

Results of Directional Survey

API number:	30-025-39888		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	SOUTHERN CALIFORNIA 29 FEDERAL # 17H

surface	ULSTR:	L	29	T 19S	R 32E
				1980 FSL	330 FWL

BH Loc	ULSTR:	J	29	T 19S	R 32E
12470 MD		9294.2	TVD	1970 FSL	3655 FWL
					1625 FEL

Top Perf/OH	ULSTR:	L	29	T 19S	R 32E
9421 MD		9272.6	TVD	2102 FSL	615 FWL

Bot Perf/OH	ULSTR:	J	29	T 19S	R 32E
12363 MD		9292.9	TVD	1976 FSL	3548 FWL
					1732 FEL

	MD	N/S	E/W	VD
	9392	126.10	256.30	9269.1
TOP PERFS/OH	9421	122.38	284.85	9272.63
	9424	122.00	287.80	9273.00
	12272	0.50	3127.00	9249.70
BOT PERFS/OH	12363	-3.66	3217.90	9292.88
	12366	-3.80	3220.90	9294.30

NEXT TO LAST	12429	-7.20	3283.80	9294.20
LAST READING	12467.3	-9.60	3322.00	9294.20
TD	12470	-9.77	3324.69	9294.20

Surface Location	1980 FS	330 FW
Projected BHL	1970 FS	3655 FW
Location of		
Top Perfs/OH	2102 FS	615 FW
Bottom Perfs/OH	1976 FS	3548 FW

SUMMARY of Subsurface Locations

Surface Location	L-29-19S-32E	1980 FS	330 FW	Vert. Depth
Top Perfs/OH	L-29-19S-32E	2102 FS	615 FW	9272.63
Bottom Perfs/OH	J-29-19S-32E	1976 FS	3548 FW	9292.88
Projected TD	J-29-19S-32E	1970 FS	3655 FW	9294.20

JUN 09 2011



Great White Directional Services

Survey Report

Company: Cimarex Energy Co.
 Project: Lea County (NAD 83)
 Site: Sec 29 - T19S - R32E
 Well: Southern California 29 Fed #17
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Southern California 29 Fed #17
 TVD Reference: WELL @ 0.0usft (Original Well Elev)
 MD Reference: WELL @ 0.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,762.0	8,758.7	126.2	8.8	Tie In Point
9,012.0	9,008.5	127.9	14.3	First MWD Survey
12,429.0	9,294.2	-7.2	3,283.8	Last MWD Survey
12,470.0	9,294.2	-9.7	3,324.7	Projection to TD

Checked By: _____ Approved By: _____ Date: _____



Cimarex Energy Co.
 Project: Lea County (NAD 83)
 Site: Sec 29 - T19S - R32E
 Well: Southern California 29 Fed #17
 Wellbore: Wellbore #1

WELL DETAILS: Southern California 29 Fed #17

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude
0.0	0.0	593211.00	0.0	706792.30	32° 37' 46.691 N	103° 47' 45.177 W
SHL: 1980' FSL / 330' FWL						
BHL: 1980' FSL / 1650' FEL						

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SoCal #17 PBHL	9267.0	7.4	3323.0	32° 37' 46.596 N	103° 47' 6.319 W

SECTION DETAILS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
9273.9	9865.0	90.15	91.54	77.4	726.1	726.3	378.0	Hold to TD
9267.0	12462.9	90.15	91.55	7.4	3323.0	3323.0	2975.9	TD at 12462.9

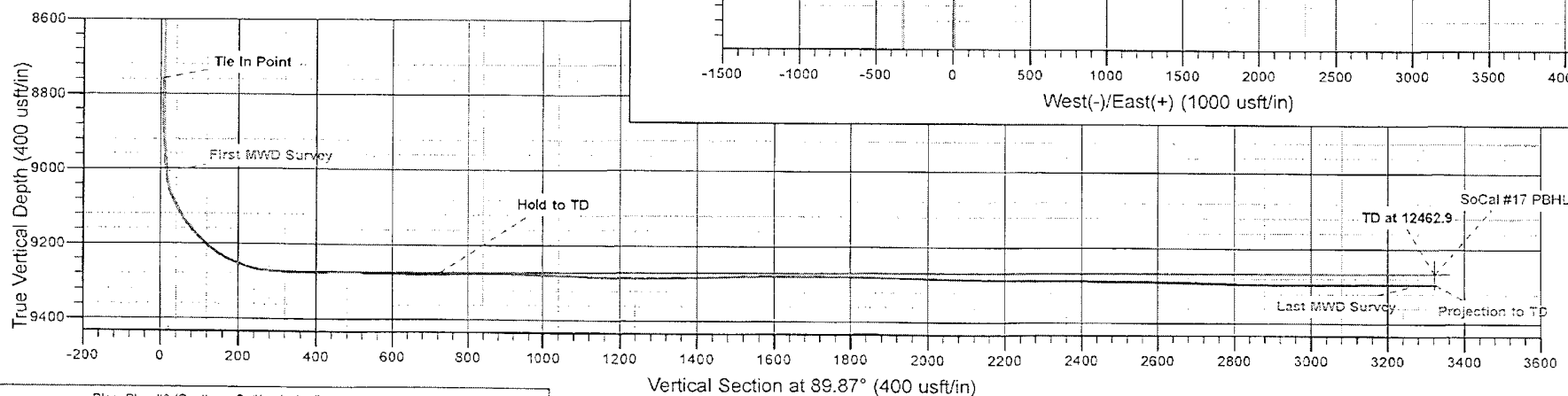
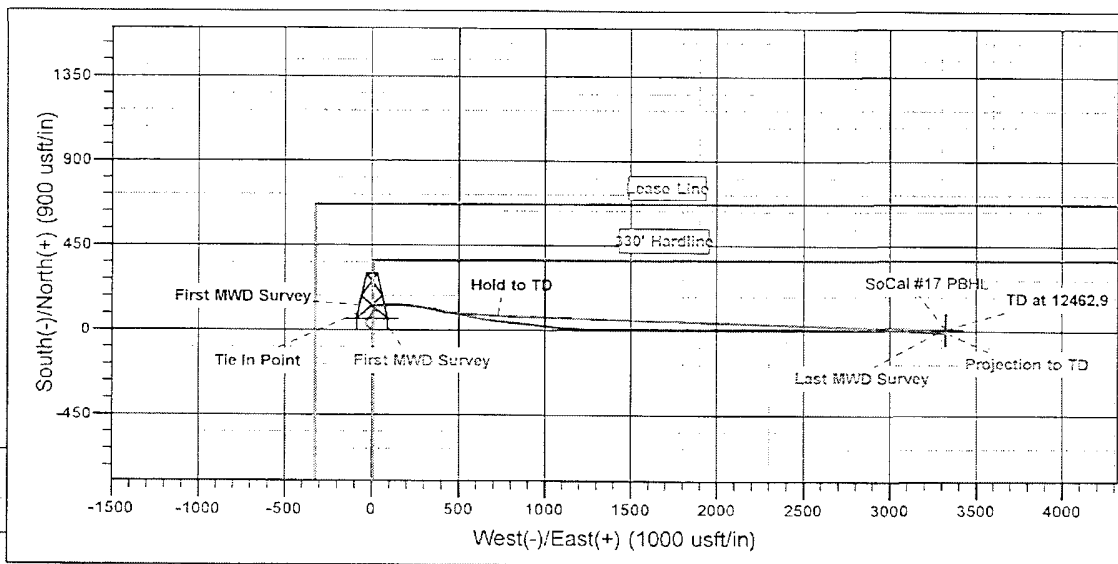
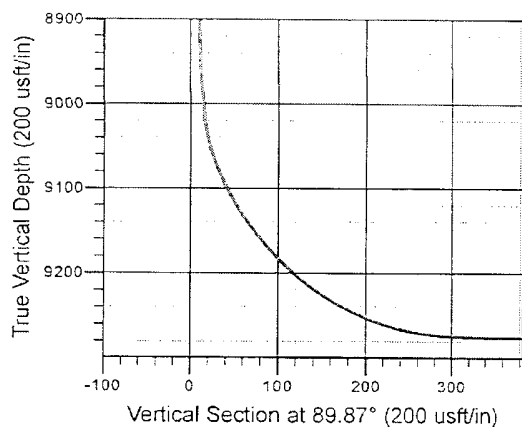


Azimuths to Grid North
 Total Correction: 7.50°
 Magnetic Field
 Strength: 48961.5snT
 Dip Angle: 60.56°
 Date: 10/16/2010
 Model: IGRF200510

JUN 06 2011

HOBBS OGD

RECEIVED



Plan: Plan #6 (Southern California 29 Fed #17/Wellbore #1)

Created By: Aaron Pullin

Date: 13:17, January 07 2011



Great White Directional Services

Survey Report

Company: Cimarex Energy Co.
 Project: Lea County (NAD 83)
 Site: Sec 29 - T19S - R32E
 Well: Southern California 29 Fed #17
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Southern California 29 Fed #17
 TVD Reference: WELL @ 0.0usft (Original Well Elev)
 MD Reference: WELL @ 0.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
9,202.0	42.10	89.20	9,177.1	134.6	94.5	90.9	15.73	15.63	2.81
9,234.0	47.30	89.80	9,199.8	134.8	117.0	113.4	16.30	16.25	1.88
9,265.0	53.90	91.30	9,219.5	134.5	140.9	137.3	21.62	21.29	4.84
9,297.0	60.40	92.60	9,236.8	133.6	167.8	164.2	20.60	20.31	4.06
9,328.0	66.70	94.20	9,250.6	132.0	195.4	191.9	20.84	20.32	5.16
9,360.0	73.20	95.50	9,261.6	129.4	225.4	221.9	20.67	20.31	4.06
9,392.0	79.70	96.60	9,269.1	126.1	256.3	252.9	20.59	20.31	3.44
9,424.0	86.10	98.40	9,273.0	122.0	287.8	284.5	20.76	20.00	5.63
9,467.0	90.20	99.10	9,275.1	112.4	350.0	346.9	6.60	6.51	1.11
9,583.0	90.20	100.60	9,274.7	96.0	444.6	441.9	1.56	0.00	1.56
9,677.0	89.10	100.70	9,275.3	78.6	536.9	534.7	1.18	-1.17	0.11
9,772.0	87.80	100.20	9,277.9	61.4	630.3	628.5	1.47	-1.37	-0.53
9,866.0	91.30	95.20	9,278.6	48.8	723.4	721.9	6.49	3.72	-5.32
9,962.0	91.10	94.70	9,276.6	40.5	819.1	817.7	0.56	-0.21	-0.52
10,058.0	88.10	96.40	9,277.3	31.2	914.6	913.5	3.59	-3.13	1.77
10,183.0	88.70	95.50	9,280.8	18.3	1,038.9	1,038.0	0.87	0.48	-0.72
10,278.0	87.70	93.70	9,283.8	10.7	1,133.5	1,132.8	2.17	-1.05	-1.89
10,373.0	89.80	91.60	9,285.8	6.3	1,228.4	1,227.8	3.13	2.21	-2.21
10,468.0	90.90	89.80	9,285.2	5.1	1,323.4	1,322.8	2.22	1.16	-1.89
10,563.0	91.60	89.70	9,283.2	5.5	1,418.3	1,417.7	0.74	0.74	-0.11
10,658.0	91.20	90.00	9,280.8	5.8	1,513.3	1,512.6	0.53	-0.42	0.32
10,753.0	90.10	89.80	9,279.8	6.0	1,608.3	1,607.6	1.18	-1.16	-0.21
10,848.0	89.80	89.90	9,279.9	6.2	1,703.3	1,702.6	0.33	-0.32	0.11
10,943.0	89.30	90.30	9,280.6	6.0	1,798.3	1,797.5	0.67	-0.53	0.42
11,038.0	88.80	89.50	9,282.2	6.2	1,893.3	1,892.5	0.99	-0.53	-0.84
11,135.0	88.60	89.40	9,284.4	7.1	1,990.3	1,989.4	0.23	-0.21	-0.10
11,228.0	89.00	89.00	9,286.3	8.4	2,083.2	2,082.3	0.61	0.43	-0.43
11,323.0	90.10	89.90	9,287.1	9.3	2,178.2	2,177.2	1.50	1.16	0.95
11,418.0	89.50	89.90	9,287.4	9.5	2,273.2	2,272.2	0.63	-0.63	0.00
11,513.0	89.50	89.90	9,288.2	9.7	2,368.2	2,367.1	0.00	0.00	0.00
11,608.0	89.40	90.40	9,289.1	9.4	2,463.2	2,462.1	0.54	-0.11	0.53
11,703.0	89.60	90.00	9,290.0	9.1	2,558.2	2,557.1	0.47	0.21	-0.42
11,798.0	89.20	90.60	9,291.0	8.6	2,653.2	2,652.1	0.76	-0.42	0.63
11,893.0	88.90	89.90	9,292.5	8.2	2,748.2	2,747.0	0.80	-0.32	-0.74
11,988.0	88.20	90.10	9,294.9	8.2	2,843.1	2,842.0	0.77	-0.74	0.21
12,083.0	90.50	91.30	9,296.0	7.0	2,938.1	2,936.9	2.73	2.42	1.26
12,177.0	90.30	92.10	9,295.4	4.2	3,032.1	3,030.9	0.88	-0.21	0.85
12,272.0	90.50	92.40	9,294.7	0.5	3,127.0	3,125.9	0.38	0.21	0.32
12,366.0	90.00	92.80	9,294.3	-3.8	3,220.9	3,219.9	0.68	-0.53	0.43
12,429.0	90.10	93.50	9,294.2	-7.2	3,283.8	3,282.9	1.12	0.16	1.11
Last MWD Survey									
12,467.3	90.10	93.50	9,294.2	-9.6	3,322.0	3,321.1	0.00	0.00	0.00
SoCal #17 PBHL									
12,470.0	90.10	93.50	9,294.2	-9.7	3,324.7	3,323.8	0.00	0.00	0.00