

30-015-33431

5215 N. O'Connor Blvd.
Suite 1500
Irving, TX 75039
972-401-3111
972-443-6486

LM

Cimarex Energy Co. of Colorado

December 5, 2008

DEC - 8 2008
OCD-ARTESIA

United States Department of the Interior
Bureau of Land Management
620 East Greene Street
Carlsbad, NM 88220
Attn: Ms. Betty Hill

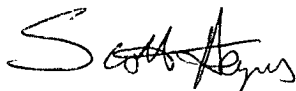
Re: 3160-4 Pintail 23 Federal No.1
30-015-33431
Request for Tight Hole Status

Dear Ms. Hill,

Enclosed is a 3160-4 re-entry for the Pintail 23 Federal No. 1 well in Eddy County, NM. Cimarex would like to request Tight Hole Status for as long as possible. Well logs were previously sent in with straight hole completion (2006).

If you need anything else, please call me at 469-420-2715.

Sincerely,



Scott Haynes
Reg Analyst

Received IOS
will put in well
file when BLM
approved copy arrives
in 1 year

shaynes@cimarex.com

DISTRICT I
1225 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

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

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-33431	Pool Code 97354	Pool Name Cottonwood Draw; Upper Penn (GAS)
Property Code	Property Name PINTAIL 23 FEDERAL COM	Well Number 1
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3330'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	23	25-S	26-E		1340	NORTH	990	WEST	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
B	23	25-S	26-E		806	NORTH	1385	EAST	EDDY

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

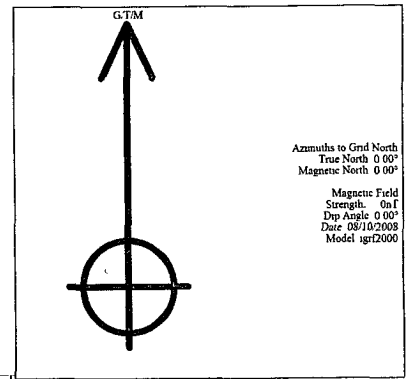
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

Diagram showing the location of the well. The surface location (S.L.) is marked with a circle and the bottom hole location (B.H.) is marked with a circle. The horizontal distance between them is 2904.68'. The vertical distance from the surface location to the bottom hole location is 806'. The horizontal distance from the surface location to the bottom hole location is 1385'. The surface location is at the intersection of a 990' line and a 600' line. The bottom hole location is at the intersection of a 1385' line and a 806' line. The diagram also shows a 1340' line and a 3324.7' line.	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Scott Haynes</i> 12-05-08 Signature Date Scott Haynes Printed Name
GEODETTIC COORDINATES NAD 27 NME SURFACE LOCATION Y=406937.2 N X=520132.3 E BOTTOM HOLE LOCATION 806' FNL & 1385' FEL LAT.=32°07'07.60" N LONG.=104°16'05.90" W	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 supervision, and that the same is true and correct to the best of my belief. MARCH 04 2004 Date Surveyed Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> Certificate No. GARY EIDSON 12841 RONALD EIDSON 3239

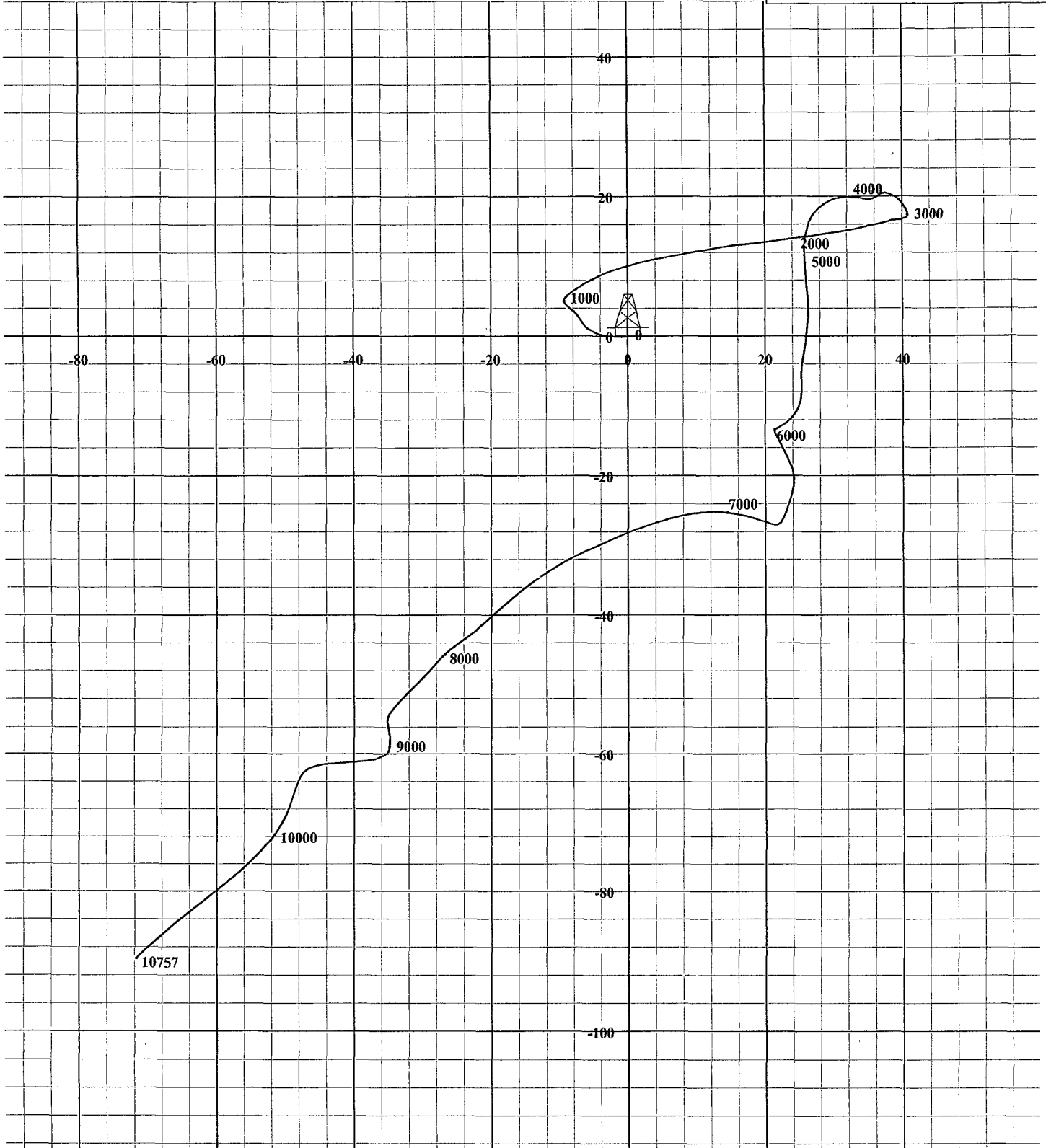


Scientific
Drilling

Field: Cottonwood Draw
Site: Eddy County, NM
Well: Pintail 23 Federal Com #1
Wellpath: VH - Job #32K0708529
Survey: 07/11/08



South(-)/North(+) [20ft/in]



West(-)/East(+) [20ft/in]

A

DISTRICT LOCATION

Baker Oil Tools Liner Hanger Products



Odessa, Texas

432-563-1900

Baker Oil Tools

OPERATOR CIMAREX ENERGY CORPORATION	COMPANY REP Guy Embry		SIZE	WEIGHT	GRADE	THREAD	DEPTH
FIELD	WELL NO #1H	CASING	7 000	26 0	P-110	LT&C	10,754
STATE New Mexico	LEASE Pintail 23 Fed		SIZE	WEIGHT	GRADE	THREAD	LENGTH
RIG NAME PATTERSON #80	State Service Ticket # 65363	LINER #1	4.500	11 6	P-110	BTC/LTC	3,226
WD (ft.) 13,477		LINER #2					
FLUID TYPE Water Base	FLUID WEIGHT (PPG) 12.8		SIZE	WEIGHT	GRADE	THREAD	LENGTH
DATE SUBMITTED 9/15/2008	Service Ticket # 65363	DRILL PIPE #1	3 500	15 5	X-95	IF	10,260
PREPARED BY JUNIOR AGUILAR	PHONE # 432-563-1900	DRILL PIPE #2					
KICK OFF POINT 10,285		DRILL PIPE #3					
		DRILL PIPE #4					
		DRILL PIPE #5					

Item Number	Material Number	Description	Depth (ft.)	Length (ft.)	OD (in.)	ID (in.)
2	1	H29628AP09 ZXP PACKER- 5" X 7" Liner Top Packer with HR Profile. 5" 18.0# New Vam Box down. 10' PBR 5.750' X 5.250" P-110	10,249.04	20 61	6.000	4 276
3	2	H297010597 PBR- 5" 18 0# New Vam Pin X 5" LT&C Pin 5.00" X 4 250" P-110	10,269.65	4.29	5.000	4 250
	3	H297010597 COLLAR- 5" 18 0# LT&C Box X Box	10,273.94	0 65	5 590	4 276
4	4	H292330094 HYFLO II- 5" X 7" Hydraulic Liner Hanger with 3 slips 5" 18 0# LT&C Pin X Pin Q-125	10,274 59	5 43	6 043	4.276
	5	H299890233 COMBO COLLAR- 5" LT&C Box up X 4.5" 11.60# Buttress Box Down P-110	10,280.02	1 06	5.567	4 276
5	6	H299890233 SPACER NIPPLE- 4 5" 11.60# Buttress Pin X Pin P-110	10,281 08	4 36	4.500	4.000
6	7	CUSTOMER LINER- 12 Joints of 4.5" 11.60# Buttress Liner P-110	10,285.44	509 75	4.500	4 000
	8	CUSTOMER CROSSOVER- Crossover Joint 4 5" 11 60# Buttress Box Up X LT&C Pin down P-110	10,795 19	21 20	4.500	4.000
	9	CUSTOMER LINER- 61 Joints of 4 5" 11 60# LT&C Liner P-110	10,816.39	2,569 53	4 500	4 000
7	10	H274100100 LANDING COLLAR- 4 5" 11.60# LT&C Type I landing Collar with baffle P-110	13,385 92	1 60	5 000	4.000
	11	HNB131114X FLOAT COLLAR- 4 5" 11 60# LT&C Double Valve Float Collar P-110	13,387 52	1 20	5 000	4 000
8	12	CUSTOMER LINER- 2 Joints of 4 5" 11 60# LT&C Liner P-110	13,388 72	84 56	4 500	4 000
9	13	HNB131114X SHOE- 4 5" 11 60# LT&C Double Valve Float Collar P-110	13,473 28	1.72	5.000	4.000
10	14		BOTTOM OF LINER	13,475.00		
11			ALL DEPTHS ARE GIVEN AS TOPS UNLESS OTHERWISE NOTED			
	A		TOP OF LINER: 10,249.04'			
12	B		OVERLAP: 504.96'			
	C		TOTAL DEPTH: 13,477'			
13						
14						

B

C

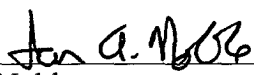


2406 Gravel Drive
Ft. Worth, Texas 76118
firethorneenergy.com

TEL 817-595-2519
FAX 817-595-2537

State of New Mexico
County of Eddy

I, Ian Noble, certify that; I am employed by Firethorne Energy Services, L.P.; that I did on the day(s) of 07/13/08 through 07/29/08 conduct or supervise the taking of a directional MWD survey from a depth of 10281 feet to a depth of 10686 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Firethorne Energy Services, L.P.; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Company of Colorado for the Pintail 23 Federal Com #1H Well API No. 30-015-33431 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Firethorne Energy Services, L.P.



Ian Noble
Vice-President

Target TVD: 10680

Target Angle: 90

Section Plane: 78.73

Declination: 8.25

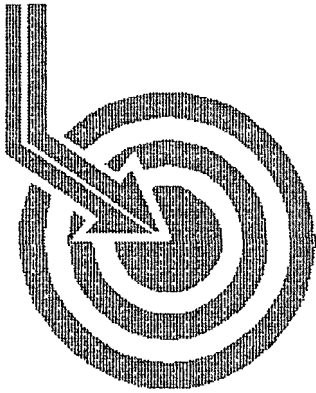
Survey Offset: 49 Feet

Job Number: FW-08028

SURVEY CALCULATION REPORT

Calculations: Minimum Curvature

[illegible]



Scientific Drilling

CIMAREX ENERGY

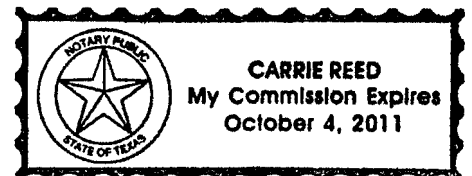
Field: Cottonwood Draw
Site: Eddy County, NM
Well: Pintail 23 Federal Com #1
Wellpath: VH - Job #32K0708529
Survey: 07/11/08

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

Richard.....Company Representative

Notorized this date 11th of August, 2008.

Carrie Reed
Notary Signature
County of Midland
State of Texas



Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB ELv @ 3348.00ft (KB ELv Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB ELv @ 3348.00ft (KB ELv Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Grid:
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Sperry MWD Survey #1	Database:	EDM 2003.14 Server Db

Project:	Eddy County, NM (NAD 27)		
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:	Pintail 23 Federal Com #1H		
Site Position:	Map	Northings:	406,937.20 ft
From:		Easting:	520,132.30 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 7' 7.564 N
		Longitude:	104° 16' 5.911 W
		Grid Convergence:	0.03 °

Well:	Pintail 23 Federal Com #1H		
Well Position	+N/-S	0.00 ft	Northings:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,348.00 ft
		Ground Level:	3,330.00 ft
		Latitude:	32° 7' 7.564 N
		Longitude:	104° 16' 5.911 W

Wellbore:	Lateral #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	7/30/2008	(°)
			8 22
			Dip Angle
			(°)
			60 04
			Field Strength
			(nT)
			48,784

Design:	Sperry MWD Survey #1		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	10,200.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			78.73

Survey Program:	Date: 8/10/2008		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.00	10,200.00	Gyro Survey #1 (OH)	NS-GYRO-MS
10,200.00	10,621.00	Sperry Survey #1 (Lateral #1)	MWD
10,686.00	10,857.00	MWD Survey #1 (Lateral #1)	MWD
			Description
			North sensing gyrocompassing m/s
			MWD - Standard
			MWD - Standard

Survey:									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
10,621.00	73.30	82.10	10,548.52	-79.93	118.58	100.67	0.00	0.00	0.00
10,686.00	83.90	81.80	10,561.35	-71.02	181.58	164.20	16.31	16.31	-0.46
First MWD Survey									
10,706.00	84.70	81.40	10,563.34	-68.11	201.26	184.07	4.47	4.00	-2.00
10,738.00	87.10	81.90	10,565.62	-63.48	232.84	215.95	7.66	7.50	1.56
10,770.00	92.10	81.00	10,565.85	-58.72	264.47	247.90	15.88	15.63	-2.81
10,802.00	95.00	80.80	10,563.87	-53.67	296.01	279.81	9.08	9.06	-0.63
Last MWD Survey									
10,857.00	93.80	80.30	10,559.65	-44.67	350.10	334.62	2.36	-2.18	-0.91
Proj. to Bit									

Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB ELav @ 3348.00ft (KB ELavation Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB ELav @ 3348.00ft (KB ELavation Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Sperry MWD Survey #1	Database:	EDM 2003.14 Server Db

Targets:										
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
HL[PT23FC#1H]		0 00	0.00	0.00	0.00	0.00	406,937 20	520,132 30	32° 7' 7 564 N	104° 16' 5.911 W
- survey misses by 10549.49ft at 10621.00ft MD (10548.52 TVD, -79.93 N, 118.58 E)										
- Rectangle (sides W3,960.00 H3,960 00 D0.00)										
PBHL#1[PT23FC#1H]		0 00	0.00	10,558.00	680.00	3,630.00	407,617.20	523,762 30	32° 7' 14 270 N	104° 15' 23 696 W
- survey misses by 3359.00ft at 10857.00ft MD (10559.65 TVD, -44.67 N, 350.10 E)										
- Point										
LL[PT23FC#1H]		0 00	0.00	0.00	0 00	0 00	406,937.20	520,132 30	32° 7' 7.564 N	104° 16' 5.911 W
- survey misses by 10549.49ft at 10621.00ft MD (10548.52 TVD, -79.93 N, 118.58 E)										
- Rectangle (sides W5,280.00 H5,280.00 D0 00)										

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
10,686.00	10,561.35	-71.02	181.58	First MWD Survey
10,802.00	10,563.87	-53.67	296.01	Last MWD Survey
10,857.00	10,559.65	-44.67	350.10	Proj. to Bit

Checked By: _____	Approved By: _____	Date: _____
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Black Viper Energy

Survey Report

Company:	Cimarex Energy Co. Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB ELv @ 3348.00ft (KB ELv Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB ELv @ 3348.00ft (KB ELv Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Grid
Wellbore:	Sidetrack #1	Survey Calculation Method:	Minimum Curvature
Design:	Sidetrack #1	Database:	EDM 2003.14 Server Db

Project:	Eddy County, NM (NAD 27)		
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:	Pintail 23 Federal Com #1H		
Site Position:	Map	Northings:	406,937.20 ft
From:		Easting:	520,132.30 ft
Position Uncertainty:	0 00 ft	Slot Radius:	"
		Latitude:	32° 7' 7.564 N
		Longitude:	104° 16' 5.911 W
		Grid Convergence:	0.03 °

Well:	Pintail 23 Federal Com #1H		
Well Position	+N/-S	0 00 ft	Northings:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0 00 ft	Wellhead Elevation:	3,348 00 ft
		Latitude:	32° 7' 7.564 N
		Longitude:	104° 16' 5.911 W
		Ground Level:	3,330.00 ft

Wellbore:	Sidetrack #1		
Magnetics:	Model Name	Sample Date	Declination
	IGRF200510	8/22/2008	(°)
			8.22
			(°)
			60.04
			48,778
			(nT)

Design:	Sidetrack #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	10,621.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			91.95
			(°)

Survey Program	Date: 9/19/2008		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.00	10,200.00	Gyro Survey #1 (OH)	NS-GYRO-MS
10,200.00	10,621.00	Sperry Survey #1 (Lateral #1)	MWD
10,621.00	13,477.00	MWD Survey #2 (ST#1) (Sidetrack #1)	MWD
			Description
			North sensing gyrocompassing m/s
			MWD - Standard
			MWD - Standard

Survey:									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
10,621.00	73.30	82.10	10,548.52	-79.93	118.58	121.22	0.00	0.00	0.00
Tie On (ST #1)									
10,686.00	83.90	81.80	10,561.35	-71.02	181.58	183.88	16.31	16.31	-0.46
First MWD Survey (ST #1)									
10,706.00	84.70	81.40	10,563.34	-68.11	201.26	203.46	4.47	4.00	-2.00
10,738.00	87.10	81.90	10,565.62	-63.48	232.84	234.86	7.66	7.50	1.56
10,770.00	92.10	81.00	10,565.85	-58.72	264.47	266.32	15.88	15.63	-2.81
10,808.00	94.10	78.10	10,563.79	-51.84	301.78	303.37	9.26	5.26	-7.63
10,839.00	91.40	77.20	10,562.30	-45.22	332.03	333.37	9.18	-8.71	-2.90
10,871.00	91.50	77.30	10,561.49	-38.16	363.23	364.32	0.44	0.31	0.31
10,903.00	91.90	77.60	10,560.54	-31.21	394.45	395.28	1.56	1.25	0.94

Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB Elev @ 3348.00ft (KB Elevation Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB Elev @ 3348.00ft (KB Elevation Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Grid
Wellbore:	Sidetrack #1	Survey Calculation Method:	Minimum Curvature
Design:	Sidetrack #1	Database:	EDM 2003 14 Server Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,934.00	91.50	78.60	10,559.63	-24.82	424.77	425.37	3.47	-1.29	3.23
10,966.00	91.00	77.70	10,558.93	-18.25	456.08	456.44	3.22	-1.56	-2.81
10,998.00	90.60	78.80	10,558.48	-11.73	487.41	487.52	3.66	-1.25	3.44
11,029.00	89.80	79.30	10,558.37	-5.84	517.84	517.74	3.04	-2.58	1.61
11,061.00	90.30	79.20	10,558.34	0.12	549.28	548.96	1.59	1.56	-0.31
11,093.00	91.00	78.90	10,557.98	6.20	580.70	580.15	2.38	2.19	-0.94
11,124.00	91.10	78.70	10,557.41	12.22	611.10	610.33	0.72	0.32	-0.65
11,156.00	90.10	78.60	10,557.08	18.52	642.47	641.47	3.14	-3.13	-0.31
11,188.00	88.80	78.50	10,557.39	24.87	673.83	672.60	4.07	-4.06	-0.31
11,219.00	89.20	78.40	10,557.93	31.08	704.20	702.74	1.33	1.29	-0.32
11,251.00	89.50	78.50	10,558.29	37.48	735.55	733.85	0.99	0.94	0.31
11,283.00	90.10	78.40	10,558.40	43.89	766.90	764.97	1.90	1.88	-0.31
11,315.00	90.60	78.30	10,558.21	50.35	798.24	796.07	1.59	1.56	-0.31
11,346.00	91.00	78.10	10,557.77	56.69	828.58	826.18	1.44	1.29	-0.65
11,378.00	90.00	77.80	10,557.49	63.37	859.88	857.23	3.26	-3.13	-0.94
11,409.00	90.20	77.50	10,557.44	70.00	890.16	887.27	1.16	0.65	-0.97
11,441.00	89.90	77.20	10,557.41	77.01	921.38	918.24	1.33	-0.94	-0.94
11,473.00	89.70	77.40	10,557.52	84.04	952.60	949.20	0.88	-0.63	0.63
11,505.00	90.00	77.10	10,557.61	91.11	983.81	980.15	1.33	0.94	-0.94
11,537.00	90.50	77.20	10,557.47	98.22	1,015.01	1,011.09	1.59	1.56	0.31
11,568.00	90.20	76.90	10,557.28	105.17	1,045.22	1,041.05	1.37	-0.97	-0.97
11,600.00	91.00	77.20	10,556.94	112.34	1,076.40	1,071.97	2.67	2.50	0.94
11,632.00	91.20	77.60	10,556.33	119.32	1,107.63	1,102.94	1.40	0.63	1.25
11,664.00	91.20	77.30	10,555.66	126.27	1,138.86	1,133.91	0.94	0.00	-0.94
11,695.00	90.80	76.90	10,555.12	133.19	1,169.07	1,163.87	1.82	-1.29	-1.29
11,727.00	90.50	76.20	10,554.75	140.63	1,200.19	1,194.72	2.38	-0.94	-2.19
11,759.00	89.90	75.70	10,554.64	148.40	1,231.23	1,225.48	2.44	-1.88	-1.56
11,791.00	90.20	76.20	10,554.61	156.17	1,262.27	1,256.24	1.82	0.94	1.56
11,822.00	90.00	76.00	10,554.56	163.62	1,292.37	1,286.06	0.91	-0.65	-0.65
11,854.00	88.90	76.10	10,554.87	171.33	1,323.42	1,316.84	3.45	-3.44	0.31
11,886.00	89.90	76.30	10,555.20	178.97	1,354.49	1,347.63	3.19	3.13	0.63
11,917.00	88.10	75.30	10,555.74	186.57	1,384.54	1,377.41	6.64	-5.81	-3.23
11,948.00	86.60	75.80	10,557.18	194.30	1,414.53	1,407.11	5.10	-4.84	1.61
11,980.00	87.30	75.80	10,558.88	202.13	1,445.51	1,437.81	2.19	2.19	0.00
12,012.00	88.50	76.30	10,560.05	209.84	1,476.54	1,468.56	4.06	3.75	1.56
12,043.00	89.90	76.50	10,560.48	217.13	1,506.67	1,498.42	4.56	4.52	0.65
12,075.00	89.70	76.40	10,560.60	224.63	1,537.78	1,529.26	0.70	-0.63	-0.31
12,107.00	89.20	76.50	10,560.90	232.13	1,568.88	1,560.10	1.59	-1.56	0.31
12,139.00	88.90	77.00	10,561.43	239.46	1,600.03	1,590.97	1.82	-0.94	1.56
12,170.00	89.50	77.00	10,561.87	246.43	1,630.23	1,620.92	1.94	1.94	0.00
12,202.00	89.20	77.40	10,562.23	253.52	1,661.43	1,651.86	1.56	-0.94	1.25
12,233.00	90.30	77.60	10,562.37	260.23	1,691.70	1,681.88	3.61	3.55	0.65
12,265.00	88.30	77.50	10,562.76	267.13	1,722.94	1,712.87	6.26	-6.25	-0.31
12,296.00	88.70	78.40	10,563.57	273.60	1,753.25	1,742.94	3.18	1.29	2.90
12,328.00	90.30	77.50	10,563.85	280.28	1,784.54	1,773.99	5.74	5.00	-2.81
12,359.00	92.10	77.90	10,563.20	286.88	1,814.82	1,804.03	5.95	5.81	1.29
12,391.00	91.20	77.70	10,562.28	293.64	1,846.08	1,835.05	2.88	-2.81	-0.63
12,422.00	91.80	78.40	10,561.47	300.06	1,876.40	1,865.13	2.97	1.94	2.26
12,453.00	92.00	79.10	10,560.44	306.10	1,906.79	1,895.29	2.35	0.65	2.26
12,485.00	91.70	79.00	10,559.40	312.18	1,938.19	1,926.47	0.99	-0.94	-0.31
12,516.00	92.20	79.40	10,558.35	317.98	1,968.62	1,956.69	2.07	1.61	1.29
12,548.00	91.40	79.20	10,557.34	323.92	2,000.05	1,987.90	2.58	-2.50	-0.63
12,580.00	91.20	79.20	10,556.62	329.91	2,031.48	2,019.10	0.63	-0.63	0.00
12,612.00	90.80	77.80	10,556.06	336.29	2,062.83	2,050.22	4.55	-1.25	-4.38

Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB ELev @ 3348.00ft (KB Elevation Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB ELev @ 3348.00ft (KB Elevation Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Grid
Wellbore:	Sidetrack #1	Survey Calculation Method:	Minimum Curvature
Design:	Sidetrack #1	Database:	EDM 2003.14 Server Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,643.00	91.00	77.70	10,555.57	342.87	2,093.12	2,080.27	0.72	0.65	-0.32
12,675.00	91.00	78.30	10,555.01	349.52	2,124.41	2,111.32	1.87	0.00	1.88
12,706.00	91.00	77.80	10,554.47	355.94	2,154.74	2,141.41	1.61	0.00	-1.61
12,738.00	90.60	77.00	10,554.03	362.92	2,185.96	2,172.38	2.79	-1.25	-2.50
12,770.00	90.80	76.60	10,553.64	370.23	2,217.12	2,203.26	1.40	0.63	-1.25
12,802.00	90.60	76.50	10,553.24	377.67	2,248.24	2,234.11	0.70	-0.63	-0.31
12,833.00	91.30	77.10	10,552.73	384.75	2,278.41	2,264.03	2.97	2.26	1.94
12,865.00	90.80	77.60	10,552.14	391.75	2,309.63	2,294.99	2.21	-1.56	1.56
12,897.00	89.50	76.90	10,552.06	398.82	2,340.84	2,325.94	4.61	-4.06	-2.19
12,928.00	89.90	77.10	10,552.22	405.79	2,371.04	2,355.90	1.44	1.29	0.65
12,960.00	90.50	76.90	10,552.11	412.99	2,402.22	2,386.81	1.98	1.88	-0.63
12,991.00	90.90	76.80	10,551.73	420.04	2,432.41	2,416.74	1.33	1.29	-0.32
13,023.00	90.90	77.90	10,551.23	427.05	2,463.63	2,447.70	3.44	0.00	3.44
13,054.00	91.50	76.60	10,550.58	433.89	2,493.86	2,477.68	4.62	1.94	-4.19
13,086.00	91.50	76.40	10,549.74	441.35	2,524.96	2,508.52	0.62	0.00	-0.63
13,117.00	89.90	76.00	10,549.36	448.75	2,555.06	2,538.35	5.32	-5.16	-1.29
13,149.00	89.50	76.30	10,549.53	456.41	2,586.13	2,569.14	1.56	-1.25	0.94
13,181.00	89.40	76.40	10,549.84	463.96	2,617.23	2,599.96	0.44	-0.31	0.31
13,212.00	89.20	76.30	10,550.22	471.27	2,647.35	2,629.82	0.72	-0.65	-0.32
13,244.00	90.60	77.10	10,550.27	478.64	2,678.49	2,660.69	5.04	4.38	2.50
13,275.00	90.60	76.50	10,549.95	485.71	2,708.67	2,690.61	1.94	0.00	-1.94
13,307.00	90.60	76.60	10,549.61	493.16	2,739.79	2,721.46	0.31	0.00	0.31
13,339.00	92.40	75.60	10,548.78	500.84	2,770.84	2,752.23	6.43	5.63	-3.13
13,371.00	92.90	76.20	10,547.30	508.63	2,801.84	2,782.95	2.44	1.56	1.88
13,403.00	91.90	76.10	10,545.96	516.28	2,832.88	2,813.72	3.14	-3.13	-0.31
Last MWD Survey (ST #1)									
13,477.00	91.90	76.10	10,543.50	534.05	2,904.68	2,884.87	0.00	0.00	0.00
Proj to Bit (ST #1)									

Black Viper Energy

Survey Report

Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Pintail 23 Federal Com #1H
Project:	Eddy County, NM (NAD 27)	TVD Reference:	KB ELev @ 3348.00ft (KB ELlevation Patterson Rig #80)
Site:	Pintail 23 Federal Com #1H	MD Reference:	KB ELev @ 3348.00ft (KB ELlevation Patterson Rig #80)
Well:	Pintail 23 Federal Com #1H	North Reference:	Gnd
Wellbore:	Sidetrack #1	Survey Calculation Method:	Minimum Curvature
Design:	Sidetrack #1	Database:	EDM 2003.14 Server Db

Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Longitude
HL[PT23FC#1H]		0.00	0.00	0.00	0.00	0.00	406,937.20	520,132.30	32° 7' 7.564 N
- survey misses by 10549.49ft at 10621.00ft MD (10548.52 TVD, -79.93 N, 118.58 E)									
- Rectangle (sides W3,960.00 H3,960.00 D0.00)									
PBHL#1[PT23FC#1H]		0.00	0.00	10,558.00	680.00	3,630.00	407,617.20	523,762.30	32° 7' 14.270 N
- survey misses by 740.00ft at 13477.00ft MD (10543.50 TVD, 534.05 N, 2904.68 E)									
- Point									
PBHL#2[PT23FC#1H]		0.00	0.00	10,553.00	680.00	3,630.00	407,617.20	523,762.30	32° 7' 14.270 N
- survey misses by 739.92ft at 13477.00ft MD (10543.50 TVD, 534.05 N, 2904.68 E)									
- Point									
LL[PT23FC#1H]		0.00	0.00	0.00	0.00	0.00	406,937.20	520,132.30	32° 7' 7.564 N
- survey misses by 10549.49ft at 10621.00ft MD (10548.52 TVD, -79.93 N, 118.58 E)									
- Rectangle (sides W5,280.00 H5,280.00 D0.00)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
		(ft)	(ft)	
10,621.00	10,548.52	-79.93	118.58	Tie On (ST #1)
10,686.00	10,561.35	-71.02	181.58	First MWD Survey (ST #1)
13,403.00	10,545.96	516.28	2,832.88	Last MWD Survey (ST #1)
13,477.00	10,543.50	534.05	2,904.68	Proj to Bit (ST #1)

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling International Survey Report

Company: CIMAREX ENERGY	Date: 08/10/2008	Time: 17:11:40	Page: 1
Field: Cottonwood Draw	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Pintail 23 Federal Com #1	Section (VS) Reference:	Well (0.00N,0.00E,78.73Azi)	
Wellpath: VH - Job #32K0708529	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 07/11/08	Start Date: 07/11/2008
KSRG 0'-10761'	
Company: Scientific Drilling Internatio	Engineer: Guebara/Madrid w/P&M
Tool: Keeper;Keeper Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	359.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.46	259.29	100.00	-0.40	-0.07	-0.39	0.46	0.40	259.29
200.00	0.89	275.81	199.99	-1.55	-0.07	-1.56	0.47	1.56	267.41
300.00	0.78	274.62	299.98	-2.94	0.06	-3.01	0.11	3.01	271.20
400.00	0.76	290.29	399.97	-4.16	0.35	-4.31	0.21	4.33	274.61
500.00	0.77	296.97	499.96	-5.25	0.88	-5.53	0.09	5.60	279.06
600.00	0.67	327.68	599.96	-5.99	1.68	-6.45	0.39	6.66	284.62
700.00	0.80	322.57	699.95	-6.51	2.73	-7.18	0.15	7.68	290.81
800.00	0.58	308.87	799.94	-7.14	3.60	-8.00	0.27	8.77	294.24
900.00	0.70	311.39	899.93	-7.84	4.32	-8.85	0.12	9.85	296.03
1000.00	0.38	344.14	999.93	-8.23	5.05	-9.40	0.43	10.67	298.22
1100.00	0.93	51.56	1099.92	-7.54	5.87	-8.86	0.86	10.63	303.53
1200.00	1.28	57.43	1199.91	-5.78	6.98	-7.28	0.37	10.08	313.78
1300.00	1.65	61.60	1299.87	-3.36	8.26	-5.07	0.38	9.69	328.45
1400.00	1.93	72.25	1399.82	-0.31	9.46	-2.20	0.43	9.71	346.90
1500.00	2.70	76.02	1499.74	3.71	10.54	1.69	0.78	10.68	9.09
1600.00	3.01	80.35	1599.62	8.69	11.55	6.56	0.38	13.28	29.60
1700.00	3.05	79.60	1699.48	13.98	12.47	11.77	0.06	17.15	43.33
1800.00	2.72	85.01	1799.35	19.00	13.16	16.75	0.43	21.30	51.84
1900.00	2.43	82.33	1899.25	23.47	13.65	21.21	0.31	25.22	57.24
2000.00	2.00	82.22	1999.17	27.33	14.17	25.04	0.43	28.77	60.50
2100.00	1.64	81.93	2099.12	30.50	14.60	28.19	0.36	31.75	62.61
2200.00	1.51	82.18	2199.09	33.24	14.98	30.91	0.13	34.35	64.14
2300.00	1.26	77.93	2299.06	35.66	15.39	33.29	0.27	36.68	65.18
2400.00	1.05	76.95	2399.04	37.67	15.83	35.26	0.21	38.65	65.82
2500.00	0.87	79.58	2499.02	39.35	16.17	36.90	0.19	40.29	66.33
2600.00	0.63	70.31	2599.01	40.65	16.50	38.16	0.27	41.57	66.62
2700.00	0.52	90.68	2699.01	41.64	16.68	39.13	0.23	42.54	66.92
2800.00	0.40	69.99	2799.01	42.43	16.79	39.91	0.20	43.30	67.19
2900.00	0.34	74.49	2899.00	43.07	16.99	40.53	0.07	43.94	67.26
3000.00	0.30	358.25	2999.00	43.41	17.33	40.81	0.40	44.33	66.99
3100.00	0.41	336.41	3099.00	43.37	17.92	40.65	0.17	44.43	66.21
3200.00	0.66	325.83	3199.00	43.07	18.72	40.19	0.27	44.34	65.02
3300.00	0.56	319.11	3298.99	42.61	19.57	39.54	0.12	44.12	63.67
3400.00	0.60	291.79	3398.99	41.93	20.13	38.74	0.28	43.66	62.54
3500.00	0.55	288.49	3498.98	41.07	20.48	37.80	0.06	42.99	61.55
3600.00	1.09	237.80	3598.97	39.77	20.13	36.54	0.85	41.71	61.15
3700.00	0.54	270.31	3698.96	38.42	19.62	35.26	0.70	40.35	60.91
3800.00	0.43	285.43	3798.96	37.62	19.72	34.43	0.17	39.68	60.19
3900.00	0.54	268.93	3898.95	36.82	19.82	33.60	0.18	39.00	59.47
4000.00	0.48	285.54	3998.95	35.98	19.92	32.72	0.16	38.31	58.67
4100.00	0.57	259.99	4098.95	35.11	19.94	31.83	0.25	37.56	57.93
4200.00	0.49	267.86	4198.94	34.19	19.84	30.91	0.11	36.73	57.30
4300.00	0.62	247.40	4298.94	33.24	19.62	29.98	0.24	35.83	56.80
4400.00	0.65	242.93	4398.93	32.16	19.15	28.98	0.06	34.74	56.54
4500.00	0.79	228.06	4498.92	31.02	18.43	27.96	0.23	33.49	56.61
4600.00	0.85	215.12	4598.91	29.89	17.37	27.02	0.19	32.12	57.27
4700.00	0.87	195.67	4698.90	29.01	16.03	26.39	0.29	30.88	58.73
4800.00	0.94	195.47	4798.89	28.30	14.51	25.97	0.07	29.74	60.81



Scientific Drilling International Survey Report

Company: CIMAREX ENERGY
Field: Cottonwood Draw
Site: Eddy County, NM
Well: Pintail 23 Federal Corn #1
Wellpath: VH - Job #32K0708529

Date: 08/10/2008 Time: 17:11:40 Page: 2
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,78.73Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	1.11	180.15	4898.87	27.74	12.75	25.74	0.32	28.73	63.66
5000.00	1.37	176.72	4998.85	27.38	10.59	25.81	0.27	27.90	67.70
5100.00	1.43	175.18	5098.82	27.07	8.15	25.98	0.07	27.23	72.59
5200.00	1.70	174.41	5198.78	26.79	5.43	26.23	0.27	26.79	78.31
5300.00	1.75	184.30	5298.74	26.23	2.43	26.26	0.30	26.37	84.71
5400.00	1.77	187.89	5398.69	25.31	-0.62	25.94	0.11	25.94	91.38
5500.00	1.58	192.00	5498.65	24.26	-3.50	25.44	0.22	25.68	97.84
5600.00	1.55	175.85	5598.61	23.55	-6.20	25.25	0.44	26.00	103.79
5700.00	1.39	187.38	5698.58	23.00	-8.75	25.19	0.34	26.67	109.15
5800.00	1.41	214.43	5798.55	21.73	-10.97	24.34	0.66	26.70	114.26
5900.00	1.39	236.48	5898.52	19.72	-12.65	22.63	0.54	25.93	119.21
6000.00	0.24	261.36	5998.51	18.39	-13.35	21.41	1.18	25.24	121.95
6100.00	1.35	152.33	6098.50	18.52	-14.43	21.75	1.45	26.10	123.55
6200.00	1.50	154.10	6198.47	19.18	-16.65	22.87	0.16	28.29	126.05
6300.00	1.06	157.67	6298.44	19.69	-18.68	23.80	0.45	30.25	128.13
6400.00	1.04	180.18	6398.43	19.68	-20.45	24.14	0.41	31.64	130.26
6500.00	1.20	195.18	6498.41	19.04	-22.36	23.87	0.33	32.71	133.14
6600.00	1.43	199.63	6598.38	17.93	-24.55	23.17	0.25	33.76	136.65
6700.00	0.99	210.47	6698.36	16.71	-26.47	22.32	0.49	34.62	139.86
6800.00	1.41	289.75	6798.34	15.08	-26.80	20.72	1.56	33.87	142.29
6900.00	1.77	285.88	6898.30	12.66	-25.96	18.08	0.38	31.63	145.15
7000.00	2.39	278.23	6998.24	9.32	-25.24	14.53	0.68	29.12	150.07
7100.00	2.96	261.93	7098.13	4.77	-25.30	9.91	0.95	27.17	158.61
7200.00	3.39	253.52	7197.98	-0.75	-26.50	4.52	0.63	26.89	170.33
7300.00	3.68	246.98	7297.79	-6.84	-28.60	-1.27	0.50	28.63	182.55
7400.00	3.32	245.00	7397.60	-12.79	-31.08	-6.85	0.38	31.82	192.43
7500.00	2.91	237.76	7497.45	-17.97	-33.65	-11.62	0.57	35.60	199.05
7600.00	2.44	231.92	7597.34	-22.24	-36.32	-15.44	0.54	39.47	203.04
7700.00	2.31	228.80	7697.26	-25.89	-38.96	-18.64	0.18	43.19	205.56
7800.00	2.37	228.32	7797.17	-29.42	-41.66	-21.70	0.06	46.97	207.51
7900.00	1.74	236.91	7897.11	-32.61	-43.87	-24.51	0.70	50.25	209.20
8000.00	1.45	227.06	7997.07	-35.10	-45.56	-26.71	0.40	52.81	210.38
8100.00	1.33	220.38	8097.04	-37.09	-47.30	-28.39	0.20	55.17	210.97
8200.00	1.37	226.20	8197.01	-39.00	-49.02	-30.00	0.14	57.47	211.47
8300.00	1.36	225.66	8296.99	-41.01	-50.67	-31.72	0.02	59.78	212.04
8400.00	1.28	223.32	8396.96	-42.91	-52.31	-33.33	0.10	62.03	212.50
8500.00	1.10	218.20	8496.94	-44.55	-53.88	-34.69	0.21	64.08	212.77
8600.00	0.78	172.46	8596.93	-45.33	-55.31	-35.19	0.79	65.56	212.47
8700.00	0.79	170.68	8696.92	-45.39	-56.67	-34.99	0.03	66.60	211.70
8800.00	0.31	169.12	8796.91	-45.42	-57.61	-34.83	0.48	67.32	211.16
8900.00	0.33	180.72	8896.91	-45.48	-58.17	-34.78	0.07	67.77	210.88
9000.00	0.52	186.99	8996.91	-45.68	-58.90	-34.84	0.20	68.44	210.60
9100.00	0.38	205.41	9096.90	-46.02	-59.65	-35.04	0.20	69.18	210.43
9200.00	0.45	244.88	9196.90	-46.60	-60.12	-35.54	0.29	69.84	210.59
9300.00	0.73	243.86	9296.90	-47.60	-60.57	-36.46	0.28	70.70	211.05
9400.00	1.41	264.28	9396.88	-49.44	-60.97	-38.26	0.77	71.98	212.11
9500.00	1.42	265.17	9496.85	-51.89	-61.20	-40.72	0.02	73.51	213.64
9600.00	1.60	266.78	9596.81	-54.51	-61.38	-43.35	0.18	75.14	215.23
9700.00	1.63	252.23	9696.77	-57.30	-61.89	-46.10	0.41	77.17	216.68
9800.00	1.90	200.97	9796.73	-59.60	-63.87	-48.04	1.55	79.93	216.95
9900.00	2.59	198.92	9896.66	-61.62	-67.56	-49.37	0.69	83.68	216.16
10000.00	2.64	216.01	9996.55	-64.45	-71.56	-51.46	0.78	88.14	215.72



Scientific Drilling International Survey Report

Company: CIMAREX ENERGY
Field: Cottonwood Draw
Site: Eddy County, NM
Well: Pintail 23 Federal Com #1
Wellpath: VH - Job #32K0708529

Date: 08/10/2008 Time: 17:11:40 Page: 3
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,78.73Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
10100.00	2.49	224.90	10096.45	-67.95	-74.96	-54.34	0.42	92.59	215.94
10200.00	2.32	230.90	10196.36	-71.54	-77.78	-57.45	0.30	96.69	216.45
10300.00	1.98	231.73	10296.29	-74.87	-80.12	-60.38	0.34	100.32	217.00
10400.00	1.86	232.66	10396.24	-77.87	-82.18	-63.02	0.12	103.56	217.48
10500.00	1.89	232.06	10496.18	-80.80	-84.18	-65.61	0.04	106.73	217.94
10600.00	1.89	228.12	10596.13	-83.69	-86.29	-68.14	0.13	109.95	218.30
10700.00	1.65	227.62	10696.08	-86.34	-88.36	-70.43	0.24	113.00	218.56
10761.00	1.65	223.83	10757.06	-87.82	-89.59	-71.69	0.18	114.74	218.67