

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**APPLICATION OF CIMAREX ENERGY CO.
FOR A NON-STANDARD OIL SPACING AND
PRORATION UNIT AND FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO.**

Case No. 13995

AFFIDAVIT OF DAN SPANCERS

CITY AND COUNTY OF DENVER)
) ss.
STATE OF COLORADO)

Dan Spancers, being duly sworn upon his oath, deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am a geologist for Cimarex Energy Co. ("Cimarex").
3. Exhibit A is a plat of the Denton field, a Wolfcamp and Devonian field discovered in 1949. Cimarex is attempting to extend the productive portion of the field to the east and southeast.
4. Exhibit B is a structure map on top of the Wolfcamp formation. The Wolfcamp dips gently to the northeast. Exhibit B also contains production data from older, vertical wells in the pool.
5. The proposed well is moving downdip, and there is a thinner Wolfcamp section in the proposed well. Exhibit C is a type log from an older, vertical well. The pay being tested in the horizontal well is indicated on the type log.
6. Both quarter-quarter sections in the well are prospective in the Wolfcamp, and Cimarex anticipates producing reserves from each quarter-quarter section.
7. Exhibit D is a directional drilling plan for the well. Vertical wells would not be economic, due to the thinner pay section available to such a well. A horizontal wellbore will test a greater reservoir length, increasing the chances for an economic completion.

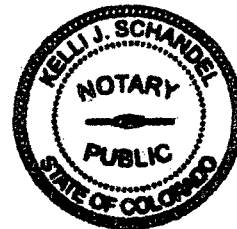
Oil Conservation Division
Case No. _____
Exhibit No. 2

Dan Spancers
Dan Spancers

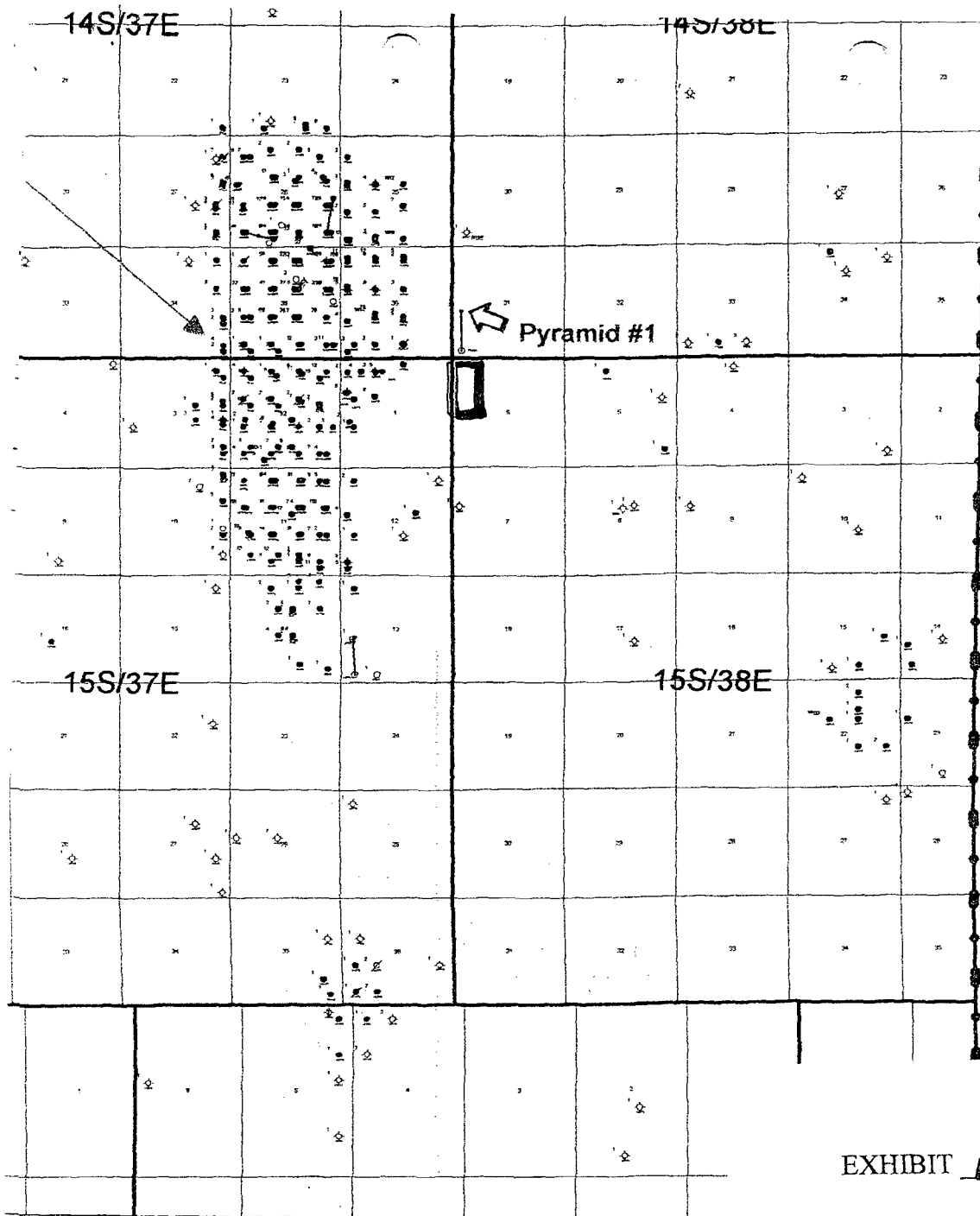
SUBSCRIBED AND SWORN TO before me this 17th day of September, 2007 by Dan Spancers.

My Commission Expires: 8/23/09

Kelli J. Schandel
Notary Public



My Commission Expires Aug. 23, 2009



EXHIBIT

A

ft

<i>Cimarex Energy Co.</i>		
Caudill / Denton Area Base Map Northern Lea Co, NM		
Author: Dave Rittersbacher		Date: 17 May. 2007
	Scale: 1"=8000'	

Pyramid 80 acre unit

Pyramid #1

Lateral currently drilling

Harvard 6 Fee #2

proposed 80 acre unit

Sherman 13 Fee #3

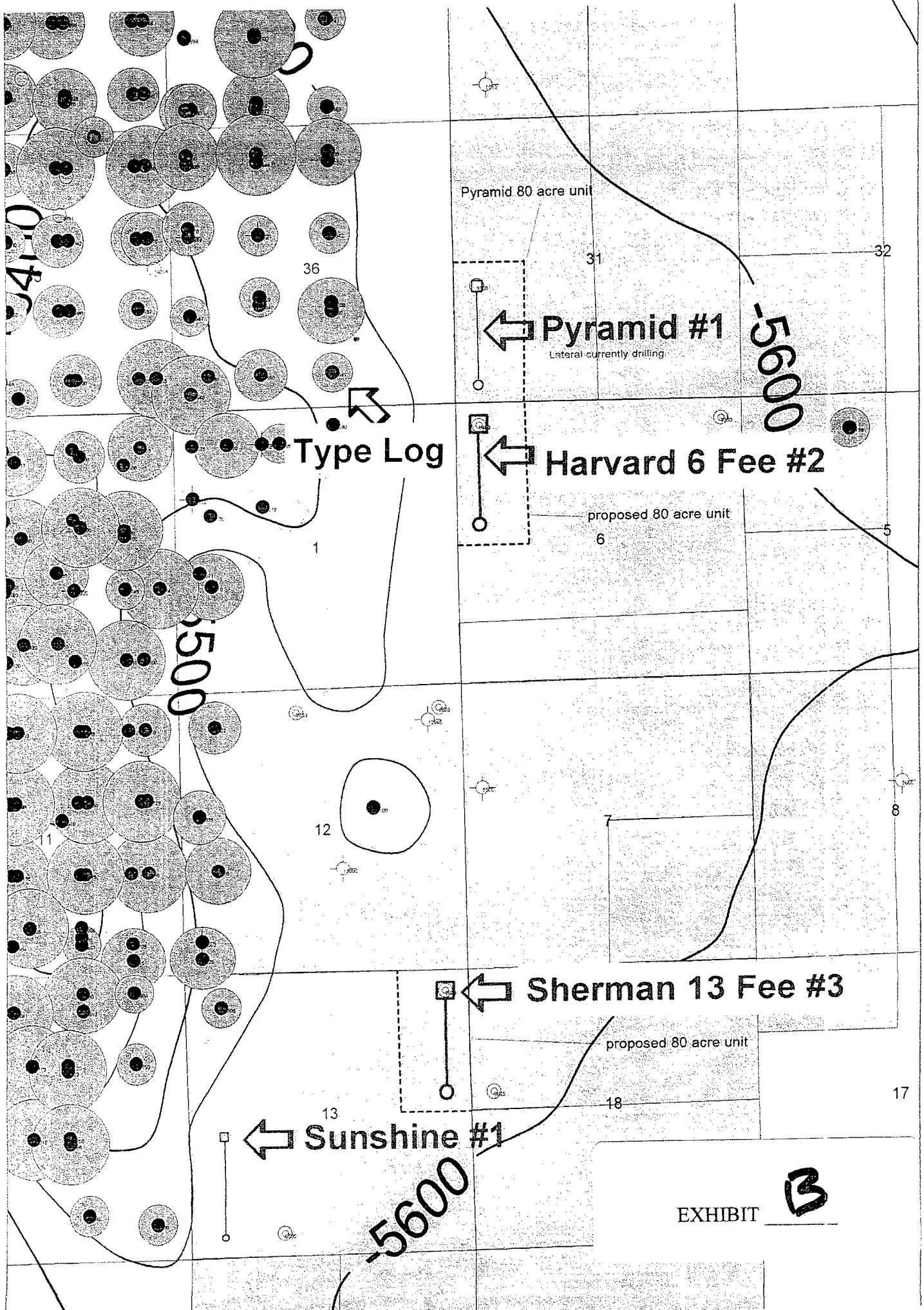
proposed 80 acre unit

Sunshine #1

EXHIBIT

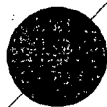
3

Type Log



Type Log

30025052030000



SINCLAIR OIL & GAS
WT MANN 1

660FSL 2310FEL

TWP: 14 S - Range: 37 E - Sec. 36

Reference=ES

Datum=3797

Comp Date=8/4/1953

EXHIBIT

C

-5400

-5400

-5500

-5500

WOLFCAMP

9256

5459

Horizontal
Target Zone

-5600

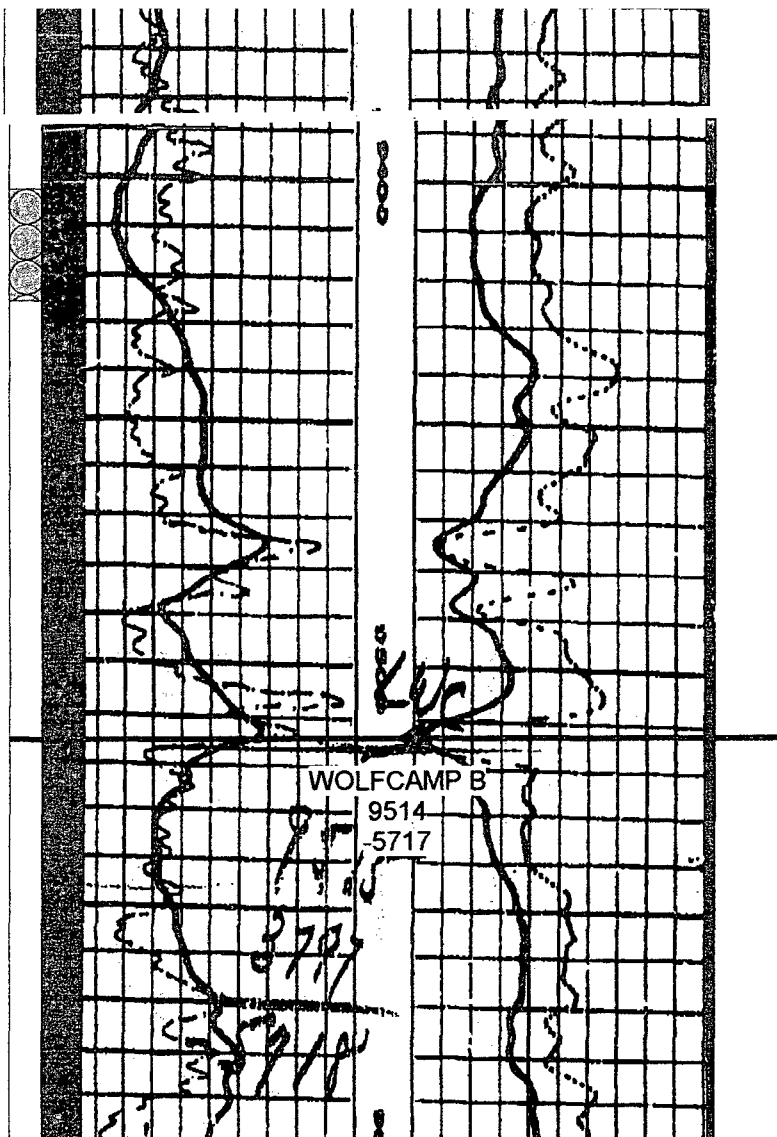
-5600

-5700

-5700

-5800

-5800



Completed in Devonian 1953, Acid 12,000G,
Cum. 402 MBO 48 MMCFG 93 MBW (1953-1973)

PB to Wolfcamp 1973, Acid 6500G
Cum 63 MBO 26 MMCFG 38 MBW (1973-1988)

Converted to Water Injection Injection 1988



Cimarex Energy Co., Inc.

Lea County (NAD 83)

Harvard 6 Fee #2H

Harvard 6 Fee #2H

Lateral #1

Plan: Plan #1

Standard Survey Report

04 September, 2007

EXHIBIT

P





Black Viper Energy

Survey Report



Company: Cimarex Energy Co., Inc.
Project: Lea County (NAD 83)
Site: Harvard 6 Fee #2H
Well: Harvard 6 Fee #2H
Wellbore: Lateral #1
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Harvard 6 Fee #2H
WELL @ 0.00ft (Original Well Elev)
WELL @ 0.00ft (Original Well Elev)
Grid
Minimum Curvature
EDM 2003.14.1.0 Server DB

Project: Lea County (NAD 83)
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone
System Datum: Ground Level

Site: Harvard 6 Fee #2H
Site Position: Northing: 748,672.90 ft Latitude: 33° 3' 8.700 N
From: Map Easting: 905,868.15 ft Longitude: 103° 8' 37.082 W
Position Uncertainty: 0.00 ft Slot Radius: " Grid Convergence: 0.65°

Well: Harvard 6 Fee #2H
Well Position: +N/-S 0.00 ft Northing: 748,672.90 ft Latitude: 33° 3' 8.700 N
+E/-W 0.00 ft Easting: 905,868.15 ft Longitude: 103° 8' 37.082 W
Position Uncertainty: 0.00 ft Wellhead Elevation: ft Ground Level: 0.00 ft

Wellbore: Lateral #1
Magnetics: Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)
IGRF200510 7/2/2007 7.91 61.14 49,582

Design: Plan #1
Audit Notes:
Version: Phase: PROTOTYPE Tie On Depth: 9,177.00
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
(ft) (ft) (ft) (°)
0.00 0.00 0.00 180.00

Survey Tool Program Date: 8/23/2007
From (ft) To (ft) Survey (Wellbore) Tool Name Description
9,177.00 11,166.03 Plan #1 (Lateral #1) MWD MWD - Standard

Planned 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)
9,177.01	0.00	0.00	9,177.01	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 30.0° / 100									
9,180.00	0.90	180.00	9,180.00	-0.02	0.00	0.02	30.00	30.00	0.00
9,190.00	3.90	180.00	9,189.99	-0.44	0.00	0.44	30.00	30.00	0.00
9,200.00	6.90	180.00	9,199.94	-1.38	0.00	1.38	30.00	30.00	0.00
9,210.00	9.90	180.00	9,209.84	-2.84	0.00	2.84	30.00	30.00	0.00
9,220.00	12.90	180.00	9,219.64	-4.82	0.00	4.82	30.00	30.00	0.00
9,230.00	15.90	180.00	9,229.32	-7.30	0.00	7.30	30.00	30.00	0.00
9,240.00	18.90	180.00	9,238.86	-10.29	0.00	10.29	30.00	30.00	0.00
9,250.00	21.90	180.00	9,248.24	-13.78	0.00	13.78	30.00	30.00	0.00
9,260.00	24.90	180.00	9,257.41	-17.75	0.00	17.75	30.00	30.00	0.00
9,270.00	27.90	180.00	9,266.37	-22.19	0.00	22.19	30.00	30.00	0.00
9,280.00	30.90	180.00	9,275.08	-27.10	0.00	27.10	30.00	30.00	0.00



Black Viper Energy Survey Report



Company: Cimarex Energy Co., Inc.
Project: Lea County (NAD 83)
Site: Harvard 6 Fee #2H
Well: Harvard 6 Fee #2H
Wellbore: Lateral #1
Design: Plan #1

Local Co-ordinate Reference: Site Harvard 6 Fee #2H
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.14.1.0 Server: DB

Planned 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)
9,290.00	33.90	180.00	9,283.52	-32.46	0.00	32.46	30.00	30.00	0.00
9,300.00	36.90	180.00	9,291.67	-38.25	0.00	38.25	30.00	30.00	0.00
9,310.00	39.90	180.00	9,299.51	-44.46	0.00	44.46	30.00	30.00	0.00
9,320.00	42.90	180.00	9,307.01	-51.07	0.00	51.07	30.00	30.00	0.00
9,330.00	45.90	180.00	9,314.16	-58.07	0.00	58.07	30.00	30.00	0.00
9,340.00	48.90	180.00	9,320.92	-65.43	0.00	65.43	30.00	30.00	0.00
9,350.00	51.90	180.00	9,327.30	-73.13	0.00	73.13	30.00	30.00	0.00
9,360.00	54.90	180.00	9,333.26	-81.16	0.00	81.16	30.00	30.00	0.00
9,368.51	57.45	180.00	9,338.00	-88.23	0.00	88.23	30.00	30.00	0.00
Wolfcamp									
9,370.00	57.90	180.00	9,338.79	-89.48	0.00	89.48	30.00	30.00	0.00
9,380.00	60.90	180.00	9,343.89	-98.09	0.00	98.09	30.00	30.00	0.00
9,390.00	63.90	180.00	9,348.52	-106.95	0.00	106.95	30.00	30.00	0.00
9,400.00	66.90	180.00	9,352.68	-116.04	0.00	116.04	30.00	30.00	0.00
9,410.00	69.90	180.00	9,356.36	-125.34	0.00	125.34	30.00	30.00	0.00
9,420.00	72.90	180.00	9,359.55	-134.82	0.00	134.82	30.00	30.00	0.00
9,430.00	75.90	180.00	9,362.24	-144.45	0.00	144.45	30.00	30.00	0.00
9,440.00	78.90	180.00	9,364.42	-154.20	0.00	154.20	30.00	30.00	0.00
9,450.00	81.90	180.00	9,366.09	-164.06	0.00	164.06	30.00	30.00	0.00
9,460.00	84.90	180.00	9,367.24	-173.99	0.00	173.99	30.00	30.00	0.00
9,470.00	87.90	180.00	9,367.87	-183.97	0.00	183.97	30.00	30.00	0.00
9,477.01	90.00	180.00	9,368.00	-190.99	0.00	190.99	30.00	30.00	0.00
EOC - Hold 90.0° Inc. :: 360.0° Azi.									
9,500.00	90.00	180.00	9,368.00	-213.97	0.00	213.97	0.00	0.00	0.00
9,600.00	90.00	180.00	9,368.00	-313.97	0.00	313.97	0.00	0.00	0.00
9,700.00	90.00	180.00	9,368.00	-413.97	0.00	413.97	0.00	0.00	0.00
9,800.00	90.00	180.00	9,368.00	-513.97	0.00	513.97	0.00	0.00	0.00
9,900.00	90.00	180.00	9,368.00	-613.97	0.00	613.97	0.00	0.00	0.00
10,000.00	90.00	180.00	9,368.00	-713.97	0.00	713.97	0.00	0.00	0.00
10,100.00	90.00	180.00	9,368.00	-813.97	0.00	813.97	0.00	0.00	0.00
10,200.00	90.00	180.00	9,368.00	-913.97	0.00	913.97	0.00	0.00	0.00
10,300.00	90.00	180.00	9,368.00	-1,013.97	0.00	1,013.97	0.00	0.00	0.00
10,400.00	90.00	180.00	9,368.00	-1,113.97	0.00	1,113.97	0.00	0.00	0.00
10,500.00	90.00	180.00	9,368.00	-1,213.97	0.00	1,213.97	0.00	0.00	0.00
10,600.00	90.00	180.00	9,368.00	-1,313.97	0.00	1,313.97	0.00	0.00	0.00
10,700.00	90.00	180.00	9,368.00	-1,413.97	0.00	1,413.97	0.00	0.00	0.00
10,800.00	90.00	180.00	9,368.00	-1,513.97	0.00	1,513.97	0.00	0.00	0.00
10,900.00	90.00	180.00	9,368.00	-1,613.97	0.00	1,613.97	0.00	0.00	0.00
11,000.00	90.00	180.00	9,368.00	-1,713.97	0.00	1,713.97	0.00	0.00	0.00
11,100.00	90.00	180.00	9,368.00	-1,813.97	0.00	1,813.97	0.00	0.00	0.00
11,166.03	90.00	180.00	9,368.00	-1,880.00	0.00	1,880.00	0.00	0.00	0.00

PBHL#1[H6Fee#2]



Black Viper Energy
Survey Report



Company: Cimarex Energy Co., Inc.
Project: Lea County (NAD 83)
Site: Harvard 6 Fee #2H
Well: Harvard 6 Fee #2H
Wellbore: Lateral #1
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Site Harvard 6 Fee #2H
WELL @ 0.00ft (Original Well Elev)
WELL @ 0.00ft (Original Well Elev)
Grid
Minimum Curvature
EDM 2003.14.1.0 Server DB

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL#1[H6Fee#2] - plan hits target - Point	0.00	0.89	9,368.00	-1,880.00	0.00	746,792.90	905,868.15	33° 2' 50.102 N	105° 8' 37.332 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	8,175.00	Abo Dolomite	Dolomite	0.00	2.06
9,368.51	9,338.00	Wolfcamp		0.00	2.06
	9,617.00	Wolfcamp 'B'		0.00	2.06

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,177.01	9,177.01	0.00	0.00	KOP - Build 30.0° / 100
9,477.01	9,368.00	-190.99	0.00	EOC - Hold 90.0° Inc. :: 360.0° Azi.

Checked By: _____ Approved By: _____ Date: _____