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HOBBSOCD

Cimarex Energy Co.

Lea County (NAD 83)

Sec 16 - T17S - R32E

JG State #17

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 #17
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 #17	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 #17		
Well Position	+N/-S	2,877.7 usft	Northing: 668,419.30 usft
	+E/-W	-376.7 usft	Easting: 712,926.30 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 32° 50' 10.549 N
			Longitude: 103° 46' 28.824 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	49,119

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 (°)
			180.00

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	
1,799.0	3.98	180.00	1,798.8	-6.9	0.0	2.00	2.00	0.00	180.00	
5,439.0	3.99	180.00	5,430.0	-260.0	0.0	0.00	0.00	0.00	0.00	JG State #17 PP
5,638.7	0.00	0.00	5,629.5	-267.0	0.0	2.00	-2.00	0.00	180.00	
6,000.0	0.00	0.00	5,990.9	-267.0	0.0	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 #17	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 @ 180° AZI									
1,700.0	2.00	180.00	1,700.0	-1.7	0.0	1.7	2.00	2.00	0.00
1,799.0	3.98	180.00	1,798.8	-6.9	0.0	6.9	2.00	2.00	0.00
Begin Build									
1,900.0	3.98	180.00	1,899.6	-13.9	0.0	13.9	0.00	0.00	0.00
2,000.0	3.98	180.00	1,999.4	-20.9	0.0	20.9	0.00	0.00	0.00
2,100.0	3.98	180.00	2,099.1	-27.8	0.0	27.8	0.00	0.00	0.00
2,200.0	3.98	180.00	2,198.9	-34.7	0.0	34.7	0.00	0.00	0.00
2,300.0	3.98	180.00	2,298.6	-41.7	0.0	41.7	0.00	0.00	0.00
2,400.0	3.98	180.00	2,398.4	-48.6	0.0	48.6	0.00	0.00	0.00
2,500.0	3.98	180.00	2,498.1	-55.6	0.0	55.6	0.00	0.00	0.00
2,600.0	3.98	180.00	2,597.9	-62.5	0.0	62.5	0.00	0.00	0.00
2,700.0	3.98	180.00	2,697.7	-69.5	0.0	69.5	0.00	0.00	0.00
2,800.0	3.98	180.00	2,797.4	-76.4	0.0	76.4	0.00	0.00	0.00
2,900.0	3.98	180.00	2,897.2	-83.4	0.0	83.4	0.00	0.00	0.00
3,000.0	3.98	180.00	2,996.9	-90.3	0.0	90.3	0.00	0.00	0.00
3,100.0	3.99	180.00	3,096.7	-97.3	0.0	97.3	0.00	0.00	0.00
3,200.0	3.99	180.00	3,196.5	-104.2	0.0	104.2	0.00	0.00	0.00
3,300.0	3.99	180.00	3,296.2	-111.2	0.0	111.2	0.00	0.00	0.00
3,400.0	3.99	180.00	3,396.0	-118.1	0.0	118.1	0.00	0.00	0.00
3,500.0	3.99	180.00	3,495.7	-125.1	0.0	125.1	0.00	0.00	0.00
3,600.0	3.99	180.00	3,595.5	-132.0	0.0	132.0	0.00	0.00	0.00
3,700.0	3.99	180.00	3,695.2	-139.0	0.0	139.0	0.00	0.00	0.00
3,800.0	3.99	180.00	3,795.0	-145.9	0.0	145.9	0.00	0.00	0.00
3,900.0	3.99	180.00	3,894.8	-152.9	0.0	152.9	0.00	0.00	0.00
4,000.0	3.99	180.00	3,994.5	-159.8	0.0	159.8	0.00	0.00	0.00
4,100.0	3.99	180.00	4,094.3	-166.8	0.0	166.8	0.00	0.00	0.00
4,200.0	3.99	180.00	4,194.0	-173.8	0.0	173.8	0.00	0.00	0.00
4,300.0	3.99	180.00	4,293.8	-180.7	0.0	180.7	0.00	0.00	0.00
4,400.0	3.99	180.00	4,393.6	-187.7	0.0	187.7	0.00	0.00	0.00
4,500.0	3.99	180.00	4,493.3	-194.6	0.0	194.6	0.00	0.00	0.00
4,600.0	3.99	180.00	4,593.1	-201.6	0.0	201.6	0.00	0.00	0.00
4,700.0	3.99	180.00	4,692.8	-208.5	0.0	208.5	0.00	0.00	0.00
4,800.0	3.99	180.00	4,792.6	-215.5	0.0	215.5	0.00	0.00	0.00
4,900.0	3.99	180.00	4,892.3	-222.5	0.0	222.5	0.00	0.00	0.00
5,000.0	3.99	180.00	4,992.1	-229.4	0.0	229.4	0.00	0.00	0.00
5,100.0	3.99	180.00	5,091.9	-236.4	0.0	236.4	0.00	0.00	0.00
5,200.0	3.99	180.00	5,191.6	-243.4	0.0	243.4	0.00	0.00	0.00
5,300.0	3.99	180.00	5,291.4	-250.3	0.0	250.3	0.00	0.00	0.00
5,400.0	3.99	180.00	5,391.1	-257.3	0.0	257.3	0.00	0.00	0.00
5,439.0	3.99	180.00	5,430.0	-260.0	0.0	260.0	0.00	0.00	0.00
Begin Drop - JG State #17 PP									
5,500.0	2.77	180.00	5,490.9	-263.6	0.0	263.6	2.00	-2.00	0.00
5,600.0	0.77	180.00	5,590.9	-266.7	0.0	266.7	2.00	-2.00	0.00
5,638.7	0.00	0.00	5,629.5	-267.0	0.0	267.0	2.00	-2.00	0.00
Hold to TD									
5,700.0	0.00	0.00	5,690.9	-267.0	0.0	267.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,790.9	-267.0	0.0	267.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,890.9	-267.0	0.0	267.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,990.9	-267.0	0.0	267.0	0.00	0.00	0.00
TD at 6000.0									

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Well:	JG State #17	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 #17 PP	0.00	0.00	5,430.0	-260.0	0.0	668,159.30	712,926.30	32° 50' 7.976 N	103° 46' 28.841 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 @ 180° AZI
1,799.0	1,798.8	-6.9	0.0	Begin Build
5,439.0	5,430.0	-260.0	0.0	Begin Drop
5,638.7	5,629.5	-267.0	0.0	Hold to TD
6,000.0	5,990.9	-267.0	0.0	TD at 6000.0

Cimarex Energy Co.

Project Lea County (NAD 83)
Site Sec 16 - T17S - R32E
Well JG State #17
Wellbore Wellbore #1
Design Plan #1

WELL DETAILS JG State #17

+N/-S	+E/-W	Northing	Easting	Ground Level	Latitude	Longitude
0 0	0 0	668419 30	712926 30	0 0	32° 50' 10 549 N	103° 46' 28 824 W
SHL 2050' FNL / 1650' FWL						



Azimuths to Grid North

Total Correction: 7.53°

Magnetic Field
Strength 49118.7nT
Dip Angle 60.76°
Date 2010/06/24
Model IGRF200510

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Point
JG State #17 PP	5430 0	-260 0	0 0	668159 30	712926 30	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	1799 0	3 98	180 00	1798 8	-6 9	0 0	2 00	180 00	6 9	
4	5439 0	3 99	180 00	5430 0	-260 0	0 0	0 00	0 00	260 0	JG State #17 PP
5	5638 7	0 00	0 00	5629 5	-267 0	0 0	2 00	180 00	267 0	
6	6000 0	0 00	0 00	5990 9	-267 0	0 0	0 00	0 00	267 0	

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VFace	Departure	Annotation
1600 0	1600 0	0 00	0 00	0 0	0 0	0 0	0 0	KOP 2°/100 DLS @ 180° AZI
1798 8	1799 0	3 98	180 00	-6 9	0 0	6 9	6 9	Begin Build
5430 0	5439 0	3 99	180 00	-260 0	0 0	260 0	260 0	Begin Drop
5629 5	5638 7	0 00	0 00	-267 0	0 0	267 0	267 0	Hold to TD
5990 9	6000 0	0 00	0 00	-267 0	0 0	267 0	267 0	TD at 6000 0

