

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

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

5. LEASE DESIGNATION AND SERIAL NO.

NMNM112898

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.
McGruder Hill 13 Federal No. 2

9. API WELL NO.

30-015-34088

10. FIELD AND POOL, OR WILDCAT

Happy Valley; Morrow

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

Sec 13 T-22S- R-25E

12. COUNTY OR
PARISH
Eddy13. STATE
NM

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

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

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVR. ☐ 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 1350' FNL & 660' FEL

At top prod. interval reported below 1710' FNL & 1600' FEL

At total depth 1819' FNL & 1891' FEL

14. PERMIT NO.

DATE ISSUED

ACCEPTED FOR RECORD

ALEXIS C. SWOBODA
PETROLEUM ENGINEER

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, OR, ETC.)*	19. ELEV. CASINGHEAD
05-24-05	07-13-05	09-23-05	3797.2' GR	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
MD 11950' TVD 11737'	MD 11825' TVD 11616'		→	All	

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

MD 11209' - 11515' Happy Valley; Morrow

TVD 11034' - 11321' Happy Valley; Morrow

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 CORED

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 #	650'	17-1/2"	600 sx POZ/Class C circ 277 sx	
9-5/8" J-55	36 #	2660'	12-1/4"	1290 sx POZ/Class C circ 200 sx	
5-1/2" P-110	17#	11950'	7-7/8"	2520 sx Pecos Valley Lite/POZ H/Class H TOC 4550'	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8"	11170'	

31. PERFORATION RECORD (Interval, size and number)

11419' - 11515' 6 SPF 222 Holes

11282' - 11290' 6 SPF 54 Holes

11348' - 11364' 6 SPF 54 Holes

11209' - 11233' 6 SPF 96 Holes

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
11419' - 11515'	155481 gal foam CO2/Meth 100000# VProp
11209' - 11233'	21107 gal foam CO2/Meth 42000# VProp

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
10-13-05		Flowing				Producing	
DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
10-16-05	24 hours	open	→	0	2856	39	0
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
2350	2700	→	0	2856	39	0	

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

Sold

TEST WITNESSED BY

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 Kneige

TITLE Reg Tech

DATE November 2, 2005

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

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

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
				Delaware	2741'	
				Bone Spring	5020'	
				Wolfcamp	8605'	
				Cisco-Canyon	9715'	
				Strawn	10157'	
				Atoka	10563'	
				Morrow	10986'	



Cimarex Energy Co., Inc.

Eddy Co., New Mexico

McGruder Hill Federal #2

McGruder Hill Federal #2

Slant #1

Survey: MWD Survey #1

Standard Survey Report

18 July, 2005





Black Viper Energy Services Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well McGruder Hill Federal #2
Project:	Eddy Co., New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder Hill Federal #2	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder Hill Federal #2	North Reference:	True
Wellbore:	Slant #1	Survey Calculation Method:	Minimum Curvature
Design:	Slant #1	Database:	2003.11.0.3 Server Database

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 Hill Federal #2			
Site Position:		Northing:	507,527.42 ft	Latitude:	32° 23' 43.087" N
From:	Lat/Long	Easting:	492,113.76 ft	Longitude:	104° 21' 31.992" W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.01 °

Well:	McGruder Hill Federal #2					
Well Position	+N/-S	0.00 ft	Northing:	507,527.42 ft	Latitude:	32° 23' 43.087" N
	+E/-W	0.00 ft	Easting:	492,113.76 ft	Longitude:	104° 21' 31.992" W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft

Wellbore		Slant #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2/16/2005	8.69	60.35	49,297

Design:	Slant #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	6,947.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	249.00	

Survey Program		Date: 7/18/2005		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
200.00	6,947.00	Gyro Survey #1 (OH)	GM	Gyro Multi-Shot
6,983.00	11,950.00	MWD Survey #1 (Slant #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)
6,947.00	0.75	224.78	6,946.17	-42.64	-20.55	34.47	0.00	0.00	0.00
6,983.00	0.30	233.90	6,982.16	-42.86	-20.80	34.77	1.26	-1.24	25.35
First MWD Survey									
7,076.00	0.80	226.20	7,075.16	-43.45	-21.46	35.61	0.54	0.54	-8.28
7,171.00	1.60	191.50	7,170.14	-45.21	-22.20	36.93	1.10	0.84	-36.53
7,264.00	4.20	195.80	7,263.01	-49.76	-23.39	39.67	2.80	2.80	4.62
7,356.00	5.50	192.70	7,354.68	-57.30	-25.28	44.13	1.44	1.41	-3.37
7,451.00	5.70	189.70	7,449.23	-66.40	-27.07	49.07	0.37	0.21	-3.16
7,545.00	3.90	174.40	7,542.90	-74.18	-27.55	52.30	2.33	-1.91	-16.28
7,655.00	1.90	160.00	7,652.75	-79.62	-26.56	53.33	1.92	-1.82	-13.09
7,686.00	1.80	160.60	7,683.74	-80.56	-26.22	53.35	0.33	-0.32	1.94
7,717.00	1.90	176.50	7,714.72	-81.53	-26.03	53.52	1.68	0.32	51.29



Black Viper Energy Services

Survey Report



Company: Cimarex Energy Co., Inc.
Project: Eddy Co., New Mexico
Site: McGruder Hill Federal #2
Well: McGruder Hill Federal #2
Wellbore: Slant #1
Design: Slant #1

Local Co-ordinate Reference: Well McGruder Hill Federal #2
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: 2003.11.0.3 Server Database

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)
7,749.00	2.70	199.00	7,746.70	-82.77	-26.24	54.16	3.72	2.50	70.31
7,781.00	3.00	206.00	7,778.66	-84.24	-26.85	55.26	1.43	0.94	21.88
7,811.00	4.00	211.50	7,808.60	-85.84	-27.74	56.66	3.51	3.33	18.33
7,843.00	4.20	219.50	7,840.52	-87.69	-29.07	58.57	1.89	0.63	25.00
7,874.00	4.30	223.10	7,871.43	-89.42	-30.59	60.60	0.92	0.32	11.61
7,905.00	3.90	222.30	7,902.35	-91.04	-32.09	62.59	1.30	-1.29	-2.58
7,936.00	4.50	228.20	7,933.27	-92.63	-33.71	64.67	2.38	1.94	19.03
7,967.00	5.00	239.20	7,964.16	-94.14	-35.78	67.13	3.34	1.61	35.48
7,998.00	5.80	244.50	7,995.03	-95.50	-38.35	70.03	3.04	2.58	17.10
8,030.00	7.00	249.40	8,026.83	-96.89	-41.63	73.59	4.12	3.75	15.31
8,061.00	7.60	246.70	8,057.58	-98.36	-45.29	77.53	2.23	1.94	-8.71
8,092.00	8.20	247.70	8,088.28	-100.01	-49.21	81.79	1.99	1.94	3.23
8,124.00	9.30	249.30	8,119.91	-101.79	-53.74	86.65	3.52	3.44	5.00
8,154.00	9.90	250.80	8,149.49	-103.50	-58.45	91.65	2.17	2.00	5.00
8,186.00	10.60	253.10	8,180.98	-105.26	-63.86	97.34	2.53	2.19	7.19
8,217.00	11.30	256.80	8,211.41	-106.78	-69.55	103.19	3.20	2.26	11.94
8,248.00	12.00	257.00	8,241.77	-108.20	-75.64	109.39	2.26	2.26	0.65
8,280.00	13.00	260.40	8,273.02	-109.55	-82.43	116.22	3.88	3.13	10.63
8,311.00	13.90	261.00	8,303.17	-110.71	-89.55	123.28	2.94	2.90	1.94
8,343.00	14.80	258.50	8,334.17	-112.13	-97.35	131.07	3.41	2.81	-7.81
8,374.00	15.50	258.60	8,364.09	-113.73	-105.29	139.06	2.26	2.26	0.32
8,405.00	16.10	257.20	8,393.92	-115.50	-113.54	147.40	2.29	1.94	-4.52
8,432.00	16.70	257.80	8,419.82	-117.15	-120.99	154.93	2.31	2.22	2.22
8,464.00	17.00	257.80	8,450.45	-119.11	-130.05	164.10	0.94	0.94	0.00
8,495.00	17.10	258.00	8,480.08	-121.02	-138.94	173.08	0.37	0.32	0.65
8,526.00	18.40	258.80	8,509.61	-122.92	-148.20	182.40	4.27	4.19	2.58
8,558.00	19.50	258.00	8,539.87	-125.01	-158.38	192.66	3.53	3.44	-2.50
8,590.00	19.10	257.20	8,570.07	-127.28	-168.71	203.11	1.50	-1.25	-2.50
8,622.00	19.30	256.80	8,600.29	-129.65	-178.96	213.53	0.75	0.63	-1.25
8,653.00	19.70	256.70	8,629.52	-132.02	-189.03	223.79	1.29	1.29	-0.32
8,684.00	19.20	257.30	8,658.75	-134.34	-199.09	234.01	1.74	-1.61	1.94
8,715.00	17.80	258.90	8,688.14	-136.37	-208.71	243.72	4.80	-4.52	5.16
8,746.00	17.20	258.00	8,717.71	-138.24	-217.85	252.92	2.12	-1.94	-2.90
8,778.00	17.00	259.20	8,748.29	-140.10	-227.07	262.19	1.27	-0.63	3.75
8,808.00	16.90	259.80	8,776.99	-141.69	-235.67	270.79	0.67	-0.33	2.00
8,840.00	16.50	259.60	8,807.64	-143.34	-244.72	279.83	1.26	-1.25	-0.63
8,871.00	16.50	259.40	8,837.36	-144.94	-253.37	288.49	0.18	0.00	-0.65
8,902.00	16.50	258.30	8,867.09	-146.64	-262.01	297.16	1.01	0.00	-3.55
8,933.00	16.20	257.00	8,896.83	-148.51	-270.54	305.79	1.53	-0.97	-4.19
8,965.00	15.90	254.10	8,927.59	-150.72	-279.10	314.57	2.67	-0.94	-9.06
8,996.00	16.10	251.70	8,957.39	-153.23	-287.27	323.10	2.23	0.65	-7.74
9,027.00	17.10	251.60	8,987.09	-156.02	-295.67	331.94	3.23	3.23	-0.32
9,059.00	18.50	251.00	9,017.56	-159.15	-304.94	341.72	4.41	4.38	-1.88
9,091.00	19.60	249.50	9,047.81	-162.69	-314.76	352.16	3.76	3.44	-4.69
9,122.00	19.50	251.60	9,077.02	-166.14	-324.54	362.53	2.29	-0.32	6.77
9,154.00	19.90	253.30	9,107.15	-169.39	-334.83	373.29	2.18	1.25	5.31
9,184.00	19.70	251.50	9,135.38	-172.46	-344.51	383.44	2.14	-0.67	-6.00
9,216.00	20.40	251.00	9,165.44	-175.99	-354.90	394.40	2.25	2.19	-1.56
9,246.00	20.60	250.70	9,193.54	-179.44	-364.83	404.90	0.75	0.67	-1.00
9,277.00	21.20	249.30	9,222.50	-183.22	-375.22	415.96	2.52	1.94	-4.52
9,308.00	21.10	250.20	9,251.41	-187.09	-385.71	427.14	1.10	-0.32	2.90
9,339.00	21.30	253.90	9,280.31	-190.54	-396.37	438.33	4.36	0.65	11.94
9,371.00	21.60	255.80	9,310.10	-193.60	-407.67	449.97	2.36	0.94	5.94
9,403.00	21.90	256.30	9,339.82	-196.46	-419.17	461.74	1.10	0.94	1.56



Black Viper Energy Services

Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well McGruder Hill Federal #2
Project:	Eddy Co., New Mexico	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	McGruder Hill Federal #2	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	McGruder Hill Federal #2	North Reference:	True
Wellbore:	Slant #1	Survey Calculation Method:	Minimum Curvature
Design:	Slant #1	Database:	2003.11.0.3 Server Database

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)
9,435.00	22.60	257.10	9,369.44	-199.25	-430.97	473.74	2.38	2.19	2.50
9,466.00	21.90	256.30	9,398.13	-201.94	-442.39	485.38	2.46	-2.26	-2.58
9,497.00	21.90	255.00	9,426.89	-204.81	-453.59	496.86	1.56	0.00	-4.19
9,527.00	22.10	253.60	9,454.71	-207.85	-464.41	508.05	1.87	0.67	-4.67
9,558.00	21.70	253.90	9,483.47	-211.09	-475.51	519.57	1.34	-1.29	0.97
9,590.00	21.40	252.40	9,513.23	-214.49	-486.76	531.29	1.96	-0.94	-4.69
9,622.00	22.30	252.90	9,542.93	-218.04	-498.12	543.18	2.87	2.81	1.56
9,653.00	21.70	253.70	9,571.68	-221.38	-509.25	554.76	2.16	-1.94	2.58
9,685.00	21.50	253.20	9,601.43	-224.74	-520.54	566.50	0.85	-0.63	-1.56
9,716.00	21.10	254.80	9,630.31	-227.84	-531.36	577.72	2.28	-1.29	5.16
9,747.00	20.30	253.10	9,659.31	-230.87	-541.89	588.64	3.23	-2.58	-5.48
9,778.00	19.80	252.50	9,688.43	-234.01	-552.05	599.24	1.74	-1.61	-1.94
9,810.00	20.00	253.90	9,718.52	-237.16	-562.47	610.10	1.61	0.63	4.38
9,841.00	20.00	252.10	9,747.65	-240.26	-572.61	620.68	1.99	0.00	-5.81
9,872.00	19.80	252.40	9,776.80	-243.47	-582.66	631.21	0.72	-0.65	0.97
9,905.00	19.70	252.80	9,807.86	-246.81	-593.30	642.34	0.51	-0.30	1.21
9,936.00	19.40	254.50	9,837.07	-249.73	-603.25	652.68	2.07	-0.97	5.48
9,967.00	19.60	253.00	9,866.29	-252.63	-613.19	662.99	1.74	0.65	-4.84
9,998.00	19.50	253.20	9,895.51	-255.64	-623.11	673.34	0.39	-0.32	0.65
10,030.00	19.50	253.20	9,925.67	-258.73	-633.34	683.99	0.00	0.00	0.00
10,061.00	19.10	253.40	9,954.93	-261.67	-643.15	694.21	1.31	-1.29	0.65
10,092.00	19.00	253.60	9,984.23	-264.55	-652.85	704.30	0.39	-0.32	0.65
10,123.00	18.70	254.70	10,013.57	-267.28	-662.49	714.27	1.50	-0.97	3.55
10,154.00	18.80	255.60	10,042.92	-269.84	-672.12	724.18	0.99	0.32	2.90
10,184.00	19.20	254.30	10,071.29	-272.37	-681.55	733.89	1.94	1.33	-4.33
10,214.00	19.10	253.00	10,099.63	-275.14	-690.99	743.70	1.46	-0.33	-4.33
10,247.00	19.30	251.40	10,130.79	-278.46	-701.33	754.54	1.71	0.61	-4.85
10,277.00	19.50	250.00	10,159.09	-281.76	-710.73	764.50	1.69	0.67	-4.67
10,309.00	19.80	250.80	10,189.23	-285.37	-720.87	775.25	1.26	0.94	2.50
10,342.00	21.30	250.20	10,220.13	-289.23	-731.78	786.83	4.59	4.55	-1.82
10,374.00	22.40	251.00	10,249.83	-293.19	-743.02	798.74	3.56	3.44	2.50
10,404.00	22.30	250.90	10,277.57	-296.91	-753.80	810.14	0.36	-0.33	-0.33
10,435.00	21.80	251.10	10,306.31	-300.70	-764.81	821.77	1.63	-1.61	0.65
10,466.00	21.30	251.60	10,335.14	-304.34	-775.59	833.15	1.72	-1.61	1.61
10,496.00	20.40	253.00	10,363.17	-307.59	-785.76	843.80	3.43	-3.00	4.67
10,528.00	19.80	252.40	10,393.23	-310.86	-796.26	854.78	1.98	-1.88	-1.88
10,559.00	19.80	252.70	10,422.39	-314.01	-806.28	865.26	0.33	0.00	0.97
10,590.00	19.90	254.00	10,451.55	-317.02	-816.37	875.75	1.46	0.32	4.19
10,623.00	20.00	254.60	10,482.57	-320.07	-827.21	886.97	0.69	0.30	1.82
10,652.00	19.50	254.40	10,509.87	-322.69	-836.65	896.72	1.74	-1.72	-0.69
10,684.00	19.30	254.30	10,540.05	-325.56	-846.88	907.30	0.63	-0.63	-0.31
10,715.00	19.20	253.30	10,569.31	-328.41	-856.70	917.49	1.11	-0.32	-3.23
10,747.00	19.70	252.70	10,599.49	-331.52	-866.89	928.12	1.68	1.56	-1.88
10,776.00	18.70	251.30	10,626.88	-334.47	-875.96	937.64	3.80	-3.45	-4.83
10,805.00	19.10	249.90	10,654.31	-337.59	-884.82	947.03	2.09	1.38	-4.83
10,836.00	19.90	248.00	10,683.53	-341.31	-894.47	957.38	3.29	2.58	-6.13
10,867.00	20.40	246.90	10,712.64	-345.40	-904.33	968.05	2.02	1.61	-3.55
10,898.00	20.40	244.90	10,741.69	-349.82	-914.20	978.84	2.25	0.00	-6.45
10,929.00	19.30	246.00	10,770.85	-354.19	-923.77	989.34	3.75	-3.55	3.55
10,960.00	19.10	245.70	10,800.13	-358.36	-933.07	999.52	0.72	-0.65	-0.97
10,991.00	18.90	246.20	10,829.44	-362.48	-942.29	1,009.60	0.83	-0.65	1.61
11,022.00	18.70	246.30	10,858.78	-366.50	-951.43	1,019.58	0.65	-0.65	0.32
11,054.00	19.20	245.20	10,889.05	-370.77	-960.91	1,029.96	1.92	1.56	-3.44
11,086.00	20.10	245.50	10,919.19	-375.26	-970.69	1,040.69	2.83	2.81	0.94
11,117.00	20.20	247.10	10,948.29	-379.55	-980.46	1,051.36	1.81	0.32	5.16



Black Viper Energy Services

Survey Report



Company: Cimarex Energy Co., Inc.
Project: Eddy Co., New Mexico
Site: McGruder Hill Federal #2
Well: McGruder Hill Federal #2
Wellbore: Slant #1
Design: Slant #1

Local Co-ordinate Reference: Well McGruder Hill Federal #2
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: 2003.11.0.3 Server Database

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)
11,149.00	20.70	246.00	10,978.27	-384.00	-990.72	1,062.53	1.97	1.56	-3.44
11,180.00	21.20	246.20	11,007.22	-388.49	-1,000.85	1,073.60	1.63	1.61	0.65
11,212.00	21.20	247.30	11,037.06	-393.06	-1,011.49	1,085.16	1.24	0.00	3.44
11,243.00	21.00	246.50	11,065.98	-397.43	-1,021.75	1,096.31	1.13	-0.65	-2.58
11,274.00	21.50	247.20	11,094.87	-401.85	-1,032.08	1,107.54	1.81	1.61	2.26
11,305.00	21.50	247.10	11,123.71	-406.26	-1,042.55	1,118.90	0.12	0.00	-0.32
11,336.00	21.60	247.10	11,152.55	-410.69	-1,053.04	1,130.28	0.32	0.32	0.00
11,367.00	21.50	246.00	11,181.38	-415.22	-1,063.49	1,141.65	1.34	-0.32	-3.55
11,398.00	21.40	248.90	11,210.23	-419.57	-1,073.95	1,152.98	3.44	-0.32	9.35
11,429.00	21.20	248.40	11,239.12	-423.67	-1,084.44	1,164.24	0.87	-0.65	-1.61
11,460.00	20.40	250.20	11,268.10	-427.56	-1,094.74	1,175.25	3.30	-2.58	5.81
11,492.00	20.10	249.50	11,298.12	-431.38	-1,105.13	1,186.32	1.21	-0.94	-2.19
11,522.00	19.20	249.90	11,326.37	-434.88	-1,114.60	1,196.41	3.03	-3.00	1.33
11,552.00	18.40	251.50	11,354.77	-438.08	-1,123.72	1,206.07	3.17	-2.67	5.33
11,582.00	17.80	253.20	11,383.28	-440.91	-1,132.60	1,215.38	2.66	-2.00	5.67
11,613.00	17.50	252.90	11,412.83	-443.65	-1,141.59	1,224.75	1.01	-0.97	-0.97
11,645.00	17.00	253.40	11,443.39	-446.40	-1,150.67	1,234.22	1.63	-1.56	1.56
11,676.00	17.10	251.40	11,473.02	-449.14	-1,159.33	1,243.29	1.92	0.32	-6.45
11,706.00	16.80	251.90	11,501.72	-451.90	-1,167.63	1,252.03	1.11	-1.00	1.67
11,737.00	16.50	253.70	11,531.42	-454.53	-1,176.12	1,260.89	1.92	-0.97	5.81
11,768.00	16.20	254.30	11,561.17	-456.93	-1,184.51	1,269.58	1.11	-0.97	1.94
11,799.00	15.60	255.20	11,590.98	-459.17	-1,192.70	1,278.03	2.09	-1.94	2.90
11,830.00	15.40	254.50	11,620.85	-461.33	-1,200.70	1,286.27	0.88	-0.65	-2.26
11,861.00	15.00	256.00	11,650.77	-463.40	-1,208.56	1,294.35	1.81	-1.29	4.84
11,895.00	14.60	257.20	11,683.64	-465.42	-1,217.00	1,302.96	1.48	-1.18	3.53
Last MWD Survey									
11,950.00	14.60	257.20	11,736.87	-468.49	-1,230.52	1,316.68	0.00	0.00	0.00
Proj to Bit									

Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
T1 [McGHU#2]		0.00	0.00	11,399.00	-430.00	-1,120.00	507,097.69	490,993.66	32° 23' 38.831" N	104° 21' 45.055" W
- survey misses by 21.35ft at 11598.50ft MD (11399.00 TVD, -442.36 N, -1137.40 E)										
- Rectangle (sides W400.00 H400.00 D0.00)										
PBHL [McGHU#2]		0.00	0.00	11,750.00	-430.00	-1,120.00	507,097.69	490,993.66	32° 23' 38.831" N	104° 21' 45.055" W
- survey misses by 117.77ft at 11950.00ft MD (11736.87 TVD, -468.49 N, -1230.52 E)										
- Point										

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,983.00	6,982.16	-42.86	-20.80	First MWD Survey
11,895.00	11,683.64	-465.42	-1,217.00	Last MWD Survey
11,950.00	11,736.87	-468.49	-1,230.52	Proj to Bit

Checked By: _____ Approved By: _____ Date: _____

GRUY PETROLEUM MANAGEMENT CO.
MONTH END WELL PRODUCTION REPORT FOR 09/30/05
NET SALES AND PRODUCTION VOLUMES

13:05:26 NOV 08 2005

PAGE 1

WELL NUMBER	WELL NAME	DAYS PROD PRODUCT	BEGINNING INVENTORY	PRODUCTION VOLUME	LEASE USE	INVENTORY ADJUSTMENTS	SALES VOLUME	ENDING INVENTORY
76896	MAGNUM FEDERAL 5 COM 2	30.0 OIL	145.81	299.34	0.00	0.00	142.31	302.84
		WATER	0.00	16.00	0.00	0.00	0.00	0.00
		GAS	0.00	37620.61	0.00	0.00	37620.61	0.00
76978	MAGNUM FEDERAL 5 COM 3	30.0 OIL	103.29	122.30	0.00	0.00	100.81	124.78
		WATER	0.00	0.00	0.00	0.00	0.00	0.00
		GAS	0.00	23652.27	0.00	0.00	23652.27	0.00
***COMPANY	**PRODUCT TOTALS**	OIL	249.10	421.64	0.00	0.00	243.12	427.62
		WATER	0.00	16.00	0.00	0.00	0.00	0.00
		GAS	0.00	61272.88	0.00	0.00	61272.88	0.00

WELL NUMBER	WELL NAME	DAYS PROD PRODUCT	BEGINNING INVENTORY	PRODUCTION VOLUME	LEASE USE	INVENTORY ADJUSTMENTS	SALES VOLUME	ENDING INVENTORY
12483.001	WILLIS /D/ #1	16.2 OIL	68.49	110.04	0.00	0.00	0.00	178.53
		GAS	0.00	384.37	136.00	0.00	248.37	0.00
		WATER	0.00	959.00	0.00	0.00	0.00	0.00
***COMPANY	**PRODUCT TOTALS**	OIL	68.49	110.04	0.00	0.00	0.00	178.53
		GAS	0.00	384.37	136.00	0.00	248.37	0.00
		WATER	0.00	959.00	0.00	0.00	0.00	0.00

J. FRENCH DE. HOBBS. NM 00240

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

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

DISTRICT III

1000 Rio Braxos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-34088	Pool Code	Pool Name Happy Valley; Morrow
Property Code	Property Name McGRUDER HILL FEDERAL	Well Number 2
OGRID No. 215099	Operator Name CIMAREX ENERGY COMPANY	Elevation 3797'

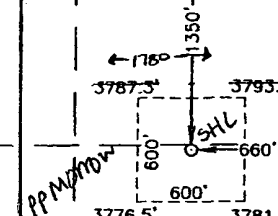
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	13	22-S	25-E		1350	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
G	13	22-S	25- E		1819	North	1891	East	Eddy
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
370	N	C							

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

SHL: 1350' FNL & 660' FEL Penetration Point Morrow: 1710' FNL & 1600' FEL BHL: 1819' FNL & 1891' FEL	 BHL McGruder Hill 13 Fed #2 NM-112898	OPERATOR CERTIFICATION I hereby certify the information contained herein is true and complete to the best of my knowledge and belief. Zeno Farris Signature Zeno Farris Printed Name Mgr Operations Admin Title November 8, 2005 Date
GEODETC COORDINATES NAD 27 NME Y=507478.4 N X=497226.5 E LAT.=32°23'42.62" N LONG.=104°20'32.35" W	LC-96568	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 knowledge and belief. FEBRUARY 14, 2005 Date Surveyed Signature & Seal of Professional Surveyor GARY EIDSON PROFESSIONAL SURVEYOR 031110171 Certificate No. GARY EIDSON 12641

RECEIVED

NOV 18 2005

ODD-ARTESIA

INCLINATION REPORT

DATE: 11/3/05

WELL NAME : MCGRUDER HILL FEDERAL #2
 LOCATION: Eddy County, New Mexico
 OPERATOR: CIMAREX ENERGY
 DRILLING CONTRACTOR: GREY WOLF DRILLING COMPANY, LP
 RIG 514

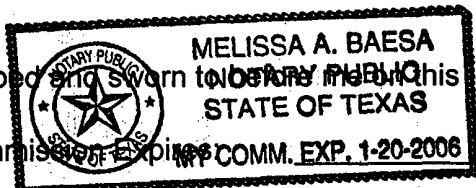
I, Freddie Rios, do hereby certify, that the following inclination report was prepared in the office of GREY WOLF DRILLING COMPANY, LP in Midland, Texas, under my supervision, from records of said well, and is true and correct to the best of my knowledge:

DEGREE	DEPTH	DEGREE	DEPTH	DEGREE	DEPTH	DEGREE	DEPTH				
1	@	245	19.5	@	8558	20	@	9841	21.2	@	11180
1	@	435	19.1	@	8590	19.8	@	9872	21.1	@	11212
.75	@	650	19.3	@	8622	19.7	@	9905	21	@	11243
0	@	909	19.7	@	8653	19.4	@	9936	21.5	@	11274
.5	@	1688	19.2	@	8684	19.6	@	9967	21.5	@	11305
1	@	3151	17.8	@	8715	19.5	@	9998	21.6	@	11336
1.25	@	3595	17.2	@	8746	19.5	@	10030	21.5	@	11367
.75	@	4041	17	@	8778	19.1	@	10061	21.4	@	11398
.75	@	4521	16.9	@	8808	19	@	10092	21.2	@	11430
1.25	@	4999	16.5	@	8840	18.7	@	10123	20.4	@	11460
1.5	@	5509	16.5	@	8870	18.8	@	10154	20.1	@	11491
2	@	5977	16.5	@	8901	19.2	@	10184	19.2	@	11522
2	@	6483	16.2	@	8933	19.1	@	10214	18.4	@	11562
4.5	@	7483	15.9	@	8965	19.3	@	10247	17.8	@	11587
2	@	7691	16.1	@	8997	19.5	@	10277	17.5	@	11613
1.9	@	7655	17.1	@	9028	19.8	@	10309	17	@	11645
1.8	@	7686	18.5	@	9059	21.3	@	10342	17.1	@	11676
1.9	@	7717	19.6	@	9091	22.4	@	10374	16.8	@	11706
2.7	@	7749	19.5	@	9122	22.3	@	10404	16.5	@	11737
3	@	7782	19.9	@	9154	21.8	@	10435	16.2	@	11768
4	@	7812	19.7	@	9184	20.4	@	10496	15.6	@	11799
4.2	@	7843	20.4	@	9214	19.8	@	10528	15.4	@	11830
4.3	@	7874	20.6	@	9246	19.8	@	10559	15	@	11861
3.9	@	7905	21.2	@	9277	19.9	@	10590	14.6	@	11895
4.5	@	7936	21.1	@	9308	20	@	10623		@	
5	@	7967	21.3	@	9339	19.5	@	10652		@	
5.8	@	7998	21.6	@	9371	19.3	@	10684		@	
7	@	8030	21.9	@	9403	19.2	@	10715		@	
7.6	@	8061	22.6	@	9435	19.7	@	10747		@	
8.2	@	8092	21.9	@	9457	18.7	@	10776		@	
9.3	@	8124	21.9	@	9497	19.1	@	10806		@	
9.9	@	8154	22.1	@	9527	19.1	@	10836		@	
10.6	@	8186	21.7	@	9558	20.4	@	10867		@	
11.3	@	8217	21.4	@	9590	20.4	@	10898		@	
12	@	8248	22.3	@	9622	19.3	@	10929		@	
13	@	8280	21.7	@	9653	19.1	@	10960		@	
13.9	@	8311	21.5	@	9685	18.9	@	10991		@	
14.8	@	8343	21.1	@	9716	18.7	@	11022		@	
15.5	@	8374	20.3	@	9747	19.2	@	11054		@	
16.1	@	8405	19.8	@	9778	20.1	@	11086		@	
16.7	@	8432	20.1	@	9833	20.2	@	11117		@	
18.4	@	8526	20	@	9810	20.7	@	11149		@	

Drilling Contractor:
 Grey Wolf Drilling Company, LP

By: Freddie A. Rios
 Freddie Rios

Subscribed and sworn to before me on this
 My Commission Expires **SEP 1-20-2006**



3rd day of November, 2005.

By: Melissa Baesa
 Notary Public