

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

Form C-102
Revised July 16, 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 30-015-38294	Pool Code 77046 56405	Pool Name HACKEBERRY Shugart; Bone Spring, NORTH
Property Code 38395	Property Name WEST SHUGART 32 STATE COM	Well Number 1
GRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3570

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	32	18 S	31 E		330	NORTH	990	WEST	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
M	32	18 S	31 E		330	SOUTH	660	WEST	EDDY
Dedicated Acres 160	Joint or Infill	Consolidation Code P	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°42'36.929" Long - W 103°53'49.155" NMSPCE- N 622399.5 E 675547.0 (NAD-83) E0-6947-0002 E0-6947-0010 V0-5221-0001 E0-6947-0002 PROPOSED BOTTOM HOLE LOCATION Lat - N 32°41'51.209" Long - W 103°53'52.919" NMSPCE- N 617777.64 E 675244.37 (NAD-83)	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> 11/23/2010 Signature Date Natalie Krueger Printed Name Regulatory 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. SEPTEMBER 20, 2010 Date Surveyed <i>[Signature]</i> Signature & Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977 BASIN SURVEYS 23367
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Cimarex Energy Co.

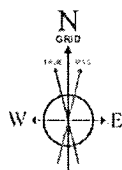
Location: Eddy County, NM
Field: (West Shugart) Sec 32, T18S, R31E
Facility: West Shugart 32 State Com No. 1

Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H PWB

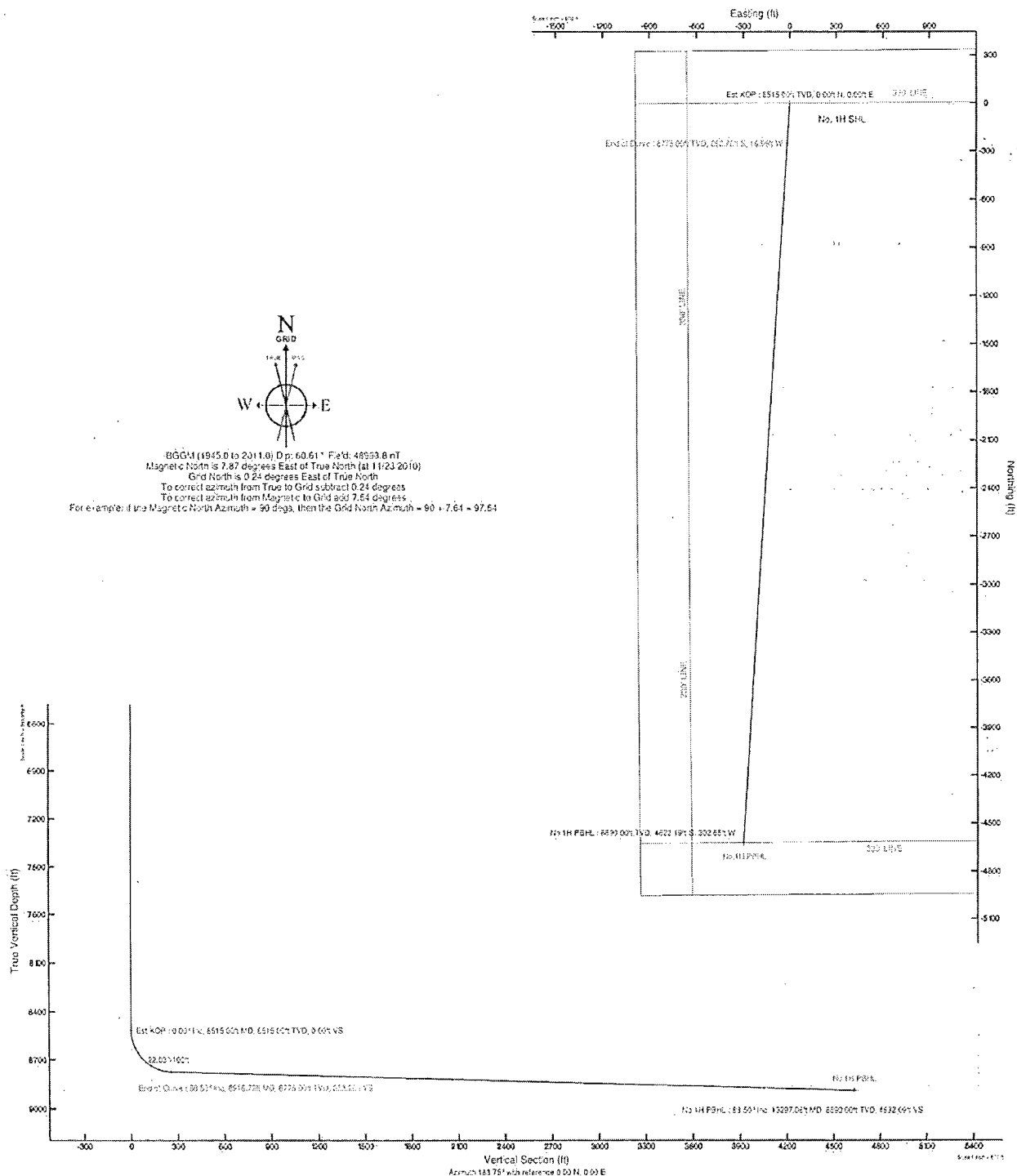


Well Profile Data								
Design Comment	MD (ft)	BSF (ft)	2" x 2"	TVD (ft)	Local H (ft)	Local E (ft)	BSF (ft)	VS (ft)
Top Of	0.00	0.00	143.715	0.00	0.00	0.00	0.00	0.00
Est KOP	2515.76	0.00	143.715	6515.00	0.00	0.00	0.00	0.00
End of Curve	8616.72	53.425	143.745	6776.00	-232.72	-16.85	23.03	679.24
CDP	2315.71	55.158	143.745	6776.00	-232.72	-16.85	5.00	253.23
No. 1H PWB	13297.00	0.00	143.745	6813.00	152.19	-382.65	0.00	4032.60

Plot reference wellbore Profile 1		Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (3500), US feet	
True vertical depth is referenced to Region No. 1H SHL (RT)		North Reference: Grid north	
Measured depth is referenced to Region No. 1H SHL (RT)		Scale: True distance	
Region No. 1H SHL (RT) to Mean Sea Level: 3576 feet		Depths are in feet	
Mean Sea Level to Mud line (Facility West Shugart 32 State Com No. 1): -3576 feet		Created by: gdmccormack on 11/24/2010	
Coordinates are in feet referenced to Slot			



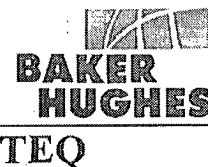
BGGM (1945.0 to 2011.0) Dip: 60.61° Field: 48593.8 nT
Magnetic North is 7.87 degrees East of True North (at 11/23/2010)
Grid North is 0.24 degrees East of True North
To correct azimuth from True to Grid subtract 0.24 degrees
To correct azimuth from Magnetic to Grid add 7.84 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.84 = 97.84





Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(West Shugart) Sec 32, T18S, R31E	Wellbore	No. 1H PWB
Facility	West Shugart 32 State Com No.1		

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	0.99993	Report Generated	11/23/2010 at 9:57:42 AM
Convergence at slot	0.24° East	Database/Source file	WA Midland/No. 1H_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	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W
Facility Reference Pt			675547.00	622399.50	32°42'36.930"N	103°53'49.155"W
Field Reference Pt			675547.00	622399.50	32°42'36.930"N	103°53'49.155"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1H SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 1H SHL (RT) to Mean Sea Level	3570.00ft
Vertical Reference Pt	Rig on No. 1H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	183.75°



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(West Shugart) Sec 32, T18S, R31E	Wellbore	No. 1H PWB
Facility	West Shugart 32 State Com No.1		

WELLPATH DATA (140 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	183.746	0.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	Tie On
100.00†	0.000	183.746	100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
200.00†	0.000	183.746	200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
300.00†	0.000	183.746	300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
400.00†	0.000	183.746	400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
500.00†	0.000	183.746	500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
600.00†	0.000	183.746	600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
700.00†	0.000	183.746	700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
800.00†	0.000	183.746	800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
900.00†	0.000	183.746	900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1000.00†	0.000	183.746	1000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1100.00†	0.000	183.746	1100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1200.00†	0.000	183.746	1200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1300.00†	0.000	183.746	1300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1400.00†	0.000	183.746	1400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1500.00†	0.000	183.746	1500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1600.00†	0.000	183.746	1600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1700.00†	0.000	183.746	1700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1800.00†	0.000	183.746	1800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
1900.00†	0.000	183.746	1900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2000.00†	0.000	183.746	2000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2100.00†	0.000	183.746	2100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2200.00†	0.000	183.746	2200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2300.00†	0.000	183.746	2300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2400.00†	0.000	183.746	2400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2500.00†	0.000	183.746	2500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2600.00†	0.000	183.746	2600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2700.00†	0.000	183.746	2700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2800.00†	0.000	183.746	2800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
2900.00†	0.000	183.746	2900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3000.00†	0.000	183.746	3000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3100.00†	0.000	183.746	3100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3200.00†	0.000	183.746	3200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3300.00†	0.000	183.746	3300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3400.00†	0.000	183.746	3400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3500.00†	0.000	183.746	3500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3600.00†	0.000	183.746	3600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3700.00†	0.000	183.746	3700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3800.00†	0.000	183.746	3800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
3900.00†	0.000	183.746	3900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4000.00†	0.000	183.746	4000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4100.00†	0.000	183.746	4100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4200.00†	0.000	183.746	4200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4300.00†	0.000	183.746	4300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4400.00†	0.000	183.746	4400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(West Shugart) Sec 32, T18S, R31E	Wellbore	No. 1H PWB
Facility	West Shugart 32 State Com No.1		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station

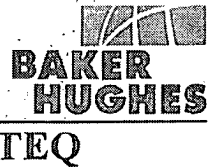
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [%/100ft]	Comments
4500.00†	0.000	183.746	4500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4600.00†	0.000	183.746	4600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4700.00†	0.000	183.746	4700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4800.00†	0.000	183.746	4800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
4900.00†	0.000	183.746	4900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5000.00†	0.000	183.746	5000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5100.00†	0.000	183.746	5100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5200.00†	0.000	183.746	5200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5300.00†	0.000	183.746	5300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5400.00†	0.000	183.746	5400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5500.00†	0.000	183.746	5500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5600.00†	0.000	183.746	5600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5700.00†	0.000	183.746	5700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5800.00†	0.000	183.746	5800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
5900.00†	0.000	183.746	5900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6000.00†	0.000	183.746	6000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6060.00†	0.000	183.746	6060.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	Bone Spring
6100.00†	0.000	183.746	6100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6200.00†	0.000	183.746	6200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6300.00†	0.000	183.746	6300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6400.00†	0.000	183.746	6400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6500.00†	0.000	183.746	6500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6600.00†	0.000	183.746	6600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6700.00†	0.000	183.746	6700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6800.00†	0.000	183.746	6800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
6900.00†	0.000	183.746	6900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7000.00†	0.000	183.746	7000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7100.00†	0.000	183.746	7100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7200.00†	0.000	183.746	7200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7300.00†	0.000	183.746	7300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7400.00†	0.000	183.746	7400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7500.00†	0.000	183.746	7500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7600.00†	0.000	183.746	7600.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7663.00†	0.000	183.746	7663.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	1st BSS
7700.00†	0.000	183.746	7700.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7800.00†	0.000	183.746	7800.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
7900.00†	0.000	183.746	7900.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8000.00†	0.000	183.746	8000.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8100.00†	0.000	183.746	8100.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8200.00†	0.000	183.746	8200.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8300.00†	0.000	183.746	8300.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8400.00†	0.000	183.746	8400.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8460.00†	0.000	183.746	8460.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	2nd BSS
8500.00†	0.000	183.746	8500.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	
8515.00	0.000	183.746	8515.00	0.00	0.00	0.00	675547.00	622399.50	32°42'36.930"N	103°53'49.155"W	0.00	Est KOP



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(West Shugart) Sec 32, T18S, R31E	Wellbore	No. 1H PWB
Facility	West Shugart 32 State Com No.1		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [serv ft]	Grid North [serv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8600.00†	18.725	183.746	8598.49	13.77	-13.74	-0.90	675546.10	622385.76	32°42'36.794"N	103°53'49.166"W	22.03	
8700.00†	40.754	183.746	8684.79	63.07	-62.93	-4.12	675542.88	622336.57	32°42'36.307"N	103°53'49.206"W	22.03	
8800.00†	62.783	183.746	8746.29	141.14	-140.83	-9.22	675537.78	622258.68	32°42'35.537"N	103°53'49.269"W	22.03	
8900.00†	84.813	183.746	8774.02	236.57	-236.07	-15.46	675531.54	622163.45	32°42'34.594"N	103°53'49.347"W	22.03	
8916.72†	88.496	183.746	8775.00	253.26	-252.72	-16.55	675530.45	622146.80	32°42'34.430"N	103°53'49.360"W	22.03	End of Curve
8916.74	88.496	183.746	8775.00	253.29	-252.75	-16.55	675530.45	622146.77	32°42'34.430"N	103°53'49.361"W	2.00	EOD
9000.00†	88.496	183.746	8777.19	336.51	-335.79	-21.99	675525.02	622063.73	32°42'33.608"N	103°53'49.428"W	0.00	
9100.00†	88.496	183.746	8779.81	436.48	-435.55	-28.52	675518.48	621963.98	32°42'32.621"N	103°53'49.509"W	0.00	
9200.00†	88.496	183.746	8782.44	536.44	-535.30	-35.05	675511.95	621864.24	32°42'31.635"N	103°53'49.591"W	0.00	
9300.00†	88.496	183.746	8785.06	636.41	-635.05	-41.58	675505.42	621764.50	32°42'30.648"N	103°53'49.672"W	0.00	
9400.00†	88.496	183.746	8787.69	736.38	-734.80	-48.11	675498.89	621664.75	32°42'29.661"N	103°53'49.753"W	0.00	
9500.00†	88.496	183.746	8790.31	836.34	-834.55	-54.64	675492.36	621565.01	32°42'28.674"N	103°53'49.834"W	0.00	
9600.00†	88.496	183.746	8792.94	936.31	-934.31	-61.18	675485.83	621465.26	32°42'27.688"N	103°53'49.916"W	0.00	
9700.00†	88.496	183.746	8795.56	1036.27	-1034.06	-67.71	675479.30	621365.52	32°42'26.701"N	103°53'49.997"W	0.00	
9800.00†	88.496	183.746	8798.19	1136.24	-1133.81	-74.24	675472.77	621265.77	32°42'25.714"N	103°53'50.078"W	0.00	
9900.00†	88.496	183.746	8800.81	1236.20	-1233.56	-80.77	675466.24	621166.03	32°42'24.728"N	103°53'50.159"W	0.00	
10000.00†	88.496	183.746	8803.44	1336.17	-1333.31	-87.30	675459.70	621066.28	32°42'23.741"N	103°53'50.241"W	0.00	
10100.00†	88.496	183.746	8806.07	1436.13	-1433.07	-93.83	675453.17	620966.54	32°42'22.754"N	103°53'50.322"W	0.00	
10200.00†	88.496	183.746	8808.69	1536.10	-1532.82	-100.36	675446.64	620866.79	32°42'21.768"N	103°53'50.403"W	0.00	
10300.00†	88.496	183.746	8811.32	1636.07	-1632.57	-106.90	675440.11	620767.05	32°42'20.781"N	103°53'50.484"W	0.00	
10400.00†	88.496	183.746	8813.94	1736.03	-1732.32	-113.43	675433.58	620667.30	32°42'19.794"N	103°53'50.566"W	0.00	
10500.00†	88.496	183.746	8816.57	1836.00	-1832.07	-119.96	675427.05	620567.56	32°42'18.807"N	103°53'50.647"W	0.00	
10600.00†	88.496	183.746	8819.19	1935.96	-1931.83	-126.49	675420.52	620467.81	32°42'17.821"N	103°53'50.728"W	0.00	
10700.00†	88.496	183.746	8821.82	2035.93	-2031.58	-133.02	675413.99	620368.07	32°42'16.834"N	103°53'50.809"W	0.00	
10800.00†	88.496	183.746	8824.44	2135.89	-2131.33	-139.55	675407.46	620268.32	32°42'15.847"N	103°53'50.890"W	0.00	
10900.00†	88.496	183.746	8827.07	2235.86	-2231.08	-146.09	675400.92	620168.58	32°42'14.861"N	103°53'50.972"W	0.00	
11000.00†	88.496	183.746	8829.69	2335.82	-2330.83	-152.62	675394.39	620068.84	32°42'13.874"N	103°53'51.053"W	0.00	
11100.00†	88.496	183.746	8832.32	2435.79	-2430.59	-159.15	675387.86	619969.09	32°42'12.887"N	103°53'51.134"W	0.00	
11200.00†	88.496	183.746	8834.94	2535.76	-2530.34	-165.68	675381.33	619869.35	32°42'11.900"N	103°53'51.215"W	0.00	
11300.00†	88.496	183.746	8837.57	2635.72	-2630.09	-172.21	675374.80	619769.60	32°42'10.914"N	103°53'51.297"W	0.00	
11400.00†	88.496	183.746	8840.20	2735.69	-2729.84	-178.74	675368.27	619669.86	32°42'09.927"N	103°53'51.378"W	0.00	
11500.00†	88.496	183.746	8842.82	2835.65	-2829.59	-185.28	675361.74	619570.11	32°42'08.940"N	103°53'51.459"W	0.00	
11600.00†	88.496	183.746	8845.45	2935.62	-2929.34	-191.81	675355.21	619470.37	32°42'07.954"N	103°53'51.540"W	0.00	
11700.00†	88.496	183.746	8848.07	3035.58	-3029.10	-198.34	675348.68	619370.62	32°42'06.967"N	103°53'51.622"W	0.00	
11800.00†	88.496	183.746	8850.70	3135.55	-3128.85	-204.87	675342.14	619270.88	32°42'05.980"N	103°53'51.703"W	0.00	
11900.00†	88.496	183.746	8853.32	3235.51	-3228.60	-211.40	675335.61	619171.13	32°42'04.993"N	103°53'51.784"W	0.00	
12000.00†	88.496	183.746	8855.95	3335.48	-3328.35	-217.93	675329.08	619071.39	32°42'04.007"N	103°53'51.865"W	0.00	
12100.00†	88.496	183.746	8858.57	3435.45	-3428.10	-224.46	675322.55	618971.64	32°42'03.020"N	103°53'51.946"W	0.00	
12200.00†	88.496	183.746	8861.20	3535.41	-3527.86	-231.00	675316.02	618871.90	32°42'02.033"N	103°53'52.028"W	0.00	
12300.00†	88.496	183.746	8863.82	3635.38	-3627.61	-237.53	675309.49	618772.15	32°42'01.047"N	103°53'52.109"W	0.00	
12400.00†	88.496	183.746	8866.45	3735.34	-3727.36	-244.06	675302.96	618672.41	32°42'00.060"N	103°53'52.190"W	0.00	
12500.00†	88.496	183.746	8869.07	3835.31	-3827.11	-250.59	675296.43	618572.66	32°41'59.073"N	103°53'52.271"W	0.00	
12600.00†	88.496	183.746	8871.70	3935.27	-3926.86	-257.12	675289.90	618472.92	32°41'58.086"N	103°53'52.353"W	0.00	
12700.00†	88.496	183.746	8874.32	4035.24	-4026.62	-263.65	675283.36	618373.18	32°41'57.100"N	103°53'52.434"W	0.00	
12800.00†	88.496	183.746	8876.95	4135.20	-4126.37	-270.19	675276.83	618273.43	32°41'56.113"N	103°53'52.515"W	0.00	



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(West Shugart) Sec 32, T18S, R31E	Wellbore	No. 1H PWB
Facility	West Shugart 32 State Com No.1		

WELLPATH DATA (140 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
12900.00†	88.496	183.746	8879.58	4235.17	-4226.12	-276.72	675270.30	618173.69	32°41'55.126"N	103°53'52.596"W	0.00	
13000.00†	88.496	183.746	8882.20	4335.14	-4325.87	-283.25	675263.77	618073.94	32°41'54.140"N	103°53'52.677"W	0.00	
13100.00†	88.496	183.746	8884.83	4435.10	-4425.62	-289.78	675257.24	617974.20	32°41'53.153"N	103°53'52.759"W	0.00	
13200.00†	88.496	183.746	8887.45	4535.07	-4525.38	-296.31	675250.71	617874.45	32°41'52.166"N	103°53'52.840"W	0.00	
13297.06	88.496	183.746	8890.00†	4632.09	-4622.19	-302.65	675244.37	617777.64	32°41'51.208"N	103°53'52.919"W	0.00	No. 1H PBHL

HOLE & CASING SECTIONS Ref Wellbore: No. 1H 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]
9.625in Casing	0.00	4200.00	4200.00	0.00	4200.00	0.00	0.00	0.00	0.00
8.75in Open Hole	4200.00	13297.06	9097.06	4200.00	NA	0.00	0.00	NA	NA

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1H PBHL	13297.06	8890.00	-4622.19	-302.65	675244.37	617777.64	32°41'51.208"N	103°53'52.919"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13297.06	NaviTrak (Standard)		No. 1H PWB

Mud, Casing, Cementing, and BOP Attachment
West Shugart 32 State Com No. 1
Cimarex Energy Co. of Colorado
Unit D, Section 32
T18S-R31E, 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 330 FNL & 990 FWL
BHL 330 FSL & 660 FWL

Elevation above sea level: 3305' GR

Proposed drilling depth: MD 12193' TVD 7810'

Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 550'	8.4 - 8.6	28	NC	FW
0' to 4200'	10.0	30-32	NC	Brine water
0' to 13297'	8.4 - 9.5	30-32	NC	FW, brine

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.

Proposed drilling Plan

Drill 8.75" to pilot hole TD @ 9000 and log. Set 270 sx cmt plug to 8455 and dress off. Kick off 8.75" lateral @ 8515 and drill to TD @ 13297 MD, 8890 TVD. Run 5.5" casing and cement.

Mud, Casing, Cementing, and BOP Attachment
West Shugart 32 State Com No. 1
 Cimarex Energy Co. of Colorado
 Unit O, Section 15
 T19S-R29E, Eddy County, NM

Casing & Cementing Plan:

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
<i>Surface</i>	17½"	0'	to	550'	New	13⅝"	48#	STC	H-40
<i>Intermediate</i>	12¼"	0'	to	4200'	New	9⅝"	40#	LTC	J/K-55
<i>Production</i>	8¾"	0'	to	13297'	New	5½"	17#	LTC	L-80

Cementing Plan:

Surface 620 sk Premium Plus + 2% CaCl 14.8 ppg 1.35 yld
TOC Surface

Intermediate Lead: 680 sks EconoCem + 2% Cacl + 3% salt + 3 lbm gilsonite 2.06 ft3/sk 12.5 ppg
 Tail: 215 sks HalCem + 1% CaCl 1.34 ft3/sk 14.8 ppg
TOC Surface

Production Lead: 1200 sks 11.9 ppg EconoCem-H with 25% HR-601, & 14.01 gal/sk water - yield 2.44 ft3/sk
 Tail: 1250 sks 14.5 ppg VersaCem-H with 0.5% Halad(R)-344, 0.4% CFR-3, 1lbm salt, 0.1% HR-601, & 5.37 gal/sk water - yield 1.22 ft3/sk
TOC 4000'

Fresh water zones will be protected by setting 13⅝" casing at 550' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 4200' and cementing to surface, and by setting 5½" casing at 13297' and cementing to 4000'.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

Pressure control Equipment:

Exhibit "E". A 13⅝" 5000 PSI working pressure BOP tested to 3000 psi consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the 13⅝" casing through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.