



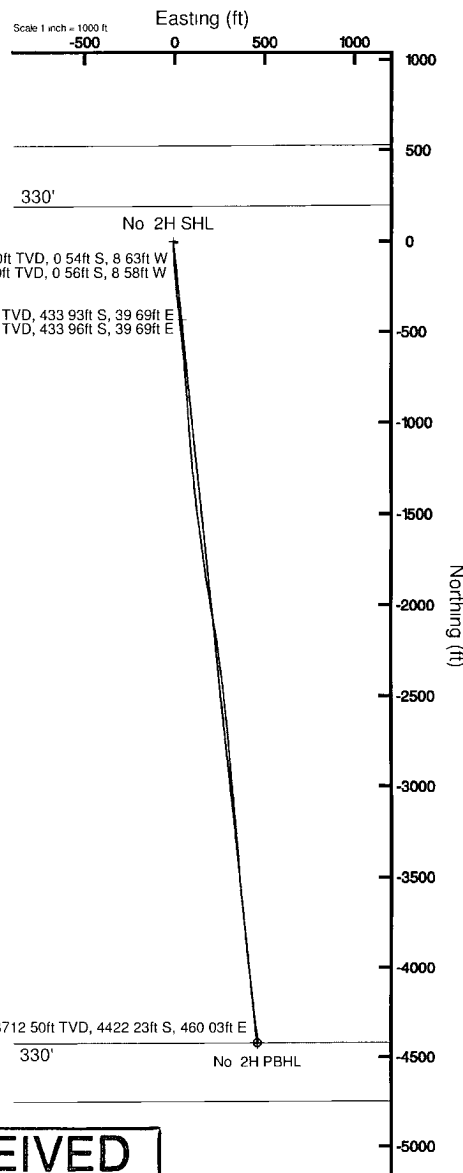
Cimarex Energy Co.

Location Eddy County, NM
Field (Crescent) Sec 11 & 12, T19S, R30E
Facility Crescent Hale 12 Federal

Slot No 2H SHL
Well No 2H
Wellbore No 2H PWB



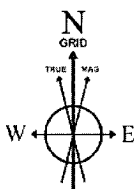
15-40054



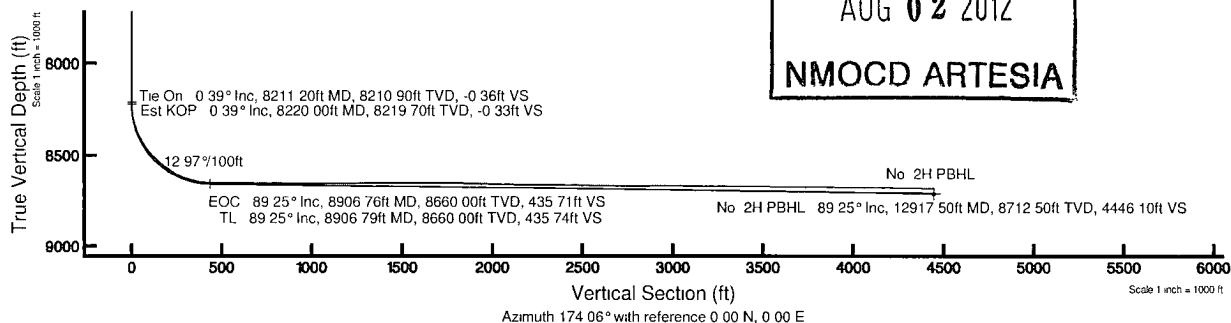
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8211 20	0 390	113 450	8210 90	-0 54	-8 63	0 00	-0 36
Est KOP	8220 00	0 390	113 450	8219 70	0 56	-8 58	0 00	-0 33
EOC	8906 76	89 250	173 983	8660 00	-433 93	39 69	12 97	435 71
TL	8906 79	89 250	173 984	8660 00	-433 96	39 69	2 00	435 74
No 2H PBHL	12917 50	89 250	173 984	8712 50	-4422 23	460 03	0 00	4446 10

Plot reference wellpath is Rev B 0	
True vertical depths are referenced to Patriot #4 (KB)	Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Patriot #4 (KB)	North Reference Grid north
Patriot #4 (KB) to Mean Sea Level 3477 feet	Scale True distance
Mean Sea Level to Mud line (At Slot No 2H SHL) 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by harrkol on 4/26/2012



BGGM (1945 0 to 2012 0) Dip 60 54° Field 48805 5 nT
Magnetic North is 7 77 degrees East of True North (at 11/29/2011)
Grid North is 0 22 degrees East of True North
To correct azimuth from True to Grid subtract 0 22 degrees
To correct azimuth from Magnetic to Grid add 7 56 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 56 = 97 56



RECEIVED

AUG 02 2012

NMOCD ARTESIA



Actual Wellpath Report

No. 2H AWP

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(Crescent) Sec 11 & 12, T19S, R30E	Wellbore	No. 2H AWB
Facility	Crescent Hale 12 Federal		

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	Harrkol
Scale	0.999927	Report Generated	5/8/2012 at 8:52:01 AM
Convergence at slot	0.22° East	Database/Source file	WA Midland/No. 2H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-35 30	1004 98	665714.70	611592.30	32°40'50 377"N	103°55'44 716"W
Facility Reference Pt			664709.80	611627.60	32°40'50 764"N	103°55'56 472"W
Field Reference Pt			663634.20	611763.80	32°40'52 152"N	103°56'09 051"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patriot #4 (KB) to GL	3477.00ft
Horizontal Reference Pt	Slot	Patriot #4 (KB) to Mean Sea Level	3477.00ft
Vertical Reference Pt	Patriot #4 (KB)	Patriot #4 (KB) to Mud Line at Slot (No 2H SHL)	3477.00ft
MD Reference Pt	Patriot #4 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	174.06°



Actual Wellpath Report

No. 2H AWP

Page 2 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(Crescent) Sec 11 & 12, T19S, R30E	Wellbore	No. 2H AWB
Facility	Crescent Hale 12 Federal		

WELLPATH DATA (177 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	233 540	0 00	0 00	0 00	0 00	665714 70	611592 30	32°40'50 377"N	103°55'44 716"W	0 00	
100 00	0 270	233 540	100 00	0 12	-0 14	-0 19	665714 51	611592 16	32°40'50 376"N	103°55'44 718"W	0 27	
200 00	0 350	237 010	200 00	0 38	-0 45	-0 64	665714 06	611591 85	32°40'50 373"N	103°55'44 723"W	0 08	
300 00	0 240	230 080	300 00	0 63	-0 75	-1 05	665713 65	611591 55	32°40'50 370"N	103°55'44 728"W	0 12	
400 00	0 180	251 910	400 00	0 78	-0 93	-1 36	665713 34	611591 37	32°40'50 368"N	103°55'44 732"W	0 10	
500 00	0 100	186 200	500 00	0 90	-1 07	-1 52	665713 18	611591 23	32°40'50 367"N	103°55'44 733"W	0 17	
526 80	0 070	133 550	526 80	0 94	-1 10	-1 51	665713 19	611591 20	32°40'50 366"N	103°55'44 733"W	0 30	
621 60	0 200	117 120	621 60	1 07	-1 22	-1 32	665713 38	611591 08	32°40'50 365"N	103°55'44 731"W	0 14	
716 50	0 260	117 610	716 49	1 28	-1 39	-0 98	665713 72	611590 91	32°40'50 364"N	103°55'44 727"W	0 06	
811 40	0 260	111 500	811 39	1 50	-1 57	-0 59	665714 11	611590 73	32°40'50 362"N	103°55'44 723"W	0 03	
906 30	0 270	93 070	906 29	1 63	-1 66	-0 17	665714 53	611590 64	32°40'50 361"N	103°55'44 718"W	0 09	
1001 10	0 290	87 970	1001 09	1 69	-1 66	0 29	665714 99	611590 64	32°40'50 361"N	103°55'44 712"W	0 03	
1096 00	0 380	82 690	1095 99	1 69	-1 62	0 85	665715 55	611590 68	32°40'50 361"N	103°55'44 706"W	0 10	
1190 90	0 470	79 500	1190 89	1 66	-1 50	1 54	665716 24	611590 80	32°40'50 362"N	103°55'44 698"W	0 10	
1285 70	0 370	82 750	1285 68	1 62	-1 39	2 23	665716 93	611590 91	32°40'50 363"N	103°55'44 690"W	0 11	
1380 60	0 550	87 220	1380 58	1 64	-1 33	2 99	665717 69	611590 97	32°40'50 364"N	103°55'44 681"W	0 19	
1475 50	0 970	88 750	1475 47	1 73	-1 29	4 24	665718 94	611591 01	32°40'50 364"N	103°55'44 666"W	0 44	
1570 30	0 880	92 190	1570 26	1 90	-1 30	5 77	665720 47	611591 00	32°40'50 364"N	103°55'44 648"W	0 11	
1665 20	0 930	95 560	1665 15	2 15	-1 41	7 27	665721 97	611590 89	32°40'50 363"N	103°55'44 631"W	0 08	
1760 10	0 960	92 740	1760 04	2 43	-1 52	8 83	665723 53	611590 78	32°40'50 362"N	103°55'44 612"W	0 06	
1855 00	0 890	88 560	1854 92	2 60	-1 54	10 36	665725 06	611590 76	32°40'50 362"N	103°55'44 594"W	0 10	
1949 80	0 830	88 080	1949 71	2 71	-1 50	11 78	665726 48	611590 80	32°40'50 362"N	103°55'44 578"W	0 06	
2044 70	0 530	91 520	2044 61	2 81	-1 49	12 91	665727 61	611590 81	32°40'50 362"N	103°55'44 565"W	0 32	
2139 60	0 480	81 740	2139 50	2 86	-1 44	13 74	665728 44	611590 86	32°40'50 362"N	103°55'44 555"W	0 10	
2234 40	0 390	70 170	2234 30	2 76	-1 27	14 44	665729 14	611591 03	32°40'50 364"N	103°55'44 547"W	0 13	
2329 30	0 290	61 740	2329 20	2 59	-1 05	14 95	665729 65	611591 25	32°40'50 366"N	103°55'44 541"W	0 12	
2424 20	0 220	83 080	2424 10	2 50	-0 92	15 34	665730 04	611591 38	32°40'50 368"N	103°55'44 536"W	0 12	
2519 00	0 210	89 210	2518 90	2 51	-0 89	15 70	665730 40	611591 41	32°40'50 368"N	103°55'44 532"W	0 03	
2613 90	0 230	110 600	2613 80	2 61	-0 96	16 05	665730 75	611591 34	32°40'50 367"N	103°55'44 528"W	0 09	
2708 80	0 150	128 630	2708 70	2 78	-1 10	16 33	665731 02	611591 20	32°40'50 366"N	103°55'44 525"W	0 10	
2803 70	0 150	125 900	2803 60	2 95	-1 25	16 52	665731 22	611591 05	32°40'50 364"N	103°55'44 522"W	0 01	
2898 50	0 150	130 510	2898 39	3 13	-1 40	16 72	665731 42	611590 90	32°40'50 363"N	103°55'44 520"W	0 01	
2993 40	0 130	167 460	2993 29	3 32	-1 59	16 84	665731 53	611590 71	32°40'50 361"N	103°55'44 519"W	0 10	
3088 30	0 190	197 170	3088 19	3 58	-1 85	16 81	665731 51	611590 45	32°40'50 358"N	103°55'44 519"W	0 11	
3183 10	0 200	205 950	3182 99	3 86	-2 14	16 69	665731 39	611590 16	32°40'50 355"N	103°55'44 520"W	0 03	
3278 00	0 280	207 690	3277 89	4 19	-2 50	16 51	665731 21	611589 80	32°40'50 352"N	103°55'44 523"W	0 08	
3372 90	0 330	226 590	3372 79	4 55	-2 89	16 21	665730 91	611589 41	32°40'50 348"N	103°55'44 526"W	0 12	
3467 70	0 330	223 160	3467 59	4 90	-3 28	15 82	665730 52	611589 02	32°40'50 344"N	103°55'44 531"W	0 02	
3562 60	0 300	221 650	3562 49	5 24	-3 66	15 47	665730 17	611588 64	32°40'50 340"N	103°55'44 535"W	0 03	
3657 50	0 300	217 530	3657 39	5 59	-4 05	15 15	665729 85	611588 25	32°40'50 337"N	103°55'44 538"W	0 02	
3752 30	0 290	220 270	3752 19	5 94	-4 43	14 85	665729 55	611587 87	32°40'50 333"N	103°55'44 542"W	0 02	
3847 20	0 280	247 690	3847 08	6 17	-4 70	14 48	665729 18	611587 60	32°40'50 330"N	103°55'44 546"W	0 14	
3942 10	0 170	296 160	3941 98	6 16	-4 72	14 14	665728 84	611587 58	32°40'50 330"N	103°55'44 550"W	0 22	
4037 00	0 220	38 990	4036 88	5 96	-4 52	14 13	665728 82	611587 78	32°40'50 332"N	103°55'44 551"W	0 32	
4131 80	0 190	12 270	4131 68	5 68	-4 22	14 27	665728 97	611588 08	32°40'50 335"N	103°55'44 549"W	0 10	



Actual Wellpath Report

No. 2H AWP
Page 3 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(Crescent) Sec 11 & 12, T19S, R30E	Wellbore	No. 2H AWB
Facility	Crescent Hale 12 Federal		

WELLPATH DATA (177 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
4226 70	0 020	175 320	4226 58	5 55	-4 09	14 31	665729 01	611588 21	32°40'50 336"N	103°55'44 548"W	0 22	
4321 60	0 230	188 950	4321 48	5 75	-4 29	14 28	665728 98	611588 01	32°40'50 334"N	103°55'44 549"W	0 22	
4416 40	0 360	179 720	4416 28	6 23	-4 78	14 25	665728 95	611587 52	32°40'50 329"N	103°55'44 549"W	0 15	
4511 30	0 470	193 030	4511 18	6 89	-5 46	14 17	665728 86	611586 85	32°40'50 323"N	103°55'44 550"W	0 15	
4606 20	0 650	201 390	4606 07	7 74	-6 34	13 88	665728 58	611585 96	32°40'50 314"N	103°55'44 553"W	0 21	
4701 10	0 710	207 840	4700 97	8 70	-7 36	13 41	665728 11	611584 94	32°40'50 304"N	103°55'44 559"W	0 10	
4795 90	0 610	217 380	4795 76	9 56	-8 28	12 83	665727 53	611584 02	32°40'50 295"N	103°55'44 566"W	0 16	
4890 80	0 550	218 710	4890 66	10 25	-9 03	12 24	665726 94	611583 27	32°40'50 287"N	103°55'44 573"W	0 06	
4985 70	0 480	218 460	4985 55	10 86	-9 70	11 71	665726 41	611582 60	32°40'50 281"N	103°55'44 579"W	0 07	
5080 50	0 370	221 100	5080 35	11 35	-10 24	11 26	665725 96	611582 06	32°40'50 276"N	103°55'44 584"W	0 12	
5175 40	0 290	222 450	5175 25	11 72	-10 65	10 89	665725 59	611581 65	32°40'50 271"N	103°55'44 589"W	0 08	
5270 30	0 150	242 880	5270 15	11 92	-10 88	10 62	665725 32	611581 42	32°40'50 269"N	103°55'44 592"W	0 17	
5365 10	0 140	300 200	5364 95	11 90	-10 88	10 41	665725 11	611581 42	32°40'50 269"N	103°55'44 594"W	0 15	
5460 00	0 180	319 440	5459 85	11 71	-10 71	10 21	665724 91	611581 59	32°40'50 271"N	103°55'44 597"W	0 07	
5554 90	0 240	330 130	5554 75	11 41	-10 43	10 02	665724 72	611581 88	32°40'50 274"N	103°55'44 599"W	0 08	
5649 80	0 310	324 120	5649 65	11 00	-10 04	9 77	665724 47	611582 26	32°40'50 278"N	103°55'44 602"W	0 08	
5744 60	0 370	300 880	5744 44	10 60	-9 68	9 36	665724 06	611582 62	32°40'50 281"N	103°55'44 607"W	0 16	
5839 50	0 400	293 870	5839 34	10 25	-9 39	8 79	665723 49	611582 91	32°40'50 284"N	103°55'44 613"W	0 06	
5934 40	0 370	297 310	5934 24	9 92	-9 11	8 21	665722 91	611583 19	32°40'50 287"N	103°55'44 620"W	0 04	
6029 20	0 390	293 570	6029 04	9 59	-8 84	7 65	665722 35	611583 46	32°40'50 289"N	103°55'44 627"W	0 03	
6124 10	0 530	297 660	6123 93	9 19	-8 51	6 96	665721 66	611583 79	32°40'50 293"N	103°55'44 635"W	0 15	
6219 00	0 560	298 860	6218 83	8 68	-8 08	6 17	665720 87	611584 22	32°40'50 297"N	103°55'44 644"W	0 03	
6313 80	0 610	309 380	6313 63	8 06	-7 54	5 37	665720 07	611584 76	32°40'50 302"N	103°55'44 653"W	0 12	
6408 70	0 610	299 350	6408 52	7 40	-6 97	4 54	665719 24	611585 33	32°40'50 308"N	103°55'44 663"W	0 11	
6503 60	0 670	302 520	6503 41	6 77	-6 43	3 63	665718 33	611585 87	32°40'50 314"N	103°55'44 673"W	0 07	
6598 40	0 840	311 050	6598 21	5 91	-5 67	2 64	665717 34	611586 63	32°40'50 321"N	103°55'44 685"W	0 21	
6693 30	0 600	314 500	6693 10	5 02	-4 87	1 76	665716 46	611587 43	32°40'50 329"N	103°55'44 695"W	0 26	
6788 20	0 540	309 030	6787 99	4 32	-4 24	1 06	665715 76	611588 06	32°40'50 335"N	103°55'44 703"W	0 09	
6883 10	0 600	297 310	6882 89	3 74	-3 73	0 27	665714 97	611588 57	32°40'50 340"N	103°55'44 713"W	0 14	
6977 90	0 950	298 620	6977 68	3 02	-3 12	-0 86	665713 84	611589 18	32°40'50 346"N	103°55'44 726"W	0 37	
7072 80	0 910	315 900	7072 57	1 98	-2 21	-2 07	665712 63	611590 09	32°40'50 356"N	103°55'44 740"W	0 30	
7167 70	0 920	317 090	7167 46	0 78	-1 11	-3 12	665711 58	611591 19	32°40'50 366"N	103°55'44 752"W	0 02	
7262 50	0 960	304 720	7262 24	-0 35	-0 10	-4 29	665710 41	611592 20	32°40'50 376"N	103°55'44 766"W	0 22	
7357 40	0 780	280 840	7357 13	-1 05	0 48	-5 58	665709 12	611592 78	32°40'50 382"N	103°55'44 781"W	0 42	
7452 30	0 880	239 770	7452 02	-0 94	-0 23	-6 84	665707 86	611592 53	32°40'50 380"N	103°55'44 796"W	0 62	
7547 10	0 820	242 960	7546 81	-0 40	-0 44	-8 07	665706 63	611591 86	32°40'50 373"N	103°55'44 810"W	0 08	
7642 00	0 640	238 600	7641 70	0 08	-1 03	-9 13	665705 57	611591 27	32°40'50 367"N	103°55'44 822"W	0 20	
7736 90	0 300	247 950	7736 60	0 37	-1 40	-9 81	665704 89	611590 90	32°40'50 364"N	103°55'44 830"W	0 37	
7831 80	0 110	322 900	7831 50	0 36	-1 42	-10 10	665704 60	611590 88	32°40'50 364"N	103°55'44 834"W	0 31	
7926 60	0 180	55 330	7926 30	-0 22	-1 26	-10 03	665704 67	611591 04	32°40'50 365"N	103°55'44 833"W	0 23	
8021 50	0 280	68 490	8021 20	0 08	-1 09	-9 69	665705 01	611591 21	32°40'50 367"N	103°55'44 829"W	0 12	
8116 40	0 460	41 700	8116 10	-0 24	-0 72	-9 22	665705 48	611591 58	32°40'50 370"N	103°55'44 824"W	0 26	
8211 20	0 390	113 450	8210 90	-0 34	-0 56	-8 67	665706 03	611591 74	32°40'50 372"N	103°55'44 817"W	0 53	
8222 00	2 000	155 700	8221 69	-0 14	-0 75	-8 56	665706 14	611591 55	32°40'50 370"N	103°55'44 816"W	16 03	
8254 00	5 300	174 800	8253 63	1 87	-2 73	-8 20	665706 50	611589 57	32°40'50 351"N	103°55'44 812"W	10 85	



Actual Wellpath Report

No. 2H AWP
Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(Crescent) Sec 11 & 12, T19S, R30E	Wellbore	No. 2H AWB
Facility	Crescent Hale 12 Federal		

WELLPATH DATA (177 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
8285 00	9 700	181 000	8284 35	5 90	-6 77	-8 12	665706 59	611585 53	32°40'50 311"N	103°55'44 811"W	14 41	
8317 00	14 300	180 000	8315 65	12 51	-13 42	-8 16	665706 54	611578 88	32°40'50 245"N	103°55'44 812"W	14 39	
8349 00	18 400	178 100	8346 34	21 48	-22 43	-7 99	665706 71	611569 88	32°40'50 156"N	103°55'44 810"W	12 92	
8380 00	22 600	176 400	8375 38	32 32	-33 27	-7 46	665707 24	611559 04	32°40'50 048"N	103°55'44 804"W	13 68	
8412 00	27 000	176 800	8404 42	45 72	-46 66	-6 67	665708 03	611545 64	32°40'49 916"N	103°55'44 796"W	13 76	
8443 00	31 400	178 200	8431 47	60 81	-61 77	-6 02	665708 68	611530 54	32°40'49 766"N	103°55'44 789"W	14 36	
8475 00	35 700	177 700	8458 13	78 45	-79 44	-5 38	665709 32	611512 87	32°40'49 591"N	103°55'44 782"W	13 47	
8507 00	40 300	176 800	8483 34	98 12	-99 11	-4.43	665710 27	611493 20	32°40'49 397"N	103°55'44 772"W	14 48	
8538 00	44 800	175 400	8506 18	119 06	-120 02	-2 99	665711 71	611472 29	32°40'49 190"N	103°55'44 756"W	14 83	
8570 00	48 300	174 400	8528 18	142 29	-143 15	-0.92	665713 78	611449 16	32°40'48 961"N	103°55'44 733"W	11 17	
8602 00	50 800	174 400	8548 94	166 64	-167 38	1.45	665716 15	611424 93	32°40'48 721"N	103°55'44 706"W	7 81	
8633 00	53 300	174 300	8568 00	191 08	-191 71	3.86	665718 56	611400 61	32°40'48 480"N	103°55'44 679"W	8 07	
8665 00	57 300	174 800	8586 22	217 38	-217 89	6 36	665721 05	611374 42	32°40'48 221"N	103°55'44 651"W	12 57	
8696 00	61 600	175 200	8601 97	244 07	-244 48	8 68	665723 38	611347 84	32°40'47 958"N	103°55'44 625"W	13 92	
8728 00	66 100	175 300	8616 07	272 78	-273 10	11.06	665725 76	611319 22	32°40'47 675"N	103°55'44 598"W	14 07	
8760 00	70 800	174 500	8627 82	302 53	-302 74	13 71	665728 40	611289 59	32°40'47 381"N	103°55'44 569"W	14 87	
8791 00	75 200	173 700	8636 88	332 17	-332 22	16 75	665731 45	611260 11	32°40'47 090"N	103°55'44 534"W	14 41	
8823 00	79 200	172 800	8643 97	363 36	-363 20	20 42	665735 12	611229 13	32°40'46 783"N	103°55'44 493"W	12 80	
8855 00	81 900	172 500	8649 22	394 92	-394 50	24 46	665739 16	611197 83	32°40'46 473"N	103°55'44 447"W	8 49	
8886 00	85 300	173 000	8652 68	425 71	-425 06	28.35	665743 05	611167 27	32°40'46 171"N	103°55'44 403"W	11 08	
8917 00	89 100	173 900	8654 19	456 67	-455 81	31 88	665746 58	611136 52	32°40'45 866"N	103°55'44 363"W	12 60	
8948 00	89 900	173 800	8654 46	487 66	-486 63	35 20	665749 90	611105 70	32°40'45 561"N	103°55'44 325"W	2 60	
8980 00	89 900	173 700	8654 52	519 66	-518 44	38 68	665753 38	611073 90	32°40'45 246"N	103°55'44 286"W	0 31	
9011 00	89 700	174 200	8654 63	550 66	-549 27	41 95	665756 65	611043 07	32°40'44 941"N	103°55'44 249"W	1 74	
9043 00	89 900	174 300	8654 74	582 66	-581 11	45 16	665759 85	611011 23	32°40'44 626"N	103°55'44 213"W	0 70	
9075 00	89 900	174 500	8654 79	614 66	-612 96	48 28	665762 98	610979 39	32°40'44 311"N	103°55'44 178"W	0 62	
9138 00	89 500	174 600	8655 12	677 66	-675 67	54 26	665768 96	610916 68	32°40'43 690"N	103°55'44 111"W	0 65	
9201 00	89 400	174 900	8655 73	740 65	-738 40	60 03	665774 72	610853 95	32°40'43 069"N	103°55'44 046"W	0 50	
9264 00	89 500	175 700	8656 33	803 63	-801 19	65 19	665779 88	610791 17	32°40'42 448"N	103°55'43 989"W	1 28	
9327 00	89 300	175 500	8656 99	866 61	-864 00	70 02	665784 72	610728 37	32°40'41 826"N	103°55'43 935"W	0 45	
9390 00	89 100	175 700	8657 87	929 58	-926 81	74 86	665789 55	610665 56	32°40'41 204"N	103°55'43 881"W	0 45	
9454 00	90 100	175 900	8658 32	993 55	-990 63	79 54	665794 24	610601 74	32°40'40 573"N	103°55'43 829"W	1 59	
9517 00	90 000	175 400	8658 26	1056 52	-1053 45	84 32	665799 01	610538 93	32°40'39 951"N	103°55'43 776"W	0 81	
9580 00	90 400	175 200	8658 04	1119 51	-1116 24	89 48	665804 18	610476 15	32°40'39 329"N	103°55'43 718"W	0 71	
9643 00	90 600	175 100	8657 49	1182 49	-1179 01	94 81	665809 50	610413 38	32°40'38 708"N	103°55'43 659"W	0 35	
9706 00	90 500	174 600	8656 89	1245 48	-1241 75	100 46	665815 16	610350 64	32°40'38 087"N	103°55'43 596"W	0 81	
9770 00	90 300	173 800	8656 44	1309 48	-1305 42	106 93	665821 62	610286 98	32°40'37 457"N	103°55'43 523"W	1 29	
9833 00	91 200	174 900	8655 62	1372 47	-1368 11	113 13	665827 82	610224 29	32°40'36 836"N	103°55'43 453"W	2 26	
9896 00	90 500	173 600	8654 68	1435 46	-1430 78	119 44	665834 14	610161 62	32°40'36 216"N	103°55'43 382"W	2 34	
9960 00	89 800	172 400	8654 52	1499 45	-1494 31	127 24	665841 93	610098 11	32°40'35 587"N	103°55'43 294"W	2 17	
10023 00	89 700	172 100	8654 79	1562 42	-1556 73	135 74	665850 43	610035 69	32°40'34 969"N	103°55'43 197"W	0 50	
10086 00	89 500	172 700	8655 23	1625 39	-1619 17	144 07	665858 76	609973 25	32°40'34 351"N	103°55'43 102"W	1 00	
10149 00	89 800	172 500	8655 62	1688 37	-1681 65	152 18	665866 87	609910 78	32°40'33 733"N	103°55'43 010"W	0 57	
10212 00	90 000	171 900	8655 73	1751 34	-1744 06	160 73	665875 42	609848 37	32°40'33 115"N	103°55'42 913"W	1 00	
10276 00	89 000	172 400	8656 28	1815 30	-1807 46	169 48	665884 16	609784 97	32°40'32 487"N	103°55'42 814"W	1 75	



Actual Wellpath Report

No. 2H AWP

Page 5 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(Crescent) Sec 11 & 12, T19S, R30E	Wellbore	No. 2H AWB
Facility	Crescent Hale 12 Federal		

WELLPATH DATA (177 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
10339 00	88 900	171 300	8657 44	1878 24	-1869 81	178 41	665893 09	609722 63	32°40'31 870"N	103°55'42 712"W	1 75	
10402 00	88 800	171 000	8658 70	1941 14	-1932 05	188 10	665902 78	609660 39	32°40'31 254"N	103°55'42 601"W	0 50	
10466 00	88 000	169 200	8660 49	2004 96	-1995 07	199 09	665913 78	609597 38	32°40'30 630"N	103°55'42 475"W	3 08	
10529 00	88 500	169 200	8662 41	2067 71	-2056 93	210 89	665925 58	609535 53	32°40'30 017"N	103°55'42 340"W	0 79	
10592 00	89 500	170 500	8663 51	2130 52	-2118 93	221 99	665936 68	609473 53	32°40'29 403"N	103°55'42 213"W	2 60	
10655 00	89 700	170 700	8663 95	2193 41	-2181 08	232 28	665946 97	609411 38	32°40'28 788"N	103°55'42 095"W	0 45	
10719 00	89 900	172 300	8664 18	2257 34	-2244 38	241 74	665956 42	609348 09	32°40'28 161"N	103°55'41 988"W	2 52	
10782 00	90 300	172 600	8664 07	2320 32	-2306 83	250 02	665964 70	609285 64	32°40'27 543"N	103°55'41 894"W	0 79	
10845 00	88 900	171 900	8664 51	2383 28	-2369 25	258 51	665973 20	609223 23	32°40'26 925"N	103°55'41 797"W	2 48	
10909 00	88 500	173 100	8665 96	2447 24	-2432 68	266 87	665981 55	609159 80	32°40'26 297"N	103°55'41 702"W	1 98	
10972 00	88 700	173 500	8667 50	2510 22	-2495 24	274 21	665988 89	609097 25	32°40'25 678"N	103°55'41 619"W	0 71	
11035 00	89 000	173 800	8668 76	2573 20	-2557 84	281 18	665995 86	609034 66	32°40'25 059"N	103°55'41 540"W	0 67	
11099 00	89 400	174 800	8669 66	2637 19	-2621 51	287 54	666002 22	608970 98	32°40'24 428"N	103°55'41 469"W	1 68	
11162 00	89 500	174 700	8670 26	2700 19	-2684 25	293 30	666007 98	608908 26	32°40'23 807"N	103°55'41 404"W	0 22	
11225 00	89 900	174 900	8670 59	2763 18	-2746 99	299 01	666013 69	608845 52	32°40'23 186"N	103°55'41 340"W	0 71	
11288 00	90 300	174 900	8670 48	2826 17	-2809 74	304 61	666019 29	608782 78	32°40'22 565"N	103°55'41 277"W	0 63	
11352 00	90 700	175 100	8669 92	2890 16	-2873 49	310 19	666024 82	608719 03	32°40'21 934"N	103°55'41 215"W	0 70	
11415 00	90 400	175 400	8669 32	2953 14	-2936 27	315 41	666030 08	608656 25	32°40'21 313"N	103°55'41 157"W	0 67	
11478 00	89 400	175 000	8669 43	3016 13	-2999 05	320 68	666035 35	608593 48	32°40'20 692"N	103°55'41 098"W	1 71	
11542 00	89 100	174 600	8670 26	3080 12	-3062 78	326 48	666041 15	608529 75	32°40'20 061"N	103°55'41 033"W	0 78	
11605 00	88 900	175 200	8671 36	3143 10	-3125 52	332 08	666046 75	608467 02	32°40'19 440"N	103°55'40 970"W	1 00	
11668 00	89 500	174 700	8672 24	3206 09	-3188 27	337 62	666052 30	608404 27	32°40'18 819"N	103°55'40 908"W	1 24	
11731 00	89 900	175 000	8672 57	3269 08	-3251 01	343 28	666057 95	608341 53	32°40'18 198"N	103°55'40 845"W	0 79	
11794 00	89 300	175 300	8673 01	3332 07	-3313 79	348 60	666063 28	608278 76	32°40'17 576"N	103°55'40 785"W	1 06	
11858 00	89 500	175 400	8673 68	3396 05	-3377 57	353 79	666068 46	608214 98	32°40'16 945"N	103°55'40 727"W	0 35	
11921 00	89 800	175 500	8674 07	3459 03	-3440 37	358 79	666073 46	608152 19	32°40'16 323"N	103°55'40 672"W	0 50	
11984 00	88 900	175 400	8674 78	3522 01	-3503 17	363 79	666078 46	608089 39	32°40'15 702"N	103°55'40 616"W	1 44	
12047 00	89 200	174 400	8675 83	3584 99	-3565 91	369 39	666084 06	608026 66	32°40'15 081"N	103°55'40 553"W	1 66	
12110 00	89 500	174 100	8676 54	3647 99	-3628 59	375 70	666090 37	607963 98	32°40'14 461"N	103°55'40 482"W	0 67	
12173 00	90 000	173 800	8676 82	3710 98	-3691 24	382 34	666097 01	607901 34	32°40'13 840"N	103°55'40 407"W	0 93	
12237 00	89 200	173 600	8677 26	3774 98	-3754 85	389 36	666104 03	607837 73	32°40'13 211"N	103°55'40 328"W	1 29	
12300 00	89 900	173 800	8677 76	3837 98	-3817 47	396 27	666110 94	607775 12	32°40'12 591"N	103°55'40 250"W	1 16	
12363 00	89 100	174 700	8678 31	3900 97	-3880 14	402 58	666117 25	607712 45	32°40'11 971"N	103°55'40 179"W	1 91	
12427 00	89 300	174 100	8679 20	3964 97	-3943 83	408 83	666123 50	607648 76	32°40'11 340"N	103°55'40 109"W	0 99	
12490 00	89 400	174 100	8679 92	4027 96	-4006 50	415 30	666129 97	607586 11	32°40'10 720"N	103°55'40 036"W	0 16	
12553 00	89 600	173 400	8680 47	4090 96	-4069 12	422 16	666136 83	607523 49	32°40'10 100"N	103°55'39 958"W	1 16	
12616 00	89 900	173 300	8680 74	4153 95	-4131 69	429 46	666144 13	607460 92	32°40'09 481"N	103°55'39 876"W	0 50	
12680 00	88 600	173 100	8681 58	4217 94	-4195 24	437 04	666151 70	607397 38	32°40'08 852"N	103°55'39 790"W	2 06	
12743 00	88 600	172 900	8683 12	4280 91	-4257 75	444 71	666159 38	607334 87	32°40'08 233"N	103°55'39 703"W	0 32	
12806 00	89 000	172 600	8684 44	4343 88	-4320 23	452 66	666167 33	607272 39	32°40'07 614"N	103°55'39 613"W	0 79	
12853 00	89 200	172 000	8685 18	4390 85	-4366 80	458 96	666173 62	607225 83	32°40'07 153"N	103°55'39 541"W	1 35	
12899 00	89 200	172 000	8685 82	4436 82	-4412 35	465 36	666180 02	607180 28	32°40'06 702"N	103°55'39 469"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
		8712 50	-4422 23	460 03	666174.70	607170.40	32°40'06 605"N	103°55'39.531"W	point

No. 2H PBHL

WELLPATH COMPOSITION - Ref Wellbore: No. 2H AWB Ref Wellpath: No. 2H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0 00	8211 20	Generic gyro - northseeking (Standard)	Gyrodata / Gyro <100-8843.7>	No 2H AWB
8211 20	12853 00	NaviTrak (Standard)	BHI / Navitrak MWD 7-7/8" <8222-12853> (PTB 12899')	No 2H AWB
12853 00	12899 00	Blind Drilling (std)	Projection to bit	No. 2H AWB