

15-40202



Cimarex Energy Co. of Colorado

Location: Eddy County, NM
Field (White City) Sec 14, T25S, R36E
Facility: White City 14 Federal No. 13H

Slot: No. 13H SHL
Well: No. 13H
Wellbore: No. 13H PWB

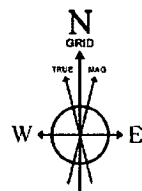


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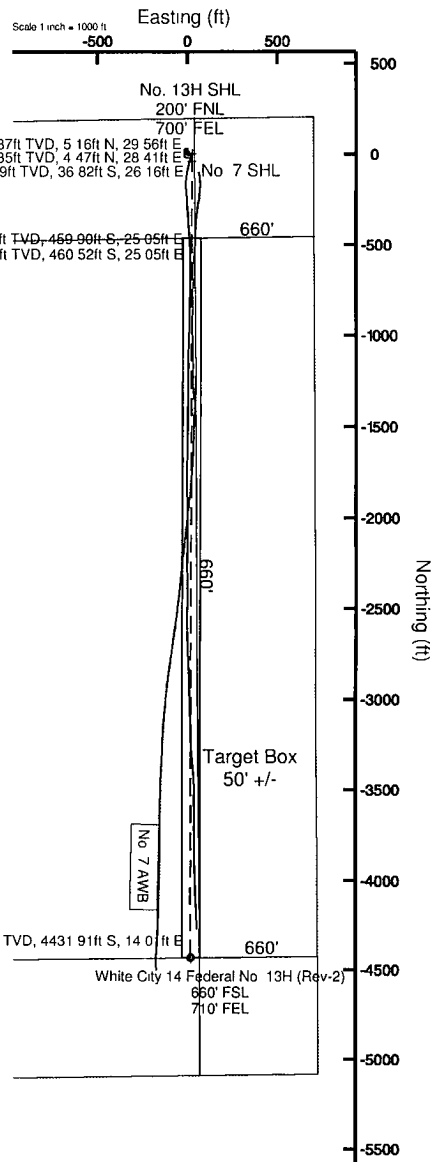
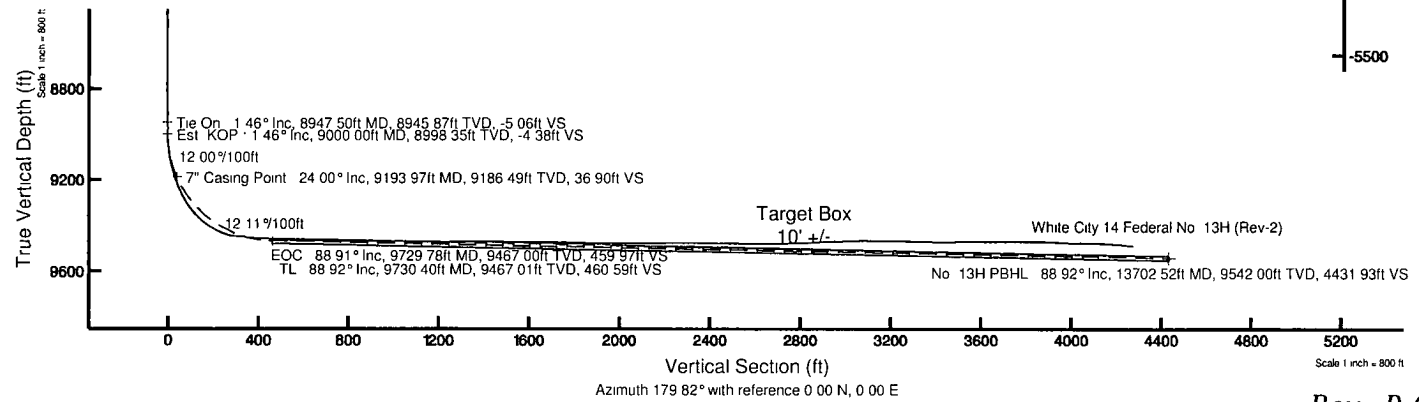
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8947.50	1.46	238.98	8945.87	5.16	29.56	0.00	-5.06
Est KOP	9000.00	1.46	238.98	8998.35	4.47	28.41	0.00	-4.38
7" Casing Point	9193.97	24.00	180.15	9186.49	-36.82	26.16	12.00	36.90
EOC	9729.78	88.91	180.15	9467.00	-459.90	25.05	12.11	459.97
TL	9730.40	88.91	180.15	9467.01	-460.52	25.05	2.00	460.59
No 13H PBHL	13702.52	88.91	180.15	9542.00	-4431.91	14.01	0.00	4431.93

Plot reference wellpath is Rev-D 0	
True vertical depths are referenced to Cactus 122 (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Cactus 122 (KB)	North Reference: Grid north
Cactus 122 (KB) to Mean Sea Level: 3299 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No. 13H SHL): -3272 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: harrkol on 6/12/2012



BGGM (1945.0 to 2013.0) Dip: 59.92° Field: 48390.3 nT
Magnetic North is 7.87 degrees East of True North (at 5/9/2012)
Grid North is 0.04 degrees East of True North
To correct azimuth from True to Grid subtract 0.04 degrees
To correct azimuth from Magnetic to Grid add 7.83 degrees
For example: if the Magnetic North Azimuth = 90 degrees, then the Grid North Azimuth = 90 + 7.83 = 97.83





Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 13H SHL
Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

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	0.99991	Report Generated	7/5/2012 at 7:50:36 AM
Convergence at slot	0.04° East	Database/Source file	WA Midland/No._13H_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	564873.78	413469.78	32°08'12.064"N	104°15'26.258"W
Facility Reference Pt			564873.78	413469.78	32°08'12.064"N	104°15'26.258"W
Field Reference Pt			564873.78	413469.78	32°08'12.064"N	104°15'26.258"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Cactus 122 (KB) to Facility Vertical Datum	27.00ft
Horizontal Reference Pt	Slot	Cactus 122 (KB) to Mean Sea Level	3299.00ft
Vertical Reference Pt	Cactus 122 (KB)	Cactus 122 (KB) to Mud Line at Slot (No. 13H SHL)	27.00ft
MD Reference Pt	Cactus 122 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.82°



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
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Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

WELLPATH DATA (184 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	35.610	0.00	0.00	0.00	0.00	564873.78	413469.78	32°08'12.064"N	104°15'26.258"W	0.00	
100.00	0.180	35.610	100.00	-0.13	0.13	0.09	564873.87	413469.91	32°08'12.065"N	104°15'26.257"W	0.18	
200.00	0.040	301.800	200.00	-0.27	0.27	0.15	564873.93	413470.05	32°08'12.066"N	104°15'26.256"W	0.19	
300.00	0.480	318.430	300.00	-0.61	0.61	-0.15	564873.63	413470.39	32°08'12.070"N	104°15'26.260"W	0.44	
400.00	0.720	333.140	399.99	-1.48	1.48	-0.72	564873.06	413471.26	32°08'12.078"N	104°15'26.266"W	0.28	
500.00	0.720	330.170	499.99	-2.59	2.59	-1.31	564872.47	413472.36	32°08'12.089"N	104°15'26.273"W	0.04	
600.00	0.970	325.230	599.97	-3.83	3.83	-2.11	564871.67	413473.61	32°08'12.102"N	104°15'26.283"W	0.26	
635.50	1.110	321.300	635.47	-4.35	4.34	-2.49	564871.29	413474.12	32°08'12.107"N	104°15'26.287"W	0.44	
729.60	1.180	320.890	729.55	-5.82	5.80	-3.68	564870.11	413475.58	32°08'12.121"N	104°15'26.301"W	0.07	
823.70	1.420	320.320	823.63	-7.47	7.45	-5.03	564868.75	413477.23	32°08'12.137"N	104°15'26.317"W	0.26	
917.80	1.640	319.240	917.69	-9.39	9.37	-6.65	564867.13	413479.15	32°08'12.156"N	104°15'26.335"W	0.24	
1011.90	1.790	318.290	1011.75	-11.51	11.49	-8.51	564865.27	413481.27	32°08'12.177"N	104°15'26.357"W	0.16	
1106.00	1.960	316.890	1105.80	-13.79	13.76	-10.59	564863.19	413483.54	32°08'12.200"N	104°15'26.381"W	0.19	
1200.10	2.090	321.320	1199.84	-16.31	16.27	-12.76	564861.02	413486.05	32°08'12.225"N	104°15'26.406"W	0.22	
1294.20	2.000	329.230	1293.88	-19.07	19.02	-14.67	564859.11	413488.80	32°08'12.252"N	104°15'26.429"W	0.31	
1388.30	1.970	340.200	1387.92	-22.01	21.96	-16.06	564857.72	413491.73	32°08'12.281"N	104°15'26.445"W	0.40	
1482.30	1.710	347.990	1481.88	-24.90	24.85	-16.90	564856.88	413494.63	32°08'12.310"N	104°15'26.454"W	0.38	
1576.40	1.600	8.330	1575.94	-27.58	27.52	-17.00	564856.78	413497.30	32°08'12.336"N	104°15'26.456"W	0.63	
1670.50	1.900	53.470	1670.00	-29.80	29.75	-15.56	564858.22	413499.53	32°08'12.358"N	104°15'26.439"W	1.46	
1764.60	2.330	61.390	1764.03	-31.63	31.59	-12.63	564861.16	413501.37	32°08'12.376"N	104°15'26.405"W	0.55	
1858.70	1.470	65.860	1858.08	-33.04	33.00	-9.85	564863.94	413502.78	32°08'12.390"N	104°15'26.372"W	0.93	
1952.80	0.950	87.920	1952.16	-33.55	33.53	-7.96	564865.82	413503.30	32°08'12.395"N	104°15'26.350"W	0.73	
2046.90	0.770	91.420	2046.25	-33.56	33.54	-6.55	564867.23	413503.32	32°08'12.396"N	104°15'26.334"W	0.20	
2141.00	0.680	95.250	2140.34	-33.49	33.47	-5.36	564868.42	413503.25	32°08'12.395"N	104°15'26.320"W	0.11	
2235.10	0.650	92.510	2234.44	-33.41	33.40	-4.28	564869.51	413503.17	32°08'12.394"N	104°15'26.308"W	0.05	
2329.20	0.580	98.280	2328.53	-33.32	33.31	-3.27	564870.51	413503.08	32°08'12.393"N	104°15'26.296"W	0.10	
2423.30	0.460	95.360	2422.63	-33.21	33.20	-2.42	564871.36	413502.98	32°08'12.392"N	104°15'26.286"W	0.13	
2517.30	0.420	94.120	2516.62	-33.15	33.14	-1.70	564872.08	413502.92	32°08'12.392"N	104°15'26.278"W	0.04	
2611.40	0.390	113.000	2610.72	-33.00	32.99	-1.06	564872.72	413502.77	32°08'12.390"N	104°15'26.270"W	0.14	
2705.50	0.420	121.820	2704.82	-32.69	32.68	-0.48	564873.30	413502.46	32°08'12.387"N	104°15'26.263"W	0.07	
2799.60	0.320	134.420	2798.92	-32.32	32.32	0.00	564873.78	413502.10	32°08'12.383"N	104°15'26.258"W	0.14	
2893.70	0.290	150.410	2893.02	-31.93	31.93	0.31	564874.09	413501.71	32°08'12.380"N	104°15'26.254"W	0.10	
2987.80	0.280	152.760	2987.11	-31.51	31.52	0.53	564874.31	413501.29	32°08'12.376"N	104°15'26.252"W	0.02	
3081.90	0.290	164.620	3081.21	-31.08	31.08	0.70	564874.48	413500.86	32°08'12.371"N	104°15'26.250"W	0.06	
3176.00	0.300	179.560	3175.31	-30.60	30.61	-0.77	564874.55	413500.38	32°08'12.367"N	104°15'26.249"W	0.08	
3270.10	0.300	174.050	3269.41	-30.11	30.12	0.79	564874.57	413499.89	32°08'12.362"N	104°15'26.249"W	0.03	
3364.20	0.290	160.300	3363.51	-29.64	29.65	0.90	564874.68	413499.42	32°08'12.357"N	104°15'26.247"W	0.08	
3458.20	0.410	247.620	3457.51	-29.29	29.29	0.67	564874.45	413499.07	32°08'12.354"N	104°15'26.250"W	0.52	
3552.30	0.530	242.050	3551.61	-28.96	28.96	-0.03	564873.75	413498.74	32°08'12.350"N	104°15'26.258"W	0.14	
3646.40	0.540	237.770	3645.70	-28.52	28.52	-0.79	564872.99	413498.30	32°08'12.346"N	104°15'26.267"W	0.04	
3740.50	0.470	248.720	3739.80	-28.15	28.14	-1.52	564872.26	413497.92	32°08'12.342"N	104°15'26.276"W	0.13	
3834.60	0.550	244.470	3833.89	-27.82	27.81	-2.29	564871.49	413497.59	32°08'12.339"N	104°15'26.284"W	0.09	
3928.70	0.610	249.920	3927.99	-27.45	27.44	-3.17	564870.61	413497.22	32°08'12.335"N	104°15'26.295"W	0.09	
4022.80	0.720	246.700	4022.08	-27.05	27.04	-4.18	564869.60	413496.82	32°08'12.331"N	104°15'26.306"W	0.12	
4116.90	0.810	244.350	4116.17	-26.53	26.52	-5.32	564868.46	413496.29	32°08'12.326"N	104°15'26.320"W	0.10	



Actual Wellpath Report

No. 13H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 13H SHL
Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

WELLPATH DATA (184 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
4211.00	0.910	239.750	4210.26	-25.87	25.85	-6.57	564867.21	413495.63	32°08'12.320"N	104°15'26.334"W	0.13	
4305.10	0.910	251.580	4304.35	-25.26	25.24	-7.92	564865.86	413495.02	32°08'12.313"N	104°15'26.350"W	0.20	
4399.10	0.880	242.400	4398.34	-24.70	24.67	-9.27	564864.51	413494.45	32°08'12.308"N	104°15'26.366"W	0.16	
4493.20	0.790	245.940	4492.43	-24.10	24.07	-10.50	564863.28	413493.85	32°08'12.302"N	104°15'26.380"W	0.11	
4587.30	0.660	241.960	4586.52	-23.59	23.55	-11.57	564862.21	413493.33	32°08'12.297"N	104°15'26.393"W	0.15	
4681.40	0.440	234.310	4680.62	-23.12	23.08	-12.35	564861.43	413492.86	32°08'12.292"N	104°15'26.401"W	0.25	
5057.80	0.350	161.790	5057.01	-21.19	21.15	-13.16	564860.62	413490.93	32°08'12.273"N	104°15'26.411"W	0.13	
5151.90	0.510	154.380	5151.11	-20.54	20.50	-12.89	564860.89	413490.28	32°08'12.267"N	104°15'26.408"W	0.18	
5245.90	0.500	147.910	5245.11	-19.81	19.77	-12.49	564861.29	413489.55	32°08'12.259"N	104°15'26.403"W	0.06	
5340.00	0.360	175.460	5339.20	-19.17	19.13	-12.25	564861.53	413488.91	32°08'12.253"N	104°15'26.400"W	0.26	
5434.10	0.700	154.490	5433.30	-18.36	18.32	-11.98	564861.80	413488.10	32°08'12.245"N	104°15'26.397"W	0.41	
5528.20	1.110	192.600	5527.39	-16.95	16.91	-11.93	564861.85	413486.69	32°08'12.231"N	104°15'26.397"W	0.75	
5622.30	1.480	199.770	5621.46	-14.92	14.88	-12.54	564861.24	413484.66	32°08'12.211"N	104°15'26.404"W	0.43	
5716.40	1.200	209.850	5715.54	-12.92	12.88	-13.44	564860.34	413482.66	32°08'12.191"N	104°15'26.414"W	0.39	
5810.50	0.940	208.480	5809.62	-11.39	11.35	-14.30	564859.48	413481.12	32°08'12.176"N	104°15'26.424"W	0.28	
5998.70	1.620	151.830	5997.78	-7.69	7.64	-13.78	564860.00	413477.42	32°08'12.139"N	104°15'26.418"W	0.72	
6092.80	1.510	147.420	6091.84	-5.47	5.43	-12.48	564861.30	413475.21	32°08'12.117"N	104°15'26.403"W	0.17	
6186.90	1.270	123.810	6185.92	-3.84	3.80	-10.95	564862.83	413473.58	32°08'12.101"N	104°15'26.385"W	0.65	
6280.90	1.340	101.370	6279.89	-3.03	3.00	-9.01	564864.77	413472.78	32°08'12.093"N	104°15'26.363"W	0.55	
6375.00	1.220	121.870	6373.97	-2.28	2.26	-7.08	564866.70	413472.04	32°08'12.086"N	104°15'26.340"W	0.50	
6469.10	1.500	113.790	6468.04	-1.25	1.23	-5.10	564868.68	413471.01	32°08'12.076"N	104°15'26.317"W	0.36	
6563.20	0.980	96.340	6562.12	-0.66	0.65	-3.17	564870.61	413470.43	32°08'12.070"N	104°15'26.295"W	0.68	
6657.30	0.780	97.530	6656.21	-0.48	0.47	-1.74	564872.04	413470.25	32°08'12.068"N	104°15'26.278"W	0.21	
6751.40	1.700	111.360	6750.29	0.12	-0.12	0.20	564873.98	413469.66	32°08'12.063"N	104°15'26.256"W	1.02	
6845.50	1.810	115.520	6844.34	1.28	-1.27	2.84	564876.62	413468.51	32°08'12.051"N	104°15'26.225"W	0.18	
6939.60	1.710	110.030	6938.40	2.41	-2.39	5.50	564879.28	413467.39	32°08'12.040"N	104°15'26.194"W	0.21	
7033.70	1.230	95.530	7032.47	2.99	-2.97	7.82	564881.60	413466.81	32°08'12.034"N	104°15'26.167"W	0.64	
7127.80	1.680	94.810	7126.54	3.21	-3.18	10.20	564883.98	413466.60	32°08'12.032"N	104°15'26.139"W	0.48	
7221.80	2.180	73.540	7220.49	2.83	-2.79	13.29	564887.07	413466.99	32°08'12.036"N	104°15'26.104"W	0.92	
7315.90	2.180	82.260	7314.52	2.09	-2.04	16.78	564890.56	413467.74	32°08'12.043"N	104°15'26.063"W	0.35	
7410.00	1.540	66.530	7408.57	1.36	-1.30	19.71	564893.49	413468.48	32°08'12.051"N	104°15'26.029"W	0.86	
7504.10	0.740	22.370	7502.65	0.30	-0.23	21.10	564894.88	413469.55	32°08'12.061"N	104°15'26.013"W	1.20	
7598.20	0.570	237.420	7596.75	-0.01	0.08	20.94	564894.72	413469.86	32°08'12.064"N	104°15'26.015"W	1.33	
7692.30	0.500	146.140	7690.85	0.58	-0.51	20.77	564894.55	413469.27	32°08'12.058"N	104°15'26.016"W	0.81	
7786.40	0.460	146.600	7784.94	1.24	-1.17	21.21	564894.99	413468.61	32°08'12.052"N	104°15'26.011"W	0.04	
7880.50	1.280	57.650	7879.03	0.99	-0.92	22.31	564896.09	413468.86	32°08'12.054"N	104°15'25.999"W	1.44	
7974.60	1.740	35.790	7973.10	-0.72	0.80	24.03	564897.81	413470.58	32°08'12.071"N	104°15'25.979"W	0.77	
8068.60	1.350	57.780	8067.07	-2.47	2.55	25.80	564899.58	413472.33	32°08'12.089"N	104°15'25.958"W	0.75	
8256.80	0.730	68.980	8255.24	-4.07	4.16	28.80	564902.57	413473.94	32°08'12.105"N	104°15'25.923"W	0.35	
8350.90	0.740	65.080	8349.33	-4.54	4.63	29.91	564903.68	413474.41	32°08'12.109"N	104°15'25.910"W	0.05	
8445.00	0.640	47.910	8443.42	-5.14	5.24	30.85	564904.63	413475.02	32°08'12.115"N	104°15'25.899"W	0.24	
8539.10	0.760	27.380	8537.51	-6.05	6.15	31.53	564905.30	413475.92	32°08'12.124"N	104°15'25.891"W	0.29	
8633.20	0.610	15.930	8631.61	-7.08	7.18	31.95	564905.73	413476.96	32°08'12.135"N	104°15'25.886"W	0.22	
8727.30	0.340	338.610	8725.70	-7.82	7.92	31.99	564905.76	413477.70	32°08'12.142"N	104°15'25.886"W	0.42	
8821.40	1.170	21.110	8819.80	-7.26	7.36	31.39	564905.16	413477.14	32°08'12.136"N	104°15'25.893"W	1.49	



Actual Wellpath Report

No. 13H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 13H SHL
Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

WELLPATH DATA (184 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
8915.50	1.390	220.120	8913.88	-5.57	5.66	30.16	564903.93	413475.44	32°08'12.120"N	104°15'25.907"W	0.32	
8947.50	1.460	238.980	8945.87	-5.06	5.16	29.56	564903.33	413474.94	32°08'12.115"N	104°15'25.914"W	1.47	
8965.00	1.800	233.300	8963.36	-4.79	4.88	29.15	564902.92	413474.66	32°08'12.112"N	104°15'25.919"W	2.15	
8995.00	1.800	239.200	8993.34	-4.27	4.36	28.36	564902.14	413474.14	32°08'12.107"N	104°15'25.928"W	0.62	
9027.00	3.100	212.700	9025.31	-3.28	3.37	27.46	564901.24	413473.15	32°08'12.097"N	104°15'25.939"W	5.29	
9058.00	5.700	203.300	9056.22	-1.17	1.25	26.40	564900.18	413471.03	32°08'12.076"N	104°15'25.951"W	8.68	
9090.00	9.100	202.200	9087.95	2.63	-2.55	24.82	564898.59	413467.23	32°08'12.038"N	104°15'25.970"W	10.63	
9122.00	12.200	202.800	9119.39	8.09	-8.01	22.55	564896.33	413461.77	32°08'11.984"N	104°15'25.996"W	9.69	
9154.00	15.500	199.900	9150.46	15.22	-15.15	19.78	564893.56	413454.63	32°08'11.914"N	104°15'26.028"W	10.54	
9186.00	19.000	198.900	9181.02	24.16	-24.11	16.64	564890.42	413445.68	32°08'11.825"N	104°15'26.065"W	10.98	
9256.00	26.200	196.800	9245.60	49.74	-49.71	8.47	564882.25	413420.07	32°08'11.572"N	104°15'26.160"W	10.35	
9288.00	29.200	194.300	9273.93	64.06	-64.04	4.50	564878.28	413405.74	32°08'11.430"N	104°15'26.206"W	10.05	
9320.00	32.700	193.100	9301.37	80.03	-80.03	0.61	564874.39	413389.76	32°08'11.272"N	104°15'26.252"W	11.11	
9352.00	37.500	191.400	9327.54	98.00	-98.01	-3.27	564870.51	413371.78	32°08'11.094"N	104°15'26.297"W	15.31	
9383.00	43.100	186.700	9351.18	117.78	-117.80	-6.38	564867.40	413351.99	32°08'10.898"N	104°15'26.333"W	20.54	
9415.00	48.900	183.000	9373.41	140.69	-140.72	-8.29	564865.49	413329.07	32°08'10.671"N	104°15'26.356"W	19.94	
9447.00	54.300	178.400	9393.28	165.75	-165.78	-8.56	564865.23	413304.02	32°08'10.423"N	104°15'26.359"W	20.28	
9478.00	59.700	176.100	9410.16	191.71	-191.73	-7.29	564866.49	413278.07	32°08'10.167"N	104°15'26.344"W	18.50	
9510.00	66.200	175.700	9424.71	220.12	-220.14	-5.25	564868.53	413249.66	32°08'09.885"N	104°15'26.321"W	20.34	
9542.00	73.000	175.500	9435.85	250.02	-250.03	-2.95	564870.83	413219.77	32°08'09.590"N	104°15'26.294"W	21.26	
9578.00	81.800	175.000	9443.70	285.00	-285.01	-0.04	564873.74	413184.80	32°08'09.243"N	104°15'26.261"W	24.48	
9610.00	85.200	176.500	9447.32	316.71	-316.71	2.31	564876.09	413153.10	32°08'08.930"N	104°15'26.234"W	11.60	
9641.00	85.400	176.200	9449.86	347.55	-347.54	4.28	564878.06	413122.27	32°08'08.625"N	104°15'26.211"W	1.16	
9673.00	84.800	176.000	9452.59	379.37	-379.35	6.45	564880.23	413090.47	32°08'08.310"N	104°15'26.186"W	1.98	
9705.00	86.200	177.000	9455.11	411.22	-411.19	8.39	564882.17	413058.63	32°08'07.995"N	104°15'26.164"W	5.37	
9737.00	85.800	177.700	9457.34	443.11	-443.08	9.87	564883.65	413026.74	32°08'07.679"N	104°15'26.147"W	2.51	
9769.00	85.400	177.200	9459.79	474.99	-474.95	11.29	564885.07	412994.87	32°08'07.364"N	104°15'26.131"W	2.00	
9801.00	86.100	177.800	9462.16	506.87	-506.83	12.68	564886.46	412962.99	32°08'07.048"N	104°15'26.115"W	2.88	
9832.00	87.300	178.200	9463.95	537.80	-537.76	13.76	564887.54	412932.07	32°08'06.742"N	104°15'26.102"W	4.08	
9864.00	88.600	178.900	9465.09	569.77	-569.73	14.57	564888.35	412900.10	32°08'06.426"N	104°15'26.093"W	4.61	
9895.00	89.800	179.800	9465.53	600.77	-600.73	14.92	564888.70	412869.11	32°08'06.119"N	104°15'26.090"W	4.84	
9926.00	88.900	180.000	9465.88	631.77	-631.72	14.98	564888.75	412838.12	32°08'05.813"N	104°15'26.089"W	2.97	
9958.00	89.200	180.700	9466.41	663.76	-663.72	14.78	564888.56	412806.12	32°08'05.496"N	104°15'26.092"W	2.38	
9990.00	89.900	180.900	9466.66	695.76	-695.71	14.33	564888.11	412774.13	32°08'05.179"N	104°15'26.097"W	2.28	
10021.00	90.000	181.600	9466.69	726.75	-726.71	13.66	564887.44	412743.14	32°08'04.873"N	104°15'26.105"W	2.28	
10053.00	90.100	181.600	9466.66	758.73	-758.69	12.76	564886.54	412711.16	32°08'04.556"N	104°15'26.116"W	0.31	
10084.00	89.400	181.100	9466.79	789.72	-789.68	12.03	564885.81	412680.17	32°08'04.249"N	104°15'26.125"W	2.77	
10116.00	88.300	180.300	9467.44	821.71	-821.67	11.64	564885.42	412648.18	32°08'03.933"N	104°15'26.129"W	4.25	
10147.00	88.600	180.500	9468.27	852.69	-852.66	11.43	564885.20	412617.20	32°08'03.626"N	104°15'26.132"W	1.16	
10179.00	89.900	180.800	9468.69	884.69	-884.66	11.06	564884.84	412585.20	32°08'03.310"N	104°15'26.137"W	4.17	
10242.00	90.500	181.800	9468.47	947.66	-947.64	9.63	564883.41	412522.23	32°08'02.686"N	104°15'26.154"W	1.85	
10305.00	89.900	182.500	9468.25	1010.61	-1010.59	7.27	564881.05	412459.28	32°08'02.064"N	104°15'26.182"W	1.46	
10369.00	89.100	181.100	9468.81	1074.57	-1074.56	5.26	564879.04	412395.32	32°08'01.431"N	104°15'26.206"W	2.52	
10432.00	87.000	180.900	9470.96	1137.52	-1137.51	4.16	564877.94	412332.38	32°08'00.808"N	104°15'26.219"W	3.35	
10496.00	91.300	180.200	9471.91	1201.49	-1201.48	3.55	564877.33	412268.41	32°08'00.175"N	104°15'26.227"W	6.81	



Actual Wellpath Report

No. 13H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 13H SHL
Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

WELLPATH DATA (184 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
10560.00	91.900	180.300	9470.12	1265.46	-1265.46	3.27	564877.05	412204.44	32°07'59.542"N	104°15'26.230"W	0.95	
10623.00	89.500	180.300	9469.35	1328.45	-1328.45	2.94	564876.72	412141.46	32°07'58.918"N	104°15'26.235"W	3.81	
10686.00	91.800	181.700	9468.63	1391.43	-1391.43	1.84	564875.62	412078.48	32°07'58.295"N	104°15'26.248"W	4.27	
10750.00	88.200	179.100	9468.63	1455.41	-1455.41	1.39	564875.17	412014.50	32°07'57.662"N	104°15'26.254"W	6.94	
10813.00	88.600	180.800	9470.39	1518.38	-1518.38	1.45	564875.23	411951.54	32°07'57.039"N	104°15'26.254"W	2.77	
10877.00	89.200	181.900	9471.62	1582.34	-1582.35	-0.06	564873.72	411887.57	32°07'56.406"N	104°15'26.272"W	1.96	
10939.00	90.700	181.800	9471.68	1644.30	-1644.32	-2.06	564871.72	411825.61	32°07'55.793"N	104°15'26.296"W	2.42	
11002.00	89.000	180.500	9471.84	1707.28	-1707.30	-3.33	564870.45	411762.64	32°07'55.169"N	104°15'26.311"W	3.40	
11065.00	88.500	179.700	9473.22	1770.27	-1770.29	-3.44	564870.34	411699.66	32°07'54.546"N	104°15'26.313"W	1.50	
11127.00	89.000	180.100	9474.57	1832.25	-1832.27	-3.33	564870.45	411637.68	32°07'53.933"N	104°15'26.312"W	1.03	
11190.00	89.200	178.700	9475.56	1895.24	-1895.26	-2.67	564871.11	411574.70	32°07'53.310"N	104°15'26.305"W	2.24	
11254.00	89.700	179.200	9476.17	1959.23	-1959.24	-1.50	564872.28	411510.72	32°07'52.676"N	104°15'26.292"W	1.10	
11318.00	89.300	179.500	9476.73	2023.22	-2023.24	-0.77	564873.01	411446.73	32°07'52.043"N	104°15'26.284"W	0.78	
11381.00	88.900	179.200	9477.72	2086.21	-2086.22	-0.06	564873.72	411383.75	32°07'51.420"N	104°15'26.276"W	0.79	
11444.00	91.500	179.800	9477.50	2149.21	-2149.22	0.49	564874.27	411320.76	32°07'50.797"N	104°15'26.270"W	4.24	
11507.00	91.900	181.000	9475.63	2212.17	-2212.19	0.06	564873.84	411257.80	32°07'50.173"N	104°15'26.276"W	2.01	
11570.00	88.700	178.900	9475.30	2275.16	-2275.17	0.11	564873.89	411194.82	32°07'49.550"N	104°15'26.275"W	6.08	
11633.00	89.900	180.800	9476.07	2338.15	-2338.16	0.28	564874.06	411131.83	32°07'48.927"N	104°15'26.274"W	3.57	
11696.00	88.700	180.700	9476.84	2401.14	-2401.15	-0.55	564873.23	411068.85	32°07'48.304"N	104°15'26.284"W	1.91	
11759.00	89.300	180.300	9477.94	2464.12	-2464.14	1.10	564872.68	411005.87	32°07'47.680"N	104°15'26.291"W	1.14	
11823.00	89.400	180.500	9478.67	2528.12	-2528.13	-1.55	564872.23	410941.88	32°07'47.047"N	104°15'26.297"W	0.35	
11885.00	89.800	179.100	9479.10	2590.11	-2590.13	-1.33	564872.45	410879.89	32°07'46.434"N	104°15'26.295"W	2.35	
11949.00	90.300	178.900	9479.04	2654.11	-2654.12	-0.21	564873.57	410815.90	32°07'45.800"N	104°15'26.282"W	0.84	
12013.00	91.500	177.400	9478.04	2718.07	-2718.08	1.85	564875.63	410751.95	32°07'45.168"N	104°15'26.259"W	3.00	
12076.00	92.600	178.100	9475.78	2780.99	-2780.99	4.32	564878.10	410689.05	32°07'44.545"N	104°15'26.231"W	2.07	
12140.00	92.700	178.100	9472.82	2844.89	-2844.88	6.44	564880.22	410625.16	32°07'43.913"N	104°15'26.207"W	0.16	
12203.00	92.900	178.300	9469.75	2907.79	-2907.78	8.42	564882.20	410562.27	32°07'43.290"N	104°15'26.184"W	0.45	
12266.00	92.100	178.300	9467.00	2970.71	-2970.69	10.29	564884.07	410499.37	32°07'42.668"N	104°15'26.163"W	1.27	
12329.00	91.900	178.400	9464.80	3033.65	-3033.62	12.10	564885.88	410436.44	32°07'42.045"N	104°15'26.142"W	0.35	
12393.00	89.200	178.600	9464.19	3097.62	-3097.59	13.78	564887.56	410372.47	32°07'41.412"N	104°15'26.123"W	4.23	
12455.00	90.000	178.300	9464.62	3159.60	-3159.57	15.45	564889.23	410310.50	32°07'40.799"N	104°15'26.104"W	1.38	
12519.00	90.200	177.800	9464.51	3223.57	-3223.53	17.63	564891.41	410246.55	32°07'40.166"N	104°15'26.080"W	0.84	
12582.00	87.000	175.600	9466.05	3286.45	-3286.40	21.25	564895.03	410183.69	32°07'39.544"N	104°15'26.038"W	6.16	
12646.00	88.700	175.200	9468.45	3350.21	-3350.14	26.38	564900.16	410119.95	32°07'38.913"N	104°15'25.979"W	2.73	
12708.00	88.800	176.900	9469.30	3412.06	-3411.98	30.65	564904.43	410058.12	32°07'38.301"N	104°15'25.930"W	2.75	
12770.00	91.400	179.800	9469.69	3474.02	-3473.94	32.44	564906.22	409996.16	32°07'37.688"N	104°15'25.909"W	6.28	
12834.00	91.800	179.600	9467.91	3538.00	-3537.91	32.77	564906.55	409932.19	32°07'37.055"N	104°15'25.906"W	0.70	
12896.00	87.800	178.400	9468.12	3599.98	-3599.89	33.86	564907.63	409870.22	32°07'36.441"N	104°15'25.894"W	6.74	
12959.00	90.500	181.000	9469.06	3662.96	-3662.87	34.18	564907.96	409807.25	32°07'35.818"N	104°15'25.891"W	5.95	
13023.00	89.200	179.500	9469.22	3726.96	-3726.87	33.91	564907.68	409743.26	32°07'35.185"N	104°15'25.894"W	3.10	
13087.00	90.800	179.700	9469.22	3790.95	-3790.86	34.35	564908.13	409679.27	32°07'34.552"N	104°15'25.890"W	2.52	
13150.00	89.500	179.900	9469.06	3853.95	-3853.86	34.57	564908.35	409616.27	32°07'33.928"N	104°15'25.888"W	2.09	
13212.00	87.800	178.100	9470.52	3915.92	-3915.83	35.65	564909.43	409554.31	32°07'33.315"N	104°15'25.876"W	3.99	
13276.00	87.900	178.200	9472.92	3979.85	-3979.75	37.72	564911.49	409490.40	32°07'32.683"N	104°15'25.852"W	0.22	
13339.00	89.700	178.500	9474.24	4042.81	-4042.71	39.53	564913.31	409427.44	32°07'32.060"N	104°15'25.832"W	2.90	



Actual Wellpath Report

No. 13H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 13H SHL
Area	Eddy County, NM	Well	No. 13H
Field	(White City) Sec 14, T25S, R36E	Wellbore	No. 13H AWB
Facility	White City 14 Federal No. 13H		

WELLPATH DATA (184 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
13403.00	88.100	176.900	9475.47	4106.75	-4106.64	42.10	564915.88	409363.52	32°07'31.427"N	104°15'25.802"W	3.54	
13467.00	86.300	177.000	9478.59	4170.59	-4170.47	45.50	564919.28	409299.69	32°07'30.795"N	104°15'25.763"W	2.82	
13530.00	84.200	178.700	9483.81	4233.34	-4233.21	47.86	564921.63	409236.97	32°07'30.175"N	104°15'25.736"W	4.28	
13572.00	84.200	178.700	9488.06	4275.11	-4274.98	48.80	564922.58	409195.19	32°07'29.761"N	104°15'25.726"W	0.00	Proj to Bit

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
White City 14 Federal No. 13H (Rev-2)		9542.00	-4431.91	14.01	564887.79	409038.28	32°07'28.209"N	104°15'26.132"W	rectangle

WELLPATH COMPOSITION - Ref Wellbore: No. 13H AWB					Ref Wellpath: No. 13H AWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment		Wellbore
0.00	8947.50	Generic gyro - northseeking (Standard)			Gyrodata / Gyros <100-8947.50>		No. 13H AWB
8947.50	13530.00	NaviTrak (Standard)			BHI / Navitrak MWD 6-1/8" - <8965-xxxx>		No. 13H AWB
13530.00	13572.00	Blind Drilling (std)			Projection to bit		No. 13H AWB