.000	179.524	6600.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6700.00†	0.000	179.524	6700.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6800.00†	0.000	179.524	6800.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
6900.00†	0.000	179.524	6900.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7000.00†	0.000	179.524	7000.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7100.00†	0.000	179.524	7100.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7200.00†	0.000	179.524	7200.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7300.00†	0.000	179.524	7300.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7400.00†	0.000	179.524	7400.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7500.00†	0.000	179.524	7500.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7600.00†	0.000	179.524	7600.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7700.00†	0.000	179.524	7700.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7800.00†	0.000	179.524	7800.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
7900.00†	0.000	179.524	7900.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8000.00†	0.000	179.524	8000.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8100.00†	0.000	179.524	8100.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8200.00†	0.000	179.524	8200.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8300.00†	0.000	179.524	8300.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8400.00†	0.000	179.524	8400.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8500.00†	0.000	179.524	8500.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8575.00†	0.000	179.524	8575.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Basal Brushy Canyon
8600.00†	0.000	179.524	8600.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8700.00†	0.000	179.524	8700.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	



# Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Lea County, NM	Well	No. 3H
Field	(Witherspoon) Sec 21, T21S, R33E	Wellbore	No. 3H PWB
Facility	Witherspoon 21 State Com		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8750.00†	0.000	179.524	8750.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Bone Spring
8800.00†	0.000	179.524	8800.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
8900.00†	0.000	179.524	8900.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
9000.00†	0.000	179.524	9000.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
9100.00†	0.000	179.524	9100.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
9200.00†	0.000	179.524	9200.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	
9300.00†	0.000	179.524	9300.00	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Upper Bone Spring Shale
9388.52	0.000	179.524	9388.52	0.00	0.00	0.00	775408.80	535810.80	32°28'14.588"N	103°34'27.630"W	0.00	Est. KOI
9400.00†	2.296	179.524	9400.00	0.23	-0.23	0.00	775408.80	535810.57	32°28'14.586"N	103°34'27.630"W	20.00	
9500.00†	22.296	179.524	9497.21	21.42	-21.42	0.18	775408.98	535789.38	32°28'14.376"N	103°34'27.630"W	20.00	
9600.00†	42.296	179.524	9581.31	74.58	-74.57	0.62	775409.42	535736.23	32°28'13.850"N	103°34'27.629"W	20.00	
9700.00†	62.296	179.524	9642.16	153.29	-153.29	1.27	775410.07	535657.52	32°28'13.071"N	103°34'27.628"W	20.00	
9800.00†	82.296	179.524	9672.41	248.07	-248.07	2.06	775410.86	535562.74	32°28'12.134"N	103°34'27.627"W	20.00	
9838.52	90.000	179.524	9675.00	286.48	-286.47	2.38	775411.18	535524.34	32°28'11.754"N	103°34'27.626"W	20.00	End of Curve
9900.00†	90.000	179.524	9675.00	347.96	-347.95	2.89	775411.69	535462.86	32°28'11.145"N	103°34'27.626"W	0.00	
10000.00†	90.000	179.524	9675.00	447.96	-447.94	3.72	775412.52	535362.87	32°28'10.156"N	103°34'27.624"W	0.00	
10100.00†	90.000	179.524	9675.00	547.96	-547.94	4.55	775413.35	535262.88	32°28'09.166"N	103°34'27.623"W	0.00	
10200.00†	90.000	179.524	9675.00	647.96	-647.94	5.39	775414.19	535162.88	32°28'08.177"N	103°34'27.621"W	0.00	
10300.00†	90.000	179.524	9675.00	747.96	-747.93	6.22	775415.02	535062.89	32°28'07.187"N	103°34'27.620"W	0.00	
10400.00†	90.000	179.524	9675.00	847.96	-847.93	7.05	775415.85	534962.90	32°28'06.198"N	103°34'27.618"W	0.00	
10500.00†	90.000	179.524	9675.00	947.96	-947.93	7.88	775416.68	534862.90	32°28'05.208"N	103°34'27.617"W	0.00	
10600.00†	90.000	179.524	9675.00	1047.96	-1047.92	8.71	775417.51	534762.91	32°28'04.219"N	103°34'27.616"W	0.00	
10700.00†	90.000	179.524	9675.00	1147.96	-1147.92	9.54	775418.34	534662.92	32°28'03.229"N	103°34'27.614"W	0.00	
10800.00†	90.000	179.524	9675.00	1247.96	-1247.91	10.37	775419.17	534562.92	32°28'02.240"N	103°34'27.613"W	0.00	
10900.00†	90.000	179.524	9675.00	1347.96	-1347.91	11.20	775420.00	534462.93	32°28'01.251"N	103°34'27.611"W	0.00	
11000.00†	90.000	179.524	9675.00	1447.96	-1447.91	12.04	775420.83	534362.94	32°28'00.261"N	103°34'27.610"W	0.00	
11100.00†	90.000	179.524	9675.00	1547.96	-1547.90	12.87	775421.67	534262.94	32°27'59.272"N	103°34'27.609"W	0.00	
11200.00†	90.000	179.524	9675.00	1647.96	-1647.90	13.70	775422.50	534162.95	32°27'58.282"N	103°34'27.607"W	0.00	
11300.00†	90.000	179.524	9675.00	1747.96	-1747.90	14.53	775423.33	534062.96	32°27'57.293"N	103°34'27.606"W	0.00	
11400.00†	90.000	179.524	9675.00	1847.96	-1847.89	15.36	775424.16	533962.96	32°27'56.303"N	103°34'27.604"W	0.00	
11500.00†	90.000	179.524	9675.00	1947.96	-1947.89	16.19	775424.99	533862.97	32°27'55.314"N	103°34'27.603"W	0.00	
11600.00†	90.000	179.524	9675.00	2047.96	-2047.89	17.02	775425.82	533762.97	32°27'54.324"N	103°34'27.602"W	0.00	
11700.00†	90.000	179.524	9675.00	2147.96	-2147.88	17.85	775426.65	533662.98	32°27'53.335"N	103°34'27.600"W	0.00	
11800.00†	90.000	179.524	9675.00	2247.96	-2247.88	18.68	775427.48	533562.99	32°27'52.345"N	103°34'27.599"W	0.00	
11900.00†	90.000	179.524	9675.00	2347.96	-2347.88	19.52	775428.32	533462.99	32°27'51.356"N	103°34'27.597"W	0.00	
12000.00†	90.000	179.524	9675.00	2447.96	-2447.87	20.35	775429.15	533363.00	32°27'50.366"N	103°34'27.596"W	0.00	
12100.00†	90.000	179.524	9675.00	2547.96	-2547.87	21.18	775429.98	533263.01	32°27'49.377"N	103°34'27.595"W	0.00	
12200.00†	90.000	179.524	9675.00	2647.96	-2647.87	22.01	775430.81	533163.01	32°27'48.387"N	103°34'27.593"W	0.00	
12300.00†	90.000	179.524	9675.00	2747.96	-2747.86	22.84	775431.64	533063.02	32°27'47.398"N	103°34'27.592"W	0.00	
12400.00†	90.000	179.524	9675.00	2847.96	-2847.86	23.67	775432.47	532963.03	32°27'46.408"N	103°34'27.590"W	0.00	
12500.00†	90.000	179.524	9675.00	2947.96	-2947.86	24.50	775433.30	532863.03	32°27'45.419"N	103°34'27.589"W	0.00	
12600.00†	90.000	179.524	9675.00	3047.96	-3047.85	25.33	775434.13	532763.04	32°27'44.429"N	103°34'27.588"W	0.00	
12700.00†	90.000	179.524	9675.00	3147.96	-3147.85	26.17	775434.96	532663.05	32°27'43.440"N	103°34'27.586"W	0.00	
12800.00†	90.000	179.524	9675.00	3247.96	-3247.85	27.00	775435.80	532563.05	32°27'42.450"N	103°34'27.585"W	0.00	
12900.00†	90.000	179.524	9675.00	3347.96	-3347.84	27.83	775436.63	532463.06	32°27'41.461"N	103°34'27.583"W	0.00	





# Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Lea County, NM	Well	No. 3H
Field	(Witherspoon) Sec 21, T21S, R33E	Wellbore	No. 3H PWB
Facility	Witherspoon 21 State Com		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13000.00	90.000	179.524	9675.00	3447.96	-3447.84	28.66	775437.46	532363.07	32°27'40.472"N	103°34'27.582"W	0.00	
13100.00	90.000	179.524	9675.00	3547.96	-3547.84	29.49	775438.29	532263.07	32°27'39.482"N	103°34'27.581"W	0.00	
13200.00	90.000	179.524	9675.00	3647.96	-3647.83	30.32	775439.12	532163.08	32°27'38.493"N	103°34'27.579"W	0.00	
13300.00	90.000	179.524	9675.00	3747.96	-3747.83	31.15	775439.95	532063.08	32°27'37.503"N	103°34'27.578"W	0.00	
13400.00	90.000	179.524	9675.00	3847.96	-3847.82	31.98	775440.78	531963.09	32°27'36.514"N	103°34'27.576"W	0.00	
13500.00	90.000	179.524	9675.00	3947.96	-3947.82	32.81	775441.61	531863.10	32°27'35.524"N	103°34'27.575"W	0.00	
13600.00	90.000	179.524	9675.00	4047.96	-4047.82	33.65	775442.44	531763.10	32°27'34.535"N	103°34'27.574"W	0.00	
13700.00	90.000	179.524	9675.00	4147.96	-4147.81	34.48	775443.28	531663.11	32°27'33.545"N	103°34'27.572"W	0.00	
13800.00	90.000	179.524	9675.00	4247.96	-4247.81	35.31	775444.11	531563.12	32°27'32.556"N	103°34'27.571"W	0.00	
13900.00	90.000	179.524	9675.00	4347.96	-4347.81	36.14	775444.94	531463.12	32°27'31.566"N	103°34'27.569"W	0.00	
14000.00	90.000	179.524	9675.00	4447.96	-4447.80	36.97	775445.77	531363.13	32°27'30.577"N	103°34'27.568"W	0.00	
14100.00	90.000	179.524	9675.00	4547.96	-4547.80	37.80	775446.60	531263.14	32°27'29.587"N	103°34'27.567"W	0.00	
14172.14	90.000	179.524	9675.00	4620.10	-4619.94	38.40	775447.20	531191.00	32°27'28.873"N	103°34'27.566"W	0.00	No. 3H PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No. 3H 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]
12.25in Open Hole	0.00	5200.00	5200.00	0.00	5200.00	0.00	0.00	-0.00	0.00
9.625in Casing	0.00	5200.00	5200.00	0.00	5200.00	0.00	0.00	0.00	0.00
7in Open Hole	5200.00	14172.14	8972.14	5200.00	9675.00	0.00	0.00	-4619.94	38.40
5.5in Casing	0.00	14172.14	14172.14	0.00	9675.00	0.00	0.00	-4619.94	38.40

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No. 3H PBHL	14172.14	9675.00	-4619.94	38.40	775447.20	531191.00	32°27'28.873"N	103°34'27.566"W	point

SURVEY PROGRAM - Ref Wellbore: No. 3H PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
3679.00	14172.14	NaviTrak (Standard)		No. 3H PWB