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Cimarex Energy Co.

Lea County (NAD 83)

Sec 16 - T17S - R32E

JG State #5

Wellbore #1

Plan: Plan #1

Standard Planning Report

13 July, 2010

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well JG State #5
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 16 - T17S - R32E	North Reference:	Grid
Well:	JG State #5	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 16 - T17S - R32E		
Site Position:		Northing:	665,541.60 usft
From:	Map	Easting:	713,303.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 49' 42.055 N
		Longitude:	103° 46' 24.588 W
		Grid Convergence:	0.30 °

Well	JG State #5		
Well Position	+N/-S	2,618.7 usft	Northing: 668,160.30 usft
	+E/-W	24.5 usft	Easting: 713,327.50 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 32° 50' 7.965 N
			Longitude: 103° 46' 24.138 W
			Ground Level: 0.0 usft

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2010/06/24	7.83	60.76	49,118

Design	Plan #1		
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Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	90.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,801.5	4.03	90.00	1,801.3	0.0	7.1	2.00	2.00	0.00	90.00	
5,399.1	4.03	90.00	5,399.0	0.0	260.0	0.00	0.00	0.00	0.00	JG State #5 PP
5,600.7	0.00	0.00	5,591.5	0.0	267.1	2.00	-2.00	0.00	180.00	
6,009.2	0.00	0.00	6,000.0	0.0	267.1	0.00	0.00	0.00	0.00	

Great White Directional Services

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Site:	Sec 16 - T17S - R32E	North Reference:	Grid
Well:	JG State #5	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP 2°/100 DLS @ 90° AZI									
1,700.0	2.00	90.00	1,700.0	0.0	1.7	1.7	2.00	2.00	0.00
1,801.5	4.03	90.00	1,801.3	0.0	7.1	7.1	2.00	2.00	0.00
Begin Hold									
1,900.0	4.03	90.00	1,899.6	0.0	14.0	14.0	0.00	0.00	0.00
2,000.0	4.03	90.00	1,999.3	0.0	21.0	21.0	0.00	0.00	0.00
2,100.0	4.03	90.00	2,099.1	0.0	28.1	28.1	0.00	0.00	0.00
2,200.0	4.03	90.00	2,198.8	0.0	35.1	35.1	0.00	0.00	0.00
2,300.0	4.03	90.00	2,298.6	0.0	42.1	42.1	0.00	0.00	0.00
2,400.0	4.03	90.00	2,398.4	0.0	49.1	49.1	0.00	0.00	0.00
2,500.0	4.03	90.00	2,498.1	0.0	56.2	56.2	0.00	0.00	0.00
2,600.0	4.03	90.00	2,597.9	0.0	63.2	63.2	0.00	0.00	0.00
2,700.0	4.03	90.00	2,697.6	0.0	70.2	70.2	0.00	0.00	0.00
2,800.0	4.03	90.00	2,797.4	0.0	77.3	77.3	0.00	0.00	0.00
2,900.0	4.03	90.00	2,897.1	0.0	84.3	84.3	0.00	0.00	0.00
3,000.0	4.03	90.00	2,996.9	0.0	91.3	91.3	0.00	0.00	0.00
3,100.0	4.03	90.00	3,096.6	0.0	98.4	98.4	0.00	0.00	0.00
3,200.0	4.03	90.00	3,196.4	0.0	105.4	105.4	0.00	0.00	0.00
3,300.0	4.03	90.00	3,296.1	0.0	112.4	112.4	0.00	0.00	0.00
3,400.0	4.03	90.00	3,395.9	0.0	119.4	119.4	0.00	0.00	0.00
3,500.0	4.03	90.00	3,495.6	0.0	126.5	126.5	0.00	0.00	0.00
3,600.0	4.03	90.00	3,595.4	0.0	133.5	133.5	0.00	0.00	0.00
3,700.0	4.03	90.00	3,695.1	0.0	140.5	140.5	0.00	0.00	0.00
3,800.0	4.03	90.00	3,794.9	0.0	147.6	147.6	0.00	0.00	0.00
3,900.0	4.03	90.00	3,894.6	0.0	154.6	154.6	0.00	0.00	0.00
4,000.0	4.03	90.00	3,994.4	0.0	161.6	161.6	0.00	0.00	0.00
4,100.0	4.03	90.00	4,094.1	0.0	168.7	168.7	0.00	0.00	0.00
4,200.0	4.03	90.00	4,193.9	0.0	175.7	175.7	0.00	0.00	0.00
4,300.0	4.03	90.00	4,293.7	0.0	182.7	182.7	0.00	0.00	0.00
4,400.0	4.03	90.00	4,393.4	0.0	189.7	189.7	0.00	0.00	0.00
4,500.0	4.03	90.00	4,493.2	0.0	196.8	196.8	0.00	0.00	0.00
4,600.0	4.03	90.00	4,592.9	0.0	203.8	203.8	0.00	0.00	0.00
4,700.0	4.03	90.00	4,692.7	0.0	210.8	210.8	0.00	0.00	0.00
4,800.0	4.03	90.00	4,792.4	0.0	217.9	217.9	0.00	0.00	0.00
4,900.0	4.03	90.00	4,892.2	0.0	224.9	224.9	0.00	0.00	0.00
5,000.0	4.03	90.00	4,991.9	0.0	231.9	231.9	0.00	0.00	0.00
5,100.0	4.03	90.00	5,091.7	0.0	239.0	239.0	0.00	0.00	0.00
5,200.0	4.03	90.00	5,191.4	0.0	246.0	246.0	0.00	0.00	0.00
5,300.0	4.03	90.00	5,291.2	0.0	253.0	253.0	0.00	0.00	0.00
5,399.1	4.03	90.00	5,390.0	0.0	260.0	260.0	0.00	0.00	0.00
Begin Drop - JG State #5 PP									
5,500.0	2.01	90.00	5,490.8	0.0	265.3	265.3	2.00	-2.00	0.00
5,600.7	0.00	0.00	5,591.5	0.0	267.1	267.1	2.00	-2.00	0.00
Hold to TD									
5,700.0	0.00	0.00	5,690.8	0.0	267.1	267.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,790.8	0.0	267.1	267.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,890.8	0.0	267.1	267.1	0.00	0.00	0.00
6,009.2	0.00	0.00	6,000.0	0.0	267.1	267.1	0.00	0.00	0.00
TD at 6009.2									

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Site:	Sec. 16 - T17S - R32E	North Reference:	Grid
Well:	JG State #5	Survey Calculation Method:	Minimum Curvature.
Wellbore:	Wellbore #1		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
JG State #5 PP	0.00	0.00	5,390.0	0.0	260.0	668,160.30	713,587.50	32° 50' 7.952 N	103° 46' 21.091 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
1,600.0	1,600.0	0.0	0.0	KOP 2"/100 DLS @ 90° AZI
1,801.5	1,801.3	0.0	7.1	Begin Hold
5,399.1	5,390.0	0.0	260.0	Begin Drop
5,600.7	5,591.5	0.0	267.1	Hold to TD
6,009.2	6,000.0	0.0	267.1	TD at 6009.2

Cimarex Energy Co.

Project Lea County (NAD 83)
 Site Sec 16 - T17S - R32E
 Well JG State #5
 Wellbore Wellbore #1
 Design Plan #1

WELL DETAILS JG State #5

+N/-S	+E/-W	Northing	Ground Level	0 0	Longitude
0 0	0 0	668160 30	Easting	713327 50	32° 50' 7 965 N
			SHL 2310' FNL / 2050' FWL		103° 46' 24 138 W



Azimuths to Grid North

Total Correction: 7.53°

Magnetic Field
 Strength 49118.4nT
 Dip Angle 60.76°
 Date 2010/06/24
 Model IGRF200510

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Point
JG State #5 PP	5390 0	0 0	260 0	668160 30	713587 50	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 00	0 0	
2	1600 0	0 00	0 00	1600 0	0 0	0 0	0 00	0 00	0 0	
3	1801 5	4 03	90 00	1801 3	0 0	7 1	2 00	90 00	7 1	
4	5399 1	4 03	90 00	5390 0	0 0	260 0	0 00	0 00	260 0	JG State #5 PP
5	5600 7	0 00	0 00	5591 5	0 0	267 1	2 00	180 00	267 1	
6	6009 2	0 00	0 00	6000 0	0 0	267 1	0 00	0 00	267 1	

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
1600 0	1600 0	0 00	0 00	0 0	0 0	0 0	0 0	KOP 2 1/100 DLS @ 90° AZI
1801 3	1801 5	4 03	90 00	0 0	7 1	7 1	7 1	Begin Hold
5390 0	5399 1	4 03	90 00	0 0	260 0	260 0	260 0	Begin Drop
5591 5	5600 7	0 00	0 00	0 0	267 1	267 1	267 1	Hold to TD
6000 0	6009 2	0 00	0 00	0 0	267 1	267 1	267 1	TD at 6009.2

