

Cimark

SE

BHL

6/26/06 DATE IN	7-17-06 SUSPENSE	MIKE STOGNER ENGINEER	7/3/06 LOGGED IN	NSL TYPE	PTDS0618440686 APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☒ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

JAMES BRUCE
 P.O. BOX 1056
 SANTA FE, NM 87504
 Print or Type Name

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Signature

Attorney for Applicant
 Title

jamesbruc@aol.com
 e-mail Address

2006 JUN 26 AM 11 22

Date

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

June 26, 2006

Hand delivered

Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Stogner:

Pursuant to Division Rule 104.F(2), Cimarex Energy Company applies for approval of an unorthodox gas well location for the following well:

<u>Well:</u>	McGruder 13 Fed. Well No. 3
<u>Surface Location:</u>	2445 feet FSL & 260 feet FWL
<u>Bottom Hole Location:</u>	2034 feet FNL and 1348 feet FWL (at top of producing zone)
	1874 feet FNL & 1597 feet FWL (at TD)
<u>Well Unit:</u>	Lots 1-4 and SW¼ (W½) §13-22S-25E, Eddy County, New Mexico (331.08 acres)

The well was drilled to a depth sufficient to test the Morrow formation (Happy Valley-Morrow Gas Pool). The pool is spaced on 320 acres, with wells to be located no closer than 660 feet to a quarter section line nor closer than 10 feet to a quarter-quarter section line. A Form C-102 and an APD (federal form) are attached as Exhibits A and B.

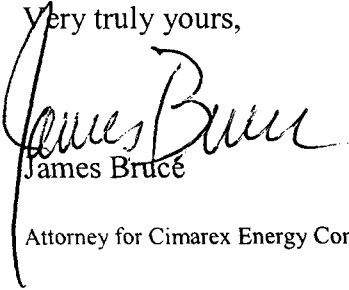
Due to topography, the surface location was placed at an unorthodox location outside of the NW¼ of Section 13. See Exhibit C. (IF APPROVAL OF THE UNORTHODOX SURFACE LOCATION IS NECESSARY, APPLICANT REQUESTS SUCH APPROVAL.) Applicant did not intend to intercept the main zone at an unorthodox location, but it occurred during the drilling of the well. A directional survey is attached as Exhibit D.

The unorthodox location is internal to the well unit. Therefore, no offset interest owners have been notified of the location.

In addition, the well unit will be simultaneously dedicated to the above well and to the existing McGruder 13 Well No. 1, located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 13.

Please contact me if you need any further information on this application.

Very truly yours,

A handwritten signature in cursive script, appearing to read "James Bruce". The signature is written in dark ink and is positioned above the printed name "James Bruce".

James Bruce

Attorney for Cimarex Energy Company

EXHIBIT A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

FOR APPROVED
OMB NO. 1004-0137
Expires: December 31, 1991

5. LEASE DESIGNATION AND SERIAL NO.

NM-110339

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

McGruder Hill 13 Federal No. 3

9. API WELL NO.

30-015-34778

10. FIELD AND POOL, OR WILDCAT

Happy Valley, Morrow (Gas)

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec 13 T-22S-R-25E

12. COUNTY OR PARISH
Eddy

13. STATE
NM

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ PERFORATION ☐ PLUG BACK ☐ DIFF. REMED. ☐ Other _____

2. NAME OF OPERATOR

Cimarex Energy Co.

3. ADDRESS AND TELEPHONE NO.

P O Box 140907 Irving Tx. 75014-0907

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 2445' FSL & 260' FWL

At top prod. interval reported below 2034' FNL & 1348' FWL

At total depth 1874' FNL & 1597' FWL

14. PERMIT NO.

DATE ISSUED

15. DATE SPUNDED

12-01-05

16. DATE T.D. REACHED

01-01-06

17. DATE COMPL. (Ready to prod.)

03-31-06

18. ELEVATIONS (DP, RKB, RT, GR, ETC.)*

3440' GR

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

MD 11775' TVD 11488'

21. PLUG, BACK T.D., MD & TVD

MD 11676' TVD 11390'

22. IF MULTIPLE COMPL., HOW MANY*

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

All

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

MD Happy Valley; Morrow (Gas) 11028' - 11158'

TVD Happy Valley; Morrow (Gas) 10771' - 10888'

25. WAS DIRECTIONAL SURVEY MADE

Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Spaced Neutron GRL, Dual Laterolog Micro-SFL, Cement Bond Log

27. WAS WELL CORRED

No

28. CASING RECORD (Report all strings set in well):

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13-3/8" H-40	48 #	653'	17-1/2"	650 sx circ 210 sx	
9-5/8" J-55	36 #	2638'	12-1/4"	960 sx circ 245 sx	
5-1/2" P-110	17#	11775'	7-7/8"	1970 sx circ 197 sx TOC 1780'	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	10980'	10980'

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

11028' - 11158' 6 JSPF 270 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
11028' - 11158'	430 tons CO2 foamed to 70-61 & 100000# Versaprop

33. PRODUCTION

DATE FIRST PRODUCTION 03-31-06		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing				WELL STATUS (Producing or shut-in) Producing	
DATE OF TEST 04-12-06	HOURS TESTED 24 hours	CHOKE SIZE wide open	PROD'N. FOR TEST PERIOD →	OIL—BBL. 0	GAS—MCF. 1537	WATER—BBL. 109	GAS-OIL RATIO 0
FLOW, TUBING PRESS. 500	CASING PRESSURE 0	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.		OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold

35. LIST OF ATTACHMENTS

Electric logs and Deviation Report

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Natalie Knege

TITLE

Reg Analyst I

DATE

06-20-06

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully
United States any false, fictitious or fraudulent statements or representations

EXHIBIT B

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Delaware	2404'	2404'
Bone Spring	4540'	4540'
Wolfcamp	8276'	5582'
Cisco-Canyon	9153'	9011'
Strawn	9799'	9616'
Atoka	10229'	10015'
Morrow	10661'	10417'



CACTUS DRILLING COMPANY, L.L.C.
REPORT OF PROOF OF APPARENT DEVIATION
NEW MEXICO

OPERATOR CIMAREX ENERGY CO
600 EAST LAS COLINAS BLVD. STE 1100
IRVING, TX 75039

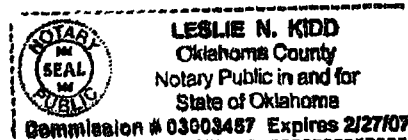
FIELD NAME _____

COUNTY/PARISH EDDY

WELL NAME & NO. MCGRUDER 13 FEDERAL #3

LEGAL SEC 13-22S-25E

MEASURED DEPTH (FT)	COURSE LENGTH (HUNDREDS OF FT)	ANGLE OF INCLINATION (DEGREES)	DISPLACEMENT PER HUNDRED FT (SINE OF ANGLE X 100)	COURSE DISPLACEMENT (FEET)	ACCUMULATIVE DISPLACEMENT (FEET)	REMARKS
15	0.15	0	0.1386	0.02	0.02	
825	8.10	1/3	0.5410	3.30	3.32	
1071	4.48	1 1/8	2.0419	9.11	12.43	
1525	4.54	5/7	1.2392	5.63	18.05	
2025	5.00	3/4	1.3264	6.63	24.69	
2394	3.89	1/2	0.8425	3.48	28.18	
3138	7.44	3/5	1.0472	7.79	35.95	
3685	5.47	1/3	0.5934	3.25	39.20	
4185	5.00	5/8	1.0821	5.41	44.61	
4689	4.84	1 4/5	3.1238	15.12	59.73	
5169	5.00	1 1/3	2.3385	11.69	71.42	
5484	2.95	1	1.7976	5.30	78.72	
5984	5.00	3/4	1.2741	6.37	83.10	



Leslie N. Kidd

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
CARLSBAD WEST, N.M. - 20'

SEC. 13 TWP. 22-S. RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2445' FSL & 260' FWL

ELEVATION 3438'

OPERATOR CIMAREX ENERGY COMPANY

LEASE McGruder 13 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
CARLSBAD WEST, N.M.

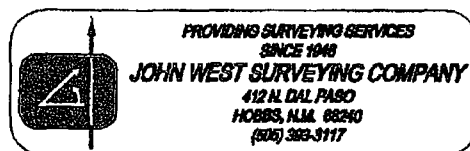


EXHIBIT C



Cimarex Energy Co., Inc.

**Eddy Co., New Mexico
McGruder 13 Federal #3
McGruder 13 Federal #3
Plan #1**

Survey: MWD Survey #1

Standard Survey Report

01 January, 2006



EXHIBIT D



Black Viper Energy Services
Survey Report



Company:	Cimarex Energy Co., Inc.	Local Coordinate Reference:	Well: McGruder 13 Federal #3
Project:	Eddy Co. New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder 13 Federal #3	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder 13 Federal #3	North Reference:	Grid
Wellbore:	Plan #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.11 Single User Db

Project:	Eddy Co. New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	McGruder 13 Federal #3		
Site Position:		Northing:	505,956.10 ft
From:	Map	Easting:	492,734.70 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 23' 27.538" N
		Longitude:	104° 21' 24.746" W
		Grid Convergence:	-0.01 °

Well:	McGruder 13 Federal #3					
Well Position	+N-S	0.00 ft	Northing:	505,956.10 ft	Latitude:	32° 23' 27.538" N
	+E-W	0.00 ft	Easting:	492,734.70 ft	Longitude:	104° 21' 24.746" W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft	

Wellbore	Plan #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2005	8.59	60.33	49,210

Design:	Plan #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	
		Tie On Depth:		6,131.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	52.38

Survey Program		Date: 1/2/2006		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	6,131.00	Gyro Survey #1 (OH)	GM	Gyro Multi-Shot
6,196.00	11,775.00	MWD Survey #1 (Plan #1)	MWD	Standard MWD

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)
6,131.00	0.54	347.15	6,130.22	30.93	-37.69	-10.97	0.00	0.00	0.00
6,196.00	0.70	10.40	6,195.21	31.62	-37.69	-10.55	0.45	0.25	35.77
First MWD Survey									
6,260.00	1.10	43.80	6,259.21	32.45	-37.19	-9.65	1.01	0.63	52.19
6,323.00	2.60	48.10	6,322.17	33.84	-35.71	-7.63	2.39	2.38	6.83
6,387.00	3.80	48.30	6,386.07	36.22	-33.05	-4.06	1.88	1.88	0.31
6,451.00	4.90	51.30	6,449.89	39.34	-29.33	0.78	1.75	1.72	4.69
6,514.00	5.20	51.20	6,512.64	42.81	-25.00	6.33	0.48	0.48	-0.16
6,578.00	6.70	52.20	6,576.29	46.92	-19.79	12.96	2.35	2.34	1.56
6,672.00	6.60	52.00	6,669.86	53.61	-11.20	23.85	0.11	-0.11	-0.21
6,737.00	8.10	53.40	6,734.13	58.64	-4.58	32.16	2.32	2.31	2.15
6,800.00	9.70	51.40	6,796.37	64.59	3.13	41.91	2.59	2.54	-3.17



Black Viper Energy Services

Survey Report



Company	Cimarex Energy Co., Inc.	Local Coordinate Reference	Well: McGruder 13 Federal #3
Project	Eddy Co., New Mexico	WVD Reference	WELL @ 0.00ft (Original Well Elev)
Site	McGruder 13 Federal #3	MD Reference	WELL @ 0.00ft (Original Well Elev)
Well	McGruder 13 Federal #3	North Reference	Grid
Wellbore	Plan #1	Survey Calculation Method	Minimum Curvature
Design	Plan #1	Database	EDM 2003.11 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	ΔN/S (ft)	ΔE/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Built Rate (°/100ft)	Turn Rate (°/100ft)
6,863.00	11.70	51.30	6,858.27	71.90	12.26	53.60	3.17	3.17	-0.16
6,927.00	13.10	52.80	6,920.77	80.34	23.10	67.34	2.24	2.19	2.34
6,991.00	14.60	53.70	6,982.91	89.50	35.38	82.66	2.37	2.34	1.41
7,084.00	14.30	53.60	7,071.84	105.57	57.21	109.76	5.05	5.05	-0.11
7,149.00	18.90	54.20	7,133.27	118.10	74.40	131.02	0.69	-0.62	0.92
7,181.00	19.10	54.40	7,163.52	124.18	82.86	141.43	0.66	0.63	0.63
7,212.00	18.80	54.20	7,192.84	130.06	91.03	151.49	0.99	-0.97	-0.65
7,244.00	18.20	55.80	7,223.19	135.88	99.35	161.64	2.46	-1.88	5.00
7,276.00	18.60	56.40	7,253.55	141.52	107.73	171.72	1.38	1.25	1.88
7,308.00	19.20	56.60	7,283.83	147.24	116.37	182.05	1.89	1.88	0.63
7,339.00	20.10	54.60	7,313.02	153.13	124.97	192.46	3.62	2.90	-6.45
7,371.00	21.00	54.30	7,342.99	159.66	134.11	203.69	2.83	2.81	-0.94
7,403.00	21.50	54.10	7,372.81	166.44	143.52	215.28	1.58	1.56	-0.63
7,435.00	22.30	55.40	7,402.50	173.33	153.27	227.20	2.92	2.50	4.06
7,467.00	23.00	56.90	7,432.03	180.19	163.50	239.50	2.84	2.19	4.69
7,499.00	22.60	57.20	7,461.53	186.94	173.91	251.86	1.30	-1.25	0.94
7,530.00	22.30	57.80	7,490.18	193.30	183.89	263.65	1.22	-0.97	1.94
7,562.00	22.30	58.00	7,519.79	199.75	194.18	275.73	0.24	0.00	0.63
7,594.00	22.60	57.90	7,549.36	206.24	204.53	287.90	0.95	0.94	-0.31
7,626.00	22.70	57.40	7,578.90	212.83	214.94	300.17	0.68	0.31	-1.56
7,658.00	21.50	55.60	7,608.55	219.47	224.88	312.17	4.31	-3.75	-5.63
7,690.00	20.70	52.30	7,638.40	226.24	234.30	323.69	4.47	-2.50	-10.31
7,721.00	20.80	52.10	7,667.39	232.97	242.98	334.67	0.40	0.32	-0.65
7,753.00	20.40	54.30	7,697.34	239.72	251.99	345.92	2.72	-1.25	6.88
7,785.00	20.80	54.90	7,727.30	246.24	261.17	357.17	1.41	1.25	1.88
7,817.00	21.20	54.90	7,757.17	252.83	270.55	368.63	1.25	1.25	0.00
7,849.00	21.50	56.60	7,786.98	259.39	280.18	380.26	2.15	0.94	5.31
7,880.00	21.90	55.70	7,815.78	265.77	289.70	391.70	1.68	1.29	-2.90
7,912.00	21.50	55.40	7,845.51	272.47	299.45	403.51	1.30	-1.25	-0.94
7,944.00	21.20	55.50	7,875.32	279.07	309.05	415.14	0.94	-0.94	0.31
7,976.00	21.50	56.10	7,905.12	285.62	318.69	426.77	1.16	0.94	1.88
8,008.00	22.10	56.30	7,934.83	292.23	328.56	438.63	1.89	1.88	0.63
8,040.00	21.10	56.50	7,964.58	298.75	338.37	450.38	3.13	-3.13	0.63
8,071.00	20.70	56.50	7,993.54	304.86	347.59	461.41	1.29	-1.29	0.00
8,103.00	21.60	55.60	8,023.39	311.30	357.17	472.93	2.99	2.81	-2.81
8,135.00	22.20	54.90	8,053.08	318.11	366.98	484.85	2.04	1.88	-2.19
8,167.00	22.60	54.90	8,082.66	325.12	376.95	497.04	1.25	1.25	0.00
8,198.00	21.80	54.60	8,111.37	331.88	386.52	508.74	2.81	-2.58	-0.97
8,230.00	21.50	55.00	8,141.11	338.69	396.17	520.53	1.04	-0.94	1.25
8,262.00	21.80	54.40	8,170.85	345.51	405.80	532.33	1.17	0.94	-1.88
8,294.00	21.40	54.50	8,200.60	352.36	415.38	544.10	1.26	-1.25	0.31
8,326.00	20.10	54.90	8,230.53	358.91	424.64	555.43	4.09	-4.06	1.25
8,358.00	17.90	56.90	8,260.78	364.76	433.26	566.83	7.17	-6.88	6.25
8,389.00	17.40	57.90	8,290.32	369.82	441.17	575.19	1.89	-1.61	3.23
8,421.00	17.60	57.20	8,320.84	374.99	449.29	584.77	0.91	0.63	-2.19
8,458.00	17.80	56.10	8,356.09	381.17	458.69	595.99	1.05	0.54	-2.97
8,488.00	18.20	54.00	8,384.62	386.48	466.29	605.25	2.54	1.33	-7.00
8,520.00	17.90	52.10	8,415.05	392.44	474.21	615.16	2.06	-0.94	-5.94
8,552.00	17.10	52.00	8,445.57	398.36	481.80	624.79	2.50	-2.50	-0.31
8,583.00	17.30	50.90	8,475.18	404.07	488.97	633.95	1.23	0.65	-3.55
8,615.00	17.90	51.40	8,505.68	410.14	496.50	643.62	1.93	1.88	1.56
8,647.00	18.20	53.60	8,536.11	416.17	504.37	653.54	2.33	0.94	6.88
8,677.00	19.00	52.80	8,564.54	421.91	512.03	663.11	2.80	2.67	-2.67
8,709.00	19.40	52.30	8,594.76	428.30	520.38	673.63	1.35	1.25	-1.56



Black Viper Energy Services Survey Report



Company:	Cimarex Energy Co., Inc.	Local Coordinate Reference:	Well: McGruder 13 Federal #3
Project:	Eddy Co., New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder 13 Federal #3	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder 13 Federal #3	North Reference:	Grid
Wellbore:	Plan #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.11 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N-S (ft)	E-W (ft)	Vertical Section (ft)	Degleg Rate (1/100ft)	Bulld Rate (1/100ft)	Turn Rate (1/100ft)
8,740.00	18.80	52.80	8,624.05	434.47	528.43	683.77	2.01	-1.94	1.61
8,772.00	18.70	53.60	8,654.36	440.63	536.67	694.06	0.86	-0.31	2.50
8,804.00	18.10	54.10	8,684.72	448.59	544.83	704.15	1.94	-1.88	1.56
8,836.00	18.20	54.30	8,715.13	452.42	552.91	714.12	0.37	0.31	0.63
8,868.00	19.00	52.90	8,745.46	458.48	561.12	724.32	2.86	2.50	-4.38
8,900.00	19.50	50.30	8,775.67	465.04	569.39	734.87	3.10	1.56	-8.13
8,932.00	20.80	47.40	8,805.71	472.29	577.68	745.87	5.12	4.06	-9.06
8,964.00	21.80	46.20	8,835.52	480.25	586.15	757.43	3.41	3.13	-3.75
8,996.00	22.20	46.70	8,865.19	488.51	594.84	769.36	1.38	1.25	1.56
9,027.00	21.20	48.90	8,894.00	496.21	603.33	780.78	4.16	-3.23	7.10
9,059.00	21.90	50.60	8,923.76	503.81	612.30	792.52	2.93	2.19	5.31
9,091.00	21.80	52.10	8,953.46	511.24	621.60	804.43	1.77	-0.31	4.69
9,123.00	21.90	54.40	8,983.16	518.37	631.14	816.33	2.69	0.31	7.19
9,154.00	22.40	55.70	9,011.87	525.06	640.72	828.01	2.26	1.61	4.19
9,186.00	22.10	55.70	9,041.49	531.89	650.73	840.11	0.94	-0.94	0.00
9,218.00	21.00	56.00	9,071.25	538.49	660.46	851.84	3.45	-3.44	0.94
9,250.00	19.80	56.50	9,101.25	544.69	669.73	862.97	3.79	-3.75	1.56
9,282.00	19.30	58.60	9,131.40	550.43	678.76	873.63	2.69	-1.56	6.56
9,314.00	19.10	59.20	9,161.62	555.87	687.77	884.08	0.88	-0.63	1.88
9,346.00	19.10	56.50	9,191.86	561.44	696.64	894.51	2.76	0.00	-8.44
9,377.00	18.50	53.10	9,221.21	567.19	704.80	904.48	4.03	-1.94	-10.97
9,409.00	19.00	50.50	9,251.51	573.55	712.88	914.77	3.04	1.56	-8.13
9,441.00	20.10	51.80	9,281.67	580.28	721.21	925.47	3.62	3.44	3.44
9,473.00	20.00	53.00	9,311.73	586.99	729.89	936.44	1.53	-0.31	4.38
9,504.00	19.20	54.60	9,340.93	593.14	738.28	946.84	3.11	-2.58	5.16
9,535.00	19.70	55.50	9,370.16	599.05	746.74	957.15	1.88	1.61	2.90
9,568.00	20.10	55.50	9,401.19	605.41	756.00	968.36	1.21	1.21	0.00
9,600.00	20.90	53.40	9,431.16	611.93	765.11	979.56	3.40	2.50	-6.56
9,632.00	20.90	53.90	9,461.08	618.69	774.30	990.97	0.56	0.00	1.56
9,664.00	20.80	54.60	9,490.96	625.35	783.55	1,002.36	0.84	-0.31	2.19
9,696.00	21.40	54.80	9,520.82	632.00	792.95	1,013.87	1.89	1.88	0.63
9,728.00	22.30	54.40	9,550.52	638.90	802.66	1,025.77	2.85	2.81	-1.25
9,759.00	22.20	56.00	9,579.21	645.60	812.29	1,037.49	1.98	-0.32	5.16
9,790.00	21.80	57.40	9,607.95	651.98	822.00	1,049.07	2.13	-1.29	4.52
9,822.00	21.80	56.50	9,637.67	658.48	831.96	1,060.91	1.04	0.00	-2.81
9,852.00	22.60	57.00	9,665.44	664.67	841.44	1,072.22	2.74	2.67	1.67
9,884.00	22.10	56.80	9,695.04	671.32	851.63	1,084.35	1.58	-1.56	-0.63
9,916.00	21.30	57.70	9,724.77	677.72	861.58	1,096.14	2.71	-2.50	2.81
9,948.00	21.40	57.30	9,754.57	683.98	871.41	1,107.74	0.55	0.31	-1.25
9,980.00	22.10	55.20	9,784.30	690.57	881.26	1,119.57	3.27	2.19	-5.56
10,012.00	22.50	53.80	9,813.90	697.62	891.15	1,131.70	2.08	1.25	-4.38
10,044.00	22.50	54.30	9,843.47	704.81	901.06	1,143.94	0.60	0.00	1.56
10,075.00	21.80	54.40	9,872.18	711.62	910.56	1,155.62	2.26	-2.26	0.32
10,107.00	21.40	55.20	9,901.93	718.41	920.18	1,167.39	1.55	-1.25	2.50
10,139.00	20.90	55.60	9,931.78	724.97	929.69	1,178.92	1.63	-1.56	1.25
10,171.00	20.70	55.10	9,961.69	731.43	939.04	1,190.27	0.84	-0.63	-1.56
10,202.00	21.90	54.30	9,990.57	737.94	948.22	1,201.52	3.98	3.87	-2.58
10,233.00	22.50	55.10	10,019.27	744.71	957.78	1,213.22	2.17	1.94	2.58
10,265.00	22.80	55.60	10,048.81	751.71	967.92	1,225.53	1.11	0.94	1.56
10,296.00	21.90	56.60	10,077.48	758.29	977.71	1,237.29	3.15	-2.90	3.23
10,328.00	21.10	57.50	10,107.25	764.67	987.55	1,248.98	2.70	-2.50	2.81
10,360.00	20.20	56.30	10,137.19	770.83	997.00	1,260.23	3.11	-2.81	-3.75
10,392.00	20.40	55.90	10,167.21	777.02	1,006.21	1,271.31	0.76	0.63	-1.25
10,423.00	21.40	55.60	10,196.17	783.25	1,015.38	1,282.35	3.24	3.23	-0.97
10,455.00	21.40	54.90	10,225.96	789.90	1,024.95	1,294.01	0.80	0.00	-2.19

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of
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Black Viper Energy Services
Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well: McGruder 13 Federal #3
Project:	Eddy Co., New Mexico	TYD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder 13 Federal #3	WID Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder 13 Federal #3	North Reference:	Grid
Wellbore:	Plan #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.11 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)
10,487.00	22.20	54.60	10,255.67	796.76	1,034.65	1,305.88	2.52	2.50	-0.94
10,519.00	22.50	57.10	10,285.27	803.59	1,044.72	1,318.03	3.11	0.94	7.81
10,551.00	21.40	57.10	10,314.95	810.09	1,054.77	1,329.95	3.44	-3.44	0.00
10,583.00	21.10	57.10	10,344.77	816.39	1,064.50	1,341.51	0.94	-0.94	0.00
10,615.00	21.10	55.90	10,374.63	822.74	1,074.11	1,353.00	1.35	0.00	-3.75
10,646.00	21.00	54.80	10,403.56	829.07	1,083.27	1,364.12	1.31	-0.32	-3.55
10,678.00	20.30	57.10	10,433.50	835.40	1,092.81	1,375.38	3.35	-2.19	7.19
10,709.00	20.10	56.80	10,462.60	841.23	1,101.59	1,386.05	0.73	-0.65	-0.97
10,742.00	20.10	55.60	10,493.59	847.54	1,111.01	1,397.36	1.25	0.00	-3.64
10,774.00	20.20	56.30	10,523.63	853.71	1,120.14	1,408.36	0.82	0.31	2.19
10,805.00	19.60	56.70	10,552.78	859.54	1,128.94	1,418.89	1.98	-1.94	1.29
10,837.00	19.40	55.00	10,582.94	865.53	1,137.78	1,429.55	1.88	-0.63	-5.31
10,869.00	18.80	53.40	10,635.86	876.25	1,152.64	1,447.86	1.42	-1.07	-2.86
10,924.00	18.60	52.90	10,665.22	882.21	1,160.60	1,457.80	0.83	-0.65	-1.61
10,956.00	18.60	53.50	10,695.55	888.32	1,168.77	1,468.01	0.60	0.00	1.88
10,988.00	18.40	53.30	10,725.90	894.38	1,176.92	1,478.16	0.66	-0.63	-0.63
11,020.00	18.60	53.20	10,756.24	900.45	1,185.06	1,488.31	0.63	0.63	-0.31
11,052.00	18.30	54.90	10,786.60	906.40	1,193.25	1,498.43	1.92	-0.94	5.31
11,083.00	17.90	54.20	10,816.06	911.98	1,201.10	1,508.06	1.47	-1.29	-2.26
11,115.00	18.00	56.10	10,846.51	917.62	1,209.19	1,517.91	1.86	0.31	5.94
11,147.00	18.20	53.70	10,876.92	923.33	1,217.32	1,527.84	2.41	0.63	-7.50
11,179.00	17.80	55.20	10,907.36	929.08	1,225.37	1,537.72	1.91	-1.25	4.69
11,211.00	17.50	56.90	10,937.85	934.50	1,233.42	1,547.40	1.88	-0.94	5.31
11,263.00	17.60	57.80	10,987.43	942.96	1,248.62	1,563.02	0.56	0.19	1.73
11,295.00	17.10	58.20	11,017.98	948.02	1,254.71	1,572.52	1.61	-1.56	1.25
11,327.00	17.00	57.40	11,048.57	953.02	1,262.65	1,581.86	0.80	-0.31	-2.50
11,359.00	16.20	58.00	11,079.24	957.90	1,270.38	1,590.96	2.56	-2.50	1.88
11,390.00	15.10	59.50	11,109.09	962.24	1,277.52	1,599.27	3.78	-3.55	4.84
11,422.00	14.00	60.50	11,140.06	966.27	1,284.48	1,607.24	3.53	-3.44	3.13
11,453.00	13.00	59.30	11,170.20	969.89	1,290.74	1,614.41	3.35	-3.23	-3.87
11,485.00	12.40	60.50	11,201.42	973.42	1,296.83	1,621.39	2.05	-1.88	3.75
11,517.00	12.30	58.20	11,232.68	976.91	1,302.72	1,628.18	1.57	-0.31	-7.19
11,549.00	11.50	57.40	11,263.99	980.42	1,308.30	1,634.75	2.55	-2.50	-2.50
11,581.00	10.30	59.10	11,295.41	983.61	1,313.44	1,640.77	3.88	-3.75	5.31
11,613.00	10.10	59.20	11,326.91	986.52	1,318.31	1,646.39	0.63	-0.63	0.31
11,645.00	8.40	55.10	11,358.49	989.29	1,322.64	1,651.51	5.69	-5.31	-12.81
11,677.00	7.70	74.50	11,390.18	991.20	1,326.62	1,655.84	8.72	-2.19	60.63
11,709.00	6.50	81.10	11,421.94	992.06	1,330.48	1,659.41	4.53	-3.75	20.63
Last MWD Survey									
11,775.00	5.00	85.00	11,487.60	992.88	1,337.03	1,665.11	2.35	-2.27	5.91
Proj to Bit - TD									

well down
the north
1980' EOL
mark @
the point
somewhere



Black Viper Energy Services
Survey Report



Company	Cimarex Energy Co., Inc.	Local Coordinate Reference	Well: McGruder 13: Federal #3
Project	Eddy Co., New Mexico	TVD Reference	WELL @ 0.00ft (Original Well Elev)
Site	McGruder 13: Federal #3	MD Reference	WELL @ 0.00ft (Original Well Elev)
Well	McGruder 13: Federal #3	North Reference	Grid
Wellbore	Plan #1	Survey Calculation Method	Minimum Curvature
Design	Plan #1	Database	EDM 2003.11 Single User Db

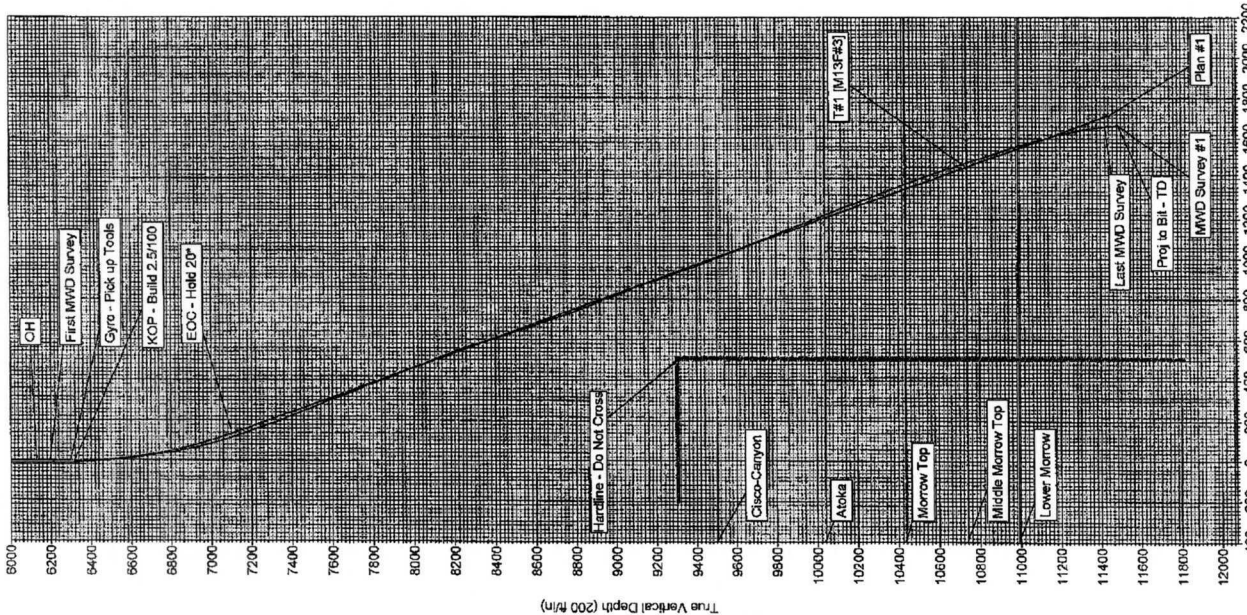
Targets										
Target Name	Shape	Miss	Target	Dip Angle	Dip Dir	WOB	N-S	E-W	Northing	Easting
				(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)
T#1 [M3F#3]				0.00	0.00	10,736.00	891.80	1,157.00	506,847.90	493,891.70
- survey misses by 23.08ft @ 10998.65ft MD (10736.00 TVD, 89639 N, 11782 E)										
- Rectangle (sides W100.00 H100.00 D0.00)										

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	N-S (ft)	E-W (ft)	
6,196.00	6,195.21	31.62	-37.69	First MWD Survey
11,709.00	11,421.94	992.06	1,330.48	Last MWD Survey
11,775.00	11,487.60	992.88	1,337.03	Proj to Bit - TD

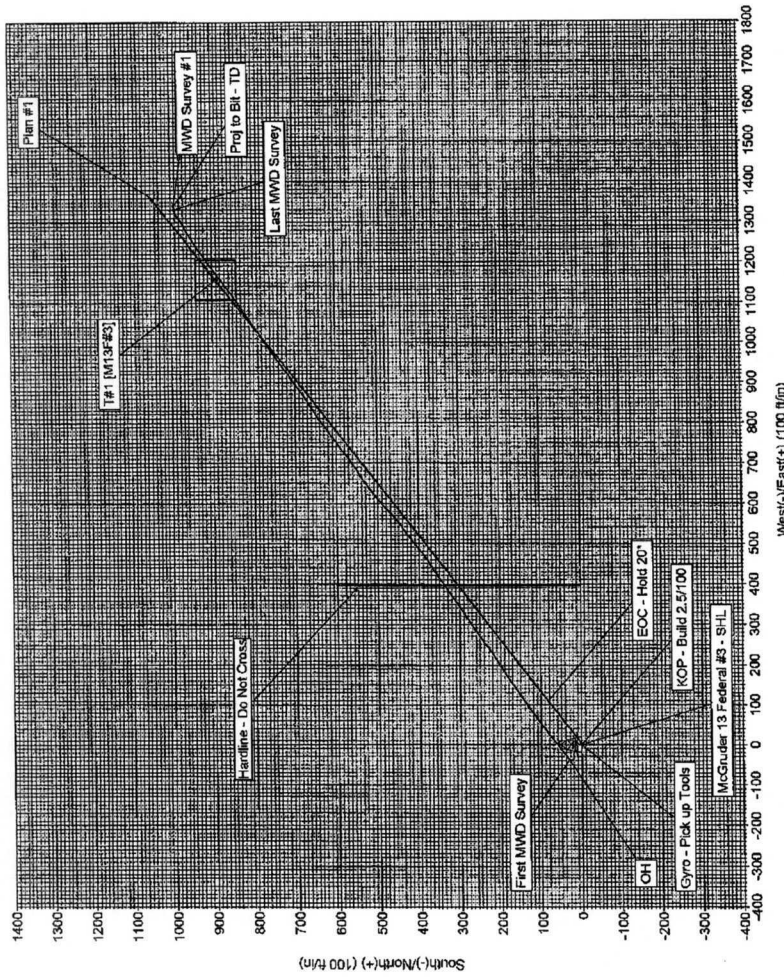
Checked By: _____ Approved By: _____ Date: _____



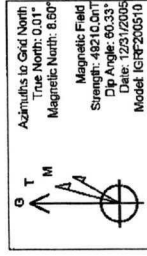
Project: Eddy Co. New Mexico
Site: McGruder 13 Federal #3
Well: McGruder 13 Federal #3
Wellbore: Plan #1
Plan: Plan #1



Vertical Section at 52.38° (200 ft/in)



West(-)/East(+) (100 ft/in)



Adjusts to Grid North
True North: 0.01°
Magnetic North: 6.60°
Magnetic Field
Source: IGRF2005
Declination: 6.60°
Date: 12/23/2005
Model: IGRF200510

Plan: Plan #1 (McGruder 13 Federal #3) (Plan #1)
Controlled By: John Halberg Date: 11/16/2005

ANNOTATIONS

Sec	MD	Inc	Azi	TVD	+N-S	+E/W	Dleg	TFaces	VSec	Target
1	6300.00	0.00	52.38	6300.00	0.00	0.00	0.00	0.00	0.00	0.00
2	6318.35	0.00	52.38	6318.35	0.00	0.00	0.00	0.00	0.00	0.00
3	7118.36	20.00	52.38	7102.21	84.38	105.47	2.50	52.38	139.21	139.21
4	10985.36	20.00	52.38	10736.00	881.80	1157.00	0.00	0.00	1460.81	1460.81
5	11745.18	20.00	52.38	11450.00	1050.45	1362.83	0.00	0.00	1720.68	1720.68

SECTION DETAILS