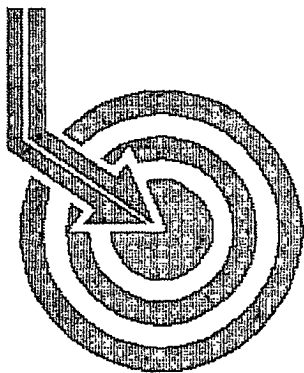
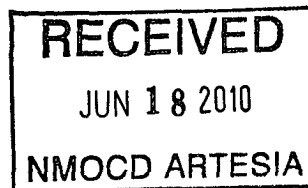




Scientific Drilling



CIMAREX ENERGY

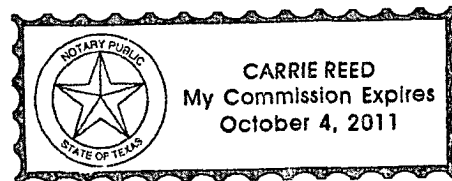
Field: Cottonwood Draw
Site: Eddy County, NM
Well: Cottonwood Draw 22 Federal #3
Wellpath: VH - Job #32K1109461
Survey: 11/01/09

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

.....Shasta.....Company Representative

Notorized this date 3rd of December, 2009.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company: CIMAREX ENERGY	Date: 11/05/2009	Time: 14:48:33	Page: 1
Field: Cottonwood Draw	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Cottonwood Draw 22 Federal #3	Section (VS) Reference:	Well (0.00N,0.00E,180.38Azi)	
Wellpath: VH - Job #32K1109461	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: 11/01/09	Start Date: 11/01/2009
Company: KSRG 0'-2793'	
Tool: Scientific Drilling Internatio	Engineer: Madrid w/Gray
Keeper;Keeper Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	359.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.26	111.10	100.00	0.08	-0.08	0.21	0.26	0.23	111.10
200.00	0.51	110.97	200.00	0.32	-0.32	0.84	0.25	0.90	111.04
300.00	0.51	95.70	299.99	0.51	-0.53	1.70	0.14	1.78	107.22
400.00	0.51	103.58	399.99	0.66	-0.67	2.57	0.07	2.66	104.70
500.00	0.68	142.04	499.98	1.22	-1.25	3.37	0.42	3.59	110.31
600.00	0.85	158.76	599.98	2.38	-2.41	4.00	0.28	4.67	121.00
700.00	1.06	153.06	699.96	3.89	-3.92	4.69	0.23	6.12	129.89
800.00	1.17	154.80	799.94	5.63	-5.67	5.55	0.12	7.93	135.64
900.00	1.32	150.98	899.92	7.56	-7.60	6.54	0.17	10.03	139.30
1000.00	1.51	136.03	999.89	9.50	-9.56	8.01	0.41	12.47	140.02
1100.00	2.23	116.52	1099.84	11.30	-11.37	10.67	0.95	15.59	136.83
1200.00	3.37	111.56	1199.72	13.22	-13.32	15.14	1.16	20.17	131.34
1300.00	3.64	109.44	1299.53	15.32	-15.46	20.87	0.30	25.97	126.53
1400.00	3.68	105.78	1399.32	17.21	-17.39	26.95	0.24	32.07	122.83
1500.00	3.94	104.39	1499.10	18.89	-19.12	33.37	0.28	38.46	119.81
1600.00	4.01	102.85	1598.86	20.48	-20.75	40.10	0.13	45.15	117.35
1700.00	3.81	102.63	1698.63	21.94	-22.25	46.76	0.20	51.78	115.45
1800.00	3.61	108.80	1798.42	23.64	-23.99	52.98	0.45	58.16	114.36
1900.00	3.05	118.17	1898.25	25.88	-26.26	58.30	0.78	63.95	114.25
2000.00	2.72	119.11	1998.13	28.26	-28.67	62.72	0.33	68.96	114.57
2100.00	2.15	116.54	2098.03	30.22	-30.67	66.47	0.58	73.21	114.76
2200.00	1.46	119.39	2197.98	31.67	-32.13	69.26	0.70	76.35	114.89
2300.00	1.28	125.85	2297.96	32.93	-33.41	71.28	0.24	78.72	115.11
2400.00	1.15	128.31	2397.93	34.20	-34.68	72.97	0.14	80.79	115.42
2500.00	0.96	133.33	2497.92	35.39	-35.88	74.37	0.21	82.57	115.76
2600.00	0.78	145.52	2597.90	36.52	-37.02	75.36	0.26	83.96	116.16
2700.00	0.86	142.94	2697.89	37.67	-38.18	76.20	0.09	85.23	116.61



**Scientific
Drilling**

Field: Cottonwood Draw

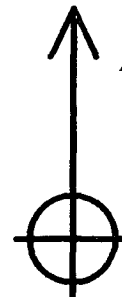
Site: Eddy County, NM

Well: Cottonwood Draw 22 Federal #3

Wellpath: VH - Job #32K1109461

Survey: 11/01/09

G/T/M



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 11/05/2009
Model: igrf2000

West(-)/East(+) [10ft/in]

South(-)/North(+) [10ft/in]

