



Actual Wellpath Report

No.12H AWP

Page 1 of 6



30-015-39760

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.12H SHL
Area	Eddy County, NM	Well	No.12H
Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWB
Facility	Ringer Fed Com No.12H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999909	Report Generated	2/13/2012 at 7:25:55 AM
Convergence at slot	0.03° East	Database/Source file	WA Midland/No.12H_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	559747.40	419544.40	32°09'12.211"N	104°16'25.842"W
Facility Reference Pt			559747.40	419544.40	32°09'12.211"N	104°16'25.842"W
Field Reference Pt			559747.40	419544.40	32°09'12.211"N	104°16'25.842"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.12H SHL (KB) to Facility Vertical Datum	28.00ft
Horizontal Reference Pt	Slot	Rig on No.12H SHL (KB) to Mean Sea Level	3390.00ft
Vertical Reference Pt	Rig on No.12H SHL (KB)	Rig on No.12H SHL (KB) to Mud Line at Slot (No.12H SHL)	28.00ft
MD Reference Pt	Rig on No.12H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	271.63°



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Page 2 of 6



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Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWB
Facility	Ringer Fed Com No.12H		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	254.470	0.00	0.00	0.00	0.00	559747.40	419544.40	32°09'12.211"N	104°16'25.842"W	0.00	
176.30	0.450	254.470	176.30	0.66	-0.19	-0.67	559746.73	419544.21	32°09'12.209"N	104°16'25.850"W	0.26	
269.40	0.440	277.450	269.40	1.37	-0.24	-1.37	559746.03	419544.16	32°09'12.209"N	104°16'25.858"W	0.19	
360.60	0.350	249.610	360.59	1.97	-0.29	-1.98	559745.42	419544.11	32°09'12.208"N	104°16'25.865"W	0.23	
453.80	0.500	242.730	453.79	2.59	-0.57	-2.61	559744.79	419543.83	32°09'12.205"N	104°16'25.872"W	0.17	
545.40	0.580	229.870	545.39	3.29	-1.06	-3.32	559744.08	419543.34	32°09'12.201"N	104°16'25.881"W	0.16	
637.20	0.700	231.470	637.18	4.06	-1.70	-4.11	559743.29	419542.70	32°09'12.194"N	104°16'25.890"W	0.13	
729.40	0.820	232.460	729.37	5.01	-2.46	-5.08	559742.32	419541.94	32°09'12.187"N	104°16'25.901"W	0.13	
824.00	0.520	223.550	823.97	5.82	-3.18	-5.91	559741.49	419541.22	32°09'12.180"N	104°16'25.911"W	0.33	
918.70	0.520	214.340	918.66	6.34	-3.85	-6.45	559740.95	419540.55	32°09'12.173"N	104°16'25.917"W	0.09	
1013.40	0.470	128.200	1013.36	6.26	-4.44	-6.39	559741.01	419539.96	32°09'12.167"N	104°16'25.916"W	0.71	
1108.10	1.640	97.490	1108.04	4.60	-4.86	-4.74	559742.66	419539.54	32°09'12.163"N	104°16'25.897"W	1.33	
1202.80	2.520	103.860	1202.68	1.21	-5.53	-1.37	559746.03	419538.87	32°09'12.156"N	104°16'25.858"W	0.96	
1297.40	2.440	116.440	1297.19	-2.65	-6.93	2.45	559749.85	419537.47	32°09'12.143"N	104°16'25.814"W	0.58	
1392.10	3.270	95.410	1391.78	-7.17	-8.08	6.94	559754.34	419536.32	32°09'12.131"N	104°16'25.761"W	1.40	
1486.80	4.190	88.120	1486.27	-13.32	-8.22	13.09	559760.49	419536.18	32°09'12.130"N	104°16'25.690"W	1.09	
1581.50	5.090	91.640	1580.66	-20.97	-8.23	20.75	559768.15	419536.17	32°09'12.130"N	104°16'25.601"W	1.00	
1676.20	5.710	95.370	1674.94	-29.88	-8.79	29.64	559777.03	419535.61	32°09'12.124"N	104°16'25.497"W	0.75	
1770.80	4.830	94.260	1769.14	-38.55	-9.53	38.29	559785.69	419534.87	32°09'12.117"N	104°16'25.397"W	0.94	
1865.50	3.710	93.250	1863.58	-45.60	-10.00	45.33	559792.73	419534.40	32°09'12.112"N	104°16'25.315"W	1.19	
1960.20	3.620	102.340	1958.09	-51.60	-10.81	51.31	559798.70	419533.59	32°09'12.104"N	104°16'25.245"W	0.62	
2054.90	3.490	103.510	2052.60	-57.35	-12.12	57.03	559804.43	419532.28	32°09'12.091"N	104°16'25.179"W	0.16	
2149.60	3.330	102.610	2147.14	-62.87	-13.40	62.52	559809.91	419531.01	32°09'12.078"N	104°16'25.115"W	0.18	
2244.20	3.210	103.550	2241.58	-68.16	-14.62	67.78	559815.17	419529.79	32°09'12.066"N	104°16'25.054"W	0.14	
2338.90	3.080	104.030	2336.14	-73.24	-15.85	72.82	559820.21	419528.55	32°09'12.054"N	104°16'24.995"W	0.14	
2433.60	2.860	104.390	2430.71	-78.03	-17.06	77.58	559824.97	419527.34	32°09'12.042"N	104°16'24.940"W	0.23	
2528.30	2.880	104.400	2525.29	-82.66	-18.24	82.17	559829.56	419526.16	32°09'12.030"N	104°16'24.886"W	0.02	
2622.90	2.740	106.870	2619.78	-87.15	-19.48	86.64	559834.03	419524.92	32°09'12.018"N	104°16'24.834"W	0.20	
2717.60	2.750	105.530	2714.37	-91.54	-20.75	90.99	559838.38	419523.65	32°09'12.005"N	104°16'24.784"W	0.07	
2812.30	2.610	105.310	2808.97	-95.84	-21.93	95.26	559842.65	419522.48	32°09'11.994"N	104°16'24.734"W	0.15	
2907.00	2.550	105.980	2903.57	-99.98	-23.08	99.36	559846.76	419521.33	32°09'11.982"N	104°16'24.686"W	0.07	
3001.70	2.370	108.560	2998.18	-103.89	-24.28	103.25	559850.64	419520.12	32°09'11.970"N	104°16'24.641"W	0.22	
3096.30	2.210	108.090	3092.71	-107.51	-25.47	106.83	559854.22	419518.93	32°09'11.959"N	104°16'24.600"W	0.17	
3191.00	2.010	108.810	3187.34	-110.85	-26.57	110.14	559857.53	419517.83	32°09'11.948"N	104°16'24.561"W	0.21	
3285.70	1.750	106.090	3281.99	-113.84	-27.51	113.10	559860.49	419516.90	32°09'11.938"N	104°16'24.527"W	0.29	
3380.40	1.480	103.800	3376.65	-116.43	-28.20	115.68	559863.07	419516.20	32°09'11.931"N	104°16'24.497"W	0.29	
3475.10	1.320	102.630	3471.33	-118.70	-28.73	117.93	559865.32	419515.67	32°09'11.926"N	104°16'24.471"W	0.17	
3569.80	1.060	104.760	3566.01	-120.62	-29.19	119.84	559867.23	419515.21	32°09'11.922"N	104°16'24.448"W	0.28	
3664.40	0.810	104.160	3660.59	-122.13	-29.58	121.34	559868.73	419514.83	32°09'11.918"N	104°16'24.431"W	0.26	
3759.10	0.740	99.140	3755.28	-123.39	-29.84	122.59	559869.98	419514.56	32°09'11.915"N	104°16'24.416"W	0.10	
3853.80	0.650	95.080	3849.98	-124.53	-29.98	123.73	559871.12	419514.42	32°09'11.914"N	104°16'24.403"W	0.11	
3948.50	0.620	91.620	3944.67	-125.58	-30.05	124.78	559872.17	419514.36	32°09'11.913"N	104°16'24.391"W	0.05	
4043.20	0.620	87.710	4039.37	-126.60	-30.04	125.80	559873.19	419514.36	32°09'11.913"N	104°16'24.379"W	0.04	
4137.80	0.680	91.500	4133.96	-127.68	-30.03	126.87	559874.26	419514.37	32°09'11.913"N	104°16'24.367"W	0.08	
4232.50	0.690	99.500	4228.65	-128.80	-30.14	128.00	559875.39	419514.26	32°09'11.912"N	104°16'24.353"W	0.10	



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Page 3 of 6



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Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWB
Facility	Ringer Fed Com No.12H		

WELLPATH DATA (167 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4327.20	0.560	101.350	4323.35	-129.82	-30.33	129.01	559876.40	419514.08	32°09'11.910"N	104°16'24.342"W	0.14	
4421.90	0.490	95.780	4418.04	-130.68	-30.46	129.87	559877.26	419513.94	32°09'11.909"N	104°16'24.332"W	0.09	
4516.60	0.410	80.410	4512.74	-131.42	-30.44	130.61	559878.00	419513.96	32°09'11.909"N	104°16'24.323"W	0.15	
4611.20	0.380	77.990	4607.34	-132.06	-30.32	131.25	559878.64	419514.08	32°09'11.910"N	104°16'24.316"W	0.04	
4705.90	0.640	76.070	4702.03	-132.87	-30.13	132.07	559879.46	419514.27	32°09'11.912"N	104°16'24.306"W	0.28	
4800.60	0.800	80.580	4796.73	-134.03	-29.89	133.23	559880.62	419514.51	32°09'11.915"N	104°16'24.293"W	0.18	
4895.30	0.790	82.360	4891.42	-135.32	-29.70	134.53	559881.92	419514.70	32°09'11.917"N	104°16'24.277"W	0.03	
4989.90	0.790	84.710	4986.01	-136.61	-29.55	135.83	559883.22	419514.85	32°09'11.918"N	104°16'24.262"W	0.03	
5084.60	0.720	84.140	5080.70	-137.85	-29.43	137.07	559884.46	419514.97	32°09'11.919"N	104°16'24.248"W	0.07	
5179.30	0.610	83.990	5175.39	-138.94	-29.32	138.16	559885.55	419515.09	32°09'11.920"N	104°16'24.235"W	0.12	
5274.00	0.420	84.830	5270.09	-139.79	-29.23	139.01	559886.40	419515.17	32°09'11.921"N	104°16'24.225"W	0.20	
5368.70	0.300	98.420	5364.79	-140.38	-29.24	139.60	559886.99	419515.16	32°09'11.921"N	104°16'24.218"W	0.15	
5463.40	0.260	69.900	5459.49	-140.82	-29.20	140.05	559887.44	419515.20	32°09'11.921"N	104°16'24.213"W	0.15	
5558.00	0.520	48.200	5554.09	-141.33	-28.84	140.57	559887.96	419515.56	32°09'11.925"N	104°16'24.207"W	0.31	
5652.70	0.840	44.420	5648.78	-141.68	-27.86	140.94	559888.33	419516.54	32°09'11.935"N	104°16'24.203"W	0.62	
5747.40	1.110	42.520	5743.47	-142.31	-26.49	141.62	559889.01	419517.91	32°09'11.948"N	104°16'24.195"W	0.72	
5842.10	1.610	27.490	5838.14	-143.49	-24.64	142.85	559890.24	419519.76	32°09'11.967"N	104°16'24.181"W	0.64	
5936.80	2.030	13.650	5932.79	-144.42	-21.83	143.86	559891.25	419522.57	32°09'11.994"N	104°16'24.169"W	0.64	
6031.40	2.500	2.470	6027.32	-144.80	-18.14	144.35	559891.73	419526.26	32°09'12.031"N	104°16'24.163"W	0.68	
6126.10	1.560	13.780	6121.96	-145.11	-14.82	144.74	559892.13	419529.58	32°09'12.064"N	104°16'24.159"W	1.07	
6220.80	1.840	11.620	6216.62	-145.64	-12.08	145.36	559892.74	419532.32	32°09'12.091"N	104°16'24.151"W	0.30	
6315.50	1.750	2.670	6311.27	-145.93	-9.15	145.73	559893.12	419535.25	32°09'12.120"N	104°16'24.147"W	0.31	
6410.10	1.580	5.710	6405.83	-146.05	-6.41	145.93	559893.31	419537.99	32°09'12.147"N	104°16'24.145"W	0.20	
6504.80	1.860	10.650	6500.49	-146.38	-3.60	146.34	559893.73	419540.80	32°09'12.175"N	104°16'24.140"W	0.33	
6599.50	2.510	12.900	6595.12	-147.03	-0.07	147.09	559894.47	419544.33	32°09'12.210"N	104°16'24.131"W	0.69	
6694.20	2.810	18.530	6689.72	-148.11	4.16	148.29	559895.67	419548.56	32°09'12.251"N	104°16'24.117"W	0.42	
6788.90	2.860	30.640	6784.30	-149.93	8.39	150.23	559897.62	419552.79	32°09'12.293"N	104°16'24.095"W	0.63	
6883.60	2.780	54.610	6878.89	-152.91	11.75	153.31	559900.69	419556.15	32°09'12.327"N	104°16'24.059"W	1.24	
6978.20	2.990	72.120	6973.37	-157.07	13.84	157.52	559904.91	419558.24	32°09'12.347"N	104°16'24.010"W	0.95	
7072.90	3.190	86.650	7067.94	-162.02	14.75	162.51	559909.89	419559.15	32°09'12.356"N	104°16'23.952"W	0.85	
7167.60	4.150	74.450	7162.44	-167.92	15.82	168.44	559915.82	419560.22	32°09'12.367"N	104°16'23.883"W	1.30	
7262.30	5.050	68.750	7256.84	-175.03	18.25	175.62	559923.01	419562.65	32°09'12.391"N	104°16'23.799"W	1.06	
7356.90	5.280	72.740	7351.05	-182.99	21.05	183.66	559931.04	419565.45	32°09'12.418"N	104°16'23.706"W	0.45	
7451.60	4.790	81.520	7445.39	-191.00	22.93	191.73	559939.11	419567.33	32°09'12.437"N	104°16'23.612"W	0.96	
7546.30	5.230	85.240	7539.73	-199.19	23.87	199.94	559947.33	419568.27	32°09'12.446"N	104°16'23.516"W	0.58	
7641.00	5.900	90.860	7633.98	-208.34	24.16	209.11	559956.49	419568.55	32°09'12.449"N	104°16'23.410"W	0.91	
7735.70	6.000	96.740	7728.17	-218.14	23.50	218.89	559966.27	419567.90	32°09'12.442"N	104°16'23.296"W	0.65	
7830.40	5.310	99.260	7822.41	-227.41	22.22	228.13	559975.51	419566.61	32°09'12.430"N	104°16'23.188"W	0.77	
7925.00	4.780	96.980	7916.64	-235.68	21.03	236.37	559983.75	419565.43	32°09'12.418"N	104°16'23.093"W	0.60	
8019.70	4.050	90.220	8011.06	-242.95	20.54	243.63	559991.01	419564.94	32°09'12.413"N	104°16'23.008"W	0.95	
8114.40	3.590	80.390	8105.55	-249.20	21.02	249.90	559997.27	419565.42	32°09'12.418"N	104°16'22.935"W	0.84	
8209.10	3.370	73.290	8200.08	-254.75	22.32	255.49	560002.86	419566.72	32°09'12.431"N	104°16'22.870"W	0.51	
8303.80	3.310	68.840	8294.62	-259.91	24.10	260.70	560008.08	419568.50	32°09'12.448"N	104°16'22.810"W	0.28	
8398.40	3.190	61.920	8389.07	-264.72	26.33	265.57	560012.95	419570.73	32°09'12.470"N	104°16'22.753"W	0.43	
8493.10	3.400	55.360	8483.61	-269.27	29.17	270.20	560017.58	419573.56	32°09'12.498"N	104°16'22.699"W	0.46	



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Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION

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Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWP
Facility	Ringer Fed Com No.12H		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8587.80	3.400	52.820	8578.14	-273.72	32.46	274.75	560022.13	419576.86	32°09'12.531"N	104°16'22.646"W	0.16	
8682.50	3.620	54.540	8672.66	-278.29	35.89	279.43	560026.80	419580.29	32°09'12.565"N	104°16'22.592"W	0.26	
8777.10	3.760	55.420	8767.07	-283.18	39.38	284.41	560031.79	419583.78	32°09'12.599"N	104°16'22.534"W	0.16	
8871.80	3.350	49.880	8861.59	-287.75	42.93	289.08	560036.46	419587.32	32°09'12.634"N	104°16'22.479"W	0.56	
8966.50	3.300	44.360	8956.13	-291.66	46.66	293.11	560040.48	419591.06	32°09'12.671"N	104°16'22.432"W	0.34	
9038.10	3.410	36.550	9027.60	-294.28	49.84	295.81	560043.19	419594.24	32°09'12.703"N	104°16'22.401"W	0.66	
9130.00	3.700	28.300	9119.33	-297.18	54.65	298.85	560046.22	419599.05	32°09'12.750"N	104°16'22.366"W	0.64	
9161.00	7.700	27.100	9150.17	-298.52	57.38	300.27	560047.64	419601.78	32°09'12.777"N	104°16'22.349"W	12.91	
9193.00	12.300	3.700	9181.69	-299.57	62.70	301.47	560048.84	419607.09	32°09'12.830"N	104°16'22.335"W	18.90	
9224.00	16.600	353.600	9211.70	-299.07	70.40	301.19	560048.56	419614.79	32°09'12.906"N	104°16'22.338"W	16.03	
9256.00	21.400	345.400	9241.96	-296.80	80.60	299.20	560046.58	419624.99	32°09'13.007"N	104°16'22.361"W	17.13	
9288.00	25.500	339.800	9271.31	-292.60	92.72	295.35	560042.72	419637.11	32°09'13.127"N	104°16'22.406"W	14.57	
9319.00	29.700	331.900	9298.79	-286.31	105.76	289.42	560036.80	419650.15	32°09'13.256"N	104°16'22.475"W	17.95	
9351.00	33.300	328.400	9326.07	-277.56	120.25	281.08	560028.46	419664.63	32°09'13.399"N	104°16'22.572"W	12.61	
9382.00	37.800	320.800	9351.30	-266.67	134.87	270.61	560017.99	419679.26	32°09'13.544"N	104°16'22.694"W	20.32	
9414.00	42.600	313.000	9375.75	-252.12	149.87	256.47	560003.85	419694.26	32°09'13.693"N	104°16'22.858"W	21.72	
9446.00	46.200	303.900	9398.63	-234.20	163.72	238.95	559986.32	419708.10	32°09'13.830"N	104°16'23.062"W	22.84	
9477.00	49.100	295.200	9419.53	-213.98	174.96	219.03	559966.41	419719.35	32°09'13.941"N	104°16'23.293"W	22.74	
9509.00	51.400	285.700	9440.02	-190.73	183.51	196.02	559943.40	419727.89	32°09'14.026"N	104°16'23.561"W	23.92	
9540.00	53.300	275.400	9458.99	-166.54	187.96	171.94	559919.33	419732.35	32°09'14.070"N	104°16'23.841"W	27.00	
9572.00	56.000	266.800	9477.52	-140.48	188.43	145.89	559893.28	419732.81	32°09'14.075"N	104°16'24.144"W	23.48	
9604.00	61.300	265.000	9494.17	-113.30	186.47	118.64	559866.03	419730.85	32°09'14.056"N	104°16'24.461"W	17.24	
9636.00	68.400	264.900	9507.76	-84.55	183.92	89.81	559837.20	419728.30	32°09'14.031"N	104°16'24.796"W	22.19	
9667.00	75.700	263.800	9517.31	-55.32	181.01	60.48	559807.88	419725.39	32°09'14.002"N	104°16'25.137"W	23.79	
9699.00	79.400	263.900	9524.20	-24.37	177.66	29.42	559776.82	419722.05	32°09'13.969"N	104°16'25.499"W	11.57	
9730.00	79.500	263.000	9529.88	5.80	174.19	-0.86	559746.54	419718.57	32°09'13.935"N	104°16'25.851"W	2.87	
9762.00	79.800	262.300	9535.63	36.89	170.16	-32.08	559715.33	419714.54	32°09'13.895"N	104°16'26.214"W	2.35	
9794.00	80.200	262.300	9541.19	67.99	165.94	-63.31	559684.10	419710.32	32°09'13.853"N	104°16'26.577"W	1.25	
9825.00	81.400	262.100	9546.14	98.18	161.78	-93.62	559653.78	419706.17	32°09'13.813"N	104°16'26.930"W	3.92	
9857.00	83.500	261.400	9550.35	129.43	157.23	-125.02	559622.39	419701.62	32°09'13.768"N	104°16'27.295"W	6.91	
9889.00	87.900	262.900	9552.75	160.89	152.88	-156.62	559590.79	419697.26	32°09'13.725"N	104°16'27.663"W	14.52	
9920.00	89.800	264.600	9553.37	191.59	149.50	-187.43	559559.99	419693.89	32°09'13.692"N	104°16'28.021"W	8.22	
9952.00	90.800	268.200	9553.20	223.45	147.49	-219.36	559528.06	419691.88	32°09'13.672"N	104°16'28.393"W	11.68	
9984.00	90.600	268.300	9552.81	255.40	146.52	-251.34	559496.08	419690.90	32°09'13.662"N	104°16'28.765"W	0.70	
10016.00	90.800	268.500	9552.42	287.34	145.62	-283.33	559464.10	419690.01	32°09'13.654"N	104°16'29.137"W	0.88	
10110.00	87.100	268.500	9554.14	381.17	143.16	-377.26	559370.17	419687.55	32°09'13.630"N	104°16'30.229"W	3.94	
10205.00	87.600	266.800	9558.53	475.84	139.27	-472.08	559275.37	419683.66	32°09'13.592"N	104°16'31.332"W	1.86	
10269.00	84.400	268.600	9563.00	539.52	136.71	-535.86	559211.59	419681.09	32°09'13.567"N	104°16'32.074"W	5.73	
10363.00	82.500	267.500	9573.72	632.72	133.53	-629.18	559118.27	419677.92	32°09'13.536"N	104°16'33.160"W	2.33	
10458.00	88.000	266.400	9581.58	727.04	128.49	-723.69	559023.78	419672.88	32°09'13.486"N	104°16'34.259"W	5.90	
10553.00	91.800	268.100	9581.75	821.74	123.94	-818.56	558928.92	419668.32	32°09'13.442"N	104°16'35.363"W	4.38	
10648.00	91.900	268.500	9578.68	916.53	121.12	-913.46	558834.02	419665.51	32°09'13.415"N	104°16'36.466"W	0.43	
10742.00	91.200	269.100	9576.14	1010.38	119.15	-1007.41	558740.09	419663.54	32°09'13.396"N	104°16'37.559"W	0.98	
10837.00	90.700	269.600	9574.56	1105.29	118.07	-1102.39	558645.11	419662.46	32°09'13.385"N	104°16'38.664"W	0.74	
10932.00	91.300	270.500	9572.91	1200.24	118.16	-1197.37	558550.14	419662.55	32°09'13.387"N	104°16'39.769"W	1.14	



Actual Wellpath Report

No.12H AWP

Page 5 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.12H SHL
Area	Eddy County, NM	Well	No.12H
Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWB
Facility	Ringer Fed Com No.12H		

WELLPATH DATA (167 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11027.00	91.100	270.400	9570.92	1295.20	118.90	-1292.35	558455.17	419663.29	32°09'13.395"N	104°16'40.874"W	0.24	
11122.00	91.300	271.000	9568.93	1390.17	120.06	-1387.32	558360.21	419664.45	32°09'13.406"N	104°16'41.978"W	0.67	
11217.00	91.800	269.600	9566.36	1485.11	120.56	-1482.28	558265.26	419664.95	32°09'13.412"N	104°16'43.083"W	1.56	
11311.00	89.300	270.400	9565.46	1579.05	120.56	-1576.27	558171.28	419664.95	32°09'13.412"N	104°16'44.176"W	2.79	
11406.00	89.800	269.700	9566.20	1674.01	120.64	-1671.26	558076.29	419665.03	32°09'13.414"N	104°16'45.281"W	0.91	
11501.00	92.200	268.900	9564.54	1768.91	119.48	-1766.24	557981.33	419663.87	32°09'13.403"N	104°16'46.386"W	2.66	
11596.00	90.700	268.700	9562.14	1863.77	117.49	-1861.18	557886.39	419661.88	32°09'13.383"N	104°16'47.490"W	1.59	
11691.00	91.800	269.400	9560.07	1958.65	115.92	-1956.14	557791.44	419660.31	32°09'13.368"N	104°16'48.595"W	1.37	
11786.00	90.800	270.200	9557.91	2053.57	115.59	-2051.12	557696.47	419659.98	32°09'13.366"N	104°16'49.699"W	1.35	
11881.00	90.400	270.200	9556.92	2148.54	115.92	-2146.11	557601.49	419660.31	32°09'13.369"N	104°16'50.804"W	0.42	
11976.00	90.700	269.900	9556.01	2243.50	116.00	-2241.11	557506.50	419660.39	32°09'13.371"N	104°16'51.909"W	0.45	
12071.00	88.500	269.200	9556.67	2338.42	115.26	-2336.09	557411.52	419659.65	32°09'13.364"N	104°16'53.014"W	2.43	
12166.00	89.400	269.900	9558.41	2433.34	114.51	-2431.07	557316.55	419658.90	32°09'13.357"N	104°16'54.119"W	1.20	
12261.00	90.700	271.000	9558.33	2528.32	115.26	-2526.07	557221.57	419659.65	32°09'13.365"N	104°16'55.224"W	1.79	
12356.00	90.600	271.300	9557.25	2623.31	117.16	-2621.04	557126.60	419661.55	32°09'13.384"N	104°16'56.329"W	0.33	
12451.00	90.500	271.400	9556.34	2718.31	119.40	-2716.01	557031.64	419663.79	32°09'13.406"N	104°16'57.433"W	0.15	
12545.00	92.100	272.900	9554.20	2812.27	122.93	-2809.92	556937.74	419667.31	32°09'13.442"N	104°16'58.525"W	2.33	
12640.00	92.900	274.000	9550.06	2907.13	128.64	-2904.65	556843.02	419673.02	32°09'13.499"N	104°16'59.627"W	1.43	
12735.00	91.200	272.900	9546.66	3002.02	134.35	-2999.41	556748.26	419678.74	32°09'13.556"N	104°17'00.730"W	2.13	
12830.00	87.200	272.300	9547.99	3096.97	138.66	-3094.29	556653.40	419683.04	32°09'13.599"N	104°17'01.833"W	4.26	
12925.00	88.500	272.200	9551.55	3191.90	142.38	-3189.14	556558.55	419686.77	32°09'13.636"N	104°17'02.936"W	1.37	
13020.00	90.500	271.900	9552.38	3286.89	145.78	-3284.07	556463.63	419690.17	32°09'13.670"N	104°17'04.041"W	2.13	
13115.00	91.400	271.800	9550.81	3381.87	148.85	-3379.01	556368.70	419693.24	32°09'13.701"N	104°17'05.145"W	0.95	
13210.00	92.100	271.900	9547.90	3476.83	151.91	-3473.92	556273.80	419696.30	32°09'13.732"N	104°17'06.249"W	0.74	
13305.00	92.300	272.300	9544.26	3571.75	155.39	-3568.78	556178.95	419699.78	32°09'13.766"N	104°17'07.352"W	0.47	
13400.00	91.100	271.900	9541.44	3666.71	158.87	-3663.68	556084.06	419703.26	32°09'13.801"N	104°17'08.456"W	1.33	
13495.00	92.500	272.700	9538.46	3761.65	162.68	-3758.55	555989.20	419707.07	32°09'13.839"N	104°17'09.559"W	1.70	
13590.00	89.300	271.400	9536.96	3856.62	166.08	-3853.46	555894.29	419710.46	32°09'13.873"N	104°17'10.663"W	3.64	
13685.00	89.800	272.100	9537.71	3951.62	168.98	-3948.41	555799.35	419713.36	32°09'13.903"N	104°17'11.768"W	0.91	
13780.00	91.000	271.900	9537.05	4046.61	172.30	-4043.35	555704.42	419716.68	32°09'13.936"N	104°17'12.872"W	1.28	
13841.00	92.100	272.000	9535.40	4107.59	174.37	-4104.29	555643.49	419718.75	32°09'13.957"N	104°17'13.581"W	1.81	
13893.00	92.100	272.000	9533.49	4159.55	176.18	-4156.23	555591.56	419720.57	32°09'13.975"N	104°17'14.185"W	0.00	Proj to Bit



Actual Wellpath Report

No.12H AWP

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.12H SHL
Area	Eddy County, NM	Well	No.12H
Field	(Ringer) Sec 3, T25S, R26E	Wellbore	No.12H AWB
Facility	Ringer Fed Com No.12H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No.12H PBHL		9556.00	118.31	-4167.69	555580.10	419662.70	32°09'13.402"N	104°17'14.319"W	point

WELLPATH COMPOSITION - Ref Wellbore: No.12H AWB					Ref Wellpath: No.12H AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment			Wellbore	
0.00	9038.10	Generic gyro - northseeking (Standard)			GyroData Gyro <83.6-9038.1			No.12H AWB	
9038.10	13893.00	NaviTrak (Standard)			MWD NaviTrak <9130-XXXX>			No.12H AWB	



Cimarex Energy Co.

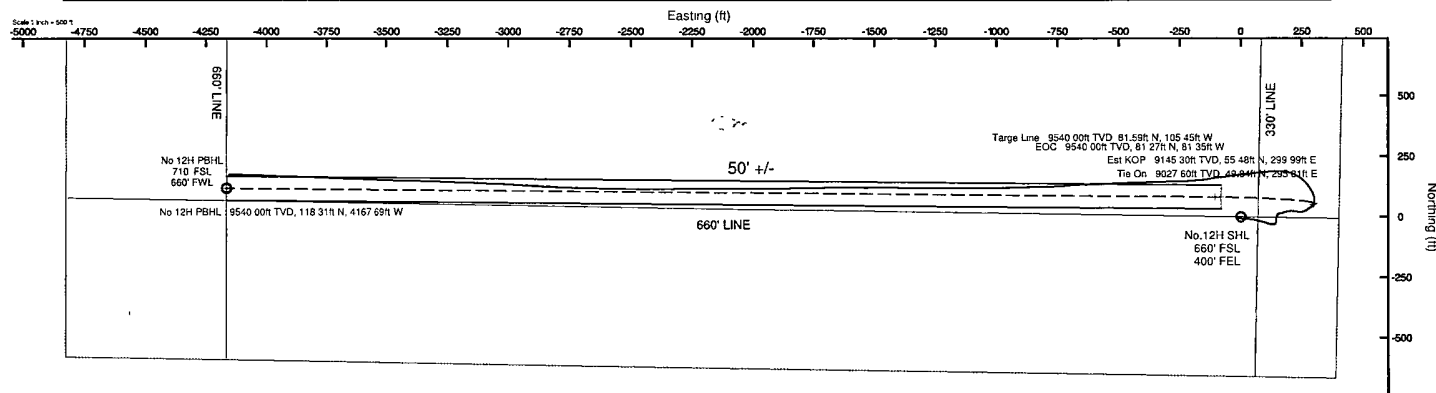
Location Eddy County, NM
Field (Ringer) Sec 3, T25S, R26E
Facility Ringer Fed Com No.12H

Slot No 12H SHL
Well No 12H
Wellbore No 12H PWB

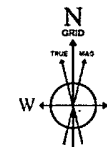
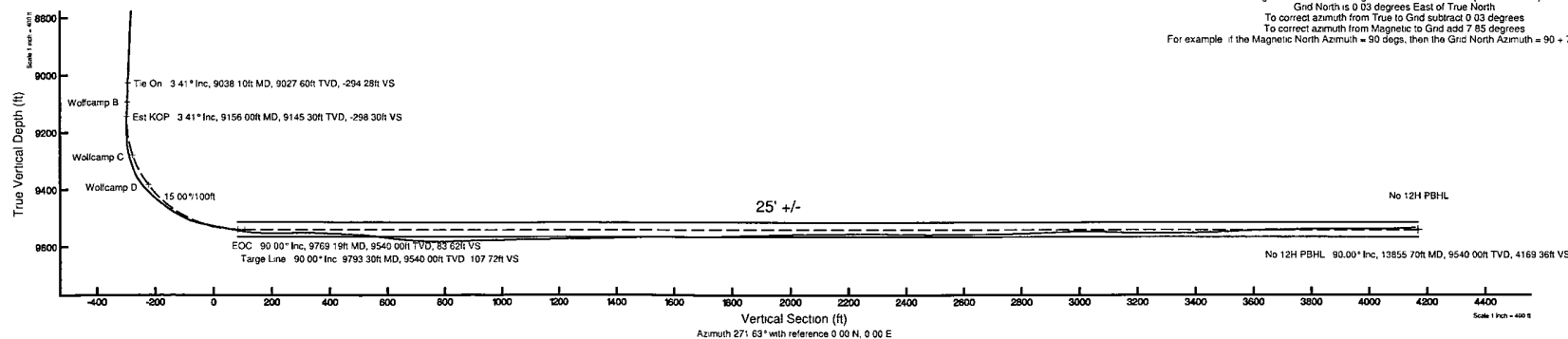


Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	9038.10	3.410	36.550	9027.60	49.84	295.81	0.00	-294.28
Est KOP	9156.00	3.410	36.550	9145.30	55.48	299.99	0.00	-298.30
EOC	9769.19	90.000	271.000	9540.00	81.27	-81.35	15.00	83.62
Target Line	9793.30	90.000	270.518	9540.00	81.59	-105.45	2.00	107.72
No 12H PBHL	13855.70	90.000	270.518	9540.00	118.31	-4167.69	0.00	4169.36



Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No 12H SHL (KB)	Gnd System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No 12H SHL (KB)	North Reference Gnd north
Rig on No 12H SHL (KB) to Mean Sea Level 3390 feet	Scale True distance
Mean Sea Level to Mud line (At Slot No 12H SHL) -3362 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by gentriby on 1/18/2012



BGGM (1945.0 to 2012.0) Dip 59.99° Field 48462.7 nT
Magnetic North is 7.89 degrees East of True North (at 12/15/2011)
Grid North is 0.03 degrees East of True North
To correct azimuth from True to Grid subtract 0.03 degrees
To correct azimuth from Magnetic to Grid add 7.85 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.85 = 97.85

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