

HOBBS OCD

JAN 30 2012

RECEIVED

Operator: Cimarex Energy Co. of Colorado
Well/Lease: Superior Federal No. 10
API Number: 30-015-38465
County: Eddy, NM

30-015-38465

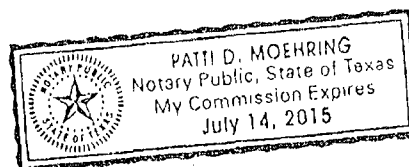
State of New Mexico
Deviation Report

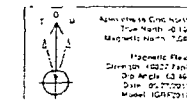
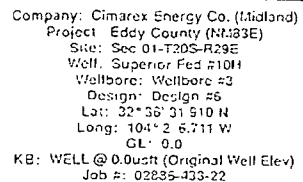
194'	0.30
321'	0.40
625'	1.00
906'	3.20
1001'	3.50
1095'	3.80
1220'	3.30
1283'	2.60
1314'	1.90
1408'	1.50
1566'	1.10
1633'	0.25
2066'	0.50
2560'	0.50
3032'	0.50
3594'	0.50
3971'	0.50
4389'	0.50
4780'	0.50
5192'	0.50
5615'	0.50
5993'	0.50
6348'	0.50
6697'	0.50
7098'	0.50
7450'	0.50
7906'	0.50
8330'	0.50

State of: New Mexico
County of: Eddy

The foregoing instrument was acknowledged before me on 8-24-11, by
Richard Jeter, on behalf of Key Energy

Patti D. Moehring
Notary Public For: Texas
My Commission Expires: 7/14/15





Comptrols (NLS) Reference	Webb Superette, Fort St. George, Ind.
As 2-Cell (NLS) Reference	Webb (9-8-87, for final MRC (LAW))
Landry (NLS) Reference	Tel: (800) 800-8000
Measured Depth Reference	Webb (10-8-87, Original Call) (LAW)
Calculated Depth Reference	Webb (10-8-87, Original Call) (LAW)

ALLIANCE PARTY CITY 12 14 1980

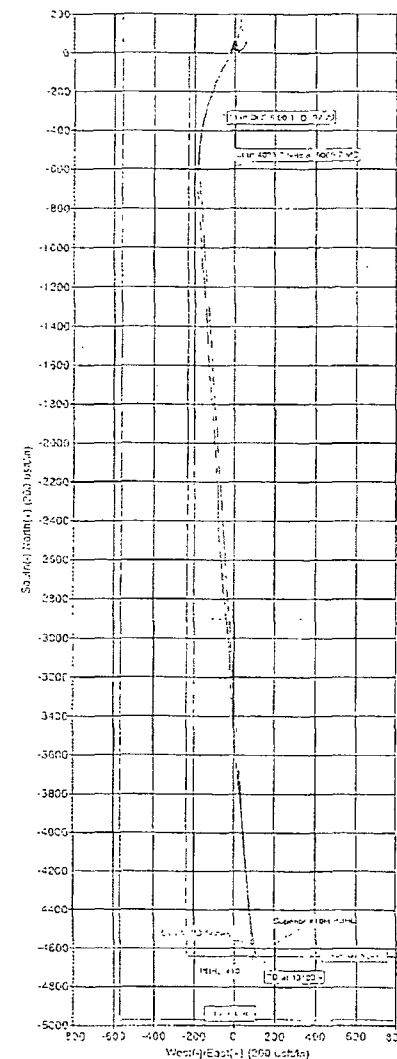
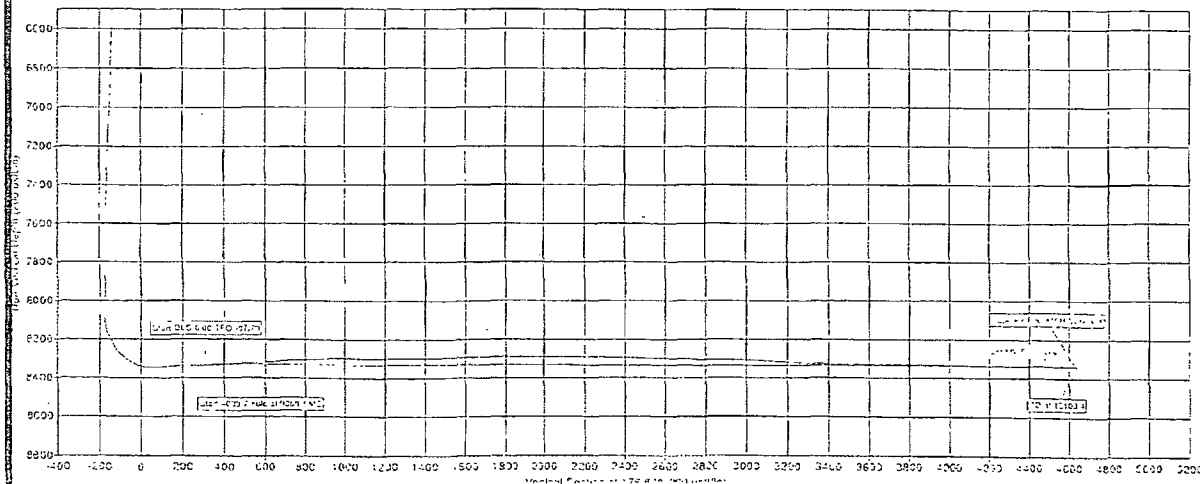
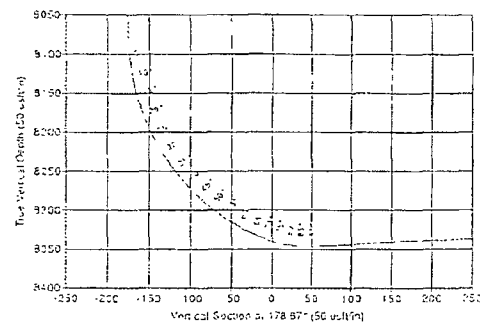
15 August 2014 14:24:34

SECTION 00000

WD	Wm	AP	TP	W	AP	TP	W	AP	TP
25000	1240	19400	1250	110	110	0	0	0	0
26000	1240	19400	1250	110	110	0	0	0	0
27000	1240	19400	1250	110	110	0	0	0	0
28000	1240	19400	1250	110	110	0	0	0	0
29000	1240	19400	1250	110	110	0	0	0	0
30000	1240	19400	1250	110	110	0	0	0	0
31000	1240	19400	1250	110	110	0	0	0	0
32000	1240	19400	1250	110	110	0	0	0	0
33000	1240	19400	1250	110	110	0	0	0	0
34000	1240	19400	1250	110	110	0	0	0	0
35000	1240	19400	1250	110	110	0	0	0	0
36000	1240	19400	1250	110	110	0	0	0	0
37000	1240	19400	1250	110	110	0	0	0	0
38000	1240	19400	1250	110	110	0	0	0	0
39000	1240	19400	1250	110	110	0	0	0	0
40000	1240	19400	1250	110	110	0	0	0	0
41000	1240	19400	1250	110	110	0	0	0	0
42000	1240	19400	1250	110	110	0	0	0	0
43000	1240	19400	1250	110	110	0	0	0	0
44000	1240	19400	1250	110	110	0	0	0	0
45000	1240	19400	1250	110	110	0	0	0	0
46000	1240	19400	1250	110	110	0	0	0	0
47000	1240	19400	1250	110	110	0	0	0	0
48000	1240	19400	1250	110	110	0	0	0	0
49000	1240	19400	1250	110	110	0	0	0	0
50000	1240	19400	1250	110	110	0	0	0	0
51000	1240	19400	1250	110	110	0	0	0	0
52000	1240	19400	1250	110	110	0	0	0	0
53000	1240	19400	1250	110	110	0	0	0	0
54000	1240	19400	1250	110	110	0	0	0	0
55000	1240	19400	1250	110	110	0	0	0	0
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58000	1240	19400	1250	110	110	0	0	0	0
59000	1240	19400	1250	110	110	0	0	0	0
60000	1240	19400	1250	110	110	0	0	0	0
61000	1240	19400	1250	110	110	0	0	0	0
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63000	1240	19400	1250	110	110	0	0	0	0
64000	1240	19400	1250	110	110	0	0	0	0
65000	1240	19400	1250	110	110	0	0	0	0
66000	1240	19400	1250	110	110	0	0	0	0
67000	1240	19400	1250	110	110	0	0	0	0
68000	1240	19400	1250	110	110	0	0	0	0
69000	1240	19400	1250	110	110	0	0	0	0
70000	1240	19400	1250	110	110	0	0	0	0
71000	1240	19400	1250	110	110	0	0	0	0
72000	1240	19400	1250	110	110	0	0	0	0
73000	1240	19400	1250	110	110	0	0	0	0
74000	1240	19400	1250	110	110	0	0	0	0
75000	1240	19400	1250	110	110	0	0	0	0
76000	1240	19400	1250	110	110	0	0	0	0
77000	1240	19400	1250	110	110	0	0	0	0
78000	1240	19400	1250	110	110	0	0	0	0
79000	1240	19400	1250	110	110	0	0	0	0
80000	1240	19400	1250	110	110	0	0	0	0
81000	1240	19400	1250	110	110	0	0	0	0
82000	1240	19400	1250	110	110	0	0	0	0
83000	1240	19400	1250	110	110	0	0	0	0
84000	1240	19400	1250	110	110	0	0	0	0
85000	1240	19400	1250	110	110	0	0	0	0
86000	1240	19400	1250	110	110	0	0	0	0
87000	1240	19400	1250	110	110	0	0	0	0
88000	1240	19400	1250	110	110	0	0	0	0
89000	1240	19400	1250	110	110	0	0	0	0
90000	1240	19400	1250	110	110	0	0	0	0
91000	1240	19400	1250	110	110	0	0	0	0
92000	1240	19400	1250	110	110	0	0	0	0
93000	1240	19400	1250	110	110	0	0	0	0
94000	1240	19400	1250	110	110	0	0	0	0
95000	1240	19400	1250	110	110	0	0	0	0
96000	1240	19400	1250	110	110	0	0	0	0
97000	1240	19400	1250	110	110	0	0	0	0
98000	1240	19400	1250	110	110	0	0	0	0
99000	1240	19400	1250	110	110	0	0	0	0
100000	1240	19400	1250	110	110	0	0	0	0

Country System US State Pub. Sec.
 Can. Non American Entry 1928
 Classified GDS 1953
 Zone New Mexico Eastern Zone
 System Do you Mean Date Level

Site Centre latitude 22° 36' 31.0" N
Longitude 104° 2' 07.0" W
* additional file(s) necessary C 5
Convergence C 6
Local month C 10



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Cimarex Energy Co. (Midland)

Eddy County (NM83E)

Sec 01-T20S-R29E

Superior Fed #10H

Wellbore #3

Survey: Survey #1

Standard Survey Report

07 June, 2011

Great White Directional Services

Survey Report

Company: Cimarex Energy Co. (Midland)
 Project: Eddy County (NM83E)
 Site: Sec 01-T20S-R29E
 Well: Superior Fed #10H
 Wellbore: Wellbore #3
 Design: Wellbore #3

Local Co-ordinate Reference: Well Superior Fed #10H
 TVD Reference: WELL @ 0 0usft (Original Well Elev)
 MD Reference: WELL @ 0 0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 01-T20S-R29E				
Site Position:		Northing:	585,364.20 usft	Latitude:	32° 36' 31.910 N
From:	Map	Easting:	633,140.30 usft	Longitude:	104° 2' 6.711 W
Position Uncertainty	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 "

Well	Superior Fed #10H					
Well Position	+N/-S	0.0 usft	Northing:	585,364.20 usft	Latitude:	32° 36' 31.910 N
	+E/-W	0.0 usft	Easting:	633,140.30 usft	Longitude:	104° 2' 6.711 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		usft	Ground Level:	0.0 usft

Wellbore	Wellbore #3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/27/11	7.84	60.46	46.828

Design	Wellbore #3				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	8,765.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	178.87	

Survey Program	Date 06/03/11				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
117.1	7,979.4	Survey #1-Gyro (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
8,005.0	8,765.0	Survey #1 (Wellbore #2)	MWD	MWD - Standard	
8,828.0	13,098.0	Survey #1 (Wellbore #3)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,765.0	92.40	194.30	8,335.1	-313.2	-148.6	310.3	0.00	0.00	0.00	
8,828.0	93.60	190.60	8,331.8	-374.7	-162.1	371.4	6.17	1.90	-5.87	
8,891.0	92.30	187.50	8,328.5	-436.8	-172.0	433.3	5.33	-2.06	-4.92	
8,954.0	93.10	185.30	8,325.6	-499.3	-179.0	495.7	3.71	1.27	-3.49	
9,018.0	94.20	183.50	8,321.5	-563.0	-183.9	559.3	3.29	1.72	-2.81	
9,081.0	94.80	181.60	8,316.5	-625.7	-186.7	621.9	3.15	0.95	-3.02	
9,144.0	95.00	177.70	8,311.2	-688.5	-186.3	684.7	6.18	0.32	-6.19	
9,207.0	93.50	175.50	8,306.5	-751.2	-182.6	747.5	4.22	-2.38	-3.49	
9,271.0	92.60	175.20	8,303.1	-814.9	-177.4	811.2	1.48	-1.41	-0.17	

Great White Directional Services

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 Survey Calculation Method: Minimum Curvature
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,335.0	92.50	175.60	8,300.2	-878.6	-172.3	875.1	0.64	-0.16	0.63
9,398.0	92.00	177.20	8,297.8	-941.5	-168.3	938.0	2.66	-0.79	2.54
9,461.0	88.70	176.70	8,297.4	-1,004.4	-165.0	1,000.9	5.30	-5.24	-0.79
9,524.0	89.20	176.10	8,298.5	-1,067.2	-161.0	1,063.8	1.24	0.79	-0.95
9,586.0	90.20	175.60	8,298.9	-1,129.1	-156.6	1,125.8	1.80	1.61	-0.81
9,649.0	90.20	176.30	8,298.6	-1,191.0	-152.1	1,188.7	1.11	0.00	1.11
9,713.0	89.40	176.50	8,298.9	-1,255.8	-148.1	1,252.6	1.29	-1.25	0.31
9,776.0	90.00	175.60	8,299.2	-1,318.6	-143.7	1,315.5	1.72	0.95	-1.43
9,840.0	90.60	176.70	8,298.9	-1,382.5	-139.4	1,379.5	1.96	0.94	1.72
9,903.0	90.90	177.50	8,298.0	-1,445.4	-136.3	1,442.4	1.36	0.48	1.27
9,966.0	92.10	178.00	8,296.4	-1,508.3	-133.8	1,505.4	2.06	1.90	0.79
10,029.0	91.70	176.50	8,294.3	-1,571.2	-130.8	1,568.3	2.46	-0.63	-2.38
10,092.0	91.70	175.60	8,292.4	-1,634.0	-126.4	1,631.2	1.43	0.00	-1.43
10,156.0	90.70	174.90	8,291.1	-1,697.8	-121.1	1,695.1	1.91	-1.56	-1.09
10,218.0	90.10	174.20	8,290.6	-1,759.5	-115.2	1,756.9	1.49	-0.97	-1.13
10,281.0	89.50	174.40	8,290.9	-1,822.2	-109.0	1,819.7	1.00	-0.95	0.32
10,344.0	89.10	177.40	8,291.6	-1,885.0	-104.5	1,882.6	4.80	-0.63	4.76
10,407.0	90.20	176.60	8,292.0	-1,947.9	-101.2	1,945.6	2.16	1.75	-1.27
10,470.0	91.50	175.90	8,291.1	-2,010.8	-97.1	2,008.5	2.34	2.06	-1.11
10,533.0	89.50	175.90	8,290.5	-2,073.6	-92.6	2,071.4	3.17	-3.17	0.00
10,597.0	88.80	176.80	8,291.5	-2,137.5	-88.5	2,135.3	1.78	-1.09	1.41
10,659.0	88.70	177.64	8,292.8	-2,199.4	-85.5	2,197.3	1.37	-0.16	1.36
10,723.0	90.40	179.10	8,293.3	-2,263.4	-83.7	2,261.3	3.50	2.66	2.28
10,786.0	88.90	179.00	8,293.7	-2,326.4	-82.6	2,324.3	2.39	-2.38	-0.16
10,849.0	89.10	178.00	8,294.8	-2,389.3	-81.0	2,387.3	1.62	0.32	-1.59
10,912.0	87.70	176.90	8,296.6	-2,452.2	-78.2	2,450.2	2.83	-2.22	-1.75
10,976.0	88.20	175.20	8,298.0	-2,516.0	-73.8	2,514.1	2.77	0.78	-2.66
11,038.0	89.30	175.20	8,300.2	-2,577.8	-68.6	2,576.0	1.77	1.77	0.00
11,103.0	88.30	174.80	8,301.6	-2,642.6	-62.9	2,640.8	1.66	-1.54	-0.62
11,166.0	88.20	174.80	8,303.5	-2,705.3	-57.2	2,703.6	0.16	-0.16	0.00
11,230.0	89.00	174.80	8,305.1	-2,769.0	-51.4	2,767.4	1.25	1.25	0.00
11,293.0	90.60	174.10	8,305.3	-2,831.7	-45.3	2,830.2	2.77	2.54	-1.11
11,356.0	88.70	175.10	8,305.7	-2,894.4	-39.4	2,893.1	3.41	-3.02	1.59
11,420.0	88.80	175.60	8,307.1	-2,958.2	-34.2	2,956.9	0.80	0.16	0.78
11,483.0	87.50	175.50	8,309.1	-3,020.9	-29.3	3,019.8	2.07	-2.06	-0.16
11,546.0	86.20	176.60	8,312.6	-3,083.7	-25.0	3,082.6	2.70	-2.06	1.75
11,609.0	86.30	176.40	8,316.7	-3,146.4	-21.1	3,145.4	0.35	0.16	-0.32
11,673.0	86.90	177.20	8,320.5	-3,210.2	-17.6	3,209.3	1.56	0.94	1.25
11,736.0	87.40	176.80	8,323.6	-3,273.1	-14.3	3,272.2	1.02	0.79	-0.63
11,799.0	87.70	175.90	8,326.3	-3,335.0	-10.3	3,335.0	1.50	0.48	-1.43
11,863.0	89.40	176.20	8,327.0	-3,399.7	-5.9	3,398.9	2.70	2.66	0.47
11,926.0	89.60	175.80	8,328.5	-3,462.6	-1.5	3,461.8	0.71	0.32	-0.63
11,990.0	89.90	176.20	8,328.8	-3,526.4	3.0	3,525.8	0.78	0.47	0.63

Great White Directional Services

Survey Report

Company: Cimarex Energy Co. (Midland)
 Project: Eddy County (N1183E)
 Site: Sec 01-120S-R29E
 Well: Superior Fed #10H
 Wellbore: Wellbore #3
 Design: Wellbore #3

Local Co-ordinate Reference: Well Superior Fed #10H
 TVD Reference: WELL @ 0 0usft (Original Well Elev)
 MD Reference: WELL @ 0 0usft (Original Well Elev)
 North Reference: Grid
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 Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,053.0	90.00	175.20	8,328.8	-3,589.2	7.7	3,588.7	1.60	0.16	-1.59
12,166.0	89.60	173.80	8,329.2	-3,701.7	18.5	3,701.3	1.29	-0.35	-1.24
12,180.0	88.80	173.90	8,329.4	-3,715.6	20.0	3,715.3	5.76	-5.71	0.71
12,243.0	90.20	173.70	8,330.0	-3,718.2	26.8	3,778.0	2.24	2.22	-0.32
12,306.0	89.50	175.40	8,330.1	-3,841.0	32.8	3,840.9	2.92	-1.11	2.70
12,368.0	89.20	176.30	8,330.8	-3,902.8	37.3	3,902.8	1.53	-0.48	1.45
12,432.0	88.00	176.00	8,332.4	-3,966.6	41.6	3,966.7	1.93	-1.88	-0.17
12,495.0	89.80	175.80	8,333.6	-4,029.4	46.1	4,029.6	2.87	2.86	-0.32
12,558.0	87.40	175.30	8,335.1	-4,092.2	51.0	4,092.4	3.89	-3.81	-0.79
12,621.0	88.70	174.80	8,337.3	-4,155.0	56.4	4,155.3	2.21	2.06	-0.79
12,684.0	89.40	174.50	8,338.3	-4,217.7	62.3	4,218.1	1.21	1.11	-0.48
12,747.0	90.90	174.20	8,338.2	-4,280.4	68.5	4,280.9	2.43	2.38	-0.48
12,810.0	90.90	174.80	8,337.2	-4,343.1	74.5	4,343.7	0.95	0.00	0.95
12,873.0	89.80	174.80	8,336.8	-4,405.8	80.3	4,406.5	1.75	-1.75	0.00
12,937.0	88.70	174.00	8,337.6	-4,469.5	86.5	4,470.3	2.13	-1.72	-1.25
13,000.0	90.20	174.30	8,338.2	-4,532.2	92.9	4,533.1	2.43	2.38	0.18
13,046.0	91.00	172.70	8,337.7	-4,577.9	98.1	4,578.9	3.89	1.74	-3.48
13,098.0	91.00	172.70	8,336.8	-4,629.4	104.7	4,630.6	0.00	0.00	0.00

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,046.0	8,337.7	-4,577.9	98.1	Last MWD Survey
13,098.0	8,336.8	-4,629.4	104.7	Projection to Bit

Checked By: _____

Approved By: _____

Date: _____