



30-025-39991

Cimarex Energy Co.

Lea County (NAD 83)

Sec 16 - T18S - R32E

Young 16 State #1

Wellbore #1

Plan: Plan #1

Standard Planning Report

22 December, 2010



Great White Directional Services

Planning Report

Database: EDM 5000.1 Single User Db
 Company: Cimarex Energy Co.
 Project: Lea County (NAD 83)
 Site: Sec 16 - T18S - R32E
 Well: Young 16 State #1
 Wellbore: Wellbore #1
 Design: Plan #1

Local Co-ordinate Reference: Well Young 16 State #1
 TVD Reference: WELL @ 0.0usft (Original Well Elev)
 MD Reference: WELL @ 0.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County (NAD 83)		
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 16 - T18S - R32E		
Site Position:	From:	Map	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
	Northing:	633,828.50 usft	Latitude: 32° 44' 28.249 N
	Easting:	713,586.20 usft	Longitude: 103° 46' 23.237 W
			Grid Convergence: 0.30 °

Well	Young 16 State #1		
Well Position	+N/-S	0.0 usft	Northing: 633,828.50 usft
	+E/-W	0.0 usft	Easting: 713,586.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 0.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	12/22/10	7.77
			Dip Angle (°)
			60.66
			Field Strength (nT)
			49,014

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			358.32

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,413.5	0.00	0.00	8,413.5	0.0	0.0	0.00	0.00	0.00	0.00	
8,863.5	90.00	358.32	8,700.0	266.4	-8.4	20.00	20.00	0.00	358.32	
13,198.9	90.00	358.32	8,700.0	4,619.9	-135.5	0.00	0.00	0.00	0.00	Young #1 PBHL



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 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,413.5	0.00	0.00	8,413.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP 20°/100 DLS @ 358.32° AZI									
8,425.0	2.30	358.32	8,425.0	0.2	0.0	0.2	20.00	20.00	0.00
8,450.0	7.30	358.32	8,449.9	2.3	-0.1	2.3	20.00	20.00	0.00
8,475.0	12.30	358.32	8,474.5	6.6	-0.2	6.6	20.00	20.00	0.00
8,500.0	17.30	358.32	8,498.7	13.0	-0.4	13.0	20.00	20.00	0.00
8,525.0	22.30	358.32	8,522.2	21.4	-0.6	21.4	20.00	20.00	0.00
8,550.0	27.30	358.32	8,544.9	31.9	-0.9	31.9	20.00	20.00	0.00
8,575.0	32.30	358.32	8,566.6	44.3	-1.3	44.3	20.00	20.00	0.00
8,600.0	37.30	358.32	8,587.1	58.6	-1.7	58.6	20.00	20.00	0.00
8,625.0	42.30	358.32	8,606.3	74.6	-2.2	74.6	20.00	20.00	0.00
8,650.0	47.30	358.32	8,624.0	92.2	-2.7	92.2	20.00	20.00	0.00
8,675.0	52.30	358.32	8,640.2	111.2	-3.3	111.3	20.00	20.00	0.00
8,700.0	57.30	358.32	8,654.6	131.7	-3.9	131.7	20.00	20.00	0.00
8,725.0	62.30	358.32	8,667.1	153.2	-4.5	153.3	20.00	20.00	0.00
8,750.0	67.30	358.32	8,677.8	175.8	-5.2	175.9	20.00	20.00	0.00
8,775.0	72.30	358.32	8,686.4	199.3	-5.8	199.4	20.00	20.00	0.00
8,800.0	77.30	358.32	8,693.0	223.4	-6.6	223.5	20.00	20.00	0.00
8,825.0	82.30	358.32	8,697.4	248.0	-7.3	248.1	20.00	20.00	0.00
8,850.0	87.30	358.32	8,699.7	272.9	-8.0	273.0	20.00	20.00	0.00
8,863.5	90.00	358.32	8,700.0	286.4	-8.4	286.5	20.00	20.00	0.00
EOC - Hold to TD									
8,900.0	90.00	358.32	8,700.0	322.8	-9.5	323.0	0.00	0.00	0.00
9,000.0	90.00	358.32	8,700.0	422.8	-12.4	423.0	0.00	0.00	0.00
9,100.0	90.00	358.32	8,700.0	522.8	-15.3	523.0	0.00	0.00	0.00
9,200.0	90.00	358.32	8,700.0	622.7	-18.3	623.0	0.00	0.00	0.00
9,300.0	90.00	358.32	8,700.0	722.7	-21.2	723.0	0.00	0.00	0.00
9,400.0	90.00	358.32	8,700.0	822.6	-24.1	823.0	0.00	0.00	0.00
9,500.0	90.00	358.32	8,700.0	922.6	-27.1	923.0	0.00	0.00	0.00
9,600.0	90.00	358.32	8,700.0	1,022.5	-30.0	1,023.0	0.00	0.00	0.00
9,700.0	90.00	358.32	8,700.0	1,122.5	-32.9	1,123.0	0.00	0.00	0.00
9,800.0	90.00	358.32	8,700.0	1,222.5	-35.9	1,223.0	0.00	0.00	0.00
9,900.0	90.00	358.32	8,700.0	1,322.4	-38.8	1,323.0	0.00	0.00	0.00
10,000.0	90.00	358.32	8,700.0	1,422.4	-41.7	1,423.0	0.00	0.00	0.00
10,100.0	90.00	358.32	8,700.0	1,522.3	-44.6	1,523.0	0.00	0.00	0.00
10,200.0	90.00	358.32	8,700.0	1,622.3	-47.6	1,623.0	0.00	0.00	0.00
10,300.0	90.00	358.32	8,700.0	1,722.2	-50.5	1,723.0	0.00	0.00	0.00
10,400.0	90.00	358.32	8,700.0	1,822.2	-53.4	1,823.0	0.00	0.00	0.00
10,500.0	90.00	358.32	8,700.0	1,922.2	-56.4	1,923.0	0.00	0.00	0.00
10,600.0	90.00	358.32	8,700.0	2,022.1	-59.3	2,023.0	0.00	0.00	0.00
10,700.0	90.00	358.32	8,700.0	2,122.1	-62.2	2,123.0	0.00	0.00	0.00
10,800.0	90.00	358.32	8,700.0	2,222.0	-65.2	2,223.0	0.00	0.00	0.00
10,900.0	90.00	358.32	8,700.0	2,322.0	-68.1	2,323.0	0.00	0.00	0.00
11,000.0	90.00	358.32	8,700.0	2,421.9	-71.0	2,423.0	0.00	0.00	0.00
11,100.0	90.00	358.32	8,700.0	2,521.9	-74.0	2,523.0	0.00	0.00	0.00
11,200.0	90.00	358.32	8,700.0	2,621.9	-76.9	2,623.0	0.00	0.00	0.00
11,300.0	90.00	358.32	8,700.0	2,721.8	-79.8	2,723.0	0.00	0.00	0.00
11,400.0	90.00	358.32	8,700.0	2,821.8	-82.8	2,823.0	0.00	0.00	0.00
11,500.0	90.00	358.32	8,700.0	2,921.7	-85.7	2,923.0	0.00	0.00	0.00
11,600.0	90.00	358.32	8,700.0	3,021.7	-88.6	3,023.0	0.00	0.00	0.00
11,700.0	90.00	358.32	8,700.0	3,121.6	-91.6	3,123.0	0.00	0.00	0.00
11,800.0	90.00	358.32	8,700.0	3,221.6	-94.5	3,223.0	0.00	0.00	0.00
11,900.0	90.00	358.32	8,700.0	3,321.6	-97.4	3,323.0	0.00	0.00	0.00
12,000.0	90.00	358.32	8,700.0	3,421.5	-100.4	3,423.0	0.00	0.00	0.00



Great White Directional Services

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 TVD Reference: WELL @ 0.0usft (Original Well Elev)
 MD Reference: WELL @ 0.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,100.0	90.00	358.32	8,700.0	3,521.5	-103.3	3,523.0	0.00	0.00	0.00	
12,200.0	90.00	358.32	8,700.0	3,621.4	-106.2	3,623.0	0.00	0.00	0.00	
12,300.0	90.00	358.32	8,700.0	3,721.4	-109.1	3,723.0	0.00	0.00	0.00	
12,400.0	90.00	358.32	8,700.0	3,821.3	-112.1	3,823.0	0.00	0.00	0.00	
12,500.0	90.00	358.32	8,700.0	3,921.3	-115.0	3,923.0	0.00	0.00	0.00	
12,600.0	90.00	358.32	8,700.0	4,021.2	-117.9	4,023.0	0.00	0.00	0.00	
12,700.0	90.00	358.32	8,700.0	4,121.2	-120.9	4,123.0	0.00	0.00	0.00	
12,800.0	90.00	358.32	8,700.0	4,221.2	-123.8	4,223.0	0.00	0.00	0.00	
12,900.0	90.00	358.32	8,700.0	4,321.1	-126.7	4,323.0	0.00	0.00	0.00	
13,000.0	90.00	358.32	8,700.0	4,421.1	-129.7	4,423.0	0.00	0.00	0.00	
13,100.0	90.00	358.32	8,700.0	4,521.0	-132.6	4,523.0	0.00	0.00	0.00	
13,198.9	90.00	358.32	8,700.0	4,619.9	-135.5	4,621.9	0.00	0.00	0.00	
TD at 13198.9 - Young #1 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Young #1 PBHL	0.00	0.00	8,700.0	4,619.9	-135.6	638,448.42	713,450.59	32° 45' 13.969 N	103° 46' 24.539 W
- plan misses target center by 0.1usft at 13198.9usft MD (8700.0 TVD, 4619.9 N, -135.5 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,413.5	8,413.5	0.0	0.0	KOP 20°/100 DLS @ 358.32° AZI
8,863.5	8,700.0	286.4	-8.4	EOC - Hold to TD
13,198.9	8,700.0	4,619.9	-135.5	TD at 13198.9



Cimarex Energy Co.
Project: Lea County (NAD 83)
Site: Sec 16 - T18S - R32E
Well: Young 16 State #1
Wellbore: Wellbore #1

WELL DETAILS: Young 16 State #1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	633828.50	713586.20	32° 44' 28.249 N	103° 46' 23.237 W
SHL: 330' FSL / 2080' FWL					
BHL: 330' FNL / 1980' FWL					



Great White
DIRECTIONAL SERVICES, L.L.C.

Compass rose showing True (T), Grid (G), and Magnetic (M) North.

Azimuths to Grid North
Total Correction: 7.46"

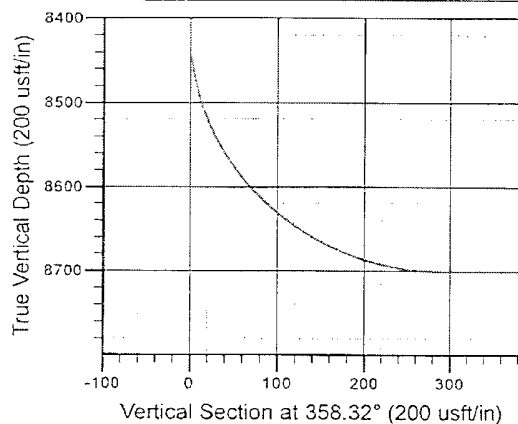
Magnetic Field
Strength: 49013.85nT
Dip Angle: 60.66°
Date: 12/22/2010
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Young #1 PBHL	8700.0	4619.9	-135.6	32° 45' 13.969 N	103° 46' 24.539 W

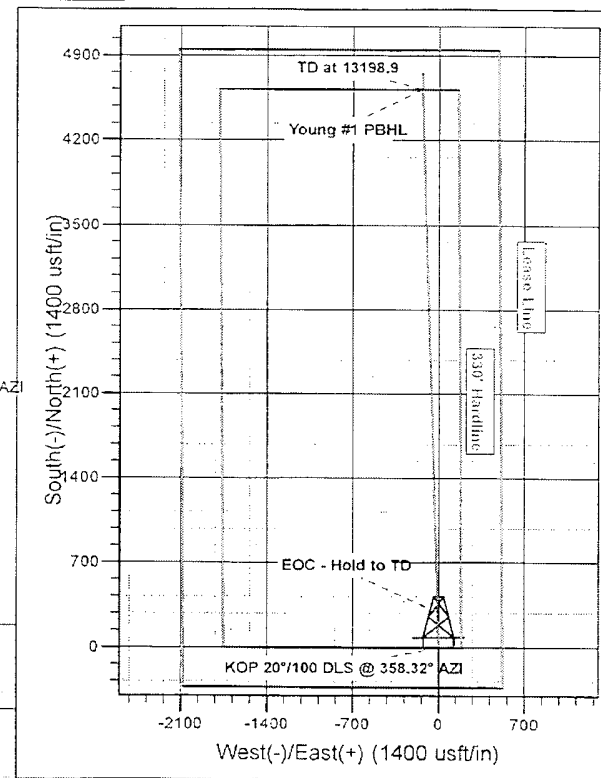
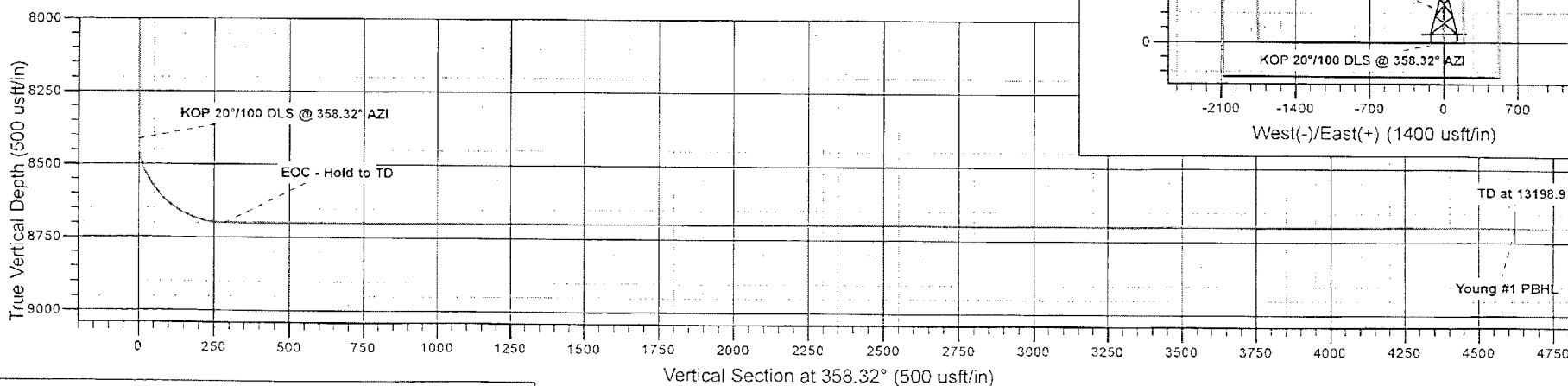
SECTION DETAILS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
8413.5	8413.5	0.00	0.00	0.0	0.0	0.0	0.0	KOP 20°/100 DLS @ 358.32° AZI
8700.0	8863.5	90.00	358.32	286.4	-8.4	286.5	286.5	EOC - Hold to TD
8700.0	13198.9	90.00	358.32	4619.9	-135.5	4621.9	4621.9	TD at 13198.9



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
8413.5	8413.5	0.00	0.00	0.0	0.0	0.0	0.0	KOP 20°/100 DLS @ 358.32° AZI
8700.0	8863.5	90.00	358.32	286.4	-8.4	286.5	286.5	EOC - Hold to TD
8700.0	13198.9	90.00	358.32	4619.9	-135.5	4621.9	4621.9	TD at 13198.9



Plan: Plan #1 (Young 16 State #1/Wellbore #1)

Created By: Aaron Pullin Date: 13:15, December 22 2010