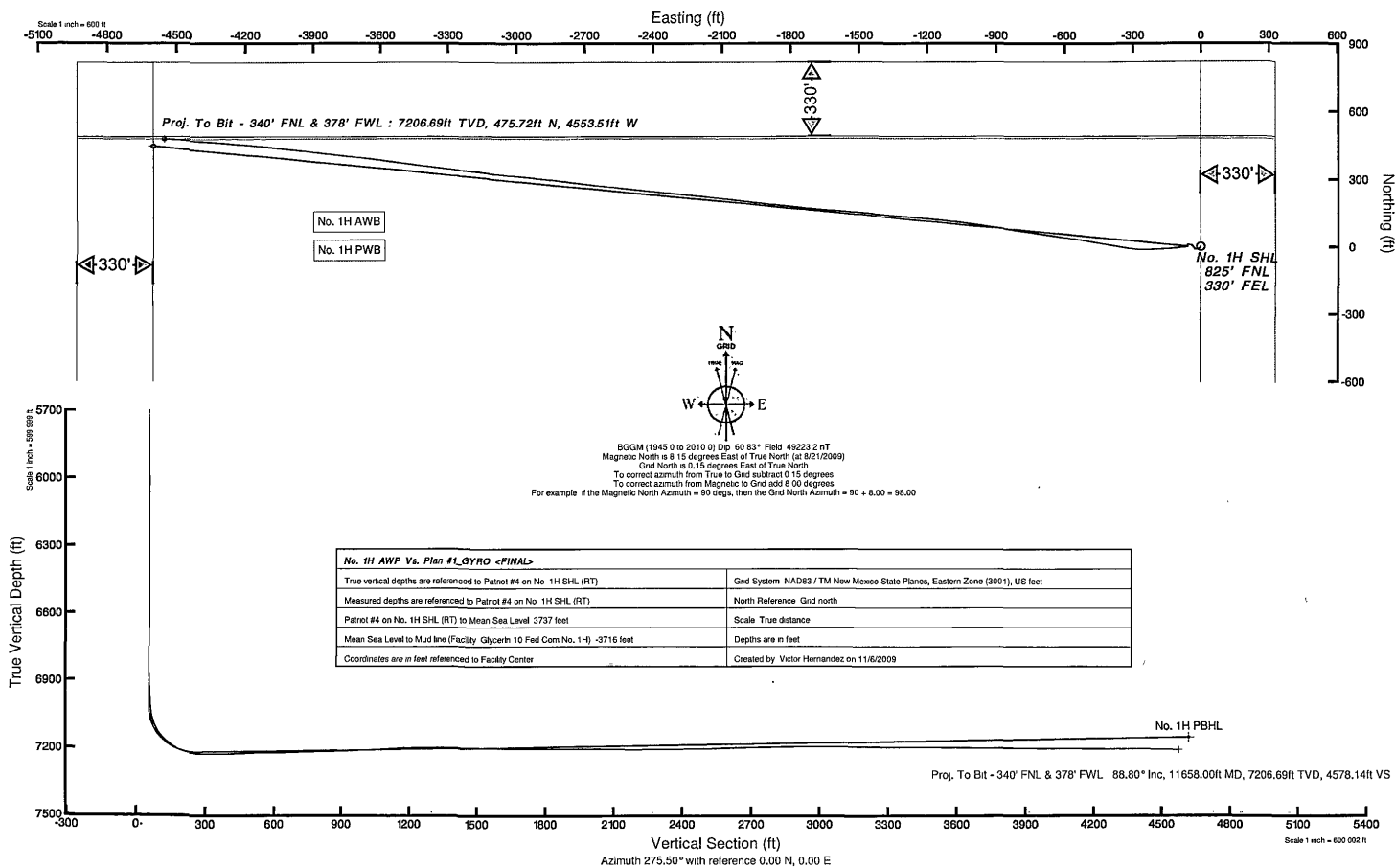






Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999917	Report Generated	11/6/2009 at 7:51:11 AM
Convergence at slot	0.15° East	Database/Source file	WA_Midland/No._1H_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	626673.00	706254.50	32°56'28.303"N	104°03'18.606"W
Facility Reference Pt			626673.00	706254.50	32°56'28.303"N	104°03'18.606"W
Field Reference Pt			626677.00	704899.90	32°56'14.899"N	104°03'18.601"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patriot #4 on No. 1H SHL (RT) to Facility Vertical Datum	21.00ft
Horizontal Reference Pt	Facility Center	Patriot #4 on No. 1H SHL (RT) to Mean Sea Level	3737.00ft
Vertical Reference Pt	Patriot #4 on No. 1H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Patriot #4 on No. 1H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	275.50°



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
0.00	0.000	185.050	0.00	0.00	0.00	0.00	626673.00	706254.50	0.00
100.00	0.950	185.050	100.00	-0.01	-0.83	-0.07	626672.93	706253.67	0.95
200.00	1.250	211.720	199.98	0.47	-2.58	-0.72	626672.28	706251.92	0.59
300.00	1.970	222.700	299.94	1.99	-4.77	-2.46	626670.54	706249.73	0.78
400.00	1.460	238.720	399.89	4.05	-6.70	-4.71	626668.29	706247.81	0.70
500.00	1.440	238.560	499.86	6.07	-8.01	-6.87	626666.13	706246.49	0.02
600.00	1.200	244.250	599.83	7.97	-9.12	-8.89	626664.11	706245.38	0.27
700.00	0.940	241.260	699.82	9.55	-9.97	-10.55	626662.45	706244.53	0.27
800.00	0.990	244.020	799.80	10.96	-10.74	-12.05	626660.95	706243.76	0.07
900.00	0.750	246.020	899.79	12.27	-11.39	-13.42	626659.58	706243.11	0.24
1000.00	0.720	256.500	999.78	13.43	-11.80	-14.63	626658.37	706242.70	0.14
1100.00	0.760	262.450	1099.77	14.67	-12.04	-15.90	626657.10	706242.47	0.09
1200.00	0.750	264.680	1199.77	15.96	-12.18	-17.21	626655.79	706242.32	0.03
1300.00	0.690	276.350	1299.76	17.21	-12.18	-18.46	626654.54	706242.32	0.16
1400.00	0.760	280.300	1399.75	18.47	-11.99	-19.71	626653.29	706242.51	0.09
1500.00	0.770	285.090	1499.74	19.79	-11.70	-21.01	626651.99	706242.80	0.06
1600.00	0.800	286.400	1599.73	21.14	-11.33	-22.33	626650.67	706243.17	0.03
1700.00	0.710	290.360	1699.72	22.43	-10.91	-23.58	626649.42	706243.59	0.10
1800.00	0.750	295.540	1799.72	23.64	-10.42	-24.75	626648.25	706244.08	0.08
1900.00	0.720	300.010	1899.71	24.83	-9.82	-25.89	626647.12	706244.68	0.06
2000.00	0.760	311.580	1999.70	25.93	-9.07	-26.93	626646.08	706245.44	0.15
2100.00	0.760	309.940	2099.69	27.02	-8.20	-27.93	626645.07	706246.30	0.02
2200.00	0.830	313.800	2199.68	28.13	-7.27	-28.96	626644.04	706247.23	0.09
2300.00	0.880	315.700	2299.67	29.29	-6.22	-30.02	626642.98	706248.28	0.06
2400.00	0.940	319.020	2399.66	30.47	-5.05	-31.09	626641.91	706249.43	0.08
2500.00	0.940	319.610	2499.64	31.65	-3.81	-32.16	626640.84	706250.69	0.01
2600.00	0.790	321.820	2599.63	32.72	-2.64	-33.12	626639.88	706251.86	0.15
2700.00	0.760	324.430	2699.62	33.63	-1.56	-33.93	626639.07	706252.94	0.05
2800.00	0.760	320.000	2799.61	34.54	-0.51	-34.75	626638.26	706253.99	0.06
2900.00	0.750	322.690	2899.60	35.45	0.52	-35.57	626637.43	706255.02	0.04



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
3000.00	0.760	319.980	2999.60	36.37	1.54	-36.39	626636.61	706256.04	0.04
3100.00	0.820	316.420	3099.59	37.39	2.57	-37.31	626635.69	706257.07	0.08
3200.00	0.690	316.500	3199.58	38.38	3.53	-38.22	626634.78	706258.03	0.13
3300.00	0.640	318.730	3299.57	39.24	4.38	-39.00	626634.00	706258.88	0.06
3400.00	0.460	308.200	3399.57	39.99	5.05	-39.69	626633.32	706259.55	0.21
3500.00	0.460	301.620	3499.56	40.69	5.51	-40.34	626632.66	706260.01	0.05
3600.00	0.470	300.960	3599.56	41.42	5.93	-41.04	626631.97	706260.43	0.01
3700.00	0.390	283.120	3699.56	42.12	6.22	-41.72	626631.28	706260.72	0.16
3800.00	0.500	288.880	3799.55	42.89	6.44	-42.46	626630.54	706260.94	0.12
3900.00	0.420	277.320	3899.55	43.68	6.62	-43.24	626629.76	706261.12	0.12
4000.00	0.480	285.330	3999.55	44.46	6.78	-44.01	626629.00	706261.28	0.09
4100.00	0.500	294.450	4099.54	45.28	7.07	-44.81	626628.19	706261.57	0.08
4200.00	0.500	282.250	4199.54	46.13	7.35	-45.63	626627.37	706261.85	0.11
4300.00	0.510	281.280	4299.54	47.00	7.53	-46.50	626626.51	706262.03	0.01
4400.00	0.490	273.750	4399.53	47.87	7.64	-47.36	626625.64	706262.14	0.07
4500.00	0.540	277.170	4499.53	48.77	7.73	-48.25	626624.75	706262.23	0.06
4600.00	0.600	280.440	4599.52	49.76	7.88	-49.24	626623.77	706262.38	0.07
4700.00	0.600	281.690	4699.52	50.81	8.08	-50.26	626622.74	706262.58	0.01
4800.00	0.610	284.610	4799.51	51.85	8.32	-51.29	626621.71	706262.82	0.03
4900.00	0.570	282.060	4899.51	52.87	8.56	-52.29	626620.71	706263.06	0.05
5000.00	0.470	280.970	4999.50	53.78	8.74	-53.18	626619.82	706263.24	0.10
5100.00	0.480	277.290	5099.50	54.60	8.87	-54.00	626619.00	706263.37	0.03
5200.00	0.450	277.370	5199.50	55.41	8.98	-54.81	626618.20	706263.48	0.03
5300.00	0.320	276.650	5299.49	56.08	9.06	-55.47	626617.53	706263.56	0.13
5400.00	0.330	256.360	5399.49	56.64	9.03	-56.03	626616.98	706263.52	0.11
5500.00	0.350	250.450	5499.49	57.18	8.85	-56.60	626616.41	706263.35	0.04
5600.00	0.400	242.790	5599.49	57.76	8.59	-57.20	626615.81	706263.09	0.07
5700.00	0.380	237.960	5699.49	58.31	8.26	-57.79	626615.22	706262.76	0.04
5800.00	0.380	219.390	5799.48	58.76	7.83	-58.28	626614.73	706262.32	0.12
5900.00	0.370	222.550	5899.48	59.14	7.33	-58.71	626614.30	706261.83	0.02



Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
6000.00	0.340	205.880	5999.48	59.44	6.83	-59.05	626613.95	706261.33	0.11
6100.00	0.390	181.900	6099.48	59.52	6.22	-59.20	626613.81	706260.72	0.16
6200.00	0.370	175.480	6199.48	59.44	5.56	-59.18	626613.82	706260.06	0.05
6300.00	0.330	181.960	6299.47	59.37	4.95	-59.17	626613.84	706259.45	0.06
6400.00	0.310	178.030	6399.47	59.31	4.39	-59.17	626613.84	706258.89	0.03
6500.00	0.370	179.880	6499.47	59.25	3.80	-59.16	626613.85	706258.30	0.06
6600.00	0.460	137.910	6599.47	58.92	3.18	-58.89	626614.12	706257.68	0.31
6700.00	0.720	126.750	6699.46	58.09	2.50	-58.11	626614.89	706257.00	0.28
6772.30	0.530	159.550	6771.76	57.55	1.92	-57.63	626615.37	706256.42	0.55
7037.00	3.900	253.100	7036.25	65.34	-1.85	-65.82	626607.18	706252.65	-1.50
7069.00	12.900	266.200	7067.88	69.88	-2.40	-70.44	626602.57	706252.10	28.57
7100.00	21.600	265.800	7097.46	78.94	-3.05	-79.60	626593.41	706251.45	28.07
7132.00	30.600	263.900	7126.16	92.75	-4.35	-93.60	626579.41	706250.15	28.24
7163.00	39.500	264.300	7151.52	110.19	-6.17	-111.29	626561.72	706248.33	28.72
7195.00	48.500	266.000	7174.51	132.04	-8.02	-133.42	626539.59	706246.48	28.36
7226.00	57.000	266.000	7193.26	156.35	-9.74	-158.01	626515.00	706244.76	27.42
7258.00	65.800	267.300	7208.56	184.09	-11.37	-186.03	626486.98	706243.13	27.73
7290.00	74.800	267.000	7219.34	213.86	-12.87	-216.09	626456.93	706241.63	28.14
7320.00	82.900	269.900	7225.14	243.05	-13.65	-245.49	626427.53	706240.85	28.61
7352.00	87.000	273.800	7227.95	274.85	-12.62	-277.33	626395.69	706241.88	17.65
7383.00	88.800	277.500	7229.09	305.82	-9.57	-308.15	626364.87	706244.93	13.27
7415.00	90.900	279.300	7229.17	337.78	-4.90	-339.81	626333.22	706249.60	8.64
7447.00	91.400	279.700	7228.53	369.69	0.38	-371.36	626301.67	706254.88	2.00
7479.00	92.400	279.600	7227.47	401.59	5.74	-402.89	626270.14	706260.24	3.14
7510.00	92.700	279.800	7226.09	432.48	10.96	-433.42	626239.62	706265.46	1.16
7542.00	92.600	280.100	7224.61	464.34	16.49	-464.90	626208.14	706270.98	0.99
7573.00	92.800	280.300	7223.15	495.21	21.97	-495.38	626177.66	706276.47	0.91
7605.00	90.900	279.300	7222.12	527.10	27.41	-526.89	626146.15	706281.91	6.71
7636.00	90.600	278.900	7221.71	558.03	32.32	-557.50	626115.55	706286.81	1.61
7668.00	90.600	278.800	7221.38	589.98	37.24	-589.12	626083.93	706291.73	0.31



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
7731.00	91.900	278.300	7220.00	652.87	46.60	-651.40	626021.65	706301.10	2.21
7795.00	91.700	278.500	7217.99	716.76	55.95	-714.68	625958.38	706310.44	0.44
7857.00	91.400	278.600	7216.32	778.65	65.16	-775.97	625897.09	706319.66	0.51
7920.00	91.300	279.300	7214.83	841.51	74.96	-838.19	625834.88	706329.45	1.12
7984.00	91.500	278.500	7213.27	905.38	84.86	-901.40	625771.68	706339.35	1.29
8047.00	92.800	277.800	7210.91	968.27	93.78	-963.72	625709.37	706348.27	2.34
8111.00	92.700	278.100	7207.83	1032.14	102.62	-1027.03	625646.06	706357.12	0.49
8174.00	92.500	276.400	7204.98	1095.04	110.57	-1089.46	625583.63	706365.06	2.71
8237.00	92.700	276.100	7202.12	1157.97	117.42	-1152.02	625521.08	706371.91	0.57
8301.00	90.700	275.100	7200.22	1221.94	123.66	-1215.68	625457.42	706378.15	3.49
8364.00	90.700	274.900	7199.45	1284.93	129.15	-1278.44	625394.67	706383.64	0.32
8428.00	89.700	275.200	7199.23	1348.93	134.78	-1342.19	625330.93	706389.27	1.63
8491.00	89.700	275.400	7199.56	1411.92	140.60	-1404.92	625268.20	706395.09	0.32
8554.00	89.500	275.100	7200.00	1474.92	146.37	-1467.65	625205.47	706400.85	0.57
8618.00	89.300	275.200	7200.67	1538.92	152.11	-1531.39	625141.74	706406.60	0.35
8681.00	89.200	274.800	7201.49	1601.91	157.60	-1594.14	625078.99	706412.09	0.65
8744.00	88.900	274.700	7202.54	1664.90	162.82	-1656.92	625016.22	706417.30	0.50
8807.00	89.700	275.600	7203.31	1727.89	168.47	-1719.66	624953.49	706422.96	1.91
8871.00	89.300	275.600	7203.86	1791.89	174.72	-1783.35	624889.80	706429.20	0.62
8934.00	90.300	276.000	7204.08	1854.88	181.08	-1846.03	624827.13	706435.57	1.71
8997.00	90.300	276.600	7203.75	1917.88	188.00	-1908.64	624764.52	706442.48	0.95
9060.00	89.700	276.800	7203.75	1980.86	195.35	-1971.21	624701.95	706449.83	1.00
9123.00	89.300	277.200	7204.30	2043.84	203.03	-2033.74	624639.43	706457.51	0.90
9187.00	88.700	276.900	7205.42	2107.80	210.88	-2097.25	624575.93	706465.36	1.05
9250.00	89.500	276.800	7206.41	2170.78	218.39	-2159.79	624513.39	706472.87	1.28
9313.00	90.800	275.600	7206.25	2233.77	225.20	-2222.42	624450.77	706479.68	2.81
9376.00	90.700	275.700	7205.42	2296.77	231.40	-2285.11	624388.09	706485.88	0.22
9440.00	90.600	275.900	7204.69	2360.76	237.86	-2348.78	624324.42	706492.34	0.35
9503.00	90.300	276.300	7204.20	2423.75	244.56	-2411.42	624261.79	706499.04	0.79
9566.00	91.300	276.100	7203.32	2486.74	251.36	-2474.04	624199.17	706505.84	1.62



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
9630.00	91.600	276.400	7201.70	2550.72	258.33	-2537.64	624135.57	706512.81	0.66
9693.00	91.600	276.300	7199.94	2613.68	265.29	-2600.23	624072.99	706519.77	0.16
9756.00	91.300	276.400	7198.35	2676.66	272.26	-2662.82	624010.40	706526.74	0.50
9820.00	91.000	276.800	7197.06	2740.63	279.61	-2726.39	623946.84	706534.09	0.78
9883.00	91.100	277.100	7195.91	2803.60	287.23	-2788.91	623884.32	706541.71	0.50
9946.00	91.300	276.300	7194.59	2866.57	294.58	-2851.47	623821.77	706549.06	1.31
10010.00	90.500	276.200	7193.58	2930.56	301.55	-2915.08	623758.17	706556.02	1.26
10073.00	89.900	275.800	7193.36	2993.56	308.14	-2977.73	623695.52	706562.61	1.14
10136.00	89.700	275.900	7193.58	3056.55	314.56	-3040.40	623632.85	706569.03	0.35
10199.00	89.400	276.100	7194.08	3119.55	321.14	-3103.06	623570.20	706575.61	0.57
10262.00	89.300	276.200	7194.79	3182.54	327.89	-3165.69	623507.58	706582.36	0.22
10326.00	88.700	276.300	7195.91	3246.53	334.86	-3229.30	623443.97	706589.33	0.95
10389.00	89.800	276.600	7196.74	3309.51	341.93	-3291.90	623381.38	706596.40	1.81
10452.00	90.000	277.200	7196.85	3372.49	349.50	-3354.44	623318.85	706603.97	1.00
10515.00	90.000	277.300	7196.85	3435.46	357.45	-3416.93	623256.35	706611.92	0.16
10578.00	89.600	277.500	7197.07	3498.43	365.57	-3479.41	623193.88	706620.04	0.71
10642.00	89.300	277.300	7197.68	3562.39	373.81	-3542.87	623130.43	706628.28	0.56
10705.00	88.900	277.300	7198.67	3625.35	381.81	-3605.36	623067.95	706636.28	0.63
10769.00	89.700	276.600	7199.45	3689.32	389.56	-3668.88	623004.43	706644.02	1.66
10832.00	89.800	276.600	7199.73	3752.31	396.80	-3731.46	622941.85	706651.26	0.16
10895.00	89.700	276.700	7200.00	3815.30	404.09	-3794.04	622879.28	706658.56	0.22
10958.00	89.400	276.800	7200.50	3878.28	411.50	-3856.60	622816.73	706665.96	0.50
11022.00	89.300	276.800	7201.22	3942.26	419.07	-3920.14	622753.19	706673.54	0.16
11085.00	89.800	276.000	7201.72	4005.25	426.10	-3982.75	622690.59	706680.56	1.50
11148.00	89.800	275.800	7201.94	4068.25	432.57	-4045.41	622627.93	706687.04	0.32
11211.00	89.700	275.800	7202.21	4131.25	438.94	-4108.09	622565.26	706693.40	0.16
11275.00	89.400	275.900	7202.71	4195.24	445.46	-4171.76	622501.60	706699.92	0.49
11338.00	89.400	275.100	7203.37	4258.24	451.50	-4234.46	622438.90	706705.96	1.27
11402.00	90.400	274.800	7203.49	4322.23	457.02	-4298.22	622375.14	706711.48	1.63
11465.00	89.600	274.200	7203.49	4385.22	461.97	-4361.03	622312.34	706716.43	1.59



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Glycerin) Sec 10, T16S, R29E	Wellbore	No. 1H AWB
Facility	Glycerin 10 Fed Com No. 1H		

WELLPATH DATA (154 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]
11528.00	89.100	273.800	7204.20	4448.20	466.36	-4423.87	622249.50	706720.82	1.02
11592.00	88.900	274.300	7205.32	4512.17	470.88	-4487.70	622185.68	706725.34	0.84
11607.00	88.800	274.200	7205.62	4527.16	471.99	-4502.66	622170.73	706726.45	0.94
11658.00	88.800	274.200	7206.69	4578.14	475.72	-4553.51	622119.88	706730.18	0.00

HOLE & CASING SECTIONS Ref Wellbore: No. 1H AWB Ref Wellpath: No. 1H AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
6.125in Open Hole	7037.00	11658.00	4621.00	7036.25	7206.69	-1.85	-65.82	475.72	-4553.51

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 1H PBHL		7152.00	442.75	-4601.19	622072.20	706697.21	32°56'32.800"N	104°04'12.582"W	point

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	6772.30	Gyrodata relative depth - Continuous gyro	GYRO - <100 - 6772.3>	No. 1H AWB
6772.30	11607.00	NaviTrak (Standard)	MWD - <7037 - 11607>	No. 1H AWB
11607.00	11658.00	Blind Drilling (std)	Projection to bit	No. 1H AWB