

30-015-38066

CIMAREX ENERGY

Scanlon Draw
Eddy County, NM
Parkway State "17" #3
VH - Job #32K0311266



Survey: Actual

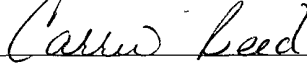
SDI Standard Survey Report

24 March, 2011

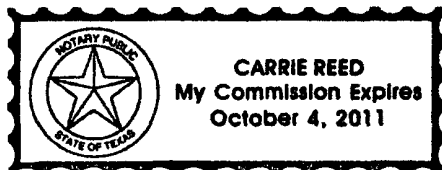
This survey is correct to the best of my knowledge and is supported by actual field data.



Notarized this date 19th of April, 2011.



Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CIMAREX ENERGY	Local Co-ordinate Reference:	Well Parkway State "17" #3
Project:	Scanlon Draw	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Parkway State "17" #3	North Reference:	Grid
Wellbore:	VH - Job #32K0311266	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0311266	Database:	EDM-Regulatory

Project	Scanlon Draw		
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	Eddy County, NM		
Site Position:		Northing:	604,872 36 usft
From:	Lat/Long	Easting:	570,469 29 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0"
		Latitude:	32° 39' 45 670 N
		Longitude:	104° 6' 15 650 W
		Grid Convergence:	0 12 °

Well	Parkway State "17" #3, Directional (Baker Hughes)		
Well Position	+N/-S	0 0 usft	Northing: 604,872 36 usft
	+E/-W	0 0 usft	Easting: 570,469 29 usft
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft
		Latitude:	32° 39' 45 670 N
		Longitude:	104° 6' 15 650 W
		Ground Level:	0 0 usft

Wellbore	VH - Job #32K0311266		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	3/22/2011	7 89
			Dip Angle (°)
			60 51
			Field Strength (nT)
			48,870

Design	VH - Job #32K0311266		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0 0	0.0	0.0
			Direction (°)
			90 03

Survey Program	Date	3/24/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
119 3	7,448 6	Actual (VH - Job #32K0311266)	Keeper	Keeper Gyro

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 0	0 0
119 3	0 49	205 57	119 3	-0 5	-0 2	205 57	0 5	
183 7	0 71	181 00	183 7	-1 1	-0 3	197 35	1 2	
248 0	0 72	193 70	248 0	-1 9	-0 4	193 30	2 0	
309 9	0 75	214 75	309 9	-2 6	-0 8	196 48	2 7	
371 8	0 78	228 96	371 8	-3 2	-1 3	202 31	3 5	
433 7	0 70	234 41	433 7	-3 7	-1 9	207 64	4 2	
495 6	0 64	231 40	495 6	-4 2	-2 5	211 29	4 9	
557 4	0 34	213 54	557 4	-4 5	-2 9	212 64	5 4	
619 3	0 32	146 96	619 3	-4 8	-2 9	211 06	5 6	
681 2	0 41	129 09	681 2	-5 1	-2 6	207 32	5 7	
742 4	0 39	123 09	742 4	-5 4	-2 3	203 17	5 8	

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Well:	Parkway State "17" #3	North Reference:	Grid
Wellbore:	VH - Job #32K0311266	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0311266	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
806 0	0 23	121 54	806 0	-5 5	-2 0	199 86	5 9
869 7	0 08	114 70	869 7	-5 6	-1 9	198 22	5 9
923 3	0 05	285 55	923 3	-5 6	-1 8	198 09	5 9
996 9	0 08	308 52	996 9	-5 6	-1 9	198 87	5 9
1,060 6	0 49	350 55	1,060 6	-5 3	-2 0	200 60	5 7
1,124 2	0 81	307 02	1,124 2	-4 8	-2 4	206 71	5 3
1,187 9	0 98	324 47	1,187 9	-4 0	-3 1	217 21	5 1
1,251 5	1 16	11 33	1,251 4	-3 0	-3 3	227 67	4 4
1,315 1	1 17	320 68	1,315 0	-1 8	-3 5	242 63	4 0
1,378 8	1 23	333 63	1,378 7	-0 7	-4 3	260 41	4 3
1,442 4	1 27	15 24	1,442 3	0 6	-4 4	277 44	4 4
1,506 1	1 17	332 07	1,506 0	1 8	-4 5	292 11	4 9
1,569 7	1 04	333 78	1,569 6	2 9	-5 1	300 00	5 8
1,633 3	0 90	339 30	1,633 2	3 9	-5 5	305 43	6 7
1,697 0	0 74	326 95	1,696 9	4 7	-5 9	308 69	7 5
1,760 6	0 68	318 93	1,760 5	5 3	-6 4	310 04	8 3
1,824 3	0 60	312 26	1,824 2	5 9	-6 9	310 49	9 0
1,887 9	0 51	329 70	1,887 7	6 3	-7 2	311 11	9 6
1,951 6	0 47	341 48	1,951 4	6 8	-7 5	312 37	10 1
2,015 2	0 58	309 66	2,015 0	7 3	-7 8	312 97	10 7
2,078 8	0 62	297 09	2,078 6	7 6	-8 4	312 40	11 3
2,142 5	0 58	301 04	2,142 3	8 0	-8 9	311 66	12 0
2,206 1	0 59	255 18	2,205 9	8 0	-9 5	310 13	12 5
2,269 7	0 44	292 54	2,269 5	8 0	-10 1	308 61	12 9
2,333 4	0 42	306 01	2,333 2	8 3	-10 5	308 28	13 4
2,397 0	0 26	273 72	2,396 8	8 4	-10 8	307 90	13 7
2,460 7	0 21	320 08	2,460 5	8 5	-11 0	307 66	13 9
2,524 3	0 10	247 59	2,524 1	8 6	-11 2	307 57	14 1
2,587 9	0 09	207 01	2,587 7	8 5	-11 2	307 18	14 1
2,651 6	0 20	188 89	2,651 4	8 4	-11 3	306 58	14 0
2,715 2	0 11	146 70	2,715 0	8 2	-11 3	306 09	13 9
2,778 9	0 12	177 37	2,778 7	8 1	-11 2	305 78	13 8
2,842 5	0 09	134 90	2,842 3	8 0	-11 2	305 53	13 7
2,906 1	0 05	140 36	2,905 9	7 9	-11 1	305 47	13 7
2,969 8	0 03	221 33	2,969 6	7 9	-11 1	305 37	13 6
3,033 4	0 07	283 15	3,033 2	7 9	-11 2	305 24	13 7
3,097 1	0 12	239 72	3,096 9	7 9	-11 3	304 92	13 7
3,160 7	0 21	259 47	3,160 5	7 8	-11 4	304 33	13 9
3,224 3	0 36	355 32	3,224 1	8 0	-11 6	304 63	14 1
3,288 0	0 42	263 84	3,287 8	8 2	-11 8	304 64	14 4
3,351 6	0 66	286 08	3,351 4	8 2	-12 4	303 60	14 9
3,418 4	0 97	280 57	3,418 2	8 5	-13 3	302 38	15 8
3,481 6	1 15	268 87	3,481 4	8 5	-14 5	300 51	16 8
3,544 9	1 30	325 57	3,544 7	9 1	-15 5	300 42	18 0

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Well:	Parkway State "17" #3	North Reference:	Grid
Wellbore:	VH - Job #32K0311266	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0311266	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
3,608.2	1.47	286.91	3,608.0	9.9	-16.7	300.76	19.5
3,671.5	1.68	280.37	3,671.3	10.4	-18.4	299.35	21.1
3,734.8	1.61	276.13	3,734.5	10.6	-20.2	297.71	22.8
3,798.0	1.49	269.12	3,797.7	10.7	-21.9	296.02	24.4
3,861.3	1.50	299.82	3,861.0	11.1	-23.5	295.32	25.9
3,924.6	1.60	269.81	3,924.3	11.5	-25.1	294.67	27.6
3,987.9	1.79	310.05	3,987.5	12.1	-26.7	294.45	29.3
4,051.2	1.80	297.00	4,050.8	13.2	-28.3	295.02	31.3
4,177.7	1.90	277.48	4,177.2	14.4	-32.2	294.10	35.3
4,243.9	1.89	308.66	4,243.4	15.2	-34.1	294.04	37.4
4,305.1	1.85	312.95	4,304.6	16.5	-35.6	294.88	39.3
4,366.2	1.75	285.71	4,365.6	17.5	-37.3	295.10	41.1
4,430.1	1.70	304.81	4,429.5	18.3	-39.0	295.10	43.0
4,493.9	1.72	301.80	4,493.3	19.3	-40.6	295.45	44.9
4,557.7	1.73	299.68	4,557.1	20.3	-42.2	295.66	46.8
4,621.5	1.66	301.05	4,620.8	21.2	-43.8	295.85	48.7
4,685.3	1.64	297.62	4,684.6	22.1	-45.4	295.97	50.6
4,749.2	1.67	305.00	4,748.5	23.1	-47.0	296.16	52.4
4,813.0	1.77	294.73	4,812.2	24.0	-48.7	296.29	54.3
4,940.6	1.36	253.03	4,939.8	24.4	-51.9	295.20	57.4
5,004.4	1.19	281.61	5,003.6	24.3	-53.3	294.55	58.6
5,068.3	1.24	291.47	5,067.5	24.7	-54.6	294.37	59.9
5,132.1	0.97	346.59	5,131.3	25.5	-55.3	294.74	60.9
5,195.9	0.67	261.25	5,195.1	26.0	-55.8	294.94	61.6
5,259.7	0.58	285.83	5,258.9	26.0	-56.5	294.70	62.2
5,326.7	0.64	283.48	5,325.9	26.2	-57.2	294.59	62.9
5,389.4	0.57	228.35	5,388.5	26.1	-57.8	294.27	63.4
5,452.2	0.53	299.66	5,451.3	26.0	-58.3	294.04	63.8
5,515.0	0.87	225.67	5,514.1	25.8	-58.9	293.67	64.3
5,577.8	1.39	221.48	5,576.9	24.9	-59.7	292.64	64.7
5,640.6	2.02	217.26	5,639.7	23.4	-60.9	291.06	65.2
5,703.3	2.35	231.86	5,702.4	21.8	-62.6	289.19	66.2
5,766.1	2.36	252.94	5,765.1	20.6	-64.8	287.63	68.0
5,828.9	2.32	236.26	5,827.9	19.5	-67.1	286.21	69.9
5,895.8	2.20	228.49	5,894.7	17.9	-69.2	284.51	71.5
5,956.3	2.15	295.88	5,955.2	17.6	-71.1	283.93	73.2
6,016.7	1.50	309.40	6,015.5	18.6	-72.7	284.37	75.1
6,083.8	1.16	268.17	6,082.6	19.2	-74.1	284.51	76.5
6,150.9	0.96	244.73	6,149.7	18.9	-75.3	284.10	77.6
6,211.3	0.71	272.59	6,210.1	18.7	-76.1	283.81	78.4
6,271.8	0.49	255.83	6,270.6	18.7	-76.7	283.67	79.0
6,336.4	0.34	290.35	6,335.2	18.7	-77.2	283.59	79.4
6,401.0	0.18	323.57	6,399.8	18.8	-77.4	283.66	79.7
6,465.6	0.42	27.47	6,464.4	19.1	-77.4	283.87	79.7

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Company:	CIMAREX ENERGY	Local Co-ordinate Reference:	Well Parkway State "17" #3
Project:	Scanlon Draw	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Parkway State "17" #3	North Reference:	Grid
Wellbore:	VH - Job #32K0311266	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0311266	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
6,590.2	1.91	13.01	6,589.0	21.5	-76.7	285.68	79.6
6,650.1	2.07	11.63	6,648.8	23.6	-76.2	287.17	79.8
6,717.4	1.45	13.15	6,716.1	25.6	-75.8	288.65	80.0
6,784.8	1.26	341.06	6,783.5	27.1	-75.8	289.67	80.5
6,848.0	1.19	72.37	6,846.7	28.0	-75.4	290.34	80.5
6,911.2	1.29	52.41	6,909.9	28.6	-74.3	291.07	79.6
6,974.4	1.48	55.71	6,973.0	29.5	-73.0	292.00	78.7
7,037.6	1.47	55.15	7,036.2	30.4	-71.7	293.00	77.9
7,100.9	1.66	68.30	7,099.5	31.2	-70.2	293.99	76.8
7,164.1	1.70	35.88	7,162.7	32.3	-68.8	295.18	76.0
7,227.3	1.91	106.99	7,225.8	32.8	-67.2	296.00	74.8
7,290.5	2.33	110.90	7,289.0	32.0	-65.0	296.22	72.4
7,353.7	2.82	115.33	7,352.1	30.9	-62.4	296.33	69.6
7,416.9	1.99	87.13	7,415.3	30.3	-59.9	296.82	67.1
7,448.6	1.93	47.02	7,447.0	30.7	-58.9	297.48	66.4



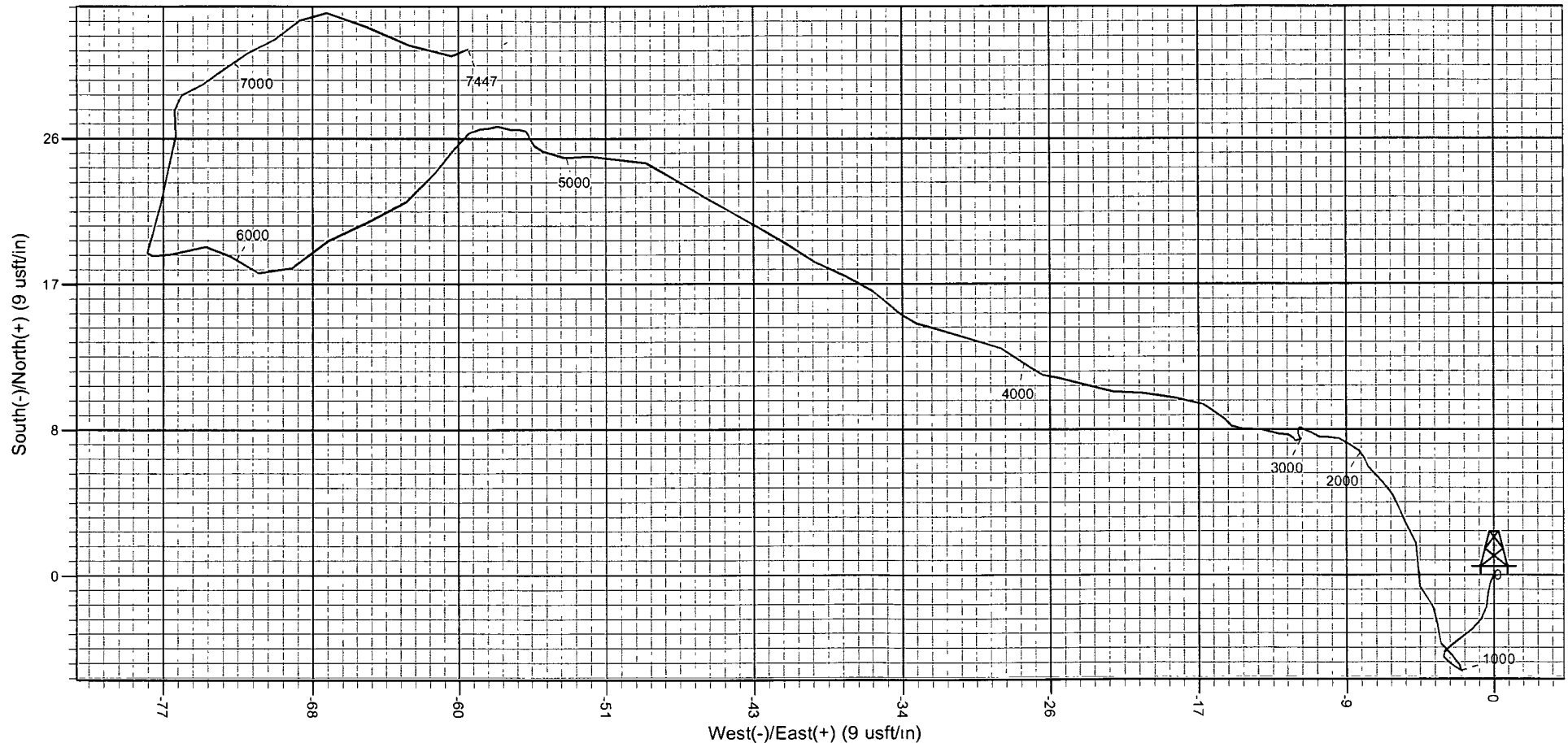
Project: Scanlon Draw
Eddy County, NM
Well: Parkway State "17" #3
Wellbore: VH - Job #32K0311266
Design: VH - Job #32K0311266



Azimuths to Grid North
True North: -0 12°
Magnetic North: 7 77°
Magnetic Field
Strength: 48870 3snT
Dip Angle: 60 51°
Date: 3/22/2011
Model: IGRF2010

WELL DETAILS: Parkway State "17" #3
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	604872.36	570469.29	32° 39' 45.670 N	104° 6' 15.650 W	



PROJECT DETAILS: Scanlon Draw
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 39' 45.670 N
Longitude: 104° 6' 15.650 W
Positional Uncertainty: 0.0
Convergence: 0.12
Local North: Grid