CIMAREX ENERGY

Morrow Wildcat
Eddy County, NM
Jumping Spring "16" State Com #1
VH - Job #32K0411385

Survey: Actual

SDI Standard Survey Report

12 May, 2011

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

Notarized this date 8th of January, 2011.

Carrie Reed
Notary Signature
County of Midland
State of Texas

NOTARY PUBLIC STATE OF TEXAS
CARRIE REED
My Commission Expires
October 4, 2011

Scientific Drilling
Directional Drilling Operations

Scientific Drilling International, Inc.

SDI Standard Survey Report

Scientific Drilling

Company:	CIMAREX ENERGY	Local Co-ordinate Reference:	Well Jumping Spring "16" State Com #1
Project:	Morrow Wildcat	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Jumping Spring "16" State Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K0411385	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0411385	Database:	EDM Regulatory

Project Morrow Wildcat

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Eddy County, NM

Site Position:		Northing:	380,807.30 usft	Latitude:	32° 2' 49.010 N
From:	Lat/Long	Easting:	512,971.83 usft	Longitude:	104° 17' 29.280 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.02 °

Well Jumping Spring "16" State Com #1, Directional (Precision)

Well Position	+N/-S	0.0 usft	Northing:	380,807.30 usft	Latitude:	32° 2' 49.010 N
	+E/-W	0.0 usft	Easting:	512,971.83 usft	Longitude:	104° 17' 29.280 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore VH - Job #32K0411385

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2011	7.91	59.90	48,465

Design VH - Job #32K0411385

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	273.83

Survey Program Date 5/12/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,076.0	Actual (VH - Job #32K0411385)	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
100.0	0.27	200.79	100.0	-0.2	-0.1	200.79	0.2
200.0	0.29	309.79	200.0	-0.3	-0.4	232.40	0.5
300.0	0.05	265.03	300.0	-0.1	-0.6	258.65	0.6
400.0	0.18	264.07	400.0	-0.1	-0.8	260.04	0.8
500.0	0.30	200.87	500.0	-0.4	-1.0	249.06	1.1
600.0	0.51	204.91	600.0	-1.0	-1.3	231.71	1.7
700.0	0.65	208.76	700.0	-2.0	-1.8	222.54	2.6
800.0	0.69	218.49	800.0	-2.9	-2.4	219.86	3.8
900.0	0.53	223.52	900.0	-3.7	-3.1	220.04	4.9
1,000.0	0.54	222.02	1,000.0	-4.4	-3.8	220.48	5.8
1,100.0	1.22	102.54	1,100.0	-5.0	-3.0	211.35	5.8

Scientific Drilling International, Inc.

SDI Standard Survey Report

Scientific Drilling

Company:	CIMAREX ENERGY	Local Co-ordinate Reference:	Well Jumping Spring "16" State Com #1
Project:	Morrow Wildcat	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Jumping Spring "16" State Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K0411385	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0411385	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	2.24	88.40	1,199.9	-5.2	0.0	180.53	5.2
1,300.0	2.42	86.04	1,299.8	-5.0	4.0	141.47	6.4
1,400.0	3.98	89.06	1,399.7	-4.9	9.6	117.11	10.8
1,500.0	5.24	90.32	1,499.4	-4.9	17.6	105.48	18.3
1,600.0	5.12	89.55	1,598.9	-4.9	26.7	100.30	27.1
1,700.0	4.66	92.77	1,698.6	-5.0	35.1	98.16	35.5
1,800.0	4.23	95.53	1,798.3	-5.6	42.7	97.43	43.1
1,900.0	4.16	96.62	1,898.0	-6.4	50.0	97.24	50.4
2,000.0	4.07	96.94	1,997.8	-7.2	57.1	97.18	57.6
2,100.0	3.93	97.97	2,097.5	-8.1	64.1	97.21	64.6
2,200.0	3.83	98.77	2,197.3	-9.1	70.7	97.32	71.3
2,300.0	3.83	99.55	2,297.1	-10.1	77.3	97.48	78.0
2,400.0	3.82	102.19	2,396.8	-11.4	83.9	97.74	84.7
2,500.0	3.52	104.88	2,496.6	-12.9	90.1	98.15	91.0
2,600.0	3.16	104.09	2,596.5	-14.4	95.8	98.53	96.8
2,700.0	3.09	104.15	2,696.3	-15.7	101.0	98.83	102.2
2,800.0	2.83	106.17	2,796.2	-17.0	106.0	99.13	107.4
2,900.0	2.69	110.07	2,896.1	-18.5	110.6	99.51	112.1
3,000.0	2.65	112.20	2,996.0	-20.2	114.9	99.96	116.6
3,100.0	2.48	116.24	3,095.9	-22.0	118.9	100.47	120.9
3,200.0	2.42	119.69	3,195.8	-24.0	122.6	101.06	125.0
3,300.0	2.35	120.46	3,295.7	-26.1	126.2	101.67	128.9
3,400.0	2.10	121.18	3,395.6	-28.1	129.6	102.22	132.6
3,500.0	2.11	123.28	3,495.6	-30.0	132.7	102.76	136.0
3,600.0	2.05	126.31	3,595.5	-32.1	135.7	103.30	139.4
3,700.0	1.99	126.13	3,695.4	-34.2	138.5	103.86	142.7
3,800.0	2.03	130.64	3,795.4	-36.3	141.2	104.43	145.8
3,900.0	1.76	136.57	3,895.3	-38.6	143.6	105.04	148.7
4,000.0	1.62	133.86	3,995.3	-40.7	145.7	105.61	151.3
4,100.0	1.53	136.89	4,095.2	-42.7	147.7	106.11	153.7
4,200.0	1.38	133.24	4,195.2	-44.5	149.4	106.57	155.9
4,300.0	1.39	139.57	4,295.2	-46.2	151.1	107.00	158.0
4,400.0	1.24	139.63	4,395.1	-48.0	152.6	107.45	160.0
4,500.0	1.17	151.86	4,495.1	-49.7	153.8	107.90	161.6
4,600.0	1.15	155.58	4,595.1	-51.5	154.7	108.41	163.0
4,700.0	1.26	153.44	4,695.1	-53.4	155.6	108.94	164.5
4,800.0	1.08	161.22	4,795.1	-55.3	156.4	109.46	165.9
4,900.0	1.11	158.94	4,895.0	-57.1	157.0	109.97	167.1
5,000.0	1.12	166.81	4,995.0	-58.9	157.6	110.50	168.2
5,100.0	1.14	174.14	5,095.0	-60.9	157.9	111.07	169.2
5,200.0	1.16	169.46	5,195.0	-62.8	158.2	111.66	170.2
5,300.0	0.94	174.18	5,295.0	-64.7	158.5	112.19	171.2
5,400.0	0.95	178.94	5,394.9	-66.3	158.6	112.69	171.9
5,500.0	1.00	156.82	5,494.9	-67.9	158.9	113.14	172.8

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Project:	Morrow Wildcat	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Jumping Spring "16" State Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K0411385	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0411385	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth (usft)	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	0.99	142.81	5,594.9	-69.4	159.8	113.48	174.2
5,700.0	0.96	137.18	5,694.9	-70.7	160.9	113.73	175.7
5,800.0	0.90	130.40	5,794.9	-71.8	162.1	113.91	177.3
5,900.0	1.02	115.29	5,894.9	-72.7	163.5	113.99	178.9
6,000.0	0.66	90.10	5,994.9	-73.1	164.8	113.92	180.3
6,100.0	0.45	263.95	6,094.9	-73.0	165.0	113.87	180.5
6,200.0	0.68	306.14	6,194.9	-72.6	164.2	113.85	179.5
6,300.0	0.87	306.62	6,294.9	-71.8	163.1	113.75	178.2
6,400.0	0.95	315.23	6,394.8	-70.7	161.9	113.60	176.7
6,500.0	2.09	342.31	6,494.8	-68.4	160.8	113.05	174.7
6,600.0	6.63	338.58	6,594.5	-61.3	158.1	111.19	169.6
6,700.0	8.88	330.82	6,693.6	-49.2	152.2	107.90	160.0
6,800.0	8.91	314.01	6,792.4	-37.1	142.9	104.54	147.6
6,900.0	8.56	297.65	6,891.2	-26.2	130.7	102.18	133.7
7,000.0	6.93	292.81	6,990.3	-22.4	118.6	100.71	120.7
7,100.0	6.17	293.86	7,089.7	-17.9	108.1	99.41	109.6
7,200.0	5.01	294.67	7,189.2	-13.9	99.2	97.99	100.2
7,300.0	3.77	294.60	7,288.9	-10.7	92.3	96.64	92.9
7,400.0	3.30	286.56	7,388.7	-8.5	86.5	95.64	86.9
7,500.0	3.16	283.28	7,488.5	-7.1	81.1	95.00	81.4
7,600.0	2.58	279.79	7,588.4	-6.1	76.2	94.56	76.4
7,700.0	2.51	273.37	7,688.3	-5.6	71.8	94.43	72.0
7,800.0	2.19	268.43	7,788.2	-5.5	67.7	94.63	67.9
7,900.0	2.09	267.17	7,888.2	-5.6	63.9	95.03	64.2
8,000.0	1.96	265.07	7,988.1	-5.9	60.4	95.54	60.7
8,100.0	1.66	259.77	8,088.1	-6.3	57.3	96.24	57.6
8,200.0	1.48	263.15	8,188.0	-6.7	54.6	96.98	55.0
8,300.0	1.25	258.12	8,288.0	-7.1	52.2	97.69	52.7
8,400.0	1.08	261.64	8,388.0	-7.4	50.2	98.40	50.8
8,500.0	1.11	250.23	8,488.0	-7.9	48.4	99.25	49.0
8,600.0	1.12	254.31	8,587.0	-8.5	46.5	100.31	47.3
8,700.0	1.13	284.79	8,687.9	-8.5	44.6	100.76	45.4
8,800.0	1.17	283.59	8,787.9	-8.0	42.7	100.60	43.4
8,900.0	1.05	286.68	8,887.9	-7.5	40.8	100.39	41.5
9,000.0	0.98	290.24	8,987.9	-6.9	39.1	100.04	39.7
9,076.0	1.47	280.41	9,063.8	-6.5	37.6	99.85	38.1

Scientific Drilling
Directional Drilling Operations

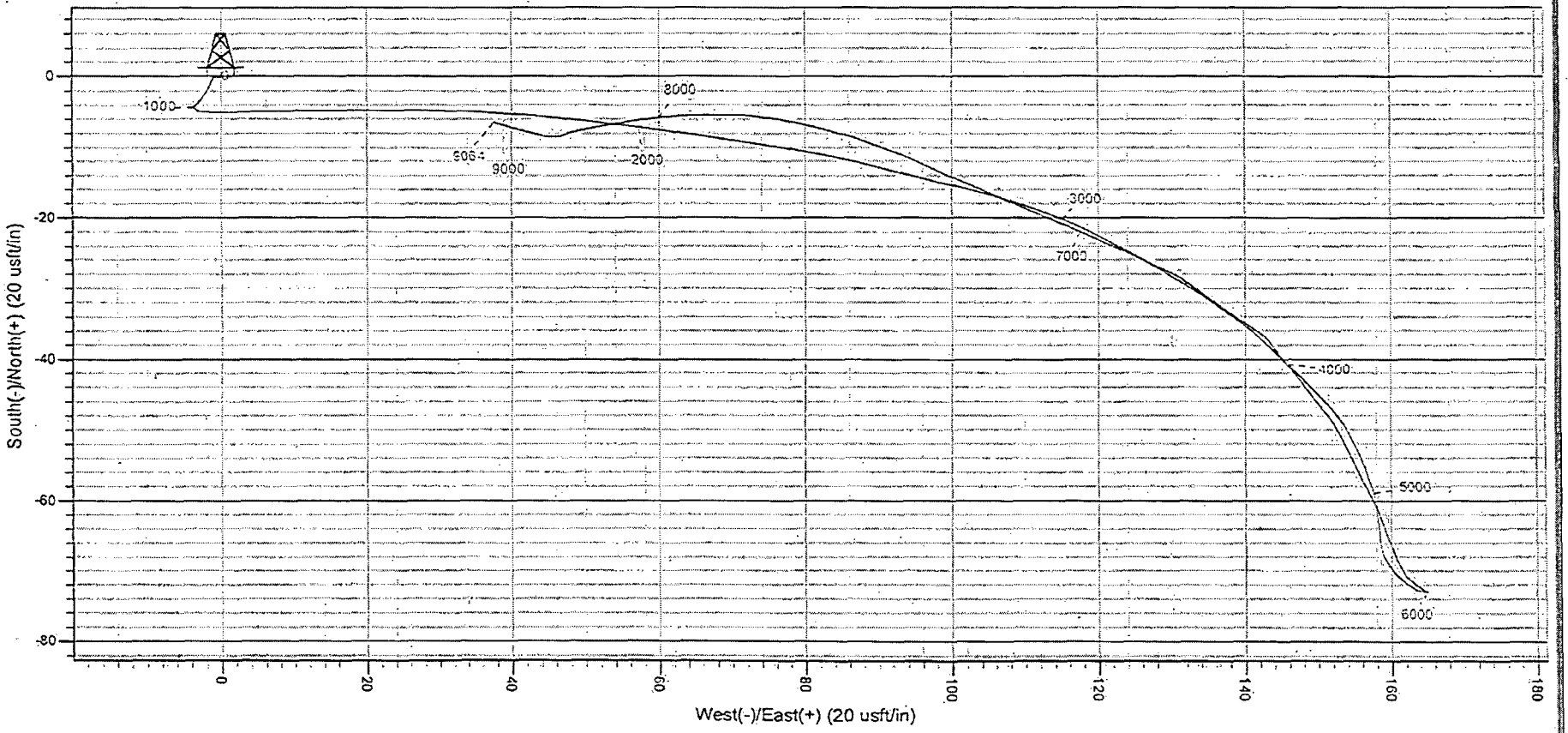
Project: Morrow Wildcat
Eddy County, NM
Well: Jumping Spring "16" State Com #1
Wellbore: VH - Job #32K0411385
Design: VH - Job #32K0411385

Azimuths to Grid North
True North: -0.02°
Magnetic North: 7.89°

Magnetic Field
Strength: 48465.0snT
Dip Angle: 59.90°
Date: 5/2/2011
Model: IGRF2010

WELL DETAILS: Jumping Spring "16" State Com #1
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	360807.30	512971.83	32° 2' 49.010 N	104° 17' 29.280 W	



PROJECT DETAILS: Morrow Wildcat
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 2' 49.010 N
Longitude: 104° 17' 29.280 W
Positional Uncertainty: 0.0
Convergence: 0.02
Local North: Grid

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 16, 2000

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-37496		Wolfcamp Wildcat

Property Code	Property Name	Well Number
37991	JUMPING SPRING "16" STATE COM	1

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3390'

Surface Location

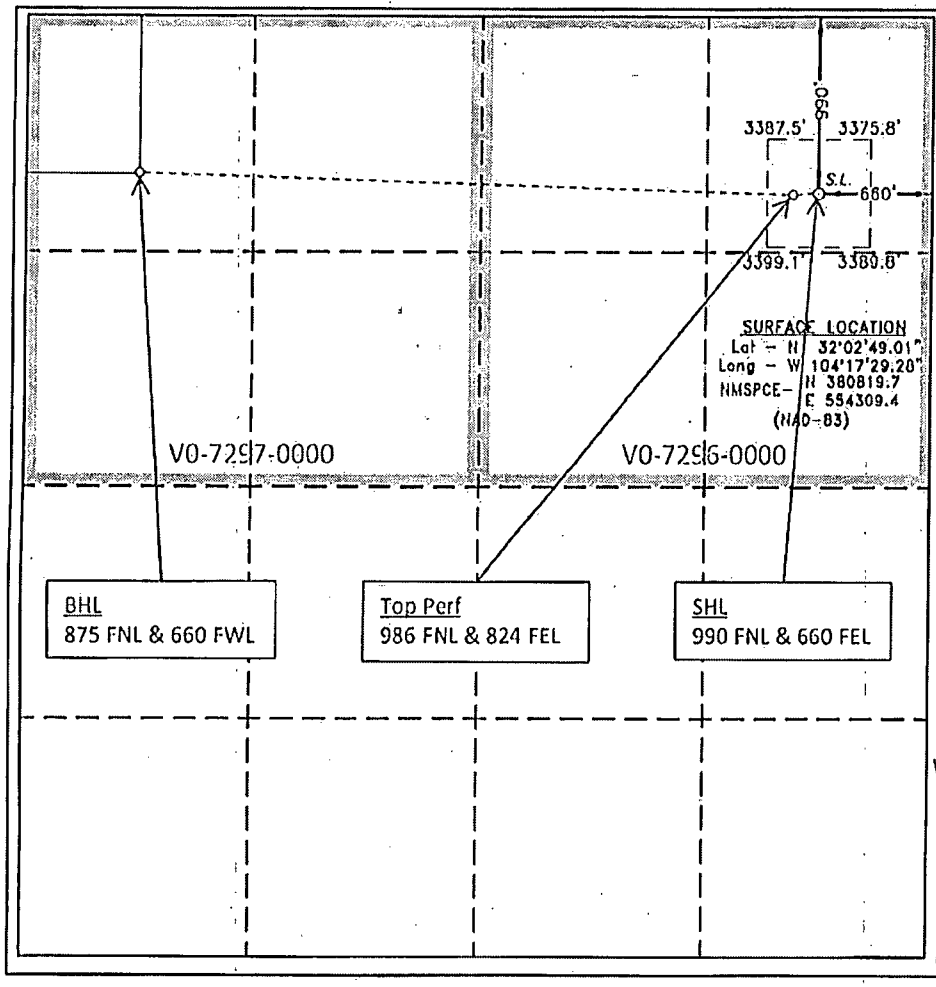
Ul. or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	26 S	26 E		990	NORTH	660	EAST	EDDY

Bottom Hole Location If Different From Surface

Ul. or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	16	26 S	26 E		875	NORTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320		P	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Natalie Krueger 9/6/2011
Signature Date

Natalie Krueger
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

DECEMBER 30, 2009
Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO 7977

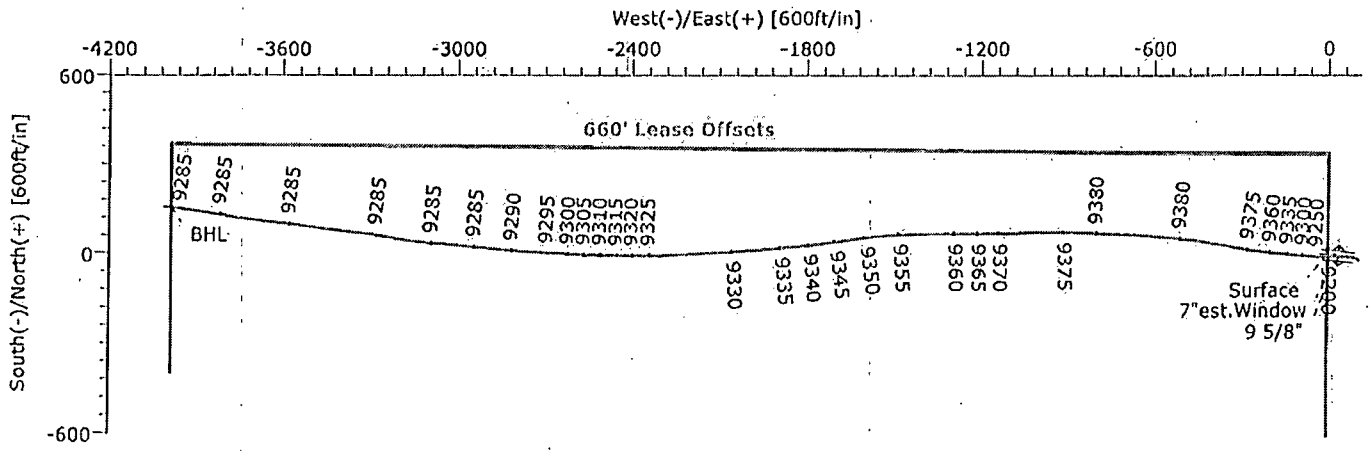
Certificate No. GARY L. Jones 7977

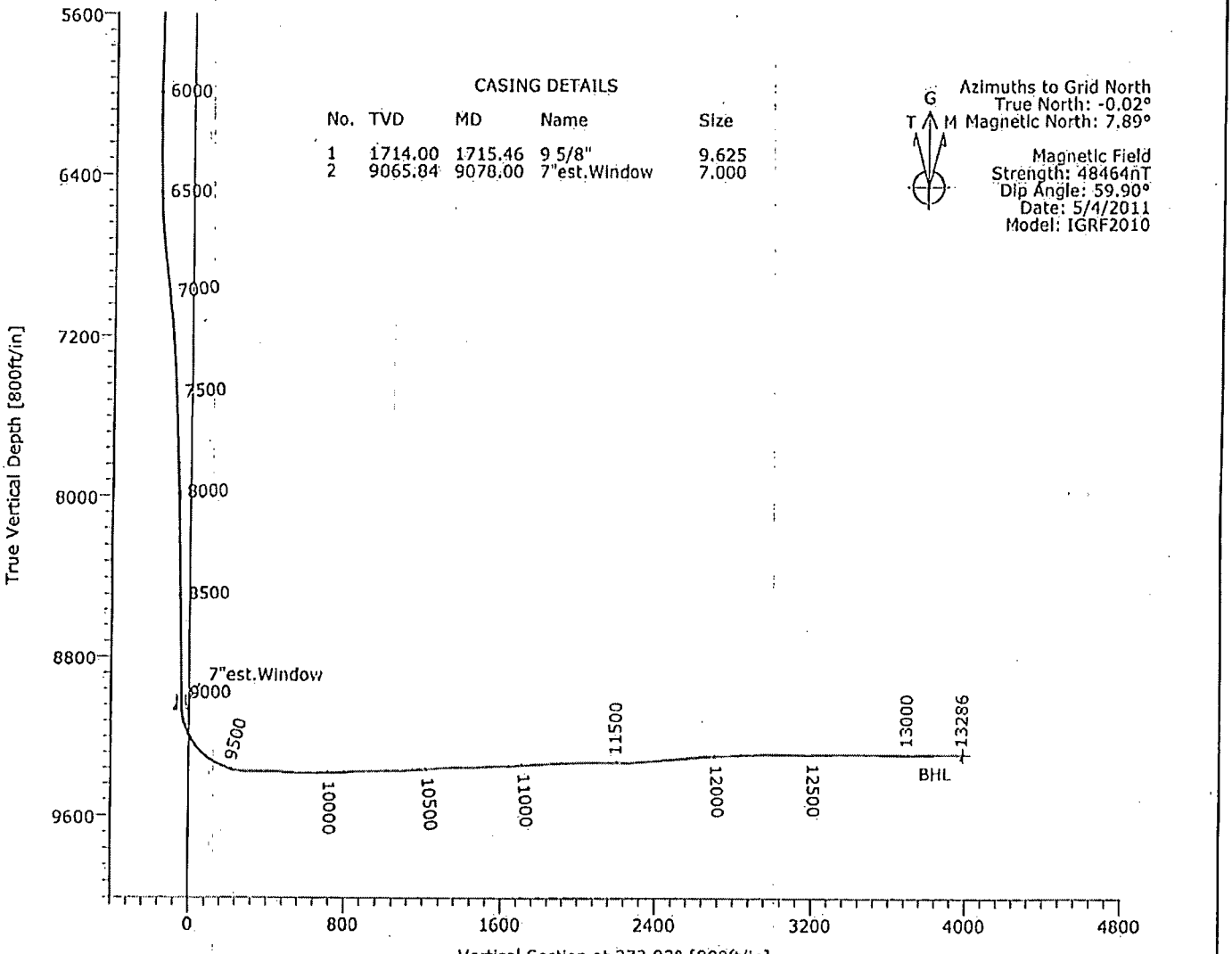
BASIN SURVEYS

CIMAREX ENERGY

Field: Southeast NM E'83
Site: Jumping Spring "16" State Com
Well: #1
Wellpath: Sidetrack

Precision Directional Services





CASING DETAILS

No.	TVD	MD	Name	Size
1	1714.00	1715.46	9 5/8"	9.625
2	9065.84	9078.00	7"est.Window	7.000

Azimuths to Grid North
True North: -0.02°
Magnetic North: 7.89°

Magnetic Field
Strength: 48464nT
Dip Angle: 59.90°
Date: 5/4/2011
Model: IGRF2010

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface	0.00	0.00	0.00	380819.70	554309.40	32°02'48.999N	104°17'29.289W	Point
BHL	9285.00	152.07	-3983.53	380971.77	550325.87	32°02'50.517N	104°18'15.574W	Point

Precision Directional Services, Inc.
Survey Report

Company:	CIMAREX ENERGY	Date: 5/31/2011	Time: 06:09:07	Page:	1
Field:	Southeast NM E'83	Co-ordinate(NE) Reference:	Well: #1, Grid North		
Site:	Jumping Spring "16" State Com	Vertical (TVD) Reference:	3390'GL+19'KB 3409.0		
Well:	#1	Section (VS) Reference:	Well (0.00N,0.00E,273.83Azi)		
Wellpath:	Sidetrack	Survey Calculation Method:	Minimum Curvature	Db:	Sybase

Field:	Southeast NM E'83		
Map System:	US State Plane Coordinate System 1983	Map Zone:	New Mexico, Eastern Zone
Geo Datum:	GRS 1980	Coordinate System:	Well Centre
Sys Datum:	Mean Sea Level	Geomagnetic Model:	IGRF2010

Site:	Jumping Spring "16" State Com Eddy County Section 16, T26S-R26E				
Site Position:		Northing:	380819.70 ft	Latitude:	32 2 48.999 N
From:	Map	Easting:	554309.40 ft	Longitude:	104 17 29.289 W
Position Uncertainty:	0.00 ft			North Reference:	Grid
Ground Level:	3390.00 ft			Grid Convergence:	0.02 deg

Well:	#1				Slot Name:	
Well Position:	+N/-S	0.00 ft	Northing:	380819.70 ft	Latitude:	32 2 48.999 N
	+E/-W	0.00 ft	Easting:	554309.40 ft	Longitude:	104 17 29.289 W
Position Uncertainty:		0.00 ft				

Wellpath:	Sidetrack			Drilled From:	Original Hole
				Tie-on Depth:	9076.00 ft
Current Datum:	3390'GL+19'KB		Height 3409.00 ft	Above System Datum:	Mean Sea Level
Magnetic Data:	5/4/2011			Declination:	7.91 deg
Field Strength:	48484 nT			Mag Dip Angle:	59.90 deg
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	ft	ft	ft	deg	
	0.00	0.00	0.00	273.83	

Survey Program for Definitive Wellpath

Date: 5/30/2011 Validated: No Version: 2

Actual From ft	To ft	Survey	Toolcode	Tool Name
100.00	9076.00	Survey #1 (100.00-9076.00) (0)	Gyroscope	Gyroscope
9127.00	13238.00	Survey #1 (9127.00-13238.00)	MWD	Std MWD
13286.00	13286.00	Survey #2 (13286.00-13286.00)	Project	Projection

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.27	200.79	100.00	-0.22	-0.08	0.07	0.27	0.27	0.00	Gyroscope
200.00	0.29	309.79	200.00	-0.28	-0.36	0.34	0.46	0.02	109.00	Gyroscope
300.00	0.05	265.03	300.00	-0.12	-0.60	0.59	0.26	-0.24	-44.76	Gyroscope
400.00	0.18	264.07	400.00	-0.14	-0.80	0.79	0.13	0.13	-0.96	Gyroscope
500.00	0.30	200.87	500.00	-0.40	-1.05	1.02	0.27	0.12	-63.20	Gyroscope
600.00	0.51	204.91	599.99	-1.05	-1.33	1.26	0.21	0.21	4.04	Gyroscope
700.00	0.65	208.76	699.99	-1.95	-1.79	1.66	0.15	0.14	3.85	Gyroscope
800.00	0.69	218.49	799.98	-2.92	-2.44	2.24	0.12	0.04	9.73	Gyroscope
900.00	0.53	223.52	899.98	-3.73	-3.13	2.87	0.17	-0.16	5.03	Gyroscope
1000.00	0.54	222.02	999.97	-4.41	-3.76	3.46	0.02	0.01	-1.50	Gyroscope
1100.00	1.22	102.54	1099.97	-4.99	-3.04	2.70	1.56	0.68	-119.48	Gyroscope
1200.00	2.24	88.40	1199.92	-5.17	-0.05	-0.30	1.10	1.02	-14.14	Gyroscope
1300.00	2.42	88.04	1299.84	-5.04	4.02	-4.34	0.18	0.18	-0.36	Gyroscope
1400.00	3.98	89.06	1399.68	-4.91	9.60	-9.90	1.56	1.56	1.02	Gyroscope
1500.00	5.24	90.32	1499.35	-4.88	17.63	-17.92	1.26	1.26	1.26	Gyroscope
1600.00	5.12	89.55	1598.94	-4.87	26.66	-26.93	0.14	-0.12	-0.77	Gyroscope
1700.00	4.56	92.77	1698.59	-5.03	35.09	-35.35	0.62	-0.56	3.22	Gyroscope
1800.00	4.23	95.53	1798.29	-5.58	42.73	-43.01	0.39	-0.33	2.76	Gyroscope
1900.00	4.16	96.62	1898.02	-6.35	50.01	-50.32	0.11	-0.07	1.09	Gyroscope
2000.00	4.07	98.94	1997.77	-7.20	57.13	-57.49	0.09	-0.09	0.32	Gyroscope

Precision Directional Services, Inc.

Survey Report

Company:	CIMAREX ENERGY	Date: 5/31/2011	Time: 06:09:07	Page:	2
Field:	Southeast NM E'83	Co-ordinate(NE) Reference:	Well: #1, Grid North		
Site:	Jumping Spring "16" State Com	Vertical (TVD) Reference:	3390'GL+19'KB 3409.0		
Well:	#1	Section (VS) Reference:	Well (0.00N,0.00E,273.63Azi)		
Wellpath:	Sidetrack	Survey Calculation Method:	Minimum Curvature	Db:	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2100.00	3.93	97.97	2097.52	-8.10	64.05	-64.45	0.16	-0.14	1.03	Gyroscope
2200.00	3.83	98.77	2197.29	-9.09	70.74	-71.19	0.11	-0.10	0.80	Gyroscope
2300.00	3.83	99.55	2297.07	-10.15	77.34	-77.84	0.05	0.00	0.78	Gyroscope
2400.00	3.82	102.19	2396.85	-11.41	83.89	-84.46	0.18	-0.01	2.64	Gyroscope
2500.00	3.52	104.88	2496.64	-12.90	90.11	-90.77	0.35	-0.30	2.69	Gyroscope
2600.00	3.16	104.09	2596.47	-14.36	95.75	-96.50	0.36	-0.36	-0.79	Gyroscope
2700.00	3.09	104.15	2696.32	-15.69	101.04	-101.86	0.07	-0.07	0.06	Gyroscope
2800.00	2.83	106.17	2796.19	-17.03	106.02	-106.92	0.26	-0.26	2.02	Gyroscope
2900.00	2.69	110.07	2896.07	-18.53	110.60	-111.59	0.23	-0.14	3.90	Gyroscope
3000.00	2.55	112.29	2995.97	-20.18	114.86	-115.95	0.17	-0.14	2.22	Gyroscope
3100.00	2.48	116.24	3095.87	-21.98	118.86	-120.06	0.19	-0.07	3.95	Gyroscope
3200.00	2.42	119.69	3195.78	-23.98	122.63	-123.96	0.16	-0.06	3.45	Gyroscope
3300.00	2.35	120.46	3295.70	-26.06	126.24	-127.69	0.08	-0.07	0.77	Gyroscope
3400.00	2.10	121.18	3395.62	-28.05	129.57	-131.15	0.25	-0.25	0.72	Gyroscope
3500.00	2.11	123.28	3495.55	-30.01	132.68	-134.38	0.08	0.01	2.10	Gyroscope
3600.00	2.05	126.31	3595.49	-32.08	135.66	-137.50	0.13	-0.06	3.03	Gyroscope
3700.00	1.99	126.13	3695.43	-34.16	138.50	-140.47	0.06	-0.06	-0.18	Gyroscope
3800.00	2.03	130.64	3795.36	-36.34	141.25	-143.36	0.16	0.04	4.51	Gyroscope
3900.00	1.76	136.57	3895.31	-38.61	143.65	-145.90	0.33	-0.27	5.93	Gyroscope
4000.00	1.62	133.86	3995.27	-40.70	145.72	-148.11	0.16	-0.14	-2.71	Gyroscope
4100.00	1.53	136.89	4095.23	-42.66	147.65	-150.17	0.12	-0.09	3.03	Gyroscope
4200.00	1.38	133.24	4195.20	-44.46	149.44	-152.08	0.18	-0.15	-3.65	Gyroscope
4300.00	1.39	139.57	4295.17	-46.20	151.11	-153.86	0.15	0.01	6.33	Gyroscope
4400.00	1.24	139.63	4395.14	-47.95	152.59	-155.46	0.15	-0.15	0.06	Gyroscope
4500.00	1.17	151.86	4495.12	-49.68	153.78	-156.75	0.27	-0.07	12.23	Gyroscope
4600.00	1.15	155.58	4595.10	-51.49	154.67	-157.77	0.08	-0.02	3.72	Gyroscope
4700.00	1.26	153.44	4695.08	-53.39	155.58	-158.80	0.12	0.11	-2.14	Gyroscope
4800.00	1.08	161.22	4795.05	-55.26	156.37	-159.72	0.24	-0.18	7.78	Gyroscope
4900.00	1.11	158.94	4895.04	-57.06	157.03	-160.49	0.05	0.03	-2.28	Gyroscope
5000.00	1.12	166.81	4995.02	-58.91	157.60	-161.18	0.15	0.01	7.87	Gyroscope
5100.00	1.14	174.14	5095.00	-60.86	157.92	-161.63	0.15	0.02	7.33	Gyroscope
5200.00	1.16	169.46	5194.98	-62.84	158.21	-162.05	0.10	0.02	-4.68	Gyroscope
5300.00	0.94	174.18	5294.96	-64.65	158.48	-162.44	0.24	-0.22	4.72	Gyroscope
5400.00	0.95	178.94	5394.95	-66.30	158.57	-162.65	0.08	0.01	4.76	Gyroscope
5500.00	1.00	156.82	5494.93	-67.93	158.93	-163.12	0.38	0.05	-22.12	Gyroscope
5600.00	0.99	142.81	5594.92	-69.42	159.80	-164.08	0.24	-0.01	-14.01	Gyroscope
5700.00	0.96	137.18	5694.90	-70.72	160.69	-165.26	0.10	-0.03	-5.63	Gyroscope
5800.00	0.90	130.40	5794.89	-71.84	162.06	-166.50	0.13	-0.06	-6.78	Gyroscope
5900.00	1.02	115.29	5894.88	-72.73	163.46	-167.95	0.28	0.12	-15.11	Gyroscope
6000.00	0.66	90.10	5994.87	-73.11	164.84	-169.36	0.51	-0.36	-25.19	Gyroscope
6100.00	0.45	283.95	6094.86	-73.02	165.04	-169.55	1.10	-0.21	-166.15	Gyroscope
6200.00	0.68	306.14	6194.86	-72.58	164.18	-168.66	0.31	0.23	22.19	Gyroscope
6300.00	0.87	306.82	6294.85	-71.77	163.09	-167.52	0.19	0.19	0.68	Gyroscope
6400.00	0.95	315.23	6394.84	-70.73	161.90	-166.26	0.16	0.08	8.41	Gyroscope
6500.00	2.09	342.31	6494.80	-68.40	160.76	-164.97	1.32	1.14	27.08	Gyroscope
6600.00	6.63	338.58	6594.49	-61.29	158.10	-161.84	4.55	4.54	-3.73	Gyroscope
6700.00	8.88	330.82	6693.57	-49.17	152.22	-155.17	2.48	2.25	-7.76	Gyroscope
6800.00	8.91	314.01	6792.38	-37.05	142.89	-145.05	2.59	0.03	-16.81	Gyroscope
6900.00	8.56	297.65	6891.24	-28.22	130.73	-132.32	2.50	-0.35	-16.36	Gyroscope
7000.00	6.93	292.81	6990.32	-22.42	118.57	-119.80	1.75	-1.63	-4.84	Gyroscope
7100.00	6.17	293.86	7089.67	-17.91	108.10	-109.05	0.77	-0.76	1.05	Gyroscope
7200.00	5.01	294.57	7189.19	-13.92	99.21	-99.92	1.16	-1.16	0.71	Gyroscope
7300.00	3.77	294.68	7288.90	-10.73	92.25	-92.76	1.24	-1.24	0.11	Gyroscope
7400.00	3.30	286.56	7388.71	-8.54	86.50	-86.88	0.69	-0.47	-8.12	Gyroscope

Precision Directional Services, Inc.

Survey Report

Company:	CIMAREX ENERGY	Date: 5/31/2011 Time: 06:09:07	Page: 3
Field:	Southeast NM E'83	Co-ordinate(NE) Reference:	Well: #1, Grid North
Site:	Jumping Spring "16" State Com	Vertical (TVD) Reference:	3390'GL+19'KB 3409.0
Well:	#1	Section (VS) Reference:	Well (0.00N,0.00E,273.83Azi)
Wellpath:	Sidetrack	Survey Calculation Method:	Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7500.00	3.16	283.28	7488.55	-7.09	81.06	-81.36	0.23	-0.14	-3.28	Gyroscope
7600.00	2.58	279.79	7588.42	-6.07	76.16	-76.40	0.61	-0.58	-3.49	Gyroscope
7700.00	2.51	273.37	7688.32	-5.56	71.76	-71.97	0.29	-0.07	-6.42	Gyroscope
7800.00	2.19	268.43	7788.24	-5.48	67.66	-67.88	0.38	-0.32	-4.94	Gyroscope
7900.00	2.09	267.17	7888.17	-5.62	63.93	-64.16	0.11	-0.10	-1.26	Gyroscope
8000.00	1.96	265.07	7988.11	-5.86	60.41	-60.66	0.15	-0.13	-2.10	Gyroscope
8100.00	1.66	259.77	8088.06	-6.27	57.28	-57.57	0.34	-0.30	-5.30	Gyroscope
8200.00	1.48	263.15	8188.02	-6.68	54.57	-54.89	0.20	-0.18	3.38	Gyroscope
8300.00	1.25	258.12	8287.99	-7.05	52.22	-52.57	0.26	-0.23	-5.03	Gyroscope
8400.00	1.08	261.84	8387.97	-7.41	50.22	-50.60	0.19	-0.17	3.72	Gyroscope
8500.00	1.11	250.23	8487.95	-7.87	48.38	-48.79	0.22	0.03	-11.61	Gyroscope
8600.00	1.12	254.31	8587.93	-8.47	46.52	-46.98	0.08	0.01	4.08	Gyroscope
8700.00	1.13	284.79	8687.92	-8.48	44.63	-45.10	0.59	0.01	30.48	Gyroscope
8800.00	1.17	283.59	8787.90	-7.99	42.68	-43.12	0.05	0.04	-1.20	Gyroscope
8900.00	1.05	286.68	8887.88	-7.48	40.81	-41.22	0.13	-0.12	3.09	Gyroscope
9000.00	0.98	290.24	8987.86	-6.93	39.13	-39.51	0.09	-0.07	3.56	Gyroscope
9076.00	1.47	280.41	9063.84	-6.52	37.56	-37.92	0.70	0.64	-12.93	Gyroscope
9127.00	13.80	272.50	9114.30	-6.14	30.82	-31.16	24.21	24.18	-15.51	MWD
9159.00	18.00	270.50	9145.06	-5.93	22.06	-22.40	13.23	13.12	-6.25	MWD
9191.00	24.70	270.80	9174.85	-5.79	10.41	-10.78	20.94	20.94	0.94	MWD
9221.00	29.10	269.50	9201.60	-5.77	-3.15	2.76	14.80	14.67	-4.39	MWD
9253.00	34.70	268.50	9228.76	-6.08	-20.05	19.60	17.58	17.50	-3.12	MWD
9284.00	39.60	272.20	9253.46	-5.93	-38.76	38.28	17.37	15.81	11.94	MWD
9316.00	45.20	274.00	9277.08	-4.74	-60.30	59.84	17.90	17.50	5.62	MWD
9347.00	50.90	274.40	9297.80	-3.05	-83.28	82.89	18.41	18.39	1.29	MWD
9379.00	56.60	274.40	9316.71	-1.07	-109.00	108.68	17.81	17.81	0.00	MWD
9411.00	61.60	274.60	9333.14	1.08	-136.36	136.13	15.63	15.62	0.62	MWD
9442.00	66.50	276.10	9346.70	3.69	-164.11	163.99	16.39	15.81	4.84	MWD
9474.00	71.60	276.30	9358.14	6.92	-193.81	193.84	15.95	15.94	0.62	MWD
9505.00	76.50	276.10	9366.65	10.13	-223.43	223.61	15.82	15.81	-0.65	MWD
9537.00	82.10	275.60	9372.59	13.33	-254.70	255.02	17.57	17.50	-1.56	MWD
9565.00	87.10	280.30	9375.23	17.19	-282.29	282.81	24.45	17.86	16.79	MWD
9605.00	90.40	280.40	9376.10	24.38	-321.62	322.53	8.25	8.25	0.25	MWD
9637.00	90.50	280.00	9375.85	30.04	-353.12	354.33	1.29	0.31	-1.25	MWD
9700.00	89.00	279.90	9376.12	40.93	-415.17	416.97	2.39	-2.38	-0.16	MWD
9763.00	87.10	275.50	9378.27	49.36	-477.54	479.77	7.60	-3.02	-6.98	MWD
9826.00	86.50	276.40	9381.79	55.88	-540.11	542.63	1.72	-0.95	1.43	MWD
9881.00	89.00	274.30	9383.95	61.01	-594.82	597.56	5.93	4.55	-3.82	MWD
9945.00	91.60	272.40	9383.61	64.75	-658.70	661.55	5.03	4.06	-2.97	MWD
10007.00	90.30	272.00	9382.58	67.13	-720.64	723.52	2.19	-2.10	-0.65	MWD
10071.00	93.10	272.60	9380.68	69.69	-784.56	787.46	4.47	4.37	0.94	MWD
10134.00	92.80	271.90	9377.44	72.16	-847.42	850.35	1.21	-0.48	-1.11	MWD
10197.00	91.50	271.10	9375.08	73.81	-910.36	913.25	2.42	-2.06	-1.27	MWD
10261.00	90.50	269.30	9373.96	74.03	-974.34	977.11	3.22	-1.56	-2.81	MWD
10324.00	89.90	267.60	9373.74	72.33	-1037.32	1039.83	2.66	-0.95	-2.70	MWD
10387.00	92.70	268.50	9372.31	70.19	-1100.26	1102.49	4.67	4.44	1.43	MWD
10451.00	94.10	269.70	9368.52	69.18	-1164.13	1166.15	2.88	2.19	1.87	MWD
10514.00	93.90	269.80	9364.12	68.91	-1226.98	1228.84	0.35	-0.32	0.16	MWD
10577.00	93.30	269.50	9360.17	68.52	-1289.85	1291.55	1.06	-0.95	-0.48	MWD
10641.00	91.10	268.80	9357.71	67.57	-1353.79	1355.28	3.61	-3.44	-1.09	MWD
10704.00	89.80	269.00	9357.21	66.37	-1416.78	1418.05	2.09	-2.06	0.32	MWD
10768.00	93.50	267.90	9355.37	64.64	-1480.72	1481.73	6.03	5.78	-1.72	MWD
10831.00	92.60	265.60	9352.02	61.07	-1543.52	1544.15	3.92	-1.43	-3.65	MWD

Precision Directional Services, Inc.

Survey Report

Company:	CIMAREX ENERGY	Date: 5/31/2011	Time: 06:09:07	Page:	4
Field:	Southeast NM E'63	Co-ordinate(NE) Reference:	Well: #1, Grid North		
Site:	Jumping Spring "16" State Com	Vertical (TVD) Reference:	3390'GL+19'KB 3409.0		
Well:	#1	Section (VS) Reference:	Well (0.00N,0.00E,273.83Azi)		
Wellpath:	Sidetrack	Survey Calculation Method:	Minimum Curvature	Db:	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10894.00	91.30	262.00	9349.88	54.27	-1606.11	1606.14	6.07	-2.06	-5.71	MWD
10957.00	93.60	261.70	9347.18	45.35	-1668.41	1667.71	3.66	3.65	-0.48	MWD
11020.00	93.10	262.80	9343.50	36.87	-1730.72	1729.32	1.92	-0.79	1.75	MWD
11084.00	93.10	263.60	9340.04	29.30	-1794.18	1792.13	1.25	0.00	1.25	MWD
11147.00	93.10	264.60	9336.63	22.83	-1856.75	1854.13	1.58	0.00	1.59	MWD
11211.00	92.40	265.00	9333.56	17.04	-1920.42	1917.27	1.26	-1.09	0.62	MWD
11274.00	91.20	265.60	9331.58	11.88	-1983.17	1979.54	2.13	-1.90	0.95	MWD
11337.00	91.40	266.10	9330.15	7.32	-2045.99	2041.91	0.85	0.32	0.79	MWD
11401.00	90.50	267.30	9329.09	3.64	-2109.87	2105.41	2.34	-1.41	1.87	MWD
11464.00	89.30	267.20	9329.20	0.62	-2172.80	2167.99	1.91	-1.90	-0.16	MWD
11527.00	90.10	267.50	9329.53	-2.30	-2235.73	2230.59	1.36	1.27	0.48	MWD
11590.00	92.80	267.60	9327.94	-4.99	-2298.65	2293.18	4.29	4.29	0.16	MWD
11652.00	95.40	270.50	9323.51	-6.02	-2360.47	2354.80	6.27	4.19	4.68	MWD
11715.00	95.30	270.30	9317.63	-5.58	-2423.19	2417.41	0.35	-0.16	-0.32	MWD
11780.00	94.70	270.90	9311.97	-4.90	-2487.94	2482.06	1.30	-0.92	0.92	MWD
11843.00	95.30	271.50	9306.47	-3.59	-2550.69	2544.75	1.34	0.95	0.95	MWD
11907.00	95.40	272.00	9300.51	-1.64	-2614.38	2608.43	0.79	0.16	0.78	MWD
11970.00	93.30	272.80	9295.73	1.05	-2677.14	2671.23	3.62	-3.33	1.43	MWD
12033.00	91.50	273.10	9293.09	4.34	-2739.99	2734.16	2.87	-2.86	0.32	MWD
12096.00	93.10	274.60	9290.56	8.68	-2802.79	2797.11	3.70	2.54	2.70	MWD
12160.00	92.20	275.30	9287.60	14.30	-2866.47	2861.02	1.61	-1.41	0.78	MWD
12223.00	92.00	275.50	9285.30	20.23	-2929.15	2923.96	0.45	-0.32	0.32	MWD
12286.00	90.40	275.10	9283.98	26.05	-2991.86	2986.92	2.62	-2.54	-0.63	MWD
12349.00	89.00	274.70	9284.31	31.43	-3054.63	3049.91	2.31	-2.22	-0.63	MWD
12412.00	88.60	275.50	9285.63	37.03	-3117.37	3112.88	1.42	-0.63	1.27	MWD
12474.00	90.20	278.50	9286.27	44.58	-3178.89	3174.77	5.48	2.58	4.84	MWD
12537.00	91.20	280.20	9285.50	54.81	-3241.05	3237.47	3.13	1.59	2.70	MWD
12605.00	90.30	276.50	9284.61	64.69	-3308.31	3305.24	5.60	-1.32	-5.44	MWD
12665.00	90.20	276.50	9284.35	71.48	-3367.92	3365.17	0.17	-0.17	0.00	MWD
12728.00	90.20	277.60	9284.13	79.21	-3430.44	3428.07	1.75	0.00	1.75	MWD
12792.00	89.80	277.30	9284.13	87.51	-3493.90	3491.95	0.78	-0.62	-0.47	MWD
12855.00	89.20	277.10	9284.68	95.40	-3556.40	3554.83	1.00	-0.95	-0.32	MWD
12918.00	88.70	276.50	9285.84	102.86	-3618.95	3617.74	1.24	-0.79	-0.95	MWD
12982.00	88.70	276.40	9287.29	110.05	-3682.53	3681.65	0.16	0.00	-0.16	MWD
13045.00	91.90	278.20	9286.96	118.05	-3745.01	3744.53	5.83	5.08	2.86	MWD
13108.00	91.30	279.10	9285.20	127.53	-3807.26	3807.28	1.72	-0.95	1.43	MWD
13171.00	90.80	278.40	9284.05	137.11	-3869.52	3870.04	1.37	-0.79	-1.11	MWD
13238.00	89.00	277.10	9284.16	146.14	-3935.90	3936.88	3.31	-2.69	-1.94	MWD
13286.00	89.00	277.10	9285.00	152.07	-3983.53	3984.79	0.00	0.00	0.00	Project

Attachment - Frac Job Details
Jumping Spring 16 St Com 1
Cimarex Energy Co. of Colorado
16-26S-26E
30-015-37496
Eddy County, NM

Stage	Depth	Description
1	12957-13219 6 spf 48 holes	607,868 gal 15# XL Borate 366,538 # 30/70 Sand
2	12568-12830 6 spf 48 holes	523,565 gal 15# XL Borate 357,110 # 30/70 Sand
3	12179-12441 6 spf 48 holes	491,778 gal 15# XL Borate 348,084 # 30/70 Sand
4	11790-12052 6 spf 48 holes	415,446 gal 15# XL Borate 365,971 # 30/70 Sand
5	11401-11663 6 spf 48 holes	478,329 gal 15# XL Borate 363,039 # 30/70 Sand
6	11012-11274 6 spf 48 holes	493,055 gal 15# XL Borate 362,130 # 30/70 Sand
7	10623-10885 6 spf 48 holes	509,560 gal 15# XL Borate 359,366 # 30/70 Sand
8	10234-10496 6 spf 48 holes	461,491 gal 15# XL Borate 359,583 # 30/70 Sand
9	9843-10107 6 spf 48 holes	472,224 gal 15# XL Borate 300,471 # 30/70 Sand
10	9451-9715 6 spf 48 holes	500,077 gal 15# XL Borate 434,883 # 30/70 Sand