



Cimarex Energy Co.

Lea County (NAD 83)

Sec 32 - T19S - 34E

Quail Ridge 32 State #3

Wellbore #1

Plan: Plan #1

Standard Planning Report

08 February, 2011



Great White Directional Services Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Quail Ridge 32 State #3
Company:	Cimarex Energy Co.	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County (NAD 83)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 32 - T19S - 34E	North Reference:	Grid
Well:	Quail Ridge 32 State #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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 32 - T19S - 34E		
Site Position:	From: Map	Northing:	587,927.10 usft
		Easting:	774,883.50 usft
		Latitude:	32° 36' 50.300 N
		Longitude:	103° 34' 29.430 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Grid Convergence:	0.41 "

Well:	Quail Ridge 32 State #3		
Well Position:	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
			Latitude:
			Longitude:
Position Uncertainty:	0.0 usft	Wellhead Elevation:	Ground Level:

Wellbore:	Wellbore #1		
Magnetics:	Model Name	Sample Date	Declination
			(°)
	IGRF200510	02/08/11	7.65
			Dip Angle
			(°)
			60.58
			Field Strength
			(nT)
			48.946

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
			(°)
			273.53

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	
10,529.5	0.00	0.00	10,529.5	0.0	0.0	0.00	0.00	0.00	0.00	
10,979.5	90.00	273.53	10,816.0	17.6	-285.9	20.00	20.00	0.00	273.53	
15,321.2	90.00	273.53	10,816.0	285.0	-4,619.4	0.00	0.00	0.00	0.00	Quail #3 PBHL



Great White Directional Services Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: Quail Ridge 32 State #3
Company:	Cimarex Energy Co.	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County (NAD 83)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 32 - T19S - 34E	North Reference:	Grid
Well:	Quail Ridge 32 State #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
10,529.5	0.00	0.00	10,529.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP 20°/100 DLS @ 273.53° AZI									
10,550.0	4.10	273.53	10,550.0	0.0	-0.7	0.7	20.00	20.00	0.00
10,575.0	9.10	273.53	10,574.8	0.2	-3.6	3.6	20.00	20.00	0.00
10,600.0	14.10	273.53	10,599.3	0.5	-8.6	8.6	20.00	20.00	0.00
10,625.0	19.10	273.53	10,623.2	1.0	-15.7	15.8	20.00	20.00	0.00
10,650.0	24.10	273.53	10,646.5	1.5	-24.9	25.0	20.00	20.00	0.00
10,675.0	29.10	273.53	10,668.8	2.2	-36.1	36.2	20.00	20.00	0.00
10,700.0	34.10	273.53	10,690.1	3.0	-49.2	49.3	20.00	20.00	0.00
10,725.0	39.10	273.53	10,710.2	4.0	-64.0	64.2	20.00	20.00	0.00
10,750.0	44.10	273.53	10,728.9	5.0	-80.6	80.8	20.00	20.00	0.00
10,775.0	49.10	273.53	10,746.0	6.1	-98.7	98.9	20.00	20.00	0.00
10,800.0	54.10	273.53	10,761.6	7.3	-118.3	118.5	20.00	20.00	0.00
10,825.0	59.10	273.53	10,775.3	8.6	-139.1	139.4	20.00	20.00	0.00
10,850.0	64.10	273.53	10,787.2	9.9	-161.0	161.3	20.00	20.00	0.00
10,875.0	69.10	273.53	10,797.1	11.3	-183.9	184.3	20.00	20.00	0.00
10,900.0	74.10	273.53	10,805.0	12.8	-207.6	208.0	20.00	20.00	0.00
10,925.0	79.10	273.53	10,810.8	14.3	-231.9	232.3	20.00	20.00	0.00
10,950.0	84.10	273.53	10,814.5	15.8	-256.5	257.0	20.00	20.00	0.00
10,975.0	89.10	273.53	10,815.9	17.4	-281.4	282.0	20.00	20.00	0.00
10,979.5	90.00	273.53	10,816.0	17.6	-285.9	286.5	20.00	20.00	0.00
EOC - Hold to TD									
11,000.0	90.00	273.53	10,816.0	18.9	-306.4	307.0	0.00	0.00	0.00
11,100.0	90.00	273.53	10,816.0	25.1	-406.2	407.0	0.00	0.00	0.00
11,200.0	90.00	273.53	10,816.0	31.2	-506.0	507.0	0.00	0.00	0.00
11,300.0	90.00	273.53	10,816.0	37.4	-605.8	607.0	0.00	0.00	0.00
11,400.0	90.00	273.53	10,816.0	43.5	-705.6	707.0	0.00	0.00	0.00
11,500.0	90.00	273.53	10,816.0	49.7	-805.4	807.0	0.00	0.00	0.00
11,600.0	90.00	273.53	10,816.0	55.8	-905.3	907.0	0.00	0.00	0.00
11,700.0	90.00	273.53	10,816.0	62.0	-1,005.1	1,007.0	0.00	0.00	0.00
11,800.0	90.00	273.53	10,816.0	68.2	-1,104.9	1,107.0	0.00	0.00	0.00
11,900.0	90.00	273.53	10,816.0	74.3	-1,204.7	1,207.0	0.00	0.00	0.00
12,000.0	90.00	273.53	10,816.0	80.5	-1,304.5	1,307.0	0.00	0.00	0.00
12,100.0	90.00	273.53	10,816.0	86.6	-1,404.3	1,407.0	0.00	0.00	0.00
12,200.0	90.00	273.53	10,816.0	92.8	-1,504.1	1,507.0	0.00	0.00	0.00
12,300.0	90.00	273.53	10,816.0	98.9	-1,603.9	1,607.0	0.00	0.00	0.00
12,400.0	90.00	273.53	10,816.0	105.1	-1,703.7	1,707.0	0.00	0.00	0.00
12,500.0	90.00	273.53	10,816.0	111.3	-1,803.6	1,807.0	0.00	0.00	0.00
12,600.0	90.00	273.53	10,816.0	117.4	-1,903.4	1,907.0	0.00	0.00	0.00
12,700.0	90.00	273.53	10,816.0	123.6	-2,003.2	2,007.0	0.00	0.00	0.00
12,800.0	90.00	273.53	10,816.0	129.7	-2,103.0	2,107.0	0.00	0.00	0.00
12,900.0	90.00	273.53	10,816.0	135.9	-2,202.8	2,207.0	0.00	0.00	0.00
13,000.0	90.00	273.53	10,816.0	142.0	-2,302.6	2,307.0	0.00	0.00	0.00
13,100.0	90.00	273.53	10,816.0	148.2	-2,402.4	2,407.0	0.00	0.00	0.00
13,200.0	90.00	273.53	10,816.0	154.4	-2,502.2	2,507.0	0.00	0.00	0.00
13,300.0	90.00	273.53	10,816.0	160.5	-2,602.0	2,607.0	0.00	0.00	0.00
13,400.0	90.00	273.53	10,816.0	166.7	-2,701.8	2,707.0	0.00	0.00	0.00
13,500.0	90.00	273.53	10,816.0	172.8	-2,801.7	2,807.0	0.00	0.00	0.00
13,600.0	90.00	273.53	10,816.0	179.0	-2,901.5	2,907.0	0.00	0.00	0.00
13,700.0	90.00	273.53	10,816.0	185.1	-3,001.3	3,007.0	0.00	0.00	0.00
13,800.0	90.00	273.53	10,816.0	191.3	-3,101.1	3,107.0	0.00	0.00	0.00
13,900.0	90.00	273.53	10,816.0	197.5	-3,200.9	3,207.0	0.00	0.00	0.00
14,000.0	90.00	273.53	10,816.0	203.6	-3,300.7	3,307.0	0.00	0.00	0.00
14,100.0	90.00	273.53	10,816.0	209.8	-3,400.5	3,407.0	0.00	0.00	0.00



Great White Directional Services Planning Report

Database:	EDM 5000.1 Single User Db.	Local Co-ordinate Reference:	Well Quail Ridge 32 State #3
Company:	Cimarex Energy Co.	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Lea County (NAD 83)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 32 - T19S - 34E	North Reference:	Grid
Well:	Quail Ridge 32 State #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
14,200.0	90.00	273.53	10,816.0	215.9	-3,500.3	3,507.0	0.00	0.00	0.00
14,300.0	90.00	273.53	10,816.0	222.1	-3,600.1	3,607.0	0.00	0.00	0.00
14,400.0	90.00	273.53	10,816.0	228.2	-3,699.9	3,707.0	0.00	0.00	0.00
14,500.0	90.00	273.53	10,816.0	234.4	-3,799.8	3,807.0	0.00	0.00	0.00
14,600.0	90.00	273.53	10,816.0	240.6	-3,899.6	3,907.0	0.00	0.00	0.00
14,700.0	90.00	273.53	10,816.0	246.7	-3,999.4	4,007.0	0.00	0.00	0.00
14,800.0	90.00	273.53	10,816.0	252.9	-4,099.2	4,107.0	0.00	0.00	0.00
14,900.0	90.00	273.53	10,816.0	259.0	-4,199.0	4,207.0	0.00	0.00	0.00
15,000.0	90.00	273.53	10,816.0	265.2	-4,298.8	4,307.0	0.00	0.00	0.00
15,100.0	90.00	273.53	10,816.0	271.3	-4,398.6	4,407.0	0.00	0.00	0.00
15,200.0	90.00	273.53	10,816.0	277.5	-4,498.4	4,507.0	0.00	0.00	0.00
15,300.0	90.00	273.53	10,816.0	283.7	-4,598.2	4,607.0	0.00	0.00	0.00
15,321.2	90.00	273.53	10,816.0	285.0	-4,619.4	4,628.2	0.00	0.00	0.00
TD at 15321.2									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Quail #3 PBHL	0.00	0.00	10,816.0	285.3	-4,619.4	588,212.42	770,264.11	32° 36' 53.446 N	103° 35' 23.411 W
- hit/miss target									
- Shape									
- plan misses target center by 0.4usft at 15321.2usft MD (10816.0 TVD, 285.0 N, -4619.4 E)									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,600.0	5,600.0	Cherry Canyon		0.00		
8,250.0	8,250.0	Bone Spring		0.00		
8,600.0	8,600.0	Upper Bone Spring		0.00		
9,510.0	9,510.0	1st Bone Spring		0.00		
10,000.0	10,000.0	2nd Bone Spring		0.00		

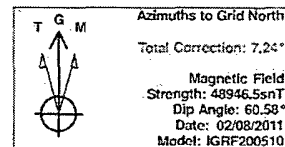
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
10,529.5	10,529.5	0.0	0.0	KOP 20°/100 DLS @ 273.53° AZI	
10,979.5	10,816.0	17.6	-285.9	EOC - Hold to TD	
15,321.2	10,816.0	285.0	-4,619.4	TD at 15321.2	



Cimarex Energy Co.
Project: Lea County (NAD 83)
Site: Sec 32 - T19S - 34E
Well: Quail Ridge 32 State #3
Wellbore: Wellbore #1

WELL DETAILS: Quail Ridge 32 State #3

+N-S	+E-W	Northing	Ground Level:	0.0	Easting	Latitude	Longitude
0.0	0.0	587927.10			774883.50	32° 36' 50.300 N	103° 34' 29.430 W
SHL: 1650' FSL / 330' FEL							
BHL: 1980' FSL / 330' FWL							



WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N-S	+E-W	Latitude	Longitude
Quail #3 PBHL	10816.0	285.3	-4619.4	32° 36' 53.446 N	103° 35' 23.411 W

ANNOTATIONS

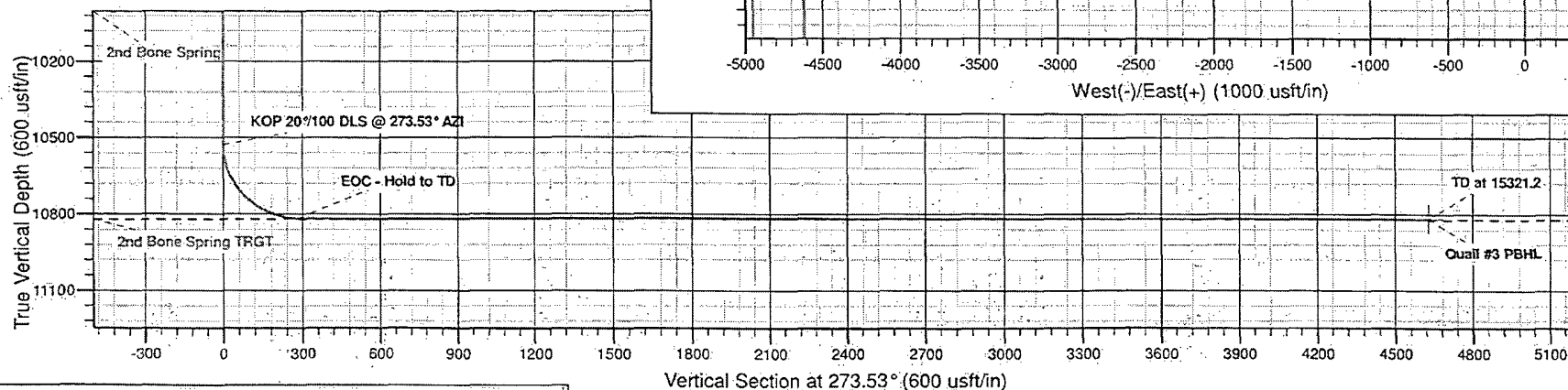
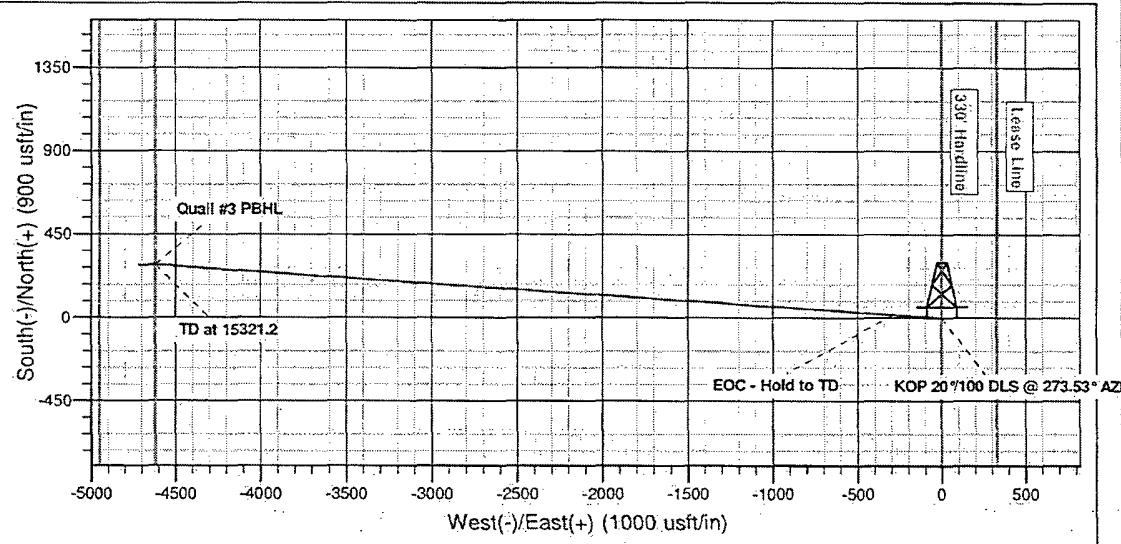
TVD	MD	Inc	Azi	+N-S	+E-W	Vsect	Departure	Annotation
10529.5	10529.5	0.00	0.00	0.0	0.0	0.0	0.0	KOP 20°/100 DLS @ 273.53° AZI
10816.0	10979.5	90.00	273.53	17.6	-285.9	286.5	286.5	EOC - Hold to TD
10816.0	15321.2	90.00	273.53	285.0	-4619.4	4628.2	4628.2	TD at 15321.2

SECTION DETAILS

TVD	MD	Inc	Azi	+N-S	+E-W	Vsect	Departure	Annotation
10529.5	10529.5	0.00	0.00	0.0	0.0	0.0	0.0	KOP 20°/100 DLS @ 273.53° AZI
10816.0	10979.5	90.00	273.53	17.6	-285.9	286.5	286.5	EOC - Hold to TD
10816.0	15321.2	90.00	273.53	285.0	-4619.4	4628.2	4628.2	TD at 15321.2

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5600.0	5600.0	Cherry Canyon
8250.0	8250.0	Bone Spring
8600.0	8600.0	Upper Bone Spring
9510.0	9510.0	1st Bone Spring
10000.0	10000.0	2nd Bone Spring



Plan: Plan #1 (Quail Ridge 32 State #3/Wellbore #1)

Created By: Aaron Pullin

Date: 14:27, February 08 2011