

Cimarex Energy Co.

Lea County (NAD 83)

Sec 16 - T17S - R32E

JG State #1

Wellbore #1

Plan: Plan #2

RECEIVED

AUG 18 2010

HOBBSOCD

Standard Planning Report

16 July, 2010

Great White Directional Services Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well JG State #1
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:	Grd
Well:	JG State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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	Latitude:	32° 49' 42.055 N
From:	Map	Easting:	713,303.00 usft	Longitude:	103° 46' 24.588 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	JG State #1					
Well Position	+N/-S	0.0 usft	Northing:	665,541.60 usft	Latitude:	32° 49' 42.055 N
	+E/-W	0.0 usft	Easting:	713,303.00 usft	Longitude:	103° 46' 24.588 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	0.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip/Angle	Field Strength
	IGRF200510	2010/06/24	(°)	(°)	(nT)
			7.83	60.76	49,114

Design	Plan #2				
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	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target	
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)		
(usft)			(usft)			(°/100ft)	(°/100ft)	(°/100ft)			
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		
1,758.5	3.17	90.00	1,758.4	0.0	4.4	2.00	2.00	0.00	90.00		
3,558.5	3.17	90.00	3,555.7	0.0	103.9	0.00	0.00	0.00	0.00		
7,108.3	3.16	90.00	7,100.0	0.0	300.0	0.00	0.00	0.00	-180.00	JG State #1 PBHL	

Great White Directional Services Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well JG State #1
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:	Grd
Well:	JG State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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	
1,758.5	3.17	90.00	1,758.4	0.0	4.4	4.4	2.00	2.00	0.00	
Begin Hold										
1,800.0	3.17	90.00	1,799.9	0.0	6.7	6.7	0.00	0.00	0.00	
1,900.0	3.17	90.00	1,899.7	0.0	12.2	12.2	0.00	0.00	0.00	
2,000.0	3.17	90.00	1,999.5	0.0	17.7	17.7	0.00	0.00	0.00	
2,100.0	3.17	90.00	2,099.4	0.0	23.3	23.3	0.00	0.00	0.00	
2,200.0	3.17	90.00	2,199.2	0.0	28.8	28.8	0.00	0.00	0.00	
2,300.0	3.17	90.00	2,299.1	0.0	34.3	34.3	0.00	0.00	0.00	
2,400.0	3.17	90.00	2,398.9	0.0	39.9	39.9	0.00	0.00	0.00	
2,500.0	3.17	90.00	2,498.8	0.0	45.4	45.4	0.00	0.00	0.00	
2,600.0	3.17	90.00	2,598.6	0.0	50.9	50.9	0.00	0.00	0.00	
2,700.0	3.17	90.00	2,698.5	0.0	56.4	56.4	0.00	0.00	0.00	
2,800.0	3.17	90.00	2,798.3	0.0	62.0	62.0	0.00	0.00	0.00	
2,900.0	3.17	90.00	2,898.2	0.0	67.5	67.5	0.00	0.00	0.00	
3,000.0	3.17	90.00	2,998.0	0.0	73.0	73.0	0.00	0.00	0.00	
3,100.0	3.17	90.00	3,097.9	0.0	78.6	78.6	0.00	0.00	0.00	
3,200.0	3.17	90.00	3,197.7	0.0	84.1	84.1	0.00	0.00	0.00	
3,300.0	3.17	90.00	3,297.6	0.0	89.6	89.6	0.00	0.00	0.00	
3,400.0	3.17	90.00	3,397.4	0.0	95.2	95.2	0.00	0.00	0.00	
3,500.0	3.17	90.00	3,497.3	0.0	100.7	100.7	0.00	0.00	0.00	
3,558.5	3.17	90.00	3,555.7	0.0	103.9	103.9	0.00	0.00	0.00	
Hold to TD										
3,600.0	3.17	90.00	3,597.1	0.0	106.2	106.2	0.00	0.00	0.00	
3,700.0	3.17	90.00	3,696.9	0.0	111.7	111.7	0.00	0.00	0.00	
3,800.0	3.17	90.00	3,796.8	0.0	117.3	117.3	0.00	0.00	0.00	
3,900.0	3.17	90.00	3,896.6	0.0	122.8	122.8	0.00	0.00	0.00	
4,000.0	3.17	90.00	3,996.5	0.0	128.3	128.3	0.00	0.00	0.00	
4,100.0	3.17	90.00	4,096.3	0.0	133.9	133.9	0.00	0.00	0.00	
4,200.0	3.17	90.00	4,196.2	0.0	139.4	139.4	0.00	0.00	0.00	
4,300.0	3.17	90.00	4,296.0	0.0	144.9	144.9	0.00	0.00	0.00	
4,400.0	3.17	90.00	4,395.9	0.0	150.4	150.4	0.00	0.00	0.00	
4,500.0	3.17	90.00	4,495.7	0.0	156.0	156.0	0.00	0.00	0.00	
4,600.0	3.17	90.00	4,595.6	0.0	161.5	161.5	0.00	0.00	0.00	
4,700.0	3.17	90.00	4,695.4	0.0	167.0	167.0	0.00	0.00	0.00	
4,800.0	3.17	90.00	4,795.3	0.0	172.5	172.5	0.00	0.00	0.00	
4,900.0	3.17	90.00	4,895.1	0.0	178.1	178.1	0.00	0.00	0.00	
5,000.0	3.17	90.00	4,995.0	0.0	183.6	183.6	0.00	0.00	0.00	
5,100.0	3.17	90.00	5,094.8	0.0	189.1	189.1	0.00	0.00	0.00	
5,200.0	3.17	90.00	5,194.7	0.0	194.6	194.6	0.00	0.00	0.00	
5,300.0	3.17	90.00	5,294.5	0.0	200.2	200.2	0.00	0.00	0.00	
5,400.0	3.17	90.00	5,394.4	0.0	205.7	205.7	0.00	0.00	0.00	
5,500.0	3.17	90.00	5,494.2	0.0	211.2	211.2	0.00	0.00	0.00	
5,600.0	3.17	90.00	5,594.0	0.0	216.7	216.7	0.00	0.00	0.00	
5,700.0	3.17	90.00	5,693.9	0.0	222.3	222.3	0.00	0.00	0.00	
5,800.0	3.17	90.00	5,793.7	0.0	227.8	227.8	0.00	0.00	0.00	
5,900.0	3.17	90.00	5,893.6	0.0	233.3	233.3	0.00	0.00	0.00	
6,000.0	3.17	90.00	5,993.4	0.0	238.8	238.8	0.00	0.00	0.00	
6,100.0	3.16	90.00	6,093.3	0.0	244.4	244.4	0.00	0.00	0.00	
6,200.0	3.16	90.00	6,193.1	0.0	249.9	249.9	0.00	0.00	0.00	
6,300.0	3.16	90.00	6,293.0	0.0	255.4	255.4	0.00	0.00	0.00	

Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well JG State #1
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 #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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)
6,400.0	3.16	90.00	6,392.8	0.0	260.9	260.9	0.00	0.00	0.00
6,500.0	3.16	90.00	6,492.7	0.0	266.4	266.4	0.00	0.00	0.00
6,600.0	3.16	90.00	6,592.5	0.0	272.0	272.0	0.00	0.00	0.00
6,700.0	3.16	90.00	6,692.4	0.0	277.5	277.5	0.00	0.00	0.00
6,800.0	3.16	90.00	6,792.2	0.0	283.0	283.0	0.00	0.00	0.00
6,900.0	3.16	90.00	6,892.1	0.0	288.5	288.5	0.00	0.00	0.00
7,000.0	3.16	90.00	6,991.9	0.0	294.0	294.0	0.00	0.00	0.00
7,108.3	3.16	90.00	7,100.0	0.0	300.0	300.0	0.00	0.00	0.00

TD at 7108.3 - JG State #1 PBHL

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
JG State #1 PBHL	0.00	0.00	7,100.0	0.0	300.0	665,541.60	713,603.00	32° 49' 42.040 N	103° 46' 21.072 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
1,600.0	1,600.0	0.0	0.0	KOP 2°/100 DLS @ 90° AZI
1,758.5	1,758.4	0.0	4.4	Begin Hold
3,558.5	3,555.7	0.0	103.9	Hold to TD
7,108.3	7,100.0	0.0	300.0	TD at 7108.3

Cimarex Energy Co.

Project Lea County (NAD 83)
 Site Sec 16 - T17S - R32E
 Well JG State #1
 Wellbore Wellbore #1
 Design Plan #2

WELL DETAILS JG State #1

+N/-S	+E/-W	Northing	Ground Level	0 0	Longitude
0 0	0 0	665541 60	Easting	713303 00	103° 46' 24 588 W
			Latitude	32° 49' 42 055 N	
			SHL	350' FSL / 2010' FWL	
			BHL	350' FSL / 2310' FWL	



Azimuths to Grd North

Total Correction. 7.53°

Magnetic Field
 Strength 49114 1snT
 Dip Angle 60.76°
 Date 2010/06/24
 Model IGRF200510

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Point
JG State #1 PBHL	7100 0	0 0	300 0	665541 60	713603 00	

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	1758 4	3 17	90 00	1758 4	0 0	4 4	2 00	90 00	4 4	
4	3558 5	3 17	90 00	3558 5	0 0	103 9	0 00	103 9	103 9	
5	7108 3	3 16	90 00	7100 0	0 0	300 0	0 00	-180 00	300 0	JG State #1 PBHL

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°/100 DLS @ 90° AZI
1758 4	1758 5	3 17	90 00	0 0	4 4	4 4	4 4	Begin Hold
3558 5	3558 5	3 17	90 00	0 0	103 9	103 9	103 9	Hold to TD
7100 0	7108 3	3 16	90 00	0 0	300 0	300 0	300 0	TD at 7108.3

