

Cimarex Energy Co.

Eddy County (NM83E)

Sec 36-T24S-R25E

Park State 36 Com #2

Wellbore #1

Plan: 06-30-09

Standard Planning Report

30 June, 2009

Great White Directional Services

Planning Report

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well Park State 36 Com #2
Company:	Cimarex Energy Co.	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Eddy County (NM83E)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 36-T24S-R25E	North Reference:	Grid
Well:	Park State 36 Com #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	06-30-09		

Project	Eddy County (NM83E)		
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 36-T24S-R25E		
Site Position:		Northing:	428,944.10 ft
From:	Map	Easting:	534,218.30 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	32° 10' 45.275 N
		Longitude:	104° 21' 22.839 W
		Grid Convergence:	-0 01°

Well	Park State 36 Com #2		
Well Position	+N/-S	0.0 ft	Northing: 428,944.10 ft
	+E/-W	0.0 ft	Easting: 534,218.30 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	32° 10' 45.275 N
		Longitude:	104° 21' 22.839 W
		Ground Level:	0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	2009/06/30	(°)	(°)	(nT)
			8.16	60.07	48,750

Design	06-30-09		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			181.57

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,947.0	0.00	0.00	4,947.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,247.0	90.00	181.57	5,138.0	-190.9	-5.2	30.00	30.00	0.00	181.57	
9,397.5	90.00	181.57	5,138.0	-4,339.9	-119.2	0.00	0.00	0.00	0.00	Park State 36 Com

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Project: Eddy County (NM83E)
Site: Sec 36-T24S-R25E
Well: Park State 36 Com #2
Wellbore: Wellbore #1
Design: 06-30-09

Local Co-ordinate Reference: Well Park State 36 Com #2
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
433.0	0.00	0.00	433.0	0.0	0.0	0.0	0.00	0.00	0.00
Top Salt									
1,253.0	0.00	0.00	1,253.0	0.0	0.0	0.0	0.00	0.00	0.00
Base Salt									
1,513.0	0.00	0.00	1,513.0	0.0	0.0	0.0	0.00	0.00	0.00
Bell Canyon									
2,583.0	0.00	0.00	2,583.0	0.0	0.0	0.0	0.00	0.00	0.00
Cherry Canyon									
4,103.0	0.00	0.00	4,103.0	0.0	0.0	0.0	0.00	0.00	0.00
Brushy Canyon									
4,947.0	0.00	0.00	4,947.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 30/ 100 @ 181.57 AZI									
5,000.0	15.90	181.57	4,999.3	-7.3	-0.2	7.3	30.00	30.00	0.00
5,100.0	45.90	181.57	5,084.2	-58.0	-1.6	58.1	30.00	30.00	0.00
5,170.8	67.14	181.57	5,123.0	-116.7	-3.2	116.8	30.00	30.00	0.00
Brushy Canyon LWR C									
5,200.0	75.90	181.57	5,132.2	-144.4	-4.0	144.4	30.00	30.00	0.00
5,247.0	90.00	181.57	5,138.0	-190.9	-5.2	191.0	30.00	30.00	0.00
EOC - Hold to TD									
5,300.0	90.00	181.57	5,138.0	-243.9	-6.7	244.0	0.00	0.00	0.00
5,400.0	90.00	181.57	5,138.0	-343.8	-9.4	344.0	0.00	0.00	0.00
5,500.0	90.00	181.57	5,138.0	-443.8	-12.2	444.0	0.00	0.00	0.00
5,600.0	90.00	181.57	5,138.0	-543.8	-14.9	544.0	0.00	0.00	0.00
5,700.0	90.00	181.57	5,138.0	-643.7	-17.7	644.0	0.00	0.00	0.00
5,800.0	90.00	181.57	5,138.0	-743.7	-20.4	744.0	0.00	0.00	0.00
5,900.0	90.00	181.57	5,138.0	-843.7	-23.2	844.0	0.00	0.00	0.00
6,000.0	90.00	181.57	5,138.0	-943.6	-25.9	944.0	0.00	0.00	0.00
6,100.0	90.00	181.57	5,138.0	-1,043.6	-28.7	1,044.0	0.00	0.00	0.00
6,200.0	90.00	181.57	5,138.0	-1,143.5	-31.4	1,144.0	0.00	0.00	0.00
6,300.0	90.00	181.57	5,138.0	-1,243.5	-34.1	1,244.0	0.00	0.00	0.00
6,400.0	90.00	181.57	5,138.0	-1,343.5	-36.9	1,344.0	0.00	0.00	0.00
6,500.0	90.00	181.57	5,138.0	-1,443.4	-39.6	1,444.0	0.00	0.00	0.00
6,600.0	90.00	181.57	5,138.0	-1,543.4	-42.4	1,544.0	0.00	0.00	0.00
6,700.0	90.00	181.57	5,138.0	-1,643.4	-45.1	1,644.0	0.00	0.00	0.00
6,800.0	90.00	181.57	5,138.0	-1,743.3	-47.9	1,744.0	0.00	0.00	0.00
6,900.0	90.00	181.57	5,138.0	-1,843.3	-50.6	1,844.0	0.00	0.00	0.00
7,000.0	90.00	181.57	5,138.0	-1,943.2	-53.4	1,944.0	0.00	0.00	0.00
7,100.0	90.00	181.57	5,138.0	-2,043.2	-56.1	2,044.0	0.00	0.00	0.00
7,200.0	90.00	181.57	5,138.0	-2,143.2	-58.8	2,144.0	0.00	0.00	0.00
7,300.0	90.00	181.57	5,138.0	-2,243.1	-61.6	2,244.0	0.00	0.00	0.00
7,400.0	90.00	181.57	5,138.0	-2,343.1	-64.3	2,344.0	0.00	0.00	0.00
7,500.0	90.00	181.57	5,138.0	-2,443.1	-67.1	2,444.0	0.00	0.00	0.00
7,600.0	90.00	181.57	5,138.0	-2,543.0	-69.8	2,544.0	0.00	0.00	0.00
7,700.0	90.00	181.57	5,138.0	-2,643.0	-72.6	2,644.0	0.00	0.00	0.00
7,800.0	90.00	181.57	5,138.0	-2,742.9	-75.3	2,744.0	0.00	0.00	0.00
7,900.0	90.00	181.57	5,138.0	-2,842.9	-78.1	2,844.0	0.00	0.00	0.00
8,000.0	90.00	181.57	5,138.0	-2,942.9	-80.8	2,944.0	0.00	0.00	0.00
8,100.0	90.00	181.57	5,138.0	-3,042.8	-83.6	3,044.0	0.00	0.00	0.00
8,200.0	90.00	181.57	5,138.0	-3,142.8	-86.3	3,144.0	0.00	0.00	0.00
8,300.0	90.00	181.57	5,138.0	-3,242.7	-89.0	3,244.0	0.00	0.00	0.00
8,400.0	90.00	181.57	5,138.0	-3,342.7	-91.8	3,344.0	0.00	0.00	0.00
8,500.0	90.00	181.57	5,138.0	-3,442.7	-94.5	3,444.0	0.00	0.00	0.00

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Well: Park State 36 Com #2
Wellbore: Wellbore #1
Design: 06-30-09

Local Co-ordinate Reference: Well Park State 36 Com #2
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,600.0	90.00	181.57	5,138.0	-3,542.6	-97.3	3,544.0	0.00	0.00	0.00
8,700.0	90.00	181.57	5,138.0	-3,642.6	-100.0	3,644.0	0.00	0.00	0.00
8,800.0	90.00	181.57	5,138.0	-3,742.6	-102.8	3,744.0	0.00	0.00	0.00
8,900.0	90.00	181.57	5,138.0	-3,842.5	-105.5	3,844.0	0.00	0.00	0.00
9,000.0	90.00	181.57	5,138.0	-3,942.5	-108.3	3,944.0	0.00	0.00	0.00
9,100.0	90.00	181.57	5,138.0	-4,042.4	-111.0	4,044.0	0.00	0.00	0.00
9,200.0	90.00	181.57	5,138.0	-4,142.4	-113.7	4,144.0	0.00	0.00	0.00
9,300.0	90.00	181.57	5,138.0	-4,242.4	-116.5	4,244.0	0.00	0.00	0.00
9,397.5	90.00	181.57	5,138.0	-4,339.9	-119.2	4,341.5	0.00	0.00	0.00

Park State 36 Com 2 PBHL

Targets

Target Name

hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Park State 36 Com 2	0.00	360.00	5,138.0	-4,339.9	-119.2	424,604.21	534,099.13	32° 10' 2.326 N	104° 21' 24.215 W
- plan hits target									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,513.0	1,513.0	Bell Canyon		0.00	
2,583.0	2,583.0	Cherry Canyon		0.00	
433.0	433.0	Top Salt		0.00	
1,253.0	1,253.0	Base Salt		0.00	
5,170.8	5,123.0	Brushy Canyon LWR C		0.00	
	5,303.0	Bone Spring		0.00	
4,103.0	4,103.0	Brushy Canyon		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,947.0	4,947.0	0.0	0.0	KOP - 30/ 100 @ 181.57 AZI
5,247.0	5,138.0	-190.9	-5.2	EOC - Hold to TD
9,397.5	5,138.0	-4,339.9	-119.2	TD at 9397.5

magnetic.txt

Magnetic Calculator Results: Park Sate 36 Com 2

Geomagnetic Model	:	IGRF200510
Latitude	:	32° 10' 45.275 N
Longitude	:	104° 21' 22.839 W
Sample Date	:	2009/06/30
Vertical Depth	:	0.0
Azimuth of Magnetic North:		8.160° True
Magnetic Declination	:	8.160°E from True North
Dip Angle from Horizontal:		60.069°
Magnetic Field Strength	:	48750 nT
Magnetic Field X value	:	24078 nT
Magnetic Field Y value	:	3453 nT
Magnetic Field Z value	:	42248 nT
Magnetic Field Horizontal:		24324 nT
Magnetic Azimuth Apply	:	8.17 to convert to Grid North
Gyroscope Azimuth Apply	:	0.01 to convert to Grid North