



Cimarex Da Vinci 7 Federal Com #4H MWD 0ft to 12076ft Survey Report

(Non-Def Survey)

Report Date:	August 05, 2013 - 09:31 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Cimarex	Vertical Section Azimuth:	357.620 ° (Grid North)
Field:	NM Eddy County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Da Vinci 7 Federal Com #4H / Cimarex Da Vinci 7 Federal Com #4H	TVD Reference Datum:	KB
Well:	Cimarex Da Vinci 7 Federal Com #4H	TVD Reference Elevation:	3216.000 ft above
Borehole:	Original Borehole	Seabed / Ground Elevation:	3198.000 ft above
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.735 °
Survey Name:	Cimarex Da Vinci 7 Federal Com #4H MWD 0ft to 12076ft	Total Field Strength:	48264.917 nT
Survey Date:	July 18, 2013	Magnetic Dip Angle:	59.924 °
Tort / AHD / DDI / ERD Ratio:	223.716 ° / 5239.904 ft / 6.289 / 0.720	Declination Date:	July 18, 2013
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Declination Model:	BGGM 2013
Location Lat / Long:	N 32° 8' 13.60068", W 104° 13' 48.32389"	North Reference:	Grid North
Location Grid N/E Y/X:	N 413632.100 ftUS, E 573294.000 ftUS	Grid Convergence Used:	0.0549 °
CRS Grid Convergence Angle:	0.0549 °	Total Corr Mag North->Grid North:	7.6801 °
Grid Scale Factor:	0.99991026	Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL Da Vinci 7 Fed Com #4H	0.00	0.00	0.00	0.00	-3216.00	0.00	0.00	0.00	N/A	413632.10	573294.00	N 32 8 13.60	W 104 13 48.32
	321.00	4.31	303.82	320.70	-2895.30	7.13	6.72	-10.03	1.34	413638.82	573283.98	N 32 8 13.67	W 104 13 48.44
	470.00	5.19	105.09	469.51	-2746.49	8.41	8.08	-8.17	6.29	413640.18	573285.83	N 32 8 13.68	W 104 13 48.42
	527.00	4.92	103.12	526.29	-2689.71	6.99	6.86	-3.30	0.56	413638.95	573290.70	N 32 8 13.67	W 104 13 48.36
	583.00	4.31	97.89	582.11	-2633.89	5.97	6.02	1.13	1.32	413638.12	573295.13	N 32 8 13.66	W 104 13 48.31
	614.00	3.69	92.79	613.03	-2602.97	5.67	5.81	3.28	2.30	413637.91	573297.28	N 32 8 13.66	W 104 13 48.29
	641.00	3.60	93.19	639.98	-2576.02	5.51	5.72	4.99	0.35	413637.82	573298.99	N 32 8 13.66	W 104 13 48.27
	737.00	1.80	92.00	735.87	-2480.13	5.10	5.50	9.51	1.88	413637.60	573303.51	N 32 8 13.66	W 104 13 48.21
	924.00	1.71	89.71	922.78	-2293.22	4.78	5.41	15.23	0.06	413637.51	573309.23	N 32 8 13.65	W 104 13 48.15
	1016.00	1.58	92.70	1014.74	-2201.26	4.62	5.36	17.87	0.17	413637.46	573311.87	N 32 8 13.65	W 104 13 48.12
	1109.00	1.58	86.90	1107.71	-2108.29	4.52	5.37	20.43	0.17	413637.47	573314.43	N 32 8 13.65	W 104 13 48.09
	1201.00	1.89	87.12	1199.67	-2016.33	4.55	5.52	23.21	0.34	413637.62	573317.21	N 32 8 13.66	W 104 13 48.05
	1293.00	2.29	86.99	1291.60	-1924.40	4.58	5.69	26.57	0.43	413637.79	573320.56	N 32 8 13.66	W 104 13 48.01
	1388.00	2.29	91.78	1386.53	-1829.47	4.46	5.73	30.36	0.20	413637.83	573324.36	N 32 8 13.66	W 104 13 47.97
	1482.00	2.99	85.58	1480.43	-1735.57	4.41	5.86	34.68	0.80	413637.96	573328.68	N 32 8 13.66	W 104 13 47.92
	1576.00	1.89	103.12	1574.34	-1641.66	4.09	5.70	38.63	1.40	413637.80	573332.63	N 32 8 13.66	W 104 13 47.87
	1671.00	2.42	101.32	1669.28	-1546.72	3.19	4.95	42.13	0.56	413637.05	573336.12	N 32 8 13.65	W 104 13 47.83
	1768.00	2.68	98.90	1766.18	-1449.82	2.27	4.19	46.37	0.29	413636.29	573340.37	N 32 8 13.64	W 104 13 47.78
	1862.00	2.50	112.61	1860.08	-1355.92	0.97	3.07	50.44	0.68	413635.17	573344.43	N 32 8 13.63	W 104 13 47.74
	1918.00	2.59	128.78	1916.03	-1299.97	-0.38	1.80	52.55	1.29	413633.90	573346.55	N 32 8 13.62	W 104 13 47.71
	2001.00	2.59	129.79	1998.95	-1217.05	-2.87	-0.57	55.45	0.05	413631.53	573349.45	N 32 8 13.59	W 104 13 47.68
	2054.00	2.42	140.30	2051.89	-1164.11	-4.57	-2.20	57.09	0.92	413629.90	573351.08	N 32 8 13.58	W 104 13 47.66
	2149.00	2.68	177.12	2146.81	-1069.19	-8.38	-5.96	58.48	1.71	413626.14	573352.48	N 32 8 13.54	W 104 13 47.64
	2243.00	2.29	229.90	2240.73	-975.27	-11.73	-9.36	57.16	2.38	413622.74	573351.15	N 32 8 13.51	W 104 13 47.66
	2339.00	2.11	276.31	2336.67	-879.33	-12.64	-10.41	53.93	1.81	413621.70	573347.93	N 32 8 13.50	W 104 13 47.70
	2433.00	2.50	306.01	2430.59	-785.41	-11.10	-9.01	50.55	1.32	413623.09	573344.55	N 32 8 13.51	W 104 13 47.74
	2528.00	1.80	295.38	2525.53	-690.47	-9.12	-7.15	47.53	0.84	413624.95	573341.53	N 32 8 13.53	W 104 13 47.77

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	2623.00	2.42	304.08	2620.46	-595.54	-7.23	-5.39	44.52	0.73	413626.71	573338.52	N 32 8 13.55	W 104 13 47.81
	2716.00	2.29	301.88	2713.38	-502.62	-5.02	-3.31	41.32	0.17	413628.79	573335.31	N 32 8 13.57	W 104 13 47.84
	2810.00	2.42	302.59	2807.30	-408.70	-2.83	-1.25	38.05	0.14	413630.85	573332.05	N 32 8 13.59	W 104 13 47.88
	2905.00	2.42	300.52	2902.22	-313.78	-0.59	0.85	34.63	0.09	413632.95	573328.63	N 32 8 13.61	W 104 13 47.92
	2999.00	2.50	300.61	2996.13	-219.87	1.61	2.90	31.16	0.09	413635.00	573325.16	N 32 8 13.63	W 104 13 47.96
	3094.00	2.59	300.52	3091.04	-124.96	3.90	5.05	27.53	0.09	413637.15	573321.52	N 32 8 13.65	W 104 13 48.00
	3188.72	2.59	297.62	3185.66	-30.34	6.13	7.13	23.79	0.14	413639.23	573317.78	N 32 8 13.67	W 104 13 48.05
	3284.00	2.50	292.61	3280.85	64.85	8.09	8.93	19.96	0.25	413641.02	573313.96	N 32 8 13.69	W 104 13 48.09
	3378.00	1.32	313.31	3374.80	158.80	9.73	10.46	17.28	1.43	413642.56	573311.28	N 32 8 13.70	W 104 13 48.12
	3473.00	1.10	315.59	3469.77	253.77	11.19	11.86	15.85	0.24	413643.96	573309.84	N 32 8 13.72	W 104 13 48.14
	3567.00	1.32	312.69	3563.75	347.75	12.63	13.24	14.42	0.24	413645.34	573308.42	N 32 8 13.73	W 104 13 48.16
	3662.00	1.19	311.59	3658.73	442.73	14.09	14.63	12.88	0.14	413646.73	573306.88	N 32 8 13.75	W 104 13 48.17
	3756.00	1.10	306.72	3752.71	536.71	15.33	15.82	11.42	0.14	413647.92	573305.42	N 32 8 13.76	W 104 13 48.19
	3851.00	1.19	299.51	3847.69	631.69	16.43	16.85	9.83	0.18	413648.95	573303.83	N 32 8 13.77	W 104 13 48.21
	3950.00	1.19	297.40	3946.67	730.67	17.48	17.83	8.03	0.04	413649.93	573302.03	N 32 8 13.78	W 104 13 48.23
	4044.00	0.70	301.80	4040.66	824.66	18.29	18.58	6.67	0.53	413650.68	573300.67	N 32 8 13.78	W 104 13 48.25
	4139.00	1.32	302.80	4135.64	919.64	19.25	19.48	5.26	0.65	413651.58	573299.26	N 32 8 13.79	W 104 13 48.26
	4233.00	1.10	302.72	4229.62	1013.62	20.39	20.56	3.59	0.23	413652.65	573297.59	N 32 8 13.80	W 104 13 48.28
	4327.00	1.01	299.68	4323.61	1107.61	21.35	21.45	2.11	0.11	413653.55	573296.11	N 32 8 13.81	W 104 13 48.30
	4422.00	0.88	302.89	4418.59	1202.59	22.21	22.26	0.77	0.15	413654.36	573294.77	N 32 8 13.82	W 104 13 48.31
	4517.00	1.01	287.82	4513.58	1297.58	22.92	22.92	-0.64	0.29	413655.02	573293.36	N 32 8 13.83	W 104 13 48.33
	4611.00	0.88	280.22	4607.57	1391.57	23.37	23.30	-2.14	0.19	413655.40	573291.86	N 32 8 13.83	W 104 13 48.35
	4708.00	0.88	276.70	4704.56	1488.56	23.65	23.52	-3.61	0.06	413655.62	573290.39	N 32 8 13.83	W 104 13 48.37
	4804.00	0.79	266.81	4800.55	1584.55	23.75	23.57	-5.00	0.18	413655.66	573289.00	N 32 8 13.83	W 104 13 48.38
	4898.00	0.79	264.22	4894.54	1678.54	23.71	23.47	-0.30	0.04	413655.56	573287.70	N 32 8 13.83	W 104 13 48.40
	4993.00	0.79	261.72	4989.53	1773.53	23.60	23.31	-7.60	0.04	413655.40	573286.41	N 32 8 13.83	W 104 13 48.41
	5089.00	0.79	257.10	5085.52	1869.52	23.41	23.06	-8.90	0.07	413655.16	573285.11	N 32 8 13.83	W 104 13 48.43
	5183.00	0.88	257.00	5179.51	1963.51	23.16	22.76	-10.23	0.10	413654.85	573283.77	N 32 8 13.83	W 104 13 48.44
	5279.00	1.01	241.98	5275.50	2059.50	22.66	22.19	-11.70	0.29	413654.29	573282.31	N 32 8 13.82	W 104 13 48.46
	5374.00	1.01	239.00	5370.48	2154.48	21.90	21.37	-13.15	0.06	413653.47	573280.85	N 32 8 13.81	W 104 13 48.48
	5468.00	1.10	235.00	5464.47	2248.47	21.01	20.42	-14.60	0.12	413652.52	573279.40	N 32 8 13.80	W 104 13 48.49
	5562.00	1.49	233.28	5558.44	2342.44	19.84	19.18	-16.32	0.42	413651.27	573277.68	N 32 8 13.79	W 104 13 48.51
	5658.00	1.41	232.49	5654.41	2438.41	18.45	17.71	-18.26	0.09	413649.81	573275.74	N 32 8 13.78	W 104 13 48.54
	5751.00	1.41	233.50	5747.38	2531.38	17.15	16.33	-20.09	0.03	413648.43	573273.92	N 32 8 13.76	W 104 13 48.56
	5848.00	1.58	236.01	5844.35	2628.35	15.78	14.87	-22.15	0.19	413646.97	573271.85	N 32 8 13.75	W 104 13 48.58
	5940.00	1.41	231.48	5936.32	2720.32	14.45	13.46	-24.09	0.22	413645.56	573269.91	N 32 8 13.73	W 104 13 48.60
	6035.00	0.48	214.61	6031.30	2815.30	13.44	12.41	-25.23	1.01	413644.50	573268.77	N 32 8 13.72	W 104 13 48.62
	6229.00	1.58	184.42	6225.27	3009.27	10.14	9.07	-25.90	0.61	413641.17	573268.10	N 32 8 13.69	W 104 13 48.62
	6323.00	1.80	184.24	6319.23	3103.23	7.38	6.31	-26.11	0.23	413638.40	573267.89	N 32 8 13.66	W 104 13 48.63
	6419.00	2.11	187.58	6415.17	3199.17	4.15	3.05	-26.45	0.34	413635.15	573267.55	N 32 8 13.63	W 104 13 48.63
	6513.00	2.20	189.51	6509.11	3293.11	0.68	-0.44	-26.98	0.12	413631.66	573267.02	N 32 8 13.60	W 104 13 48.64
	6606.00	1.89	196.28	6602.05	3386.05	-2.52	-3.68	-27.70	0.42	413628.42	573266.30	N 32 8 13.56	W 104 13 48.65
	6667.00	1.67	195.83	6663.02	3447.02	-4.32	-5.50	-28.23	0.36	413626.60	573265.77	N 32 8 13.55	W 104 13 48.65
	6698.00	1.06	269.66	6694.01	3478.01	-4.74	-5.93	-28.64	5.52	413626.17	573265.36	N 32 8 13.54	W 104 13 48.66
	6730.00	3.34	326.35	6725.99	3509.99	-3.93	-5.16	-29.45	9.05	413626.94	573264.55	N 32 8 13.55	W 104 13 48.67
	6761.00	5.45	339.18	6756.90	3540.90	-1.76	-3.03	-30.47	7.47	413629.07	573263.53	N 32 8 13.57	W 104 13 48.68
	6792.00	7.74	343.66	6787.69	3571.69	1.66	0.35	-31.59	7.57	413632.45	573262.42	N 32 8 13.60	W 104 13 48.69
	6823.00	10.90	346.30	6818.28	3602.28	6.56	5.20	-32.87	10.28	413637.30	573261.14	N 32 8 13.65	W 104 13 48.71
	6854.00	14.07	348.59	6848.54	3632.54	13.16	11.74	-34.31	10.35	413643.84	573259.70	N 32 8 13.72	W 104 13 48.72
	6885.00	17.06	351.66	6878.40	3662.40	21.40	19.94	-35.71	10.00	413652.04	573258.29	N 32 8 13.80	W 104 13 48.74
	6917.00	20.31	355.27	6908.71	3692.71	31.62	30.12	-36.85	10.78	413662.22	573257.15	N 32 8 13.90	W 104 13 48.75
	6948.00	23.21	356.76	6937.50	3721.50	43.11	41.58	-37.64	9.52	413673.68	573256.36	N 32 8 14.01	W 104 13 48.76
	6979.00	25.59	355.97	6965.73	3749.73	55.91	54.36	-38.46	7.75	413686.46	573255.55	N 32 8 14.14	W 104 13 48.77

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7010.00	27.70	357.77	6993.43	3777.43	69.81	68.24	-39.21	7.29	413700.34	573254.80	N 32 8 14.28	W 104 13 48.78
	7041.00	30.60	357.90	7020.51	3804.51	84.91	83.33	-39.78	9.36	413715.42	573254.23	N 32 8 14.43	W 104 13 48.79
	7073.00	33.50	357.64	7047.63	3831.63	101.89	100.30	-40.44	9.07	413732.39	573253.56	N 32 8 14.59	W 104 13 48.79
	7104.00	37.20	357.73	7072.91	3856.91	119.82	118.21	-41.16	11.94	413750.30	573252.84	N 32 8 14.77	W 104 13 48.80
	7136.00	40.63	358.08	7097.80	3881.80	139.92	138.30	-41.90	10.74	413770.39	573252.11	N 32 8 14.97	W 104 13 48.81
	7167.00	43.88	357.73	7120.74	3904.74	160.76	159.13	-42.66	10.51	413791.21	573251.34	N 32 8 15.18	W 104 13 48.82
	7199.00	47.31	356.93	7143.13	3927.13	183.62	181.96	-43.73	10.87	413814.04	573250.28	N 32 8 15.40	W 104 13 48.83
	7231.00	51.70	356.85	7163.91	3947.91	207.95	206.25	-45.05	13.72	413838.33	573248.95	N 32 8 15.64	W 104 13 48.85
	7262.00	55.49	357.02	7182.30	3966.30	232.89	231.16	-46.38	12.23	413863.24	573247.62	N 32 8 15.89	W 104 13 48.86
	7293.00	59.36	356.14	7198.99	3982.99	259.00	257.23	-47.94	12.71	413889.31	573246.06	N 32 8 16.15	W 104 13 48.88
	7324.00	62.87	354.91	7213.96	3997.96	286.12	284.29	-50.07	11.84	413916.36	573243.94	N 32 8 16.41	W 104 13 48.90
	7356.00	66.39	353.68	7227.67	4011.67	314.98	313.05	-52.95	11.53	413945.12	573241.06	N 32 8 16.70	W 104 13 48.94
	7387.00	69.38	353.33	7239.34	4023.34	343.62	341.59	-56.19	9.70	413973.65	573237.81	N 32 8 16.98	W 104 13 48.97
	7419.00	72.63	352.45	7249.75	4033.75	373.77	371.61	-59.94	10.48	414003.67	573234.06	N 32 8 17.28	W 104 13 49.02
	7451.00	76.41	351.84	7258.29	4042.29	404.47	402.15	-64.16	11.95	414034.21	573229.85	N 32 8 17.58	W 104 13 49.07
	7482.00	79.49	351.49	7264.76	4048.76	434.62	432.14	-68.55	10.00	414064.20	573225.45	N 32 8 17.88	W 104 13 49.12
	7514.00	82.48	351.40	7269.78	4053.78	466.03	463.39	-73.25	9.35	414095.45	573220.75	N 32 8 18.19	W 104 13 49.17
	7545.00	85.74	350.87	7272.96	4056.96	496.67	493.86	-78.00	10.65	414125.91	573216.00	N 32 8 18.49	W 104 13 49.23
	7576.00	89.25	351.66	7274.31	4058.31	527.44	524.46	-82.71	11.61	414156.51	573211.30	N 32 8 18.79	W 104 13 49.28
	7608.00	91.54	352.45	7274.09	4058.09	559.29	556.15	-87.13	7.57	414188.20	573206.88	N 32 8 19.10	W 104 13 49.33
	7639.00	92.86	352.98	7272.90	4056.90	590.15	586.88	-91.06	4.59	414218.92	573202.95	N 32 8 19.41	W 104 13 49.38
	7734.00	94.53	352.98	7266.78	4050.78	684.64	680.97	-102.64	1.76	414313.00	573191.37	N 32 8 20.34	W 104 13 49.51
	7828.00	95.06	351.66	7258.92	4042.92	777.91	773.79	-115.16	1.51	414405.82	573178.85	N 32 8 21.26	W 104 13 49.65
	7923.00	91.19	352.80	7253.74	4037.74	872.33	867.76	-127.98	4.25	414499.78	573166.03	N 32 8 22.19	W 104 13 49.80
	8018.00	88.74	354.04	7253.80	4037.80	967.07	962.13	-138.87	2.89	414594.14	573155.15	N 32 8 23.12	W 104 13 49.93
	8113.00	90.84	353.77	7254.15	4038.15	1061.86	1056.59	-148.95	2.23	414688.59	573145.06	N 32 8 24.06	W 104 13 50.04
	8208.00	89.43	356.06	7253.93	4037.93	1156.74	1151.20	-157.37	2.83	414783.20	573136.64	N 32 8 24.99	W 104 13 50.14
	8302.00	88.02	356.41	7256.02	4040.02	1250.69	1244.97	-163.54	1.55	414876.96	573130.47	N 32 8 25.92	W 104 13 50.21
	8397.00	90.57	355.97	7257.19	4041.19	1345.65	1339.75	-169.85	2.72	414971.73	573124.16	N 32 8 26.86	W 104 13 50.28
	8491.00	87.14	356.85	7259.06	4043.06	1439.59	1433.53	-175.74	3.77	415065.50	573118.28	N 32 8 27.79	W 104 13 50.35
	8586.00	88.29	357.38	7262.85	4046.85	1534.51	1528.33	-180.52	1.33	415160.29	573113.50	N 32 8 28.73	W 104 13 50.41
	8681.00	90.40	358.34	7263.94	4047.94	1629.50	1623.25	-184.06	2.44	415255.20	573109.95	N 32 8 29.66	W 104 13 50.45
	8775.00	89.60	359.75	7263.94	4047.94	1723.46	1717.24	-185.63	1.72	415349.18	573108.39	N 32 8 30.59	W 104 13 50.46
	8870.00	90.92	359.48	7263.51	4047.51	1818.40	1812.23	-186.27	1.42	415444.17	573107.75	N 32 8 31.53	W 104 13 50.47
	8965.00	88.02	1.24	7264.39	4048.39	1913.28	1907.21	-185.67	3.57	415539.14	573108.35	N 32 8 32.47	W 104 13 50.46
	9059.00	90.75	1.59	7265.39	4049.39	2007.06	2001.17	-183.35	2.93	415633.09	573110.67	N 32 8 33.40	W 104 13 50.43
	9154.00	89.34	0.72	7265.32	4049.32	2101.87	2096.15	-181.44	1.74	415728.05	573112.58	N 32 8 34.34	W 104 13 50.41
	9249.00	87.23	359.13	7268.16	4052.16	2196.75	2191.10	-181.56	2.78	415822.99	573112.46	N 32 8 35.28	W 104 13 50.41
	9344.00	89.08	359.13	7271.22	4055.22	2291.66	2286.03	-183.00	1.95	415917.92	573111.02	N 32 8 36.22	W 104 13 50.43
	9439.00	92.07	359.13	7270.27	4054.27	2386.61	2381.00	-184.44	3.15	416012.89	573109.57	N 32 8 37.16	W 104 13 50.44
	9534.00	92.07	358.61	7266.84	4050.84	2481.53	2475.92	-186.31	0.55	416107.80	573107.70	N 32 8 38.10	W 104 13 50.46
	9629.00	89.96	359.66	7265.15	4049.15	2576.47	2570.89	-187.75	2.48	416202.76	573106.27	N 32 8 39.04	W 104 13 50.48
	9723.00	85.56	1.51	7268.83	4052.83	2670.25	2664.79	-186.79	5.08	416296.64	573107.23	N 32 8 39.97	W 104 13 50.47
	9818.00	85.56	3.09	7276.18	4060.18	2764.64	2759.42	-182.99	1.66	416391.27	573111.03	N 32 8 40.91	W 104 13 50.42
	9912.00	89.78	3.26	7280.00	4064.00	2858.10	2853.18	-177.79	4.49	416485.02	573116.23	N 32 8 41.84	W 104 13 50.36
	10007.00	92.07	2.82	7278.47	4062.47	2952.66	2948.03	-172.75	2.45	416579.86	573121.26	N 32 8 42.77	W 104 13 50.30
	10102.00	93.47	2.03	7273.88	4057.88	3047.21	3042.83	-168.74	1.69	416674.65	573125.28	N 32 8 43.71	W 104 13 50.25
	10196.00	93.30	2.21	7268.33	4052.33	3140.76	3136.60	-165.27	0.26	416768.41	573128.75	N 32 8 44.64	W 104 13 50.21
	10291.00	92.42	1.59	7263.59	4047.59	3235.37	3231.43	-162.12	1.13	416863.23	573131.89	N 32 8 45.58	W 104 13 50.17
	10386.00	89.43	1.15	7262.06	4046.06	3330.15	3326.38	-159.85	3.18	416958.17	573134.16	N 32 8 46.52	W 104 13 50.15
	10480.00	90.40	0.89	7262.19	4046.19	3423.98	3420.36	-158.18	1.07	417052.15	573135.84	N 32 8 47.45	W 104 13 50.13
	10575.00	92.15	0.72	7260.08	4044.08	3518.81	3515.32	-156.84	1.85	417147.10	573137.17	N 32 8 48.39	W 104 13 50.11

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	10670.00	91.10	0.19	7257.39	4041.39	3613.65	3610.28	-156.09	1.24	417242.05	573137.93	N 32 8 49.33	W 104 13 50.10
	10764.00	91.71	359.13	7255.08	4039.08	3707.56	3704.25	-156.65	1.30	417336.01	573137.37	N 32 8 50.26	W 104 13 50.10
	10859.00	92.59	358.61	7251.52	4035.52	3802.47	3799.16	-158.52	1.08	417430.92	573135.50	N 32 8 51.20	W 104 13 50.13
	10954.00	91.28	358.43	7248.31	4032.31	3897.40	3894.08	-160.97	1.39	417525.82	573133.04	N 32 8 52.14	W 104 13 50.15
	11049.00	91.98	357.99	7245.61	4029.61	3992.36	3988.99	-163.94	0.87	417620.72	573130.08	N 32 8 53.07	W 104 13 50.19
	11144.00	93.56	357.55	7241.02	4025.02	4087.24	4083.80	-167.63	1.73	417715.53	573126.39	N 32 8 54.01	W 104 13 50.23
	11239.00	93.30	357.02	7235.33	4019.33	4182.07	4178.53	-172.12	0.62	417810.24	573121.90	N 32 8 54.95	W 104 13 50.28
	11334.00	93.47	357.11	7229.72	4013.72	4276.90	4273.24	-176.98	0.20	417904.94	573117.04	N 32 8 55.89	W 104 13 50.33
	11429.00	94.70	357.20	7222.96	4006.96	4371.65	4367.88	-181.68	1.30	417999.58	573112.34	N 32 8 56.82	W 104 13 50.39
	11524.00	93.39	355.53	7216.26	4000.26	4466.39	4462.44	-187.69	2.23	418094.13	573106.33	N 32 8 57.76	W 104 13 50.46
	11619.00	92.24	355.62	7211.59	3995.59	4561.21	4557.05	-195.01	1.21	418188.73	573099.01	N 32 8 58.70	W 104 13 50.54
	11714.00	90.31	355.35	7209.48	3993.48	4656.12	4651.72	-202.48	2.05	418283.40	573091.53	N 32 8 59.63	W 104 13 50.63
	11809.00	89.78	355.88	7209.40	3993.40	4751.06	4746.44	-209.75	0.79	418378.11	573084.27	N 32 9 0.57	W 104 13 50.71
	11904.00	90.48	355.97	7209.19	3993.19	4846.02	4841.20	-216.50	0.74	418472.86	573077.52	N 32 9 1.51	W 104 13 50.79
Final Survey	11999.00	90.13	356.85	7208.68	3992.68	4940.99	4936.01	-222.45	1.00	418567.66	573071.57	N 32 9 2.45	W 104 13 50.86
Proj to Bit	12076.00	90.13	356.85	7208.51	3992.51	5017.99	5012.90	-226.68	0.00	418644.54	573067.34	N 32 9 3.21	W 104 13 50.90

Survey Type: Non-Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	18.000	Act Sins	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Cimarex Da Vinci 7 Federal Com #4H MWD
	18.000	321.000	1/303.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Da Vinci 7 Federal Com #4H MWD
	321.000	6606.000	Act Sins	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Da Vinci 7 Federal Com #4H MWD
	6606.000	11999.000	Act Sins	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Da Vinci 7 Federal Com #4H MWD
	11999.000	12076.000	Act Sins	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Da Vinci 7 Federal Com #4H MWD

Revisions to Operator-Submitted EC Data for Sundry Notice #230137

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM02447	NMNM02447
Agreement:		891000326X (NMNM68294X)
Operator:	BOPCO LP P.O. BOX 2760 MIDLAND, TX 79702 Ph: 432-683-2277	BOPCO LP MIDLAND, TX 79702 Ph: 432.683.2277
Admin Contact:	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277
Tech Contact:	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: cwgiese@basspet.com Ph: 432-683-2277	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: CWGIESE@BASSPET.COM Ph: 432-683-2277
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	HACKBERRY, BONE SPRING, E	HACKBERRY
Well/Facility:	BIG EDDY UNIT 257H Sec 33 T19S R31E 1630FSL 2630FEL	BIG EDDY UNIT 257H Sec 33 T19S R31E NWSE 1630FSL 2630FEL 32.365042 N Lat, 103.522507 W Lon

Revisions to Operator-Submitted EC Data for Sundry Notice #230137

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM02447	NMNM02447
Agreement:		891000326X (NMNM68294X)
Operator:	BOPCO LP P.O. BOX 2760 MIDLAND, TX 79702 Ph: 432-683-2277	BOPCO LP MIDLAND, TX 79702 Ph: 432.683.2277
Admin Contact:	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277
Tech Contact:	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: cwgiese@basspet.com Ph: 432-683-2277	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: CWGIESE@BASSPET.COM Ph: 432-683-2277
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	HACKBERRY, BONE SPRING, E	HACKBERRY
Well/Facility:	BIG EDDY UNIT 257H Sec 33 T19S R31E 1630FSL 2630FEL	BIG EDDY UNIT 257H Sec 33 T19S R31E NWSE 1630FSL 2630FEL 32.365042 N Lat, 103.522507 W Lon

Revisions to Operator-Submitted EC Data for Sundry Notice #230137

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM02447	NMNM02447
Agreement:		891000326X (NMNM68294X)
Operator:	BOPCO LP P.O. BOX 2760 MIDLAND, TX 79702 Ph: 432-683-2277	BOPCO LP MIDLAND, TX 79702 Ph: 432.683.2277
Admin Contact:	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277
Tech Contact:	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: cwgiese@basspet.com Ph: 432-683-2277	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: CWGIESE@BASSPET.COM Ph: 432-683-2277
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	HACKBERRY, BONE SPRING, E	HACKBERRY
Well/Facility:	BIG EDDY UNIT 257H Sec 33 T19S R31E 1630FSL 2630FEL	BIG EDDY UNIT 257H Sec 33 T19S R31E NWSE 1630FSL 2630FEL 32.365042 N Lat, 103.522507 W Lon

Revisions to Operator-Submitted EC Data for Sundry Notice #230137

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM02447	NMNM02447
Agreement:		891000326X (NMNM68294X)
Operator:	BOPCO LP P.O. BOX 2760 MIDLAND, TX 79702 Ph: 432-683-2277	BOPCO LP MIDLAND, TX 79702 Ph: 432.683.2277
Admin Contact:	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277	WHITNEY MCKEE ENGINEERING ASSISTANT E-Mail: wbmckee@basspet.com Ph: 432-683-2277
Tech Contact:	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: cwgiese@basspet.com Ph: 432-683-2277	CHRISTOPHER GIESE DRILLING ENGINEER E-Mail: CWGIESE@BASSPET.COM Ph: 432-683-2277
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	HACKBERRY, BONE SPRING, E	HACKBERRY
Well/Facility:	BIG EDDY UNIT 257H Sec 33 T19S R31E 1630FSL 2630FEL	BIG EDDY UNIT 257H Sec 33 T19S R31E NWSE 1630FSL 2630FEL 32.365042 N Lat, 103.522507 W Lon