

Results of Directional Survey

API number:	30-025-27417		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	STATE HH # 1H

surface	ULSTR:	H	36	T 19S	R 32E
				1980 FNL	660 FEL

BH Loc	ULSTR:	P	36	T 19S	R 32E
11797	MD	9024.1	TVD	4936 FNL	573 FEL
				344 FSL	

Top Perf/OH	ULSTR:	H	36	T 19S	R 32E
9769	MD	9018.1	TVD	2923 FNL	807 FEL

Bot Perf/OH	ULSTR:	I	36	T 19S	R 32E
10311	MD	9030.4	TVD	3463 FNL	764 FEL
				1817 FSL	

	MD	N/S	E/W	VD
	9757	-931.50	-147.83	9017.49
TOP PERFS/OH	9769	-943.46	-147.09	9018.08
	9819	-993.31	-143.99	9020.52
	10261	-1433.84	-110.54	9030.47
BOT PERFS/OH	10311	-1483.38	-103.75	9030.38
	10324	-1496.26	-101.99	9030.36

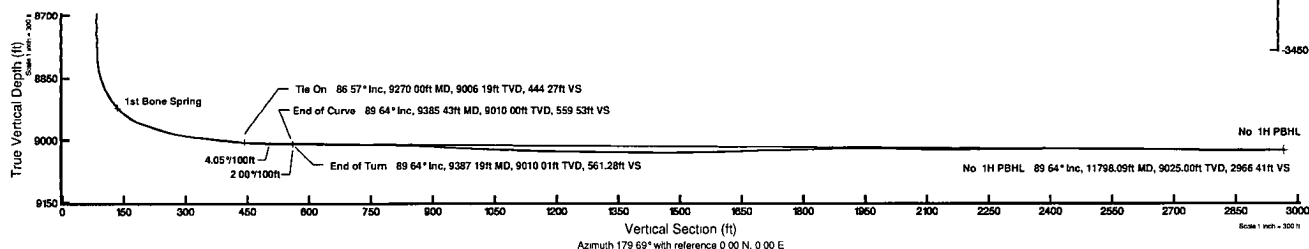
NEXT TO LAST	11717	-2875.96	80.78	9026.85
LAST READING	11767	-2925.77	84.83	9025.15
TD	11797	-2955.66	87.26	9024.13

Surface Location	1980	FN	660	FE
Projected BHL	4936	FN	573	FE
Location of				
Top Perfs/OH	2923	FN	807	FE
Bottom Perfs/OH	3463	FN	764	FE

SUMMARY of Subsurface Locations

Surface Location	H-36-19S-32E	1980	FN	660	FE	Vert. Depth
Top Perfs/OH	H-36-19S-32E	2923	FN	807	FE	9018.08
Bottom Perfs/OH	I-36-19S-32E	3463	FN	764	FE	9030.38
Projected TD	P-36-19S-32E	4936	FN	573	FE	9024.13

AUG 18 2011





Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H AWB
Facility	State HH No. 1H		

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	0.999951	Report Generated	5/2/2011 at 8:09:07 AM
Convergence at slot	0.33° East	Database/Source file	WA Midland/No. 1H_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	732253.50	589323.90	32°37'06.856"N	103°42'47.727"W
Facility Reference Pt			732253.50	589323.90	32°37'06.856"N	103°42'47.727"W
Field Reference Pt			730941.22	588045.42	32°36'54.281"N	103°43'03.157"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 1H SHL (KB) to GL	18.00ft
Horizontal Reference Pt	Slot	Rig on No. 1H SHL (KB) to Mean Sea Level	3600.00ft
Vertical Reference Pt	Rig on No. 1H SHL (KB)	Rig on No. 1H SHL (KB) to Mud Line at Slot (No. 1H SHL)	18.00ft
MD Reference Pt	Rig on No. 1H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.69°



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Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H AWB
Facility	State HH No. 1H		

WELLPATH DATA (146 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	248.870	0.00	0.00	0.00	0.00	732253.50	589323.90	32°37'06.856"N	103°42'47.727"W	0.00	
100.00	0.540	248.870	100.00	0.17	-0.17	-0.44	732253.06	589323.73	32°37'06.855"N	103°42'47.733"W	0.54	
200.00	0.570	252.340	199.99	0.48	-0.49	-1.35	732252.15	589323.41	32°37'06.852"N	103°42'47.743"W	0.05	
300.00	0.790	243.260	299.99	0.94	-0.95	-2.44	732251.06	589322.95	32°37'06.847"N	103°42'47.756"W	0.24	
400.00	1.090	243.700	399.97	1.66	-1.68	-3.91	732249.59	589322.22	32°37'06.840"N	103°42'47.773"W	0.30	
500.00	1.620	245.920	499.94	2.65	-2.68	-6.05	732247.45	589321.22	32°37'06.830"N	103°42'47.798"W	0.53	
600.00	2.230	245.640	599.89	4.01	-4.06	-9.12	732244.38	589319.84	32°37'06.817"N	103°42'47.834"W	0.61	
700.00	2.780	244.910	699.79	5.82	-5.89	-13.09	732240.41	589318.01	32°37'06.799"N	103°42'47.881"W	0.55	
800.00	3.320	245.460	799.65	8.02	-8.12	-17.92	732235.58	589315.78	32°37'06.777"N	103°42'47.937"W	0.54	
900.00	3.580	248.660	899.47	10.33	-10.46	-23.46	732230.04	589313.44	32°37'06.754"N	103°42'48.002"W	0.32	
1000.00	3.690	248.440	999.27	12.62	-12.78	-29.36	732224.14	589311.12	32°37'06.732"N	103°42'48.071"W	0.11	
1100.00	3.810	247.050	1099.05	15.06	-15.26	-35.41	732218.09	589308.64	32°37'06.707"N	103°42'48.142"W	0.15	
1200.00	4.040	245.350	1198.82	17.79	-18.02	-41.67	732211.83	589305.88	32°37'06.680"N	103°42'48.216"W	0.26	
1300.00	4.340	244.970	1298.55	20.83	-21.09	-48.30	732205.20	589302.81	32°37'06.650"N	103°42'48.294"W	0.30	
1400.00	3.800	242.830	1398.30	23.91	-24.21	-54.68	732198.82	589299.69	32°37'06.620"N	103°42'48.368"W	0.56	
1500.00	3.550	242.090	1498.09	26.84	-27.17	-60.36	732193.14	589296.73	32°37'06.591"N	103°42'48.435"W	0.25	
1600.00	3.470	242.370	1597.91	29.66	-30.02	-65.78	732187.72	589293.88	32°37'06.563"N	103°42'48.498"W	0.08	
1700.00	3.520	242.950	1697.72	32.43	-32.82	-71.20	732182.31	589291.08	32°37'06.536"N	103°42'48.562"W	0.06	
1800.00	3.390	242.180	1797.54	35.18	-35.60	-76.54	732176.96	589288.30	32°37'06.509"N	103°42'48.625"W	0.14	
1900.00	3.070	241.590	1897.38	37.80	-38.25	-81.51	732171.99	589285.65	32°37'06.483"N	103°42'48.683"W	0.32	
2000.00	3.250	242.740	1997.23	40.35	-40.82	-86.39	732167.12	589283.08	32°37'06.457"N	103°42'48.740"W	0.19	
2100.00	3.220	240.830	2097.07	42.99	-43.49	-91.36	732162.14	589280.41	32°37'06.431"N	103°42'48.798"W	0.11	
2200.00	3.030	243.720	2196.92	45.50	-46.03	-96.18	732157.32	589277.87	32°37'06.407"N	103°42'48.855"W	0.25	
2300.00	2.540	244.880	2296.80	47.59	-48.14	-100.56	732152.95	589275.76	32°37'06.386"N	103°42'48.906"W	0.49	
2400.00	2.430	248.130	2396.71	49.30	-49.87	-104.53	732148.97	589274.03	32°37'06.369"N	103°42'48.953"W	0.18	
2500.00	2.040	249.450	2496.63	50.69	-51.29	-108.17	732145.34	589272.62	32°37'06.355"N	103°42'48.995"W	0.39	
2600.00	1.940	248.170	2596.57	51.93	-52.54	-111.41	732142.10	589271.36	32°37'06.343"N	103°42'49.033"W	0.11	
2700.00	1.610	250.030	2696.52	53.02	-53.65	-114.30	732139.21	589270.25	32°37'06.332"N	103°42'49.067"W	0.33	
2800.00	1.590	247.430	2796.48	54.02	-54.66	-116.90	732136.61	589269.24	32°37'06.322"N	103°42'49.098"W	0.08	
2900.00	1.380	254.100	2896.45	54.87	-55.52	-119.34	732134.17	589268.38	32°37'06.314"N	103°42'49.126"W	0.27	
3000.00	1.300	255.830	2996.42	55.46	-56.13	-121.60	732131.91	589267.77	32°37'06.308"N	103°42'49.153"W	0.09	
3100.00	1.270	262.050	3096.40	55.88	-56.56	-123.79	732129.71	589267.34	32°37'06.304"N	103°42'49.179"W	0.14	
3200.00	1.330	262.520	3196.37	56.17	-56.87	-126.04	732127.47	589267.04	32°37'06.301"N	103°42'49.205"W	0.06	
3300.00	1.270	261.360	3296.35	56.48	-57.18	-128.29	732125.22	589266.72	32°37'06.298"N	103°42'49.231"W	0.07	
3400.00	1.340	261.980	3396.32	56.80	-57.51	-130.54	732122.97	589266.39	32°37'06.295"N	103°42'49.257"W	0.07	
3500.00	1.460	227.180	3496.29	57.81	-58.54	-132.63	732120.87	589265.36	32°37'06.285"N	103°42'49.282"W	0.85	
3600.00	1.540	206.050	3596.26	59.88	-60.62	-134.16	732119.35	589263.29	32°37'06.264"N	103°42'49.300"W	0.56	
3700.00	1.470	209.050	3696.22	62.20	-62.94	-135.37	732118.14	589260.96	32°37'06.241"N	103°42'49.314"W	0.11	
3800.00	1.210	238.200	3796.20	63.87	-64.62	-136.89	732116.62	589259.28	32°37'06.225"N	103°42'49.332"W	0.72	
3900.00	0.660	265.090	3896.18	64.47	-65.23	-138.36	732115.15	589258.68	32°37'06.219"N	103°42'49.349"W	0.69	
4000.00	1.200	39.370	3996.18	63.71	-64.47	-138.27	732115.24	589259.44	32°37'06.227"N	103°42'49.348"W	1.73	
4100.00	1.070	50.090	4096.16	62.31	-63.06	-136.89	732116.62	589260.84	32°37'06.240"N	103°42'49.332"W	0.25	
4200.00	1.330	37.020	4196.14	60.79	-61.53	-135.48	732118.03	589262.37	32°37'06.255"N	103°42'49.315"W	0.38	
4300.00	1.880	31.080	4296.10	58.46	-59.20	-133.93	732119.58	589264.70	32°37'06.278"N	103°42'49.297"W	0.57	
4400.00	1.830	31.740	4396.04	55.71	-56.44	-132.24	732121.26	589267.46	32°37'06.306"N	103°42'49.277"W	0.05	



Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H AWP
Facility	State HH No. 1H		

WELLPATH DATA (146 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
4500.00	1.910	52.810	4495.99	53.36	-54.07	-130.08	732123.43	589269.83	32°37'06.329"N	103°42'49.252"W	0.69	
4600.00	1.700	52.610	4595.94	51.46	-52.17	-127.57	732125.94	589271.74	32°37'06.348"N	103°42'49.222"W	0.21	
4700.00	1.490	54.690	4695.90	49.82	-50.51	-125.33	732128.18	589273.39	32°37'06.364"N	103°42'49.196"W	0.22	
4800.00	0.650	40.410	4795.88	48.65	-49.33	-123.90	732129.60	589274.57	32°37'06.375"N	103°42'49.179"W	0.87	
4900.00	0.250	72.250	4895.88	48.15	-48.83	-123.33	732130.18	589275.07	32°37'06.380"N	103°42'49.173"W	0.46	
5000.00	0.390	144.560	4995.88	48.37	-49.04	-122.92	732130.59	589274.86	32°37'06.378"N	103°42'49.168"W	0.39	
5100.00	0.390	144.580	5095.88	48.92	-49.60	-122.53	732130.98	589274.31	32°37'06.373"N	103°42'49.163"W	0.00	
5200.00	0.460	142.620	5195.88	49.52	-50.19	-122.09	732131.42	589273.71	32°37'06.367"N	103°42'49.158"W	0.07	
5300.00	0.410	143.900	5295.87	50.13	-50.80	-121.63	732131.87	589273.10	32°37'06.361"N	103°42'49.153"W	0.05	
5400.00	0.370	155.110	5395.87	50.72	-51.38	-121.28	732132.22	589272.52	32°37'06.355"N	103°42'49.149"W	0.09	
5500.00	0.330	170.480	5495.87	51.29	-51.96	-121.10	732132.41	589271.94	32°37'06.349"N	103°42'49.147"W	0.10	
5600.00	0.370	181.750	5595.87	51.90	-52.57	-121.06	732132.44	589271.34	32°37'06.343"N	103°42'49.146"W	0.08	
5700.00	0.450	195.440	5695.86	52.60	-53.27	-121.18	732132.33	589270.63	32°37'06.336"N	103°42'49.148"W	0.13	
5800.00	0.510	194.610	5795.86	53.41	-54.08	-121.39	732132.11	589269.83	32°37'06.328"N	103°42'49.150"W	0.06	
5900.00	0.520	200.330	5895.86	54.26	-54.93	-121.66	732131.84	589268.97	32°37'06.320"N	103°42'49.154"W	0.05	
6000.00	0.570	210.720	5995.85	55.12	-55.79	-122.08	732131.43	589268.12	32°37'06.311"N	103°42'49.158"W	0.11	
6100.00	0.750	209.190	6095.85	56.11	-56.79	-122.65	732130.86	589267.12	32°37'06.302"N	103°42'49.165"W	0.18	
6200.00	0.840	209.670	6195.84	57.32	-57.99	-123.33	732130.17	589265.91	32°37'06.290"N	103°42'49.173"W	0.09	
6300.00	0.820	204.560	6295.83	58.60	-59.28	-123.99	732129.51	589264.62	32°37'06.277"N	103°42'49.181"W	0.08	
6400.00	0.840	213.380	6395.81	59.86	-60.54	-124.69	732128.81	589263.36	32°37'06.265"N	103°42'49.189"W	0.13	
6500.00	0.840	218.090	6495.80	61.04	-61.73	-125.55	732127.96	589262.17	32°37'06.253"N	103°42'49.199"W	0.07	
6600.00	0.890	222.450	6595.79	62.19	-62.88	-126.52	732126.98	589261.02	32°37'06.241"N	103°42'49.211"W	0.08	
6700.00	0.880	226.150	6695.78	63.29	-63.99	-127.60	732125.90	589259.91	32°37'06.231"N	103°42'49.224"W	0.06	
6800.00	0.830	231.270	6795.77	64.27	-64.97	-128.72	732124.79	589258.93	32°37'06.221"N	103°42'49.237"W	0.09	
6900.00	0.940	232.810	6895.76	65.21	-65.92	-129.94	732123.57	589257.98	32°37'06.212"N	103°42'49.251"W	0.11	
7000.00	0.830	231.510	6995.75	66.15	-66.87	-131.16	732122.35	589257.03	32°37'06.202"N	103°42'49.265"W	0.11	
7100.00	0.890	236.930	7095.73	67.02	-67.74	-132.38	732121.13	589256.16	32°37'06.194"N	103°42'49.280"W	0.10	
7200.00	0.830	233.470	7195.72	67.86	-68.60	-133.61	732119.90	589255.30	32°37'06.185"N	103°42'49.294"W	0.08	
7300.00	0.840	237.060	7295.71	68.69	-69.43	-134.81	732118.70	589254.47	32°37'06.177"N	103°42'49.308"W	0.05	
7400.00	0.940	231.850	7395.70	69.59	-70.33	-136.07	732117.44	589253.57	32°37'06.168"N	103°42'49.323"W	0.13	
7500.00	0.870	239.260	7495.69	70.47	-71.23	-137.37	732116.14	589252.67	32°37'06.160"N	103°42'49.338"W	0.14	
7600.00	0.760	242.950	7595.68	71.16	-71.92	-138.61	732114.90	589251.99	32°37'06.153"N	103°42'49.353"W	0.12	
7700.00	0.890	239.640	7695.67	71.84	-72.61	-139.87	732113.64	589251.29	32°37'06.146"N	103°42'49.368"W	0.14	
7800.00	0.680	237.000	7795.66	72.55	-73.33	-141.04	732112.47	589250.58	32°37'06.139"N	103°42'49.381"W	0.21	
7900.00	0.580	232.350	7895.65	73.18	-73.96	-141.94	732111.57	589249.94	32°37'06.133"N	103°42'49.392"W	0.11	
8000.00	0.610	226.470	7995.65	73.85	-74.64	-142.72	732110.78	589249.27	32°37'06.126"N	103°42'49.401"W	0.07	
8100.00	0.840	221.120	8095.64	74.77	-75.56	-143.59	732109.92	589248.35	32°37'06.117"N	103°42'49.411"W	0.24	
8200.00	0.820	224.930	8195.63	75.82	-76.61	-144.58	732108.93	589247.29	32°37'06.107"N	103°42'49.423"W	0.06	
8300.00	0.890	213.440	8295.62	76.97	-77.77	-145.51	732108.00	589246.14	32°37'06.095"N	103°42'49.434"W	0.18	
8400.00	0.930	209.380	8395.60	78.32	-79.12	-146.34	732107.17	589244.78	32°37'06.082"N	103°42'49.444"W	0.08	
8500.00	0.950	214.250	8495.59	79.71	-80.52	-147.20	732106.31	589243.39	32°37'06.068"N	103°42'49.454"W	0.08	
8600.00	0.870	211.400	8595.58	81.03	-81.85	-148.06	732105.44	589242.05	32°37'06.055"N	103°42'49.464"W	0.09	
8700.00	1.150	214.260	8695.56	82.51	-83.33	-149.02	732104.48	589240.58	32°37'06.041"N	103°42'49.475"W	0.28	
8800.00	1.040	211.270	8795.54	84.11	-84.93	-150.06	732103.45	589238.97	32°37'06.025"N	103°42'49.488"W	0.12	
8898.00	30.660	162.980	8888.82	109.38	-110.16	-143.05	732110.46	589213.74	32°37'05.775"N	103°42'49.407"W	30.59	



Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H AWP
Facility	State HH No. 1H		

WELLPATH DATA (146 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
8926.00	39.370	172.690	8911.75	125.07	-125.84	-139.82	732113.69	589198.07	32°37'05.619"N	103°42'49.371"W	36.84	
8958.00	48.610	176.780	8934.75	147.18	-147.94	-137.85	732115.66	589175.96	32°37'05.401"N	103°42'49.349"W	30.20	
8988.00	60.920	181.760	8952.04	171.63	-172.39	-137.62	732115.89	589151.52	32°37'05.159"N	103°42'49.348"W	43.19	
9019.00	71.700	186.110	8964.48	199.88	-200.65	-139.61	732113.90	589123.26	32°37'04.879"N	103°42'49.373"W	37.06	
9050.00	74.850	190.730	8973.40	229.21	-230.01	-143.96	732109.54	589093.90	32°37'04.589"N	103°42'49.426"W	17.52	
9063.00	74.780	192.560	8976.81	241.49	-242.30	-146.49	732107.01	589081.62	32°37'04.467"N	103°42'49.457"W	13.60	
9081.00	75.930	191.280	8981.36	258.51	-259.33	-150.09	732103.42	589064.58	32°37'04.299"N	103°42'49.500"W	9.39	
9113.00	78.730	189.560	8988.38	289.18	-290.04	-155.73	732097.77	589033.88	32°37'03.996"N	103°42'49.568"W	10.20	
9144.00	82.420	188.090	8993.45	319.36	-320.25	-160.42	732093.08	589003.67	32°37'03.697"N	103°42'49.625"W	12.79	
9176.00	84.180	186.340	8997.19	350.87	-351.78	-164.41	732089.09	588972.14	32°37'03.385"N	103°42'49.674"W	7.73	
9207.00	83.910	183.050	9000.40	381.58	-382.50	-166.94	732086.57	588941.42	32°37'03.081"N	103°42'49.705"W	10.59	
9239.00	84.250	181.180	9003.71	413.38	-414.31	-168.11	732085.40	588909.61	32°37'02.767"N	103°42'49.721"W	5.91	
9270.00	86.570	179.230	9006.19	444.27	-445.21	-168.22	732085.29	588878.72	32°37'02.461"N	103°42'49.724"W	9.76	
9319.00	89.800	179.800	9007.74	493.24	-494.17	-167.81	732085.70	588829.75	32°37'01.977"N	103°42'49.723"W	6.69	
9349.00	90.000	179.900	9007.79	523.24	-524.17	-167.73	732085.78	588799.75	32°37'01.680"N	103°42'49.724"W	0.75	
9382.00	89.600	178.900	9007.91	556.24	-557.17	-167.38	732086.13	588766.76	32°37'01.353"N	103°42'49.722"W	3.26	
9414.00	89.500	177.900	9008.16	588.23	-589.16	-166.49	732087.02	588734.77	32°37'01.037"N	103°42'49.714"W	3.14	
9446.00	89.100	177.200	9008.55	620.21	-621.12	-165.12	732088.39	588702.81	32°37'00.720"N	103°42'49.700"W	2.52	
9508.00	88.800	177.000	9009.68	682.13	-683.03	-161.99	732091.52	588640.90	32°37'00.108"N	103°42'49.668"W	0.58	
9571.00	88.400	176.700	9011.22	745.04	-745.92	-158.52	732094.98	588578.02	32°36'59.485"N	103°42'49.632"W	0.79	
9634.00	88.600	177.000	9012.87	807.94	-808.80	-155.06	732098.44	588515.14	32°36'58.863"N	103°42'49.595"W	0.57	
9695.00	87.700	176.400	9014.84	868.82	-869.67	-151.55	732101.95	588454.27	32°36'58.260"N	103°42'49.558"W	1.77	
9757.00	87.400	176.700	9017.49	930.67	-931.50	-147.83	732105.68	588392.45	32°36'57.648"N	103°42'49.519"W	0.68	
9819.00	87.000	176.200	9020.52	992.50	-993.31	-143.99	732109.51	588330.64	32°36'57.037"N	103°42'49.479"W	1.03	
9883.00	88.200	176.300	9023.20	1056.33	-1057.11	-139.81	732113.70	588266.84	32°36'56.405"N	103°42'49.434"W	1.88	
9946.00	88.200	175.500	9025.18	1119.16	-1119.92	-135.31	732118.20	588204.04	32°36'55.783"N	103°42'49.386"W	1.27	
10009.00	88.600	176.700	9026.94	1182.01	-1182.75	-131.03	732122.48	588141.21	32°36'55.161"N	103°42'49.340"W	2.01	
10073.00	89.300	176.300	9028.11	1245.90	-1246.62	-127.12	732126.39	588077.35	32°36'54.529"N	103°42'49.298"W	1.26	
10136.00	88.900	175.000	9029.10	1308.74	-1309.43	-122.34	732131.17	588014.54	32°36'53.908"N	103°42'49.247"W	2.16	
10199.00	89.600	175.500	9029.93	1371.54	-1372.21	-117.12	732136.38	587951.77	32°36'53.286"N	103°42'49.190"W	1.37	
10261.00	89.400	172.300	9030.47	1433.21	-1433.84	-110.54	732142.97	587890.13	32°36'52.676"N	103°42'49.117"W	5.17	
10324.00	90.800	172.100	9030.36	1495.68	-1496.26	-101.99	732151.52	587827.72	32°36'52.058"N	103°42'49.022"W	2.24	
10387.00	91.100	175.600	9029.31	1558.33	-1558.88	-95.24	732158.26	587765.10	32°36'51.438"N	103°42'48.947"W	5.58	
10450.00	91.500	171.400	9027.88	1620.93	-1621.44	-88.11	732165.39	587702.54	32°36'50.818"N	103°42'48.868"W	6.70	
10513.00	91.700	171.100	9026.12	1683.23	-1683.69	-78.53	732174.97	587640.30	32°36'50.202"N	103°42'48.760"W	0.57	
10576.00	91.100	171.500	9024.58	1745.54	-1745.94	-69.01	732184.50	587578.05	32°36'49.585"N	103°42'48.653"W	1.14	
10640.00	91.500	171.800	9023.13	1808.89	-1809.25	-59.71	732193.79	587514.75	32°36'48.958"N	103°42'48.549"W	0.78	
10704.00	90.800	171.000	9021.85	1872.21	-1872.51	-50.15	732203.36	587451.48	32°36'48.332"N	103°42'48.441"W	1.66	
10768.00	90.700	171.000	9021.01	1935.47	-1935.72	-40.13	732213.37	587388.28	32°36'47.706"N	103°42'48.329"W	0.16	
10831.00	89.000	169.800	9021.17	1997.64	-1997.83	-29.63	732223.87	587326.17	32°36'47.091"N	103°42'48.210"W	3.30	
10894.00	88.600	169.300	9022.49	2059.64	-2059.78	-18.20	732235.30	587264.23	32°36'46.477"N	103°42'48.081"W	1.02	
10958.00	88.400	168.900	9024.17	2122.53	-2122.60	-6.11	732247.39	587201.41	32°36'45.855"N	103°42'47.944"W	0.70	
11022.00	90.900	170.700	9024.56	2185.57	-2185.58	5.22	732258.72	587138.43	32°36'45.231"N	103°42'47.815"W	4.81	
11085.00	90.700	170.000	9023.68	2247.73	-2247.68	15.78	732269.28	587076.33	32°36'44.616"N	103°42'47.696"W	1.16	
11148.00	91.000	171.300	9022.75	2309.94	-2309.84	26.02	732279.52	587014.18	32°36'44.001"N	103°42'47.581"W	2.12	



Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H AWB
Facility	State HH No. 1H		

WELLPATH DATA (146 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
11212.00	90.400	171.900	9021.96	2373.30	-2373.14	35.37	732288.87	586950.88	32°36'43.374"N	103°42'47.476"W	1.33	
11275.00	89.800	174.300	9021.85	2435.88	-2435.68	42.93	732296.43	586888.34	32°36'42.754"N	103°42'47.392"W	3.93	
11337.00	90.200	174.800	9021.85	2497.63	-2497.40	48.82	732302.32	586826.63	32°36'42.143"N	103°42'47.327"W	1.03	
11400.00	90.400	175.900	9021.52	2560.45	-2560.19	53.93	732307.43	586763.84	32°36'41.522"N	103°42'47.271"W	1.77	
11464.00	89.200	174.900	9021.75	2624.27	-2623.98	59.06	732312.56	586700.05	32°36'40.890"N	103°42'47.216"W	2.44	
11528.00	88.300	174.500	9023.14	2688.01	-2687.69	64.97	732318.47	586636.34	32°36'40.260"N	103°42'47.151"W	1.54	
11591.00	87.900	175.000	9025.23	2750.74	-2750.40	70.73	732324.23	586573.65	32°36'39.639"N	103°42'47.088"W	1.02	
11653.00	88.800	175.600	9027.02	2812.53	-2812.16	75.81	732329.31	586511.88	32°36'39.027"N	103°42'47.033"W	1.74	
11717.00	91.500	175.500	9026.85	2876.36	-2875.96	80.78	732334.27	586448.09	32°36'38.396"N	103°42'46.979"W	4.22	
11767.00	92.400	175.200	9025.15	2926.19	-2925.77	84.83	732338.32	586398.28	32°36'37.903"N	103°42'46.935"W	1.90	
11797.00	92.400	175.200	9023.89	2956.07	-2955.64	87.34	732340.83	586368.42	32°36'37.607"N	103°42'46.908"W	0.00	Projection to Bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 1H PBHL		9025.00	-2966.36	16.30	732269.80	586357.69	32°36'37.505"N	103°42'47.739"W	point
1st Bone Spring									

WELLPATH COMPOSITION - Ref Wellbore: No. 1H AWB Ref Wellpath: No. 1H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	8800.00	Generic gyro - northseeking (Standard)	Gyro	No. 1H AWB
8800.00	11797.00	NaviTrak (Standard)	MWD	No. 1H AWB