



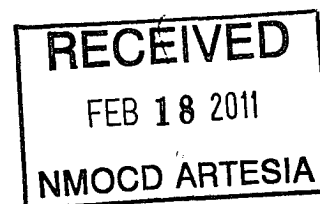
Scientific Drilling

30-015-37874

Gyroscopic Survey Report
for
CIMAREX

Well Location	EDDY COUNTY, NEW MEXICO
Well Name	PARKWAY 11 STATE COM #2H
Rig Name	PATRIOT #4
Survey Date	11/26/2010
Latitude	32.68 deg
North Reference	Grid North
Grid Correction	-0.15 deg
Depth Reference	RKB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 179.80Azim (deg)
Definitive Survey	FINAL OUTRUN SURVEY
Operator	A.MADRID

Comments





Survey Report

Well Name: PARKWAY 11 STATE COM #2H

Survey: FINAL OUTRUN SURVEY

Survey Date: 11/26/2010

MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
3900.00	0.49	305.26	3898.44	-0.12	0.34	61.92	0.41	61.92	89.69
4000.00	0.48	309.75	3998.43	-0.63	0.85	61.25	0.04	61.26	89.21
4100.00	0.63	304.52	4098.43	-1.21	1.43	60.48	0.16	60.50	88.65
4200.00	0.55	297.50	4198.42	-1.75	1.96	59.60	0.11	59.64	88.12
4300.00	0.71	299.83	4298.42	-2.28	2.49	58.64	0.17	58.69	87.57
4400.00	0.66	304.70	4398.41	-2.92	3.12	57.63	0.08	57.71	86.90
4500.00	0.67	329.56	4498.40	-3.76	3.96	56.86	0.29	57.00	86.02
4600.00	0.67	344.32	4598.40	-4.83	5.02	56.40	0.17	56.63	84.91
4700.00	0.75	8.18	4698.39	-6.03	6.23	56.34	0.30	56.68	83.69
4800.00	0.78	17.39	4798.38	-7.33	7.53	56.64	0.13	57.13	82.43
4900.00	0.99	34.55	4898.37	-8.69	8.89	57.33	0.33	58.02	81.19
5000.00	0.99	37.86	4998.35	-10.08	10.28	58.35	0.06	59.25	80.01
5100.00	1.30	53.98	5098.33	-11.43	11.63	59.80	0.45	60.92	78.99
5200.00	1.57	58.09	5198.30	-12.81	13.02	61.88	0.28	63.24	78.11
5300.00	1.75	63.73	5298.26	-14.20	14.42	64.41	0.25	66.01	77.38
5400.00	1.86	64.03	5398.21	-15.58	15.81	67.24	0.11	69.08	76.77
5500.00	1.70	63.65	5498.16	-16.94	17.18	70.03	0.16	72.11	76.21
5600.00	1.41	55.61	5598.13	-18.28	18.54	72.38	0.37	74.72	75.64
5700.00	1.37	54.39	5698.10	-19.66	19.92	74.36	0.05	76.98	75.00
5800.00	1.45	59.02	5798.07	-21.00	21.27	76.41	0.14	79.32	74.45
5900.00	1.31	62.61	5898.04	-22.17	22.45	78.52	0.16	81.66	74.05
6000.00	1.46	61.34	5998.01	-23.30	23.59	80.65	0.15	84.03	73.70
6100.00	1.31	67.07	6097.98	-24.35	24.64	82.82	0.21	86.41	73.43
6200.00	1.28	79.34	6197.95	-25.00	25.29	84.97	0.28	88.66	73.42
6300.00	1.03	71.61	6297.93	-25.48	25.78	86.92	0.30	90.67	73.48
6400.00	1.00	46.44	6397.92	-26.36	26.67	88.41	0.44	92.34	73.21
6500.00	0.80	35.62	6497.91	-27.53	27.84	89.45	0.26	93.68	72.71
6600.00	0.96	42.47	6597.89	-28.72	29.03	90.43	0.19	94.97	72.20
6700.00	0.77	55.47	6697.88	-29.71	30.03	91.55	0.27	96.35	71.84
6800.00	0.76	58.37	6797.87	-30.44	30.76	92.67	0.04	97.64	71.64
6900.00	0.64	61.52	6897.87	-31.05	31.38	93.73	0.12	98.84	71.49
7000.00	0.82	60.54	6997.86	-31.67	32.00	94.84	0.18	100.10	71.36
7100.00	0.76	52.50	7097.85	-32.42	32.75	95.99	0.13	101.43	71.16
7200.00	0.77	62.31	7197.84	-33.13	33.47	97.11	0.13	102.72	70.98
7300.00	0.75	58.48	7297.83	-33.78	34.12	98.27	0.06	104.02	70.85
7400.00	0.95	57.47	7397.82	-34.56	34.91	99.52	0.20	105.46	70.67
7500.00	0.98	63.80	7497.81	-35.38	35.73	100.98	0.11	107.11	70.52
7600.00	1.00	75.45	7597.79	-35.97	36.33	102.59	0.20	108.83	70.50



Survey Report

Well Name: PARKWAY 11 STATE COM #2H

Survey: FINAL OUTRUN SURVEY

Survey Date: 11/26/2010

MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
7700.00	1.20	76.11	7697.77	-36.43	36.80	104.46	0.20	110.75	70.59
7800.00	0.74	85.08	7797.76	-36.73	37.10	106.12	0.48	112.42	70.73
7900.00	0.65	121.04	7897.75	-36.49	36.87	107.25	0.44	113.41	71.03
8000.00	0.70	124.41	7997.74	-35.85	36.23	108.24	0.06	114.14	71.49
8100.00	0.80	141.97	8097.74	-34.96	35.34	109.17	0.25	114.75	72.06
8200.00	0.87	144.11	8197.73	-33.79	34.17	110.05	0.08	115.23	72.75
8250.00	0.90	152.19	8247.72	-33.13	33.52	110.45	0.26	115.43	73.12



Actual Wellpath Report

No. 2H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	Parkway	Wellbore	No. 2H AWB
Facility	Parkway 11 State Com No. 2H		

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	Gomeoscr
Scale	0.999918	Report Generated	12/8/2010 at 7:38:40 AM
Convergence at slot	0.15° East	Database/Source file	WA Midland/No. 2H_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	629229.50	611779.60	32°40'53.404"N	104°02'51.602"W
Facility Reference Pt			629229.50	611779.60	32°40'53.404"N	104°02'51.602"W
Field Reference Pt			623994.14	604893.77	32°39'45.403"N	104°03'53.063"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 2H SHL (GL) to GL	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 2H SHL (GL) to Mean Sea Level	3361.00ft
Vertical Reference Pt	Rig on No. 2H SHL (GL)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 2H SHL (GL)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.80°

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Actual Wellpath Report

No. 2H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	Parkway	Wellbore	No. 2H AWB
Facility	Parkway 11 State Com No. 2H		

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]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	230.300	0.00	0.00	0.00	0.00	629229.50	611779.60	32°40'53.404"N	104°02'51.602"W	0.00	
100.00	0.640	230.300	100.00	0.36	-0.36	-0.43	629229.07	611779.24	32°40'53.401"N	104°02'51.607"W	0.64	
200.00	0.390	238.340	199.99	0.89	-0.89	-1.15	629228.35	611778.71	32°40'53.396"N	104°02'51.615"W	0.26	
300.00	0.370	212.900	299.99	1.34	-1.34	-1.61	629227.89	611778.26	32°40'53.391"N	104°02'51.621"W	0.17	
400.00	0.350	179.470	399.99	1.91	-1.92	-1.79	629227.71	611777.68	32°40'53.385"N	104°02'51.623"W	0.21	
500.00	0.300	152.590	499.99	2.45	-2.46	-1.66	629227.84	611777.14	32°40'53.380"N	104°02'51.621"W	0.16	
600.00	0.310	156.640	599.99	2.93	-2.94	-1.44	629228.06	611776.66	32°40'53.375"N	104°02'51.619"W	0.02	
700.00	0.240	180.780	699.99	3.39	-3.39	-1.33	629228.17	611776.21	32°40'53.371"N	104°02'51.618"W	0.13	
800.00	0.360	112.290	799.98	3.72	-3.72	-1.04	629228.46	611775.88	32°40'53.367"N	104°02'51.614"W	0.35	
900.00	0.720	92.720	899.98	3.87	-3.87	-0.13	629229.37	611775.73	32°40'53.366"N	104°02'51.603"W	0.40	
1000.00	0.780	86.540	999.97	3.87	-3.86	1.18	629230.68	611775.74	32°40'53.366"N	104°02'51.588"W	0.10	
1100.00	0.830	79.680	1099.96	3.70	-3.69	2.57	629232.07	611775.91	32°40'53.368"N	104°02'51.572"W	0.11	
1200.00	0.890	66.730	1199.95	3.27	-3.25	4.00	629233.50	611776.35	32°40'53.372"N	104°02'51.555"W	0.20	
1300.00	1.410	65.700	1299.93	2.46	-2.44	5.83	629235.33	611777.16	32°40'53.380"N	104°02'51.534"W	0.52	
1400.00	2.160	69.710	1399.88	1.31	-1.28	8.72	629238.22	611778.32	32°40'53.391"N	104°02'51.500"W	0.76	
1500.00	3.820	78.300	1499.74	0.00	0.05	13.75	629243.25	611779.65	32°40'53.404"N	104°02'51.441"W	1.71	
1600.00	4.180	78.560	1599.50	-1.37	1.45	20.59	629250.09	611781.05	32°40'53.418"N	104°02'51.361"W	0.36	
1700.00	4.800	83.180	1699.19	-2.57	2.67	28.31	629257.81	611782.27	32°40'53.430"N	104°02'51.271"W	0.72	
1800.00	4.090	86.960	1798.89	-3.23	3.35	36.03	629265.53	611782.95	32°40'53.437"N	104°02'51.180"W	0.77	
1900.00	3.100	85.650	1898.69	-3.60	3.75	42.29	629271.78	611783.35	32°40'53.440"N	104°02'51.107"W	0.99	
2000.00	2.260	83.040	1998.58	-4.03	4.19	46.94	629276.44	611783.79	32°40'53.445"N	104°02'51.053"W	0.85	
2100.00	1.420	81.800	2098.53	-4.43	4.61	50.12	629279.62	611784.21	32°40'53.449"N	104°02'51.015"W	0.84	
2200.00	1.300	83.780	2198.50	-4.72	4.91	52.48	629281.97	611784.51	32°40'53.451"N	104°02'50.988"W	0.13	
2300.00	0.870	100.780	2298.48	-4.70	4.89	54.35	629283.85	611784.49	32°40'53.451"N	104°02'50.966"W	0.53	
2400.00	0.700	106.720	2398.47	-4.37	4.57	55.68	629285.18	611784.17	32°40'53.448"N	104°02'50.950"W	0.19	
2500.00	0.680	122.390	2498.47	-3.88	4.08	56.77	629286.26	611783.68	32°40'53.443"N	104°02'50.938"W	0.19	
2600.00	0.500	121.940	2598.46	-3.33	3.53	57.64	629287.14	611783.13	32°40'53.438"N	104°02'50.927"W	0.18	
2700.00	0.590	129.450	2698.46	-2.76	2.97	58.41	629287.90	611782.57	32°40'53.432"N	104°02'50.918"W	0.11	
2800.00	0.480	136.000	2798.45	-2.13	2.34	59.10	629288.59	611781.94	32°40'53.426"N	104°02'50.910"W	0.13	
2900.00	0.330	143.320	2898.45	-1.60	1.81	59.56	629289.05	611781.41	32°40'53.421"N	104°02'50.905"W	0.16	
3000.00	0.350	148.160	2998.45	-1.11	1.32	59.89	629289.39	611780.92	32°40'53.416"N	104°02'50.901"W	0.03	
3100.00	0.340	136.850	3098.45	-0.63	0.84	60.26	629289.75	611780.44	32°40'53.411"N	104°02'50.897"W	0.07	
3200.00	0.210	162.170	3198.44	-0.24	0.45	60.52	629290.01	611780.05	32°40'53.407"N	104°02'50.894"W	0.17	
3300.00	0.270	139.410	3298.44	0.12	0.10	60.72	629290.22	611779.70	32°40'53.404"N	104°02'50.891"W	0.11	
3400.00	0.260	107.150	3398.44	0.36	-0.15	61.10	629290.59	611779.45	32°40'53.401"N	104°02'50.887"W	0.15	
3500.00	0.260	126.670	3498.44	0.57	-0.35	61.49	629290.99	611779.25	32°40'53.399"N	104°02'50.882"W	0.09	
3600.00	0.110	114.370	3598.44	0.74	-0.53	61.76	629291.26	611779.07	32°40'53.397"N	104°02'50.879"W	0.15	
3700.00	0.260	65.840	3698.44	0.69	-0.47	62.06	629291.55	611779.13	32°40'53.398"N	104°02'50.876"W	0.20	
3800.00	0.270	2.110	3798.44	0.36	-0.14	62.27	629291.77	611779.46	32°40'53.401"N	104°02'50.873"W	0.28	
3900.00	0.490	305.260	3898.44	-0.12	0.34	61.93	629291.43	611779.94	32°40'53.406"N	104°02'50.877"W	0.41	
4000.00	0.480	309.750	3998.43	-0.64	0.85	61.26	629290.76	611780.45	32°40'53.411"N	104°02'50.885"W	0.04	
4100.00	0.630	304.520	4098.43	-1.22	1.43	60.49	629289.98	611781.03	32°40'53.417"N	104°02'50.894"W	0.16	
4200.00	0.550	297.500	4198.42	-1.76	1.97	59.61	629289.10	611781.57	32°40'53.422"N	104°02'50.904"W	0.11	
4300.00	0.710	299.830	4298.42	-2.29	2.50	58.64	629288.14	611782.09	32°40'53.427"N	104°02'50.916"W	0.16	
4400.00	0.660	304.700	4398.41	-2.93	3.13	57.63	629287.13	611782.73	32°40'53.434"N	104°02'50.927"W	0.08	



Actual Wellpath Report

No. 2H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	Parkway	Wellbore	No. 2H AWB
Facility	Parkway 11 State Com No. 2H		

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]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00	0.670	329.560	4498.40	-3.76	3.96	56.86	629286.36	611783.56	32°40'53.442"N	104°02'50.936"W	0.29	
4600.00	0.670	344.320	4598.40	-4.83	5.03	56.41	629285.91	611784.63	32°40'53.453"N	104°02'50.942"W	0.17	
4700.00	0.750	8.180	4698.39	-6.04	6.24	56.34	629285.84	611785.84	32°40'53.465"N	104°02'50.942"W	0.30	
4800.00	0.780	17.390	4798.38	-7.34	7.54	56.64	629286.14	611787.14	32°40'53.477"N	104°02'50.939"W	0.13	
4900.00	0.990	34.550	4898.37	-8.70	8.90	57.33	629286.83	611788.50	32°40'53.491"N	104°02'50.931"W	0.34	
5000.00	0.990	37.860	4998.35	-10.09	10.29	58.36	629287.85	611789.89	32°40'53.505"N	104°02'50.919"W	0.06	
5100.00	1.300	53.980	5098.34	-11.43	11.64	59.80	629289.30	611791.24	32°40'53.518"N	104°02'50.902"W	0.44	
5200.00	1.570	58.090	5198.30	-12.82	13.03	61.88	629291.38	611792.63	32°40'53.532"N	104°02'50.877"W	0.29	
5300.00	1.750	63.730	5298.26	-14.21	14.43	64.42	629293.91	611794.03	32°40'53.545"N	104°02'50.848"W	0.24	
5400.00	1.860	64.030	5398.21	-15.58	15.82	67.24	629296.74	611795.42	32°40'53.559"N	104°02'50.815"W	0.11	
5500.00	1.700	63.650	5498.16	-16.94	17.19	70.03	629299.53	611796.79	32°40'53.573"N	104°02'50.782"W	0.16	
5600.00	1.410	55.610	5598.13	-18.29	18.54	72.38	629301.87	611798.14	32°40'53.586"N	104°02'50.755"W	0.36	
5700.00	1.370	54.390	5698.10	-19.67	19.93	74.36	629303.86	611799.53	32°40'53.600"N	104°02'50.731"W	0.05	
5800.00	1.450	59.020	5798.07	-21.01	21.28	76.42	629305.91	611800.88	32°40'53.613"N	104°02'50.707"W	0.14	
5900.00	1.310	62.610	5898.04	-22.18	22.46	78.52	629308.01	611802.06	32°40'53.624"N	104°02'50.683"W	0.16	
6000.00	1.460	61.340	5998.01	-23.31	23.59	80.65	629310.15	611803.19	32°40'53.636"N	104°02'50.658"W	0.15	
6100.00	1.310	67.070	6097.98	-24.36	24.65	82.82	629312.32	611804.25	32°40'53.646"N	104°02'50.632"W	0.20	
6200.00	1.280	79.340	6197.95	-25.00	25.30	84.97	629314.47	611804.90	32°40'53.652"N	104°02'50.607"W	0.28	
6300.00	1.030	71.610	6297.93	-25.49	25.79	86.92	629316.42	611805.39	32°40'53.657"N	104°02'50.584"W	0.29	
6400.00	1.000	46.440	6397.92	-26.37	26.68	88.41	629317.90	611806.28	32°40'53.666"N	104°02'50.567"W	0.44	
6500.00	0.800	35.620	6497.91	-27.53	27.85	89.45	629318.94	611807.44	32°40'53.677"N	104°02'50.555"W	0.26	
6600.00	0.960	42.470	6597.89	-28.72	29.03	90.42	629319.91	611808.63	32°40'53.689"N	104°02'50.543"W	0.19	
6700.00	0.770	55.470	6697.88	-29.71	30.03	91.54	629321.03	611809.63	32°40'53.699"N	104°02'50.530"W	0.27	
6800.00	0.760	58.370	6797.87	-30.43	30.76	92.66	629322.15	611810.36	32°40'53.706"N	104°02'50.517"W	0.04	
6900.00	0.640	61.520	6897.87	-31.05	31.37	93.71	629323.21	611810.97	32°40'53.712"N	104°02'50.504"W	0.13	
7000.00	0.820	60.540	6997.86	-31.66	31.99	94.83	629324.32	611811.59	32°40'53.718"N	104°02'50.491"W	0.18	
7100.00	0.760	52.500	7097.85	-32.41	32.75	95.98	629325.47	611812.34	32°40'53.726"N	104°02'50.478"W	0.13	
7200.00	0.770	62.310	7197.84	-33.12	33.46	97.10	629326.59	611813.06	32°40'53.733"N	104°02'50.465"W	0.13	
7300.00	0.750	58.480	7297.83	-33.77	34.12	98.25	629327.74	611813.71	32°40'53.739"N	104°02'50.451"W	0.05	
7400.00	0.950	57.470	7397.82	-34.56	34.91	99.51	629329.00	611814.50	32°40'53.747"N	104°02'50.437"W	0.20	
7500.00	0.980	63.800	7497.81	-35.38	35.73	100.97	629330.47	611815.33	32°40'53.755"N	104°02'50.419"W	0.11	
7600.00	1.000	75.450	7597.79	-35.97	36.33	102.59	629332.08	611815.92	32°40'53.761"N	104°02'50.401"W	0.20	
7700.00	1.200	76.110	7697.77	-36.43	36.80	104.45	629333.94	611816.39	32°40'53.766"N	104°02'50.379"W	0.20	
7748.00	1.000	87.000	7745.76	-36.57	36.94	105.35	629334.84	611816.54	32°40'53.767"N	104°02'50.368"W	0.60	
7780.00	3.300	156.100	7777.74	-35.74	36.11	106.01	629335.50	611815.71	32°40'53.759"N	104°02'50.361"W	9.65	
7811.00	9.400	164.800	7808.54	-32.47	32.85	107.03	629336.52	611812.45	32°40'53.726"N	104°02'50.349"W	19.86	
7843.00	16.100	166.800	7839.73	-25.62	26.00	108.73	629338.22	611805.60	32°40'53.659"N	104°02'50.329"W	20.98	
7874.00	22.600	167.100	7868.97	-15.61	16.00	111.05	629340.54	611795.60	32°40'53.560"N	104°02'50.302"W	20.97	
7906.00	29.300	166.000	7897.72	-1.99	2.39	114.32	629343.81	611781.99	32°40'53.425"N	104°02'50.264"W	20.99	
7938.00	36.100	165.700	7924.64	-14.78	-14.36	118.54	629348.03	611765.24	32°40'53.259"N	104°02'50.215"W	21.26	
7970.00	42.700	166.500	7949.35	34.50	-34.07	123.41	629352.90	611745.53	32°40'53.064"N	104°02'50.159"W	20.69	
8001.00	49.100	168.100	7970.91	56.23	-55.78	128.29	629357.78	611723.83	32°40'52.849"N	104°02'50.103"W	20.97	
8033.00	55.800	169.000	7990.40	81.10	-80.63	133.31	629362.80	611698.98	32°40'52.603"N	104°02'50.045"W	21.06	
8065.00	62.600	170.000	8006.78	108.12	-107.64	138.31	629367.80	611671.97	32°40'52.336"N	104°02'49.987"W	21.42	
8096.00	69.200	170.100	8019.43	136.00	-135.50	143.19	629372.68	611644.11	32°40'52.060"N	104°02'49.931"W	21.29	



Actual Wellpath Report

No. 2H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	Parkway	Wellbore	No. 2H AWB
Facility	Parkway 11 State Com No. 2H		

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]	Latitude	Longitude	DLS [°/100ft]	Comments
8128.00	75.700	170.500	8029.08	166.07	-165.56	148.33	629377.82	611614.06	32°40'51.762"N	104°02'49.872"W	20.35	
8160.00	83.100	170.700	8034.96	197.10	-196.57	153.46	629382.95	611583.05	32°40'51.455"N	104°02'49.813"W	23.13	
8191.00	86.900	171.200	8037.66	227.61	-227.06	158.32	629387.81	611552.56	32°40'51.153"N	104°02'49.757"W	12.36	
8223.00	87.100	172.100	8039.33	259.24	-258.68	162.96	629392.45	611520.95	32°40'50.841"N	104°02'49.703"W	2.88	
8287.00	88.600	171.700	8041.73	322.59	-321.99	171.97	629401.46	611457.64	32°40'50.214"N	104°02'49.600"W	2.43	
8350.00	89.300	173.400	8042.89	385.07	-384.45	180.14	629409.62	611395.19	32°40'49.596"N	104°02'49.506"W	2.92	
8414.00	89.300	174.700	8043.67	448.75	-448.09	186.77	629416.26	611331.54	32°40'48.966"N	104°02'49.431"W	2.03	
8477.00	90.400	176.300	8043.84	511.57	-510.90	191.71	629421.20	611268.75	32°40'48.344"N	104°02'49.375"W	3.08	
8540.00	91.100	177.600	8043.01	574.48	-573.80	195.07	629424.55	611205.85	32°40'47.722"N	104°02'49.338"W	2.34	
8604.00	91.400	177.600	8041.62	638.42	-637.73	197.75	629427.23	611141.92	32°40'47.089"N	104°02'49.308"W	0.47	
8667.00	91.600	177.800	8039.97	701.35	-700.66	200.27	629429.76	611079.00	32°40'46.466"N	104°02'49.281"W	0.45	
8731.00	91.800	177.300	8038.07	765.28	-764.57	203.01	629432.49	611015.09	32°40'45.834"N	104°02'49.251"W	0.84	
8794.00	91.600	177.400	8036.20	828.19	-827.47	205.92	629435.40	610952.19	32°40'45.211"N	104°02'49.219"W	0.35	
8858.00	91.900	177.200	8034.24	892.10	-891.37	208.93	629438.42	610888.30	32°40'44.579"N	104°02'49.186"W	0.56	
8921.00	91.900	177.200	8032.16	955.00	-954.26	212.01	629441.49	610825.42	32°40'43.957"N	104°02'49.152"W	0.00	
8984.00	89.900	178.900	8031.17	1017.96	-1017.21	214.15	629443.63	610762.47	32°40'43.334"N	104°02'49.129"W	4.17	
9048.00	89.500	178.500	8031.50	1081.94	-1081.20	215.60	629445.09	610698.49	32°40'42.701"N	104°02'49.114"W	0.88	
9111.00	90.900	180.500	8031.28	1144.94	-1144.19	216.15	629445.64	610635.51	32°40'42.077"N	104°02'49.109"W	3.88	
9175.00	90.200	180.800	8030.67	1208.93	-1208.18	215.43	629444.91	610571.52	32°40'41.444"N	104°02'49.120"W	1.19	
9238.00	89.700	180.700	8030.72	1271.92	-1271.18	214.60	629444.08	610508.53	32°40'40.821"N	104°02'49.131"W	0.81	
9302.00	89.400	180.300	8031.22	1335.91	-1335.17	214.04	629443.53	610444.54	32°40'40.188"N	104°02'49.140"W	0.78	
9365.00	89.100	180.500	8032.05	1398.90	-1398.16	213.60	629443.09	610381.55	32°40'39.565"N	104°02'49.147"W	0.57	
9429.00	88.700	180.000	8033.28	1462.89	-1462.15	213.33	629442.81	610317.57	32°40'38.932"N	104°02'49.152"W	1.00	
9492.00	88.900	180.300	8034.60	1525.87	-1525.14	213.16	629442.64	610254.59	32°40'38.308"N	104°02'49.156"W	0.57	
9555.00	89.900	181.600	8035.26	1588.86	-1588.12	212.12	629441.60	610191.61	32°40'37.685"N	104°02'49.170"W	2.60	
9619.00	90.500	182.600	8035.03	1652.80	-1652.08	209.77	629439.25	610127.66	32°40'37.052"N	104°02'49.200"W	1.82	
9683.00	91.000	183.600	8034.20	1716.69	-1715.98	206.31	629435.79	610063.77	32°40'36.420"N	104°02'49.242"W	1.75	
9746.00	91.100	183.400	8033.04	1779.55	-1778.85	202.46	629431.95	610000.90	32°40'35.798"N	104°02'49.289"W	0.35	
9809.00	90.900	183.000	8031.94	1842.43	-1841.74	198.95	629428.43	609938.01	32°40'35.176"N	104°02'49.332"W	0.71	
9873.00	90.700	183.100	8031.05	1906.32	-1905.65	195.54	629425.03	609874.11	32°40'34.544"N	104°02'49.374"W	0.35	
9936.00	90.500	183.000	8030.39	1969.21	-1968.55	192.19	629421.68	609811.21	32°40'33.922"N	104°02'49.415"W	0.35	
10000.00	90.300	182.500	8029.94	2033.13	-2032.48	189.12	629418.61	609747.29	32°40'33.289"N	104°02'49.453"W	0.84	
10063.00	90.100	182.200	8029.72	2096.06	-2095.42	186.54	629416.02	609684.35	32°40'32.666"N	104°02'49.486"W	0.57	
10127.00	90.100	182.000	8029.61	2160.01	-2159.38	184.19	629413.68	609620.40	32°40'32.034"N	104°02'49.515"W	0.31	
10190.00	90.200	182.000	8029.44	2222.97	-2222.34	181.99	629411.48	609557.44	32°40'31.411"N	104°02'49.543"W	0.16	
10253.00	90.600	182.300	8029.01	2285.91	-2285.30	179.63	629409.12	609494.50	32°40'30.788"N	104°02'49.572"W	0.79	
10317.00	90.600	182.200	8028.33	2349.85	-2349.24	177.12	629406.60	609430.55	32°40'30.155"N	104°02'49.604"W	0.16	
10380.00	90.700	182.300	8027.62	2412.79	-2412.19	174.64	629404.13	609367.61	32°40'29.532"N	104°02'49.635"W	0.22	
10444.00	90.000	182.300	8027.23	2476.72	-2476.14	172.08	629401.56	609303.67	32°40'28.900"N	104°02'49.667"W	1.09	
10507.00	90.200	182.100	8027.12	2539.67	-2539.09	169.66	629399.14	609240.72	32°40'28.277"N	104°02'49.697"W	0.45	
10570.00	89.000	182.300	8027.56	2602.61	-2602.04	167.24	629396.73	609177.78	32°40'27.654"N	104°02'49.727"W	1.93	
10634.00	89.200	182.400	8028.56	2666.54	-2665.98	164.62	629394.10	609113.84	32°40'27.022"N	104°02'49.760"W	0.35	
10698.00	89.400	182.200	8029.35	2730.47	-2729.92	162.05	629391.53	609049.91	32°40'26.389"N	104°02'49.792"W	0.44	
10761.00	89.600	182.600	8029.90	2793.41	-2792.87	159.41	629388.90	608986.97	32°40'25.766"N	104°02'49.825"W	0.71	
10824.00	90.200	182.400	8030.01	2856.34	-2855.81	156.66	629386.15	608924.03	32°40'25.144"N	104°02'49.859"W	1.00	



Actual Wellpath Report

No. 2H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	Parkway	Wellbore	No. 2H AWB
Facility	Parkway 11 State Com No. 2H		

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]	Latitude	Longitude	DLS [°/100ft]	Comments
10888.00	90.600	182.000	8029.56	2920.28	-2919.76	154.20	629383.69	608860.09	32°40'24.511"N	104°02'49.890"W	0.88	
10951.00	90.400	182.200	8029.01	2983.23	-2982.71	151.90	629381.38	608797.14	32°40'23.888"N	104°02'49.919"W	0.45	
11014.00	90.200	181.800	8028.68	3046.18	-3045.67	149.70	629379.19	608734.18	32°40'23.265"N	104°02'49.947"W	0.71	
11078.00	90.400	182.100	8028.34	3110.13	-3109.63	147.52	629377.01	608670.23	32°40'22.632"N	104°02'49.974"W	0.56	
11141.00	90.400	182.500	8027.90	3173.07	-3172.58	144.99	629374.48	608607.29	32°40'22.010"N	104°02'50.006"W	0.63	
11205.00	91.300	182.700	8026.96	3236.99	-3236.51	142.09	629371.58	608543.36	32°40'21.377"N	104°02'50.042"W	1.44	
11268.00	92.300	182.700	8024.98	3299.87	-3299.41	139.12	629368.61	608480.47	32°40'20.755"N	104°02'50.078"W	1.59	
11331.00	92.200	182.800	8022.50	3362.74	-3362.29	136.10	629365.59	608417.60	32°40'20.133"N	104°02'50.116"W	0.22	
11394.00	92.700	182.500	8019.81	3425.61	-3425.16	133.19	629362.68	608354.73	32°40'19.511"N	104°02'50.152"W	0.93	
11458.00	91.000	182.700	8017.74	3489.49	-3489.06	130.29	629359.78	608290.83	32°40'18.879"N	104°02'50.188"W	2.67	
11521.00	91.000	182.200	8016.64	3552.42	-3551.99	127.60	629357.09	608227.91	32°40'18.256"N	104°02'50.221"W	0.79	
11584.00	89.700	182.100	8016.26	3615.36	-3614.94	125.23	629354.72	608164.96	32°40'17.633"N	104°02'50.251"W	2.07	
11648.00	89.500	181.700	8016.71	3679.32	-3678.91	123.11	629352.60	608101.00	32°40'17.000"N	104°02'50.278"W	0.70	
11711.00	89.700	181.500	8017.15	3742.28	-3741.88	121.35	629350.84	608038.03	32°40'16.377"N	104°02'50.300"W	0.45	
11774.00	89.400	180.900	8017.64	3805.26	-3804.86	120.03	629349.52	607975.05	32°40'15.754"N	104°02'50.318"W	1.06	
11838.00	89.500	180.900	8018.26	3869.25	-3868.85	119.03	629348.52	607911.07	32°40'15.121"N	104°02'50.331"W	0.16	
11901.00	89.400	180.500	8018.86	3932.24	-3931.85	118.26	629347.75	607848.08	32°40'14.498"N	104°02'50.342"W	0.65	
11924.00	89.400	180.400	8019.10	3955.23	-3954.84	118.08	629347.57	607825.09	32°40'14.270"N	104°02'50.345"W	0.43	
11969.00	89.400	180.400	8019.57	4000.23	-3999.84	117.76	629347.25	607780.10	32°40'13.825"N	104°02'50.350"W	0.00	Proj to Bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 2H PBHL (P11ST)		7950.00	-4613.05	16.15	629245.65	607166.94	32°40'07.761"N	104°02'51.558"W	point

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	7700.00	Generic gyro - northseeking (Standard)	Gyro	No. 2H AWB
7700.00	11969.00	NaviTrak (Standard)	MWD	No. 2H AWB