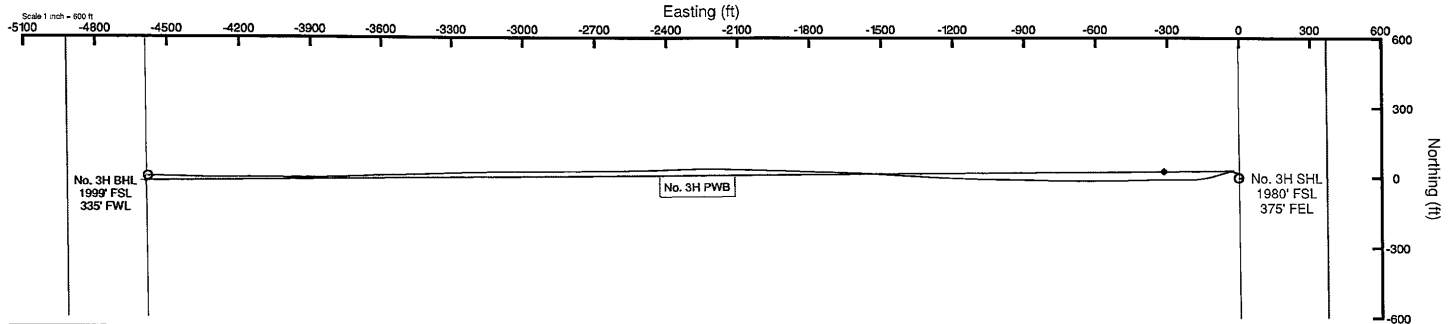




Cimarex Energy Co.

Location: Chaves County, NM
Field: (Midway) Sec 17, T15S, R31E
Facility: Midway 17 Fed No. 3H

Slot: No. 3H SHL
Well: No. 3H
Wellbore: No. 3H PWB

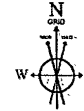


Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*100ft)	VS (ft)
Tie On	8418.87	0.330	48.642	8418.50	30.20	-22.78	0.00	22.67
EST. KOP	8503.00	0.330	269.400	8502.63	30.35	-22.84	0.74	22.73
END OF CURVE 90.7" INC	8954.86	90.703	269.416	8787.43	27.40	-312.81	20.00	312.71
No. 3H PBHL	13230.67	90.703	269.416	8735.00	-16.18	-4588.07	0.00	4588.10

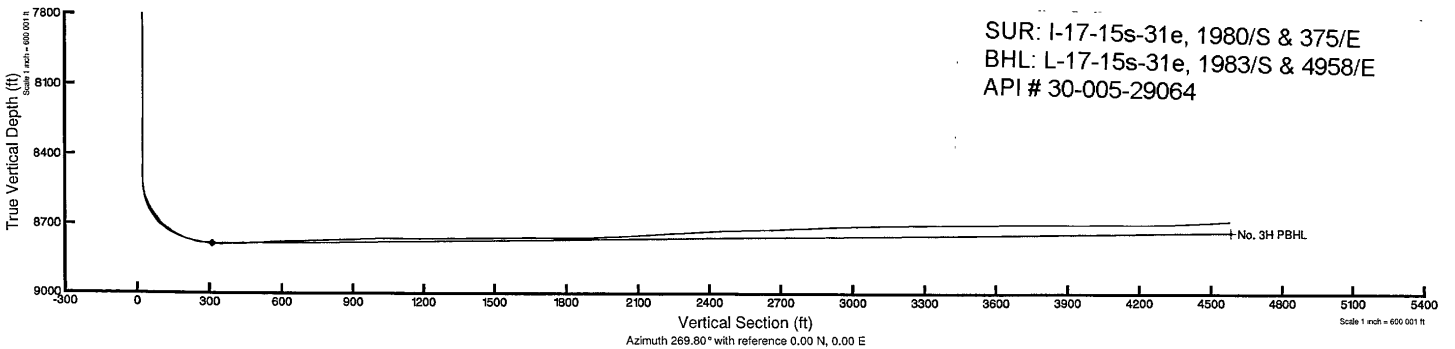
Location Information

Facility Name	Grid East (USft)	Grid North (USft)	Latitude	Longitude
Midway 17 Fed No. 3H	693587.200	733011.600	33°00'50.618"N	103°50'11.921"W
Slot	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)
No. 3H SHL	0.00	0.00	693587.200	733011.600
Patrol 4 on No. 3H SHL (RT) to Mud line (Facility: Midway 17 Fed No. 3H)			33°00'50.618"N	103°50'11.921"W
Mean Sea Level to Mud line (Facility: Midway 17 Fed No. 3H)			-4422ft	
Patrol 4 on No. 3H SHL (RT) to Mean Sea Level			4445ft	



BDGM (1945 to 2011) Dp. 80.93" Field 49289.8 mT
Magnetic North is 8.03 degrees East of True North (at 9/14/2009)
Grid North is 0.27 degrees East of True North
To correct azimuth from True to Grid subtract 0.27 degrees
To correct azimuth from Magnetic to Grid add 7.76 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.76 = 97.76

Plot reference wellbore is Plan #2 - Final Page Plot	
True vertical depths are referenced to Patrol 4 on No. 3H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Patrol 4 on No. 3H SHL (RT)	North Reference: Grid north
Patrol 4 on No. 3H SHL (RT) to Mean Sea Level 4445 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Midway 17 Fed No. 3H) -4422 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by Victor Hernandez on 10/5/2009



SUR: I-17-15s-31e, 1980/S & 375/E
BHL: L-17-15s-31e, 1983/S & 4958/E
API # 30-005-29064



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

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	0.999936	Report Generated	10/5/2009 at 11:36:05 AM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/No. 3H_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	693587.20	733011.60	33°00'50.618"N	103°50'11.921"W
Facility Reference Pt			693587.20	733011.60	33°00'50.618"N	103°50'11.921"W
Field Reference Pt			689006.90	731390.30	33°00'34.787"N	103°51'05.799"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patriot 4 on No. 3H SHL (RT) to Facility Vertical Datum	23.00ft
Horizontal Reference Pt	Facility Center	Patriot 4 on No. 3H SHL (RT) to Mean Sea Level	4445.00ft
Vertical Reference Pt	Patriot 4 on No. 3H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Patriot 4 on No. 3H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.80°



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
0.00	0.000	105.680	0.00	0.00	0.00	0.00	693587.20	733011.60	33°00'50.618"N	103°50'11.921"W	0.00
100.00	0.420	105.680	100.00	-0.35	-0.10	0.35	693587.55	733011.50	33°00'50.617"N	103°50'11.917"W	0.42
200.00	0.530	92.320	200.00	-1.17	-0.22	1.17	693588.37	733011.38	33°00'50.616"N	103°50'11.907"W	0.16
300.00	0.440	100.670	299.99	-2.01	-0.31	2.01	693589.21	733011.29	33°00'50.615"N	103°50'11.897"W	0.11
400.00	0.660	92.310	399.99	-2.96	-0.40	2.96	693590.16	733011.20	33°00'50.614"N	103°50'11.886"W	0.23
500.00	0.570	86.500	499.98	-4.03	-0.39	4.03	693591.23	733011.21	33°00'50.614"N	103°50'11.874"W	0.11
600.00	0.630	89.130	599.98	-5.08	-0.36	5.08	693592.28	733011.24	33°00'50.614"N	103°50'11.861"W	0.07
700.00	0.510	109.360	699.97	-6.05	-0.49	6.05	693593.25	733011.11	33°00'50.613"N	103°50'11.850"W	0.23
800.00	0.700	103.270	799.97	-7.06	-0.78	7.06	693594.26	733010.82	33°00'50.610"N	103°50'11.838"W	0.20
824.50	0.700	102.840	824.46	-7.35	-0.85	7.35	693594.55	733010.75	33°00'50.609"N	103°50'11.835"W	0.02
919.70	0.660	92.740	919.66	-8.46	-1.01	8.47	693595.67	733010.59	33°00'50.607"N	103°50'11.822"W	0.13
1014.70	0.660	98.800	1014.65	-9.55	-1.11	9.56	693596.76	733010.49	33°00'50.606"N	103°50'11.809"W	0.07
1109.70	0.560	87.310	1109.65	-10.56	-1.18	10.56	693597.76	733010.42	33°00'50.606"N	103°50'11.797"W	0.17
1204.70	0.540	99.600	1204.64	-11.46	-1.23	11.47	693598.66	733010.37	33°00'50.605"N	103°50'11.786"W	0.13
1299.80	0.320	119.560	1299.74	-12.13	-1.44	12.14	693599.34	733010.16	33°00'50.603"N	103°50'11.779"W	0.28
1393.80	0.220	122.480	1393.74	-12.51	-1.66	12.52	693599.72	733009.94	33°00'50.601"N	103°50'11.774"W	0.11
1487.80	0.150	269.170	1487.74	-12.54	-1.76	12.55	693599.75	733009.84	33°00'50.600"N	103°50'11.774"W	0.38
1582.80	0.320	260.500	1582.74	-12.16	-1.81	12.16	693599.36	733009.79	33°00'50.599"N	103°50'11.778"W	0.18
1677.90	0.370	254.390	1677.83	-11.60	-1.93	11.60	693598.80	733009.67	33°00'50.598"N	103°50'11.785"W	0.07
1772.80	0.250	240.280	1772.73	-11.12	-2.12	11.13	693598.33	733009.48	33°00'50.596"N	103°50'11.790"W	0.15
1867.80	0.090	244.370	1867.73	-10.87	-2.25	10.88	693598.08	733009.35	33°00'50.595"N	103°50'11.793"W	0.17
1962.70	0.070	66.270	1962.63	-10.86	-2.26	10.87	693598.07	733009.34	33°00'50.595"N	103°50'11.794"W	0.17
2057.60	0.330	51.210	2057.53	-11.13	-2.07	11.13	693598.33	733009.53	33°00'50.597"N	103°50'11.790"W	0.28
2152.70	0.580	48.170	2152.63	-11.70	-1.57	11.71	693598.91	733010.03	33°00'50.602"N	103°50'11.784"W	0.26
2247.60	0.640	39.580	2247.52	-12.40	-0.85	12.40	693599.60	733010.75	33°00'50.609"N	103°50'11.775"W	0.12
2342.60	0.590	47.190	2342.52	-13.10	-0.10	13.10	693600.30	733011.50	33°00'50.616"N	103°50'11.767"W	0.10
2437.70	0.520	40.380	2437.61	-13.74	0.56	13.74	693600.94	733012.16	33°00'50.623"N	103°50'11.760"W	0.10
2532.60	0.600	38.530	2532.51	-14.33	1.27	14.33	693601.53	733012.87	33°00'50.630"N	103°50'11.753"W	0.09
2627.60	0.460	28.130	2627.51	-14.82	2.00	14.82	693602.01	733013.60	33°00'50.637"N	103°50'11.747"W	0.18
2722.60	0.340	11.320	2722.50	-15.06	2.61	15.05	693602.25	733014.21	33°00'50.643"N	103°50'11.744"W	0.18



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
2816.80	0.330	356.080	2816.70	-15.10	3.16	15.09	693602.29	733014.76	33°00'50.648"N	103°50'11.744"W	0.09
2911.90	0.310	3.240	2911.80	-15.10	3.69	15.08	693602.28	733015.29	33°00'50.654"N	103°50'11.744"W	0.05
3006.10	0.330	1.660	3006.00	-15.12	4.21	15.11	693602.30	733015.81	33°00'50.659"N	103°50'11.743"W	0.02
3101.10	0.290	355.430	3101.00	-15.11	4.73	15.09	693602.29	733016.33	33°00'50.664"N	103°50'11.744"W	0.06
3196.20	0.230	5.370	3196.10	-15.11	5.16	15.09	693602.29	733016.76	33°00'50.668"N	103°50'11.744"W	0.08
3291.50	0.230	340.700	3291.40	-15.07	5.53	15.05	693602.25	733017.13	33°00'50.672"N	103°50'11.744"W	0.10
3386.40	0.250	347.500	3386.29	-14.96	5.91	14.94	693602.14	733017.51	33°00'50.676"N	103°50'11.745"W	0.04
3481.80	0.230	349.330	3481.69	-14.88	6.30	14.86	693602.06	733017.90	33°00'50.679"N	103°50'11.746"W	0.02
3576.80	0.210	354.440	3576.69	-14.83	6.66	14.81	693602.01	733018.26	33°00'50.683"N	103°50'11.747"W	0.03
3671.80	0.310	342.600	3671.69	-14.74	7.08	14.71	693601.91	733018.68	33°00'50.687"N	103°50'11.748"W	0.12
3766.80	0.320	318.970	3766.69	-14.49	7.52	14.46	693601.66	733019.12	33°00'50.692"N	103°50'11.751"W	0.14
3861.90	0.450	303.720	3861.79	-14.01	7.93	13.98	693601.18	733019.53	33°00'50.696"N	103°50'11.756"W	0.17
3956.10	0.330	320.450	3955.99	-13.53	8.35	13.50	693600.70	733019.95	33°00'50.700"N	103°50'11.762"W	0.17
4051.10	0.550	314.000	4050.98	-13.03	8.87	12.99	693600.19	733020.47	33°00'50.705"N	103°50'11.768"W	0.24
4146.10	0.590	325.500	4145.98	-12.42	9.59	12.39	693599.59	733021.19	33°00'50.712"N	103°50'11.775"W	0.13
4241.20	0.560	322.100	4241.07	-11.86	10.36	11.83	693599.03	733021.96	33°00'50.720"N	103°50'11.782"W	0.05
4336.40	0.600	313.400	4336.27	-11.22	11.07	11.18	693598.38	733022.67	33°00'50.727"N	103°50'11.789"W	0.10
4431.50	0.590	315.710	4431.36	-10.52	11.77	10.48	693597.67	733023.37	33°00'50.734"N	103°50'11.797"W	0.03
4526.50	0.680	323.370	4526.36	-9.84	12.57	9.80	693597.00	733024.17	33°00'50.742"N	103°50'11.805"W	0.13
4621.40	0.590	323.250	4621.25	-9.22	13.41	9.17	693596.37	733025.01	33°00'50.750"N	103°50'11.813"W	0.09
4715.50	0.460	318.010	4715.35	-8.68	14.08	8.63	693595.83	733025.68	33°00'50.757"N	103°50'11.819"W	0.15
4810.40	0.480	323.160	4810.25	-8.18	14.68	8.13	693595.33	733026.28	33°00'50.763"N	103°50'11.825"W	0.05
4905.40	0.500	318.350	4905.24	-7.67	15.31	7.62	693594.82	733026.91	33°00'50.769"N	103°50'11.831"W	0.05
5000.40	0.550	306.740	5000.24	-7.03	15.89	6.98	693594.18	733027.49	33°00'50.775"N	103°50'11.838"W	0.12
5095.30	0.640	302.770	5095.13	-6.23	16.45	6.17	693593.37	733028.05	33°00'50.780"N	103°50'11.848"W	0.10
5190.30	0.720	299.590	5190.13	-5.26	17.03	5.20	693592.40	733028.63	33°00'50.786"N	103°50'11.859"W	0.09
5284.50	0.720	294.530	5284.32	-4.21	17.57	4.15	693591.35	733029.17	33°00'50.791"N	103°50'11.871"W	0.07
5379.50	0.660	289.930	5379.31	-3.16	18.01	3.09	693590.29	733029.61	33°00'50.796"N	103°50'11.884"W	0.09
5474.60	0.700	285.140	5474.40	-2.08	18.35	2.02	693589.22	733029.94	33°00'50.799"N	103°50'11.896"W	0.07
5569.50	0.690	287.590	5569.30	-0.98	18.67	0.91	693588.11	733030.27	33°00'50.802"N	103°50'11.909"W	0.03



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
5664.50	0.730	289.380	5664.29	0.14	19.04	-0.20	693587.00	733030.64	33°00'50.806"N	103°50'11.922"W	0.05
5759.50	0.680	290.570	5759.28	1.23	19.44	-1.30	693585.90	733031.04	33°00'50.810"N	103°50'11.935"W	0.05
5854.60	0.740	284.340	5854.38	2.36	19.79	-2.43	693584.77	733031.39	33°00'50.814"N	103°50'11.948"W	0.10
5949.60	0.780	279.880	5949.37	3.59	20.06	-3.66	693583.54	733031.65	33°00'50.816"N	103°50'11.963"W	0.08
6044.60	0.780	277.360	6044.36	4.86	20.25	-4.94	693582.26	733031.85	33°00'50.818"N	103°50'11.978"W	0.04
6139.60	0.780	284.630	6139.35	6.13	20.49	-6.20	693581.00	733032.09	33°00'50.821"N	103°50'11.993"W	0.10
6234.80	0.710	284.800	6234.54	7.33	20.81	-7.40	693579.80	733032.41	33°00'50.824"N	103°50'12.007"W	0.07
6329.10	0.760	292.460	6328.83	8.47	21.20	-8.54	693578.66	733032.80	33°00'50.828"N	103°50'12.020"W	0.12
6428.20	0.800	292.060	6427.93	9.71	21.71	-9.79	693577.41	733033.31	33°00'50.833"N	103°50'12.035"W	0.04
6519.30	0.810	292.140	6519.02	10.90	22.19	-10.98	693576.22	733033.79	33°00'50.838"N	103°50'12.049"W	0.01
6614.30	0.770	288.340	6614.01	12.13	22.64	-12.21	693575.00	733034.24	33°00'50.842"N	103°50'12.063"W	0.07
6709.40	0.760	285.790	6709.10	13.34	23.02	-13.42	693573.78	733034.62	33°00'50.846"N	103°50'12.077"W	0.04
6803.40	0.650	284.870	6803.09	14.45	23.32	-14.53	693572.67	733034.92	33°00'50.849"N	103°50'12.090"W	0.12
6898.30	0.770	282.690	6897.98	15.59	23.60	-15.68	693571.52	733035.20	33°00'50.852"N	103°50'12.104"W	0.13
6993.60	0.740	283.820	6993.28	16.81	23.89	-16.90	693570.30	733035.49	33°00'50.855"N	103°50'12.118"W	0.04
7088.50	0.700	288.200	7088.17	17.96	24.22	-18.04	693569.16	733035.81	33°00'50.858"N	103°50'12.132"W	0.07
7183.50	0.720	290.520	7183.16	19.07	24.61	-19.15	693568.05	733036.21	33°00'50.862"N	103°50'12.145"W	0.04
7278.60	0.660	293.710	7278.25	20.13	25.04	-20.22	693566.99	733036.63	33°00'50.866"N	103°50'12.157"W	0.07
7373.60	0.650	298.020	7373.25	21.10	25.51	-21.19	693566.01	733037.11	33°00'50.871"N	103°50'12.169"W	0.05
7468.50	0.520	305.050	7468.14	21.93	26.01	-22.02	693565.18	733037.61	33°00'50.876"N	103°50'12.178"W	0.16
7563.60	0.380	313.290	7563.24	22.51	26.47	-22.60	693564.60	733038.07	33°00'50.881"N	103°50'12.185"W	0.16
7658.70	0.300	313.970	7658.34	22.92	26.86	-23.01	693564.19	733038.46	33°00'50.885"N	103°50'12.190"W	0.08
7753.70	0.300	323.020	7753.34	23.24	27.23	-23.34	693563.86	733038.83	33°00'50.888"N	103°50'12.194"W	0.05
7848.60	0.370	321.590	7848.24	23.58	27.67	-23.68	693563.52	733039.27	33°00'50.893"N	103°50'12.198"W	0.07
7943.60	0.280	331.030	7943.23	23.88	28.12	-23.98	693563.22	733039.71	33°00'50.897"N	103°50'12.201"W	0.11
8038.60	0.270	12.030	8038.23	23.95	28.54	-24.05	693563.15	733040.14	33°00'50.901"N	103°50'12.202"W	0.20
8133.80	0.290	25.390	8133.43	23.80	28.98	-23.90	693563.30	733040.57	33°00'50.906"N	103°50'12.200"W	0.07
8228.90	0.270	31.260	8228.53	23.58	29.38	-23.68	693563.52	733040.98	33°00'50.910"N	103°50'12.197"W	0.04
8323.80	0.440	52.900	8323.43	23.17	29.80	-23.27	693563.93	733041.39	33°00'50.914"N	103°50'12.193"W	0.23
8418.87	0.330	48.642	8418.50	22.67	30.20	-22.78	693564.43	733041.79	33°00'50.918"N	103°50'12.187"W	0.12



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
8480.00	0.430	53.600	8479.63	22.35	30.45	-22.46	693564.74	733042.05	33°00'50.920"N	103°50'12.183"W	0.17
8511.00	1.200	263.000	8510.62	22.58	30.48	-22.69	693564.51	733042.08	33°00'50.920"N	103°50'12.186"W	5.12
8543.00	5.400	259.200	8542.56	24.39	30.16	-24.50	693562.70	733041.75	33°00'50.917"N	103°50'12.207"W	13.14
8575.00	10.900	258.500	8574.23	28.84	29.27	-28.95	693558.25	733040.87	33°00'50.909"N	103°50'12.259"W	17.19
8606.00	17.600	256.400	8604.26	36.29	27.58	-36.38	693550.82	733039.18	33°00'50.892"N	103°50'12.347"W	21.67
8638.00	25.000	253.400	8634.05	47.50	24.51	-47.58	693539.62	733036.11	33°00'50.862"N	103°50'12.478"W	23.37
8670.00	32.700	251.800	8662.06	62.23	19.87	-62.30	693524.91	733031.47	33°00'50.817"N	103°50'12.652"W	24.18
8701.00	40.200	253.000	8686.98	79.79	14.32	-79.84	693507.36	733025.92	33°00'50.763"N	103°50'12.858"W	24.30
8733.00	48.900	254.600	8709.76	101.36	8.09	-101.39	693485.82	733019.69	33°00'50.703"N	103°50'13.111"W	27.41
8765.00	55.600	256.800	8729.34	125.89	1.86	-125.89	693461.32	733013.46	33°00'50.642"N	103°50'13.399"W	21.63
8796.00	62.300	260.700	8745.33	151.93	-3.28	-151.92	693435.29	733008.32	33°00'50.592"N	103°50'13.705"W	24.15
8828.00	68.300	265.800	8758.70	180.79	-6.67	-180.77	693406.44	733004.93	33°00'50.560"N	103°50'14.044"W	23.68
8860.00	73.500	270.300	8769.17	211.00	-7.68	-210.97	693376.24	733003.92	33°00'50.552"N	103°50'14.399"W	20.99
8892.00	77.300	270.700	8777.24	241.96	-7.40	-241.93	693345.28	733004.20	33°00'50.556"N	103°50'14.763"W	11.94
8923.00	80.600	269.900	8783.18	272.38	-7.25	-272.35	693314.86	733004.35	33°00'50.559"N	103°50'15.120"W	10.94
8955.00	84.100	269.400	8787.44	304.09	-7.44	-304.06	693283.16	733004.16	33°00'50.558"N	103°50'15.492"W	11.05
8987.00	87.900	268.800	8789.67	336.00	-7.94	-335.98	693251.25	733003.66	33°00'50.555"N	103°50'15.867"W	12.02
9018.00	91.100	268.400	8789.94	366.99	-8.70	-366.96	693220.26	733002.90	33°00'50.549"N	103°50'16.231"W	10.40
9050.00	91.800	268.500	8789.13	398.97	-9.56	-398.94	693188.29	733002.04	33°00'50.542"N	103°50'16.606"W	2.21
9082.00	92.300	268.600	8787.98	430.94	-10.37	-430.91	693156.32	733001.23	33°00'50.535"N	103°50'16.982"W	1.59
9113.00	93.700	268.800	8786.36	461.89	-11.08	-461.86	693125.37	733000.52	33°00'50.530"N	103°50'17.345"W	4.56
9145.00	94.000	268.900	8784.21	493.82	-11.72	-493.78	693093.45	732999.88	33°00'50.525"N	103°50'17.720"W	0.99
9177.00	93.800	269.200	8782.04	525.74	-12.25	-525.70	693061.53	732999.35	33°00'50.521"N	103°50'18.095"W	1.12
9208.00	94.000	269.200	8779.93	556.67	-12.68	-556.63	693030.61	732998.92	33°00'50.518"N	103°50'18.458"W	0.65
9240.00	93.100	269.400	8777.95	588.60	-13.07	-588.56	692998.68	732998.53	33°00'50.516"N	103°50'18.833"W	2.88
9272.00	91.100	269.700	8776.77	620.58	-13.32	-620.54	692966.70	732998.28	33°00'50.515"N	103°50'19.209"W	6.32
9335.00	91.700	270.100	8775.24	683.56	-13.43	-683.52	692903.73	732998.17	33°00'50.517"N	103°50'19.948"W	1.14
9398.00	92.400	270.700	8772.98	746.52	-12.99	-746.48	692840.77	732998.61	33°00'50.524"N	103°50'20.688"W	1.46
9462.00	91.500	271.200	8770.80	810.47	-11.93	-810.43	692776.83	732999.67	33°00'50.538"N	103°50'21.439"W	1.61
9525.00	91.600	271.100	8769.10	873.42	-10.67	-873.39	692713.87	733000.94	33°00'50.553"N	103°50'22.178"W	0.22



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
9589.00	92.400	271.000	8766.87	937.37	-9.49	-937.34	692649.92	733002.11	33°00'50.568"N	103°50'22.929"W	1.26
9652.00	91.500	271.100	8764.72	1000.32	-8.34	-1000.29	692586.97	733003.26	33°00'50.582"N	103°50'23.668"W	1.44
9716.00	89.400	271.500	8764.22	1064.29	-6.89	-1064.27	692523.00	733004.71	33°00'50.599"N	103°50'24.419"W	3.34
9779.00	89.300	271.600	8764.93	1127.26	-5.18	-1127.25	692460.03	733006.42	33°00'50.619"N	103°50'25.159"W	0.22
9842.00	89.800	272.000	8765.43	1190.22	-3.21	-1190.21	692397.07	733008.40	33°00'50.641"N	103°50'25.898"W	1.02
9906.00	90.300	272.500	8765.37	1254.16	-0.69	-1254.16	692333.12	733010.91	33°00'50.669"N	103°50'26.649"W	1.10
9969.00	90.900	273.300	8764.71	1317.06	2.49	-1317.08	692270.21	733014.09	33°00'50.704"N	103°50'27.388"W	1.59
10032.00	90.500	273.400	8763.94	1379.93	6.18	-1379.96	692207.33	733017.78	33°00'50.743"N	103°50'28.126"W	0.65
10096.00	90.500	273.200	8763.39	1443.81	9.86	-1443.86	692143.44	733021.46	33°00'50.782"N	103°50'28.876"W	0.31
10159.00	90.700	272.800	8762.73	1506.71	13.16	-1506.77	692080.53	733024.76	33°00'50.818"N	103°50'29.615"W	0.71
10223.00	91.300	272.900	8761.61	1570.61	16.34	-1570.68	692016.63	733027.94	33°00'50.852"N	103°50'30.365"W	0.95
10286.00	90.300	272.700	8760.73	1633.52	19.42	-1633.59	691953.71	733031.01	33°00'50.886"N	103°50'31.104"W	1.62
10349.00	88.800	271.700	8761.22	1696.46	21.83	-1696.54	691890.77	733033.43	33°00'50.913"N	103°50'31.843"W	2.86
10413.00	89.400	271.500	8762.23	1760.42	23.62	-1760.51	691826.81	733035.22	33°00'50.933"N	103°50'32.594"W	0.99
10476.00	90.200	272.000	8762.45	1823.38	25.54	-1823.48	691763.84	733037.14	33°00'50.955"N	103°50'33.333"W	1.50
10539.00	91.500	271.700	8761.52	1886.33	27.58	-1886.44	691700.89	733039.18	33°00'50.978"N	103°50'34.072"W	2.12
10603.00	92.200	271.700	8759.45	1950.26	29.48	-1950.38	691636.95	733041.07	33°00'51.000"N	103°50'34.823"W	1.09
10666.00	93.200	271.600	8756.48	2013.16	31.29	-2013.28	691574.05	733042.89	33°00'51.021"N	103°50'35.562"W	1.60
10730.00	93.500	271.600	8752.74	2077.02	33.07	-2077.15	691510.19	733044.67	33°00'51.041"N	103°50'36.312"W	0.47
10793.00	94.100	271.100	8748.57	2139.85	34.55	-2139.99	691447.35	733046.15	33°00'51.059"N	103°50'37.050"W	1.24
10856.00	93.900	270.800	8744.17	2202.69	35.59	-2202.83	691384.52	733047.19	33°00'51.072"N	103°50'37.787"W	0.57
10920.00	92.100	268.400	8740.82	2266.59	35.15	-2266.73	691320.62	733046.75	33°00'51.071"N	103°50'38.538"W	4.68
10983.00	92.700	268.100	8738.18	2329.51	33.23	-2329.65	691257.71	733044.82	33°00'51.055"N	103°50'39.277"W	1.06
11047.00	93.000	267.800	8735.00	2393.40	30.94	-2393.53	691193.83	733042.54	33°00'51.035"N	103°50'40.027"W	0.66
11111.00	92.700	268.000	8731.82	2457.29	28.60	-2457.40	691129.96	733040.19	33°00'51.015"N	103°50'40.777"W	0.56
11174.00	91.500	268.500	8729.51	2520.22	26.67	-2520.33	691067.04	733038.27	33°00'50.998"N	103°50'41.516"W	2.06
11237.00	91.400	268.800	8727.92	2583.19	25.19	-2583.29	691004.08	733036.79	33°00'50.987"N	103°50'42.256"W	0.50
11301.00	92.200	269.200	8725.91	2647.15	24.07	-2647.25	690940.13	733035.67	33°00'50.979"N	103°50'43.007"W	1.40
11333.00	92.600	269.300	8724.57	2679.12	23.66	-2679.22	690908.16	733035.25	33°00'50.976"N	103°50'43.382"W	1.29
11364.00	93.200	269.600	8723.00	2710.08	23.36	-2710.18	690877.20	733034.96	33°00'50.974"N	103°50'43.746"W	2.16



Actual Wellpath Report

No. 3H AWP

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BAKER
HUGHES

INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
11428.00	92.100	269.300	8720.04	2774.01	22.74	-2774.11	690813.28	733034.34	33°00'50.971"N	103°50'44.497"W	1.78
11460.00	92.000	269.300	8718.89	2805.99	22.35	-2806.08	690781.30	733033.95	33°00'50.969"N	103°50'44.872"W	0.31
11491.00	92.500	269.200	8717.68	2836.96	21.95	-2837.06	690750.33	733033.55	33°00'50.966"N	103°50'45.236"W	1.64
11555.00	92.400	270.500	8714.94	2900.90	21.78	-2901.00	690686.40	733033.38	33°00'50.968"N	103°50'45.987"W	2.04
11621.00	91.500	269.600	8712.70	2966.86	21.84	-2966.96	690620.44	733033.44	33°00'50.971"N	103°50'46.762"W	1.93
11685.00	91.600	269.500	8710.96	3030.84	21.34	-3030.93	690556.47	733032.93	33°00'50.969"N	103°50'47.513"W	0.22
11748.00	91.500	268.700	8709.26	3093.81	20.35	-3093.90	690493.51	733031.95	33°00'50.962"N	103°50'48.252"W	1.28
11811.00	90.500	268.300	8708.16	3156.78	18.70	-3156.87	690430.54	733030.30	33°00'50.949"N	103°50'48.992"W	1.71
11875.00	91.200	268.300	8707.21	3220.75	16.80	-3220.83	690366.58	733028.40	33°00'50.933"N	103°50'49.743"W	1.09
11938.00	90.600	268.000	8706.22	3283.72	14.77	-3283.79	690303.63	733026.36	33°00'50.916"N	103°50'50.483"W	1.06
12002.00	91.200	268.100	8705.22	3347.68	12.59	-3347.75	690239.68	733024.19	33°00'50.897"N	103°50'51.234"W	0.95
12065.00	90.400	267.800	8704.34	3410.64	10.33	-3410.70	690176.73	733021.93	33°00'50.878"N	103°50'51.973"W	1.36
12127.00	89.800	268.700	8704.23	3472.62	8.44	-3472.67	690114.76	733020.04	33°00'50.862"N	103°50'52.701"W	1.74
12192.00	90.900	269.100	8703.83	3537.61	7.19	-3537.65	690049.78	733018.79	33°00'50.852"N	103°50'53.464"W	1.80
12255.00	90.800	268.600	8702.90	3600.59	5.93	-3600.63	689986.80	733017.53	33°00'50.843"N	103°50'54.204"W	0.81
12319.00	90.900	267.600	8701.95	3664.56	3.81	-3664.59	689922.85	733015.41	33°00'50.825"N	103°50'54.955"W	1.57
12383.00	90.300	267.400	8701.28	3728.50	1.02	-3728.53	689858.92	733012.62	33°00'50.800"N	103°50'55.706"W	0.99
12446.00	89.300	268.600	8701.50	3791.47	-1.18	-3791.49	689795.97	733010.42	33°00'50.781"N	103°50'56.445"W	2.48
12510.00	89.800	269.400	8702.00	3855.46	-2.30	-3855.47	689731.98	733009.30	33°00'50.773"N	103°50'57.197"W	1.47
12573.00	90.100	269.700	8702.05	3918.46	-2.79	-3918.47	689668.99	733008.81	33°00'50.771"N	103°50'57.937"W	0.67
12636.00	90.200	269.800	8701.89	3981.46	-3.07	-3981.47	689605.99	733008.53	33°00'50.771"N	103°50'58.677"W	0.22
12700.00	91.000	270.500	8701.22	4045.45	-2.90	-4045.47	689542.00	733008.70	33°00'50.776"N	103°50'59.428"W	1.66
12763.00	90.000	271.000	8700.67	4108.44	-2.08	-4108.46	689479.02	733009.52	33°00'50.787"N	103°51'00.168"W	1.77
12827.00	89.300	269.500	8701.06	4172.43	-1.80	-4172.45	689415.02	733009.80	33°00'50.792"N	103°51'00.919"W	2.59
12890.00	90.100	269.800	8701.39	4235.43	-2.18	-4235.45	689352.03	733009.42	33°00'50.791"N	103°51'01.659"W	1.36
12954.00	91.500	270.600	8700.50	4299.42	-1.96	-4299.44	689288.04	733009.64	33°00'50.796"N	103°51'02.411"W	2.52
13017.00	92.300	271.100	8698.41	4362.38	-1.03	-4362.40	689225.09	733010.58	33°00'50.809"N	103°51'03.150"W	1.50
13081.00	92.900	271.300	8695.51	4426.29	0.31	-4426.32	689161.17	733011.91	33°00'50.825"N	103°51'03.900"W	0.99
13144.00	93.400	271.000	8692.04	4489.18	1.58	-4489.21	689098.29	733013.18	33°00'50.840"N	103°51'04.639"W	0.93
13176.00	93.700	270.800	8690.06	4521.11	2.08	-4521.15	689066.35	733013.68	33°00'50.846"N	103°51'05.014"W	1.13



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(Midway) Sec 17, T15S, R31E	Wellbore	No. 3H AWB
Facility	Midway 17 Fed No. 3H	Sidetrack from	No. 3 AWB at 8418.87 MD

WELLPATH DATA (181 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]
13238.00	93.700	270.800	8686.06	4582.97	2.94	-4583.01	689004.49	733014.54	33°00'50.858"N	103°51'05.740"W	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 3H PBHL		8735.00	-16.18	-4588.07	688999.43	732995.42	33°00'50.669"N	103°51'05.801"W	point

WELLPATH COMPOSITION Ref Wellbore: No. 3H AWB Ref Wellpath: No. 3H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	8418.87	Gyrodata standard - Drop gyro or Multi-shot	GYRO - Gyrodata < 0 - 9002.8>	No. 3 AWB
8418.87	13176.00	NaviTrak (Standard)	MWD <8480 - 13176>	No. 3H AWB
13176.00	13238.00	Blind Drilling (std)	Projection to bit	No. 3H AWB