Results of Directional Survey

API number:	30-025-39800			
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO	
		Property:	JG STATE	# 17

surface	ULSTR:	F	16	T	17S	R	32E
				2050	FNL	1650	FWL

BH Loc	ULSTR:	F	16	T	17S	R	32E
7000 MD		6983.9 TVD		2302	FNL	1663	FWL

Top Perf/OH	ULSTR:	F	16	T	17S	R	32E
5516 MD		5508.3 TVD		2144	FNL	1663	FWL

Bot Perf/OH	ULSTR:	F	16	T	17S	R	32E
6812 MD		6796.8 TVD		2283	FNL	1663	FWL

	MD	N/S	E/W	VD
	5509	-93.50	13.20	5501.3
TOP PERFS/OH	**5516**	-94.34	13.20	5508.25
	5540	-97.20	13.20	5532.10
	6800	-231.40	12.90	6784.90
BOT PERFS/OH	**6812**	-232.68	13.01	6796.83
	6832	-234.80	13.20	6816.70

NEXT TO LAST	6957	-247.60	13.30	6941.00
LAST READING	6988	-250.50	12.90	6971.90
TD	**7000**	-251.62	12.75	6983.86

Surface Location	2050	FN	1650	FW
Projected BHL	2302	FN	1663	FW
Location of				
Top Perfs/OH	2144	FN	1663	FW
Bottom Perfs/OH	2283	FN	1663	FW

SUMMARY of Subsurface Locations

Surface Location	F-16-17S-32E	2050	FN	1650	FW	Vert. Depth
Top Perfs/OH	F-16-17S-32E	2144	FN	1663	FW	5508.25
Bottom Perfs/OH	F-16-17S-32E	2283	FN	1663	FW	6796.83
Projected TD	F-16-17S-32E	2302	FN	1663	FW	6983.86

Cimarex Energy Co.

Lea County (NAD 83)
Sec 16 - T17S - R32E
JG State #17

Wellbore #1

SUR @ F-16-17s-32e, 2050/N & 1650/W
BHL @ F-16-17s-32, 2302/N & 1663/W
API # 30-025-39800

Survey: MWD Survey

Standard Survey Report

10 January, 2011

CIMAREX

GREAT WHITE DIRECTIONAL SERVICES, L.L.C.

WELL DETAILS: JG State #17					
		Ground Level: 0.0			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	668419.30	712926.30	32° 50' 10.549 N	103° 46' 28.824 W

SHL: 2050' FNL / 1650' FWL
BHL: 2230' FNL / 1650' FWL

Project: Lea County (NAD 83)
Site: Sec 16 - T17S - R32E
Well: JG State #17
Wellbore: Wellbore #1
Design: Plan #2

WELLBORE TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	
JG State #17 PP	7000.0	-260.0	0.0	668159.30	712926.30	Point

G
T M

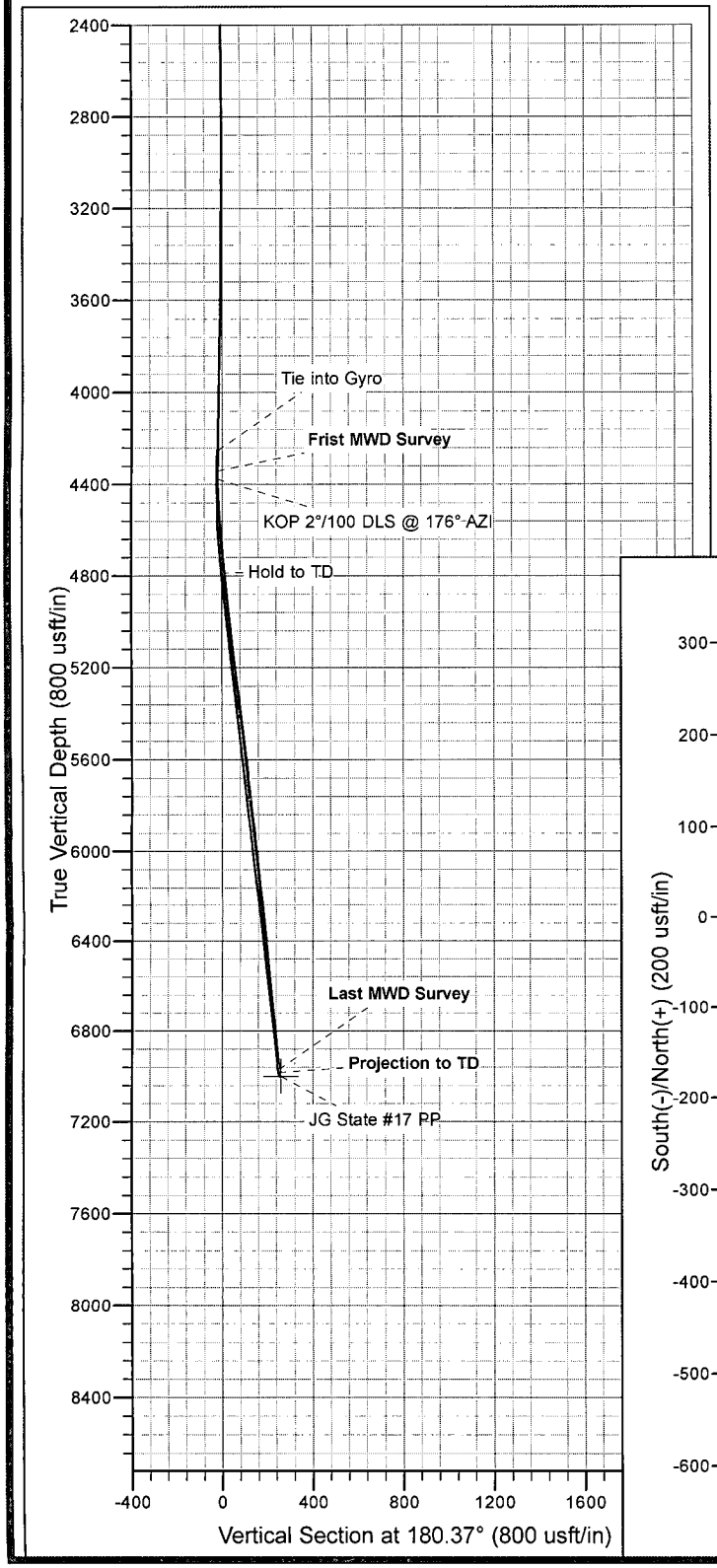
Azimuths to Grid North

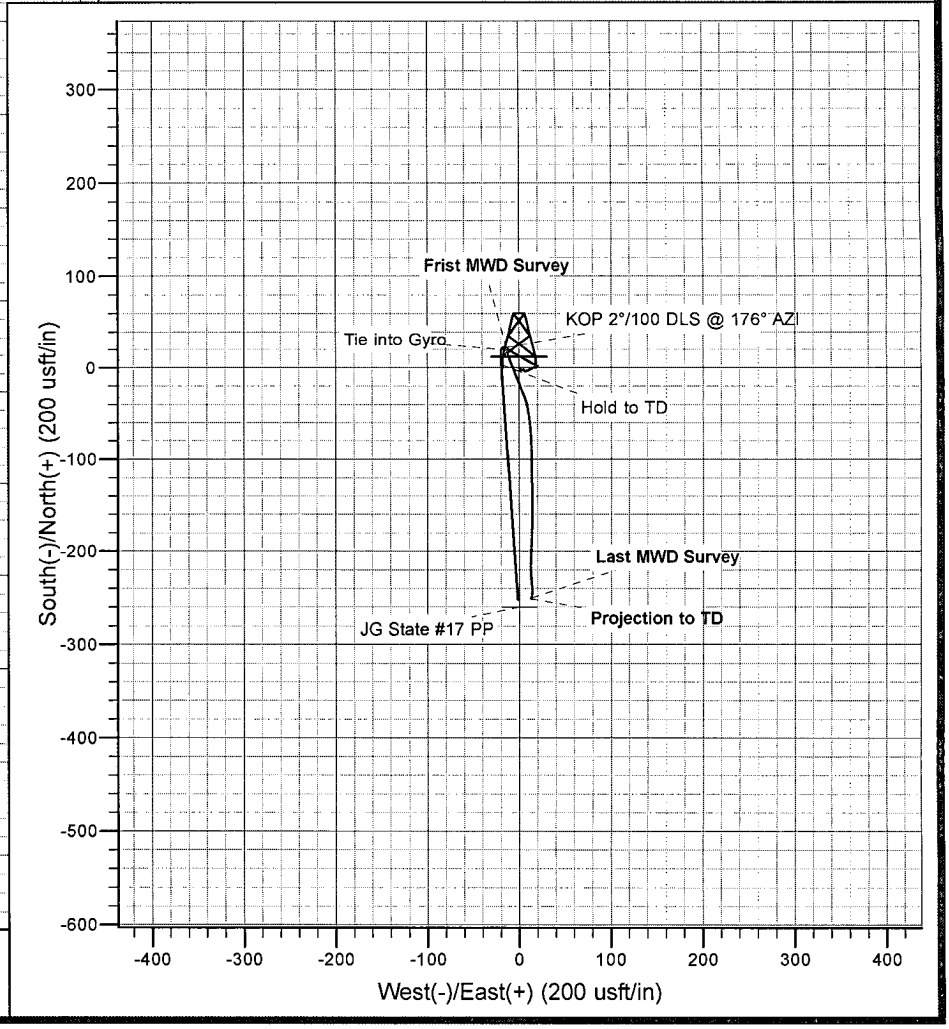
Total Correction: 7.53°

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

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	4253.5	2.27	305.91	4252.8	19.2	-10.6	0.00	0.00	-19.1	
2	4376.0	2.27	305.91	4375.2	22.0	-14.5	0.00	0.00	-21.9	
3	4788.1	6.60	176.00	4786.5	3.1	-19.5	2.00	-142.05	-3.0	
4	7016.4	6.60	176.00	7000.0	-252.3	-1.6	0.00	0.00	252.3	JG State #17 PP

ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
4252.8	4253.5	2.27	305.91	19.2	-10.6	-19.1	0.0	Tie into Gyro
4375.2	4376.0	2.27	305.91	22.0	-14.5	-21.9	4.9	KOP 2°/100 DLS @ 176° AZI
4786.5	4788.1	6.60	176.00	3.1	-19.5	-3.0	28.5	Hold to TD
7000.0	7016.4	6.60	176.00	-252.3	-1.6	252.3	284.6	TD at 7016.4





Great White Directional Services

Survey Report

Company:	Cimarex Energy Co.	**Local Co-ordinate Reference:**	Well JG State #17
Project:	Lea County (NAD 83)	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 16 - T17S - R32E	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Well:	JG State #17	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

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 #17

Well Position	**+N/-S**	0.0 usft	**Northing:**	668,419.30 usft	**Latitude:**	32° 50' 10.549 N
	+E/-W	0.0 usft	**Easting:**	712,926.30 usft	**Longitude:**	103° 46' 28.824 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	0.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	06/24/10	7.83	60.76	49,119

Design Wellbore #1

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	284.63

Survey Program **Date** 10/19/10

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
23.9	4,253.5	Gyro Survey (Wellbore #1)	MWD	MWD - Standard
4,343.0	6,108.0	MWD Survey (Wellbore #1)	MWD	MWD - Standard

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)
4,253.5	2.27	305.91	4,252.8	19.2	-10.6	15.1	0.00	0.00	0.00
4,343.0	2.20	307.50	4,342.2	21.3	-13.4	18.3	0.10	-0.08	1.78
Frist MWD Survey									
4,375.0	2.30	304.20	4,374.2	22.0	-14.4	19.5	0.51	0.31	-10.31
4,406.0	1.10	199.10	4,405.2	22.1	-15.0	20.1	9.02	-3.87	-339.03
4,438.0	2.20	176.20	4,437.2	21.2	-15.1	19.9	3.94	3.44	-71.56
4,470.0	3.10	162.60	4,469.2	19.7	-14.8	19.3	3.41	2.81	-42.50
4,502.0	3.60	162.00	4,501.1	17.9	-14.2	18.3	1.57	1.56	-1.88
4,533.0	4.30	160.90	4,532.0	15.9	-13.5	17.1	2.27	2.26	-3.55
4,564.0	5.40	156.90	4,562.9	13.5	-12.6	15.6	3.71	3.55	-12.90

Company:	Cimarex Energy Co.	**Local Co-ordinate Reference:**	Well JG State #17
Project:	Lea County (NAD 83)	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 16 - T17S - R32E	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Well:	JG State #17	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

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)
4,627.0	6.00	158.60	4,625.6	7.7	-10.2	11.8	0.99	0.95	2.70
4,659.0	5.90	158.30	4,657.4	4.6	-9.0	9.9	0.33	-0.31	-0.94
4,690.0	5.80	157.90	4,688.3	1.7	-7.8	8.0	0.35	-0.32	-1.29
4,721.0	6.70	159.20	4,719.1	-1.5	-6.6	6.0	2.94	2.90	4.19
4,753.0	6.80	160.40	4,750.9	-5.0	-5.3	3.8	0.54	0.31	3.75
4,784.0	6.80	157.60	4,781.6	-8.4	-4.0	1.7	1.07	0.00	-9.03
4,816.0	6.70	150.90	4,813.4	-11.8	-2.3	-0.7	2.48	-0.31	-20.94
4,847.0	6.70	159.20	4,844.2	-15.1	-0.8	-3.0	3.12	0.00	26.77
4,879.0	6.70	160.30	4,876.0	-18.6	0.5	-5.2	0.40	0.00	3.44
4,911.0	6.60	160.00	4,907.8	-22.1	1.7	-7.3	0.33	-0.31	-0.94
4,943.0	6.60	159.50	4,939.6	-25.5	3.0	-9.4	0.18	0.00	-1.56
4,974.0	6.60	158.50	4,970.4	-28.9	4.3	-11.4	0.37	0.00	-3.23
5,005.0	6.50	158.40	5,001.2	-32.1	5.6	-13.5	0.32	-0.32	-0.32
5,037.0	6.30	159.90	5,033.0	-35.5	6.9	-15.6	0.81	-0.63	4.69
5,069.0	6.60	163.50	5,064.8	-38.9	8.0	-17.6	1.57	0.94	11.25
5,101.0	7.40	171.80	5,096.5	-42.7	8.8	-19.3	4.02	2.50	25.94
5,132.0	7.60	172.00	5,127.2	-46.7	9.4	-20.9	0.65	0.65	0.65
5,163.0	7.60	171.70	5,158.0	-50.8	10.0	-22.5	0.13	0.00	-0.97
5,194.0	7.50	171.70	5,188.7	-54.8	10.5	-24.0	0.32	-0.32	0.00
5,225.0	7.30	171.70	5,219.5	-58.7	11.1	-25.6	0.65	-0.65	0.00
5,289.0	7.30	172.00	5,282.9	-66.8	12.3	-28.7	0.06	0.00	0.47
5,320.0	7.00	178.10	5,313.7	-70.6	12.6	-30.0	2.63	-0.97	19.68
5,351.0	7.00	176.90	5,344.5	-74.4	12.8	-31.2	0.47	0.00	-3.87
5,384.0	7.00	179.80	5,377.2	-78.4	12.9	-32.3	1.07	0.00	8.79
5,405.0	6.90	178.30	5,398.1	-81.0	12.9	-33.0	0.99	-0.48	-7.14
5,446.0	7.00	178.00	5,438.8	-85.9	13.1	-34.4	0.26	0.24	-0.73
5,478.0	6.90	179.40	5,470.5	-89.8	13.2	-35.4	0.61	-0.31	4.38
5,509.0	6.80	179.40	5,501.3	-93.5	13.2	-36.4	0.32	-0.32	0.00
5,540.0	6.80	179.70	5,532.1	-97.2	13.2	-37.4	0.11	0.00	0.97
5,572.0	6.60	179.10	5,563.9	-100.9	13.3	-38.3	0.66	-0.63	-1.88
5,604.0	6.50	179.70	5,595.7	-104.5	13.3	-39.3	0.38	-0.31	1.88
5,635.0	6.60	179.50	5,626.5	-108.1	13.3	-40.2	0.33	0.32	-0.65
5,667.0	6.50	178.70	5,658.2	-111.7	13.4	-41.2	0.42	-0.31	-2.50
5,698.0	6.50	179.90	5,689.0	-115.2	13.4	-42.1	0.44	0.00	3.87
5,730.0	6.50	179.50	5,720.8	-118.9	13.5	-43.1	0.14	0.00	-1.25
5,761.0	6.60	179.30	5,751.6	-122.4	13.5	-44.0	0.33	0.32	-0.65
5,792.0	6.50	178.30	5,782.4	-125.9	13.6	-44.9	0.49	-0.32	-3.23
5,824.0	6.50	179.30	5,814.2	-129.5	13.7	-45.9	0.35	0.00	3.13
5,855.0	6.50	180.20	5,845.0	-133.1	13.7	-46.8	0.33	0.00	2.90
5,887.0	6.50	180.50	5,876.8	-136.7	13.6	-47.7	0.11	0.00	0.94
5,918.0	6.40	179.00	5,907.6	-140.2	13.7	-48.6	0.63	-0.32	-4.84
5,950.0	6.30	178.80	5,939.4	-143.7	13.7	-49.6	0.32	-0.31	-0.63
5,982.0	6.20	179.30	5,971.2	-147.2	13.8	-50.5	0.36	-0.31	1.56

Company:	Cimarex Energy Co.	**Local Co-ordinate Reference:**	Well JG State #17
Project:	Lea County (NAD 83)	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 16 - T17S - R32E	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Well:	JG State #17	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000.1 Single User Db

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)
6,014.0	6.30	178.40	6,003.1	-150.7	13.9	-51.5	0.44	0.31	-2.81
6,045.0	6.20	180.10	6,033.9	-154.0	13.9	-52.4	0.68	-0.32	5.48
6,076.0	6.20	179.70	6,064.7	-157.4	13.9	-53.2	0.14	0.00	-1.29
6,108.0	6.70	180.10	6,096.5	-161.0	13.9	-54.1	1.57	1.56	1.25
6,139.0	6.20	180.90	6,127.3	-164.5	13.9	-55.0	1.64	-1.61	2.58
6,170.0	6.20	180.00	6,158.1	-167.8	13.9	-55.8	0.31	0.00	-2.90
6,201.0	6.20	179.00	6,188.9	-171.2	13.9	-56.7	0.35	0.00	-3.23
6,233.0	6.00	180.00	6,220.7	-174.6	13.9	-57.6	0.71	-0.63	3.13
6,265.0	6.00	182.50	6,252.6	-177.9	13.8	-58.3	0.82	0.00	7.81
6,296.0	5.90	183.00	6,283.4	-181.1	13.7	-59.0	0.36	-0.32	1.61
6,328.0	5.80	183.40	6,315.2	-184.4	13.5	-59.6	0.34	-0.31	1.25
6,360.0	5.80	183.10	6,347.1	-187.6	13.3	-60.3	0.09	0.00	-0.94
6,391.0	5.70	183.40	6,377.9	-190.7	13.2	-60.9	0.34	-0.32	0.97
6,422.0	5.60	183.00	6,408.8	-193.7	13.0	-61.5	0.35	-0.32	-1.29
6,453.0	5.60	182.00	6,439.6	-196.8	12.8	-62.1	0.31	0.00	-3.23
6,485.0	5.50	182.60	6,471.5	-199.9	12.7	-62.8	0.36	-0.31	1.88
6,517.0	5.70	182.30	6,503.3	-203.0	12.6	-63.5	0.63	0.63	-0.94
6,548.0	5.70	182.80	6,534.2	-206.1	12.5	-64.1	0.16	0.00	1.61
6,579.0	5.60	183.30	6,565.0	-209.1	12.3	-64.7	0.36	-0.32	1.61
6,611.0	5.60	183.00	6,596.9	-212.2	12.1	-65.3	0.09	0.00	-0.94
6,643.0	5.50	183.00	6,628.7	-215.3	12.0	-66.0	0.31	-0.31	0.00
6,675.0	5.50	181.20	6,660.6	-218.4	11.8	-66.6	0.54	0.00	-5.63
6,706.0	5.90	175.60	6,691.4	-221.4	11.9	-67.5	2.21	1.29	-18.06
6,737.0	6.20	174.40	6,722.2	-224.7	12.2	-68.6	1.05	0.97	-3.87
6,768.0	6.10	174.60	6,753.1	-228.0	12.5	-69.7	0.33	-0.32	0.65
6,800.0	6.00	174.10	6,784.9	-231.4	12.9	-70.9	0.35	-0.31	-1.56
6,832.0	6.20	175.70	6,816.7	-234.8	13.2	-72.0	0.82	0.63	5.00
6,863.0	6.10	176.20	6,847.5	-238.1	13.4	-73.1	0.37	-0.32	1.61
6,894.0	6.20	176.30	6,878.3	-241.4	13.6	-74.2	0.32	0.32	0.32
6,925.0	5.50	184.90	6,909.2	-244.5	13.6	-74.9	3.61	-2.26	27.74
6,957.0	5.70	184.90	6,941.0	-247.6	13.3	-75.5	0.63	0.63	0.00
6,988.0	5.00	192.10	6,971.9	-250.5	12.9	-75.8	3.12	-2.26	23.23
Last MWD Survey									
7,000.0	3.70	235.30	6,983.9	-251.2	12.5	-75.5	28.51	-10.83	360.00
Projection to TD - JG State #17 PP									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,343.0	4,342.2	21.3	-13.4	Frist MWD Survey
6,988.0	6,971.9	-250.5	12.9	Last MWD Survey
7,000.0	6,983.9	-251.2	12.5	Projection to TD

RECEIVED
JAN 20 2011
HOBBSOCD

CIMAREX ENERGY

Maljamar
Lea County, NM
JG State #17
VH - Job #321010789

Survey: Actual

SDI Standard Survey Report

21 October, 2010

This survey is correct to the best of my knowledge and is supported by actual field data.

Notorized this date 11th of November, 2010.

Notary Signature
County of Midland
State of Texas

CARRIE REED
My Commission Expires
October 4, 2011

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	CIMAREX ENERGY	**Local Co-ordinate Reference:**	Well JG State #17
Project:	Maljamar	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Well:	JG State #17	**North Reference:**	Grid
Wellbore:	VH - Job #321010789	**Survey Calculation Method:**	Minimum Curvature
Design:	VH - Job #32K1010789	**Database:**	EDM-Regulatory

Project Maljamar

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site Lea County, NM

Site Position:		**Northing:**	673,975.98 usft	**Latitude:**	32° 49' 42.060 N
From:	Lat/Long	**Easting:**	1,260,812.51 usft	**Longitude:**	103° 46' 24.590 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16"	**Grid Convergence:**	1.34 °

Well JG State #17, Directional (Great White)

Well Position	**+N/-S**	0.0 usft	**Northing:**	676,847.72 usft	**Latitude:**	32° 50' 10.550 N
	+E/-W	0.0 usft	**Easting:**	1,260,383.94 usft	**Longitude:**	103° 46' 28.820 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	0.0 usft

Wellbore VH - Job #321010789

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	10/15/2010	7.87	60.75	49,095

Design VH - Job #32K1010789

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	180.00

Survey Program **Date** 10/21/2010

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
23.9	4,253.5	Actual (VH - Job #321010789)	Keeper	Keeper Gyro

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
23.9	0.12	222.88	23.9	0.0	0.0	222.88	0.0
114.1	0.11	184.98	114.1	-0.2	-0.1	207.07	0.2
209.6	0.32	144.83	209.6	-0.5	0.1	173.29	0.5
297.7	0.53	145.86	297.7	-1.0	0.4	157.30	1.1
388.1	0.65	141.62	388.1	-1.8	1.0	151.02	2.0
478.5	0.58	128.20	478.5	-2.5	1.7	145.96	3.0
570.4	0.40	114.64	570.4	-2.9	2.3	141.16	3.7
657.2	0.27	76.17	657.2	-3.0	2.8	136.64	4.1
752.4	0.45	84.05	752.4	-2.9	3.4	130.25	4.4
845.4	0.38	68.01	845.4	-2.7	4.0	123.91	4.9
940.0	0.18	69.69	940.0	-2.5	4.5	119.66	5.1

Scientific Drilling International, Inc.

SDI Standard Survey Report

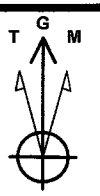
Company:	CIMAREX ENERGY	**Local Co-ordinate Reference:**	Well JG State #17
Project:	Maljamar	**TVD Reference:**	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	**MD Reference:**	WELL @ 0.0usft (Original Well Elev)
Well:	JG State #17	**North Reference:**	Grid
Wellbore:	VH - Job #321010789	**Survey Calculation Method:**	Minimum Curvature
Design:	VH - Job #32K1010789	**Database:**	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,034.6	0.19	95.91	1,034.6	-2.5	4.8	117.77	5.4
1,129.2	0.25	145.56	1,129.2	-2.7	5.0	118.15	5.7
1,223.8	0.38	147.94	1,223.8	-3.1	5.3	120.48	6.2
1,318.4	0.41	132.06	1,318.4	-3.6	5.7	122.28	6.8
1,413.0	0.35	114.03	1,413.0	-4.0	6.2	122.41	7.4
1,507.6	0.44	96.14	1,507.6	-4.1	6.9	120.95	8.0
1,602.3	0.71	60.15	1,602.3	-3.9	7.7	116.55	8.7
1,696.9	0.84	70.25	1,696.9	-3.3	8.9	110.57	9.5
1,794.4	1.00	69.12	1,794.3	-2.8	10.4	105.09	10.7
1,888.6	0.97	53.66	1,888.5	-2.0	11.8	99.78	12.0
1,982.7	1.22	66.75	1,982.6	-1.2	13.3	94.98	13.4
2,076.9	1.01	64.08	2,076.8	-0.4	15.0	91.54	15.0
2,171.1	0.76	44.43	2,171.0	0.4	16.2	88.56	16.2
2,265.3	0.70	67.69	2,265.2	1.1	17.2	86.43	17.2
2,361.8	0.57	73.83	2,361.7	1.4	18.2	85.51	18.2
2,455.9	0.45	72.61	2,455.8	1.7	19.0	84.97	19.0
2,549.9	0.33	55.33	2,549.8	1.9	19.5	84.35	19.6
2,644.0	0.27	85.95	2,643.9	2.1	20.0	84.00	20.1
2,738.1	0.05	133.98	2,738.0	2.1	20.2	84.11	20.3
2,832.1	0.11	261.24	2,832.0	2.0	20.2	84.21	20.3
2,928.9	0.17	273.99	2,928.8	2.0	19.9	84.15	20.0
3,023.5	0.39	287.07	3,023.4	2.1	19.5	83.71	19.6
3,118.2	0.61	294.30	3,118.1	2.4	18.7	82.55	18.9
3,212.8	0.76	302.48	3,212.6	3.0	17.7	80.42	18.0
3,307.5	1.00	302.32	3,307.3	3.8	16.5	77.13	16.9
3,402.1	1.36	303.49	3,401.9	4.8	14.9	72.00	15.6
3,496.7	1.66	298.92	3,496.5	6.1	12.7	64.36	14.1
3,591.4	1.72	295.87	3,591.1	7.4	10.3	54.21	12.7
3,686.0	1.70	297.14	3,685.7	8.7	7.7	41.78	11.6
3,781.3	1.68	297.24	3,781.0	9.9	5.2	27.78	11.2
3,874.6	2.02	297.14	3,874.2	11.3	2.6	12.74	11.6
3,969.3	2.32	298.22	3,968.8	13.0	-0.6	357.29	13.0
4,064.1	2.48	299.12	4,063.6	14.9	-4.1	344.61	15.4
4,158.8	2.33	304.55	4,158.2	17.0	-7.5	336.24	18.6
4,253.5	2.27	305.91	4,252.8	19.2	-10.6	331.11	21.9

Scientific Drilling
Directional Drilling Operations

Project: Maljamar
Lea County, NM
Well: JG State #17
Wellbore: VH - Job #321010789
Design: VH - Job #32K1010789

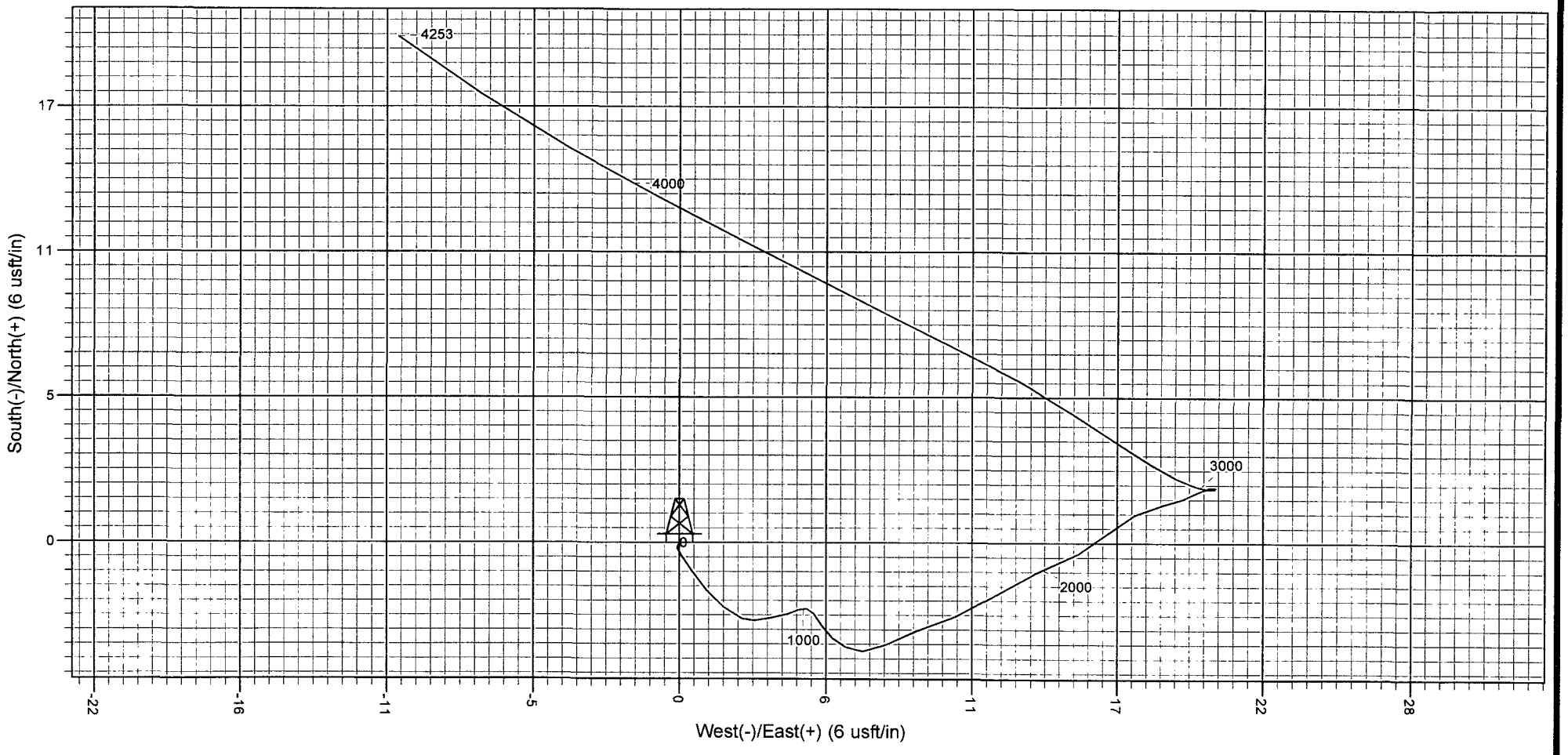


Azimuths to Grid North
True North: -1.34°
Magnetic North: 6.53°

Magnetic Field
Strength: 49095.4snT
Dip Angle: 60.75°
Date: 10/15/2010
Model: BGGM2010

WELL DETAILS: JG State #17
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	676847.72	1260383.94	32° 50' 10.550 N	103° 46' 28.820 W	



PROJECT DETAILS: Maljamar
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
System Datum: Mean Sea Level

SITE DETAILS: Lea County, NM
Site Centre Latitude: 32° 49' 42.060 N
Longitude: 103° 46' 24.590 W
Positional Uncertainity: 0.0
Convergence: 1.34
Local North: Grid