



Cimarex Energy Co.

Location: Eddy County, NM
Field (State A) Sec 14, T19S, R29E
Facility State A 14 Com No 2H

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



INTEQ

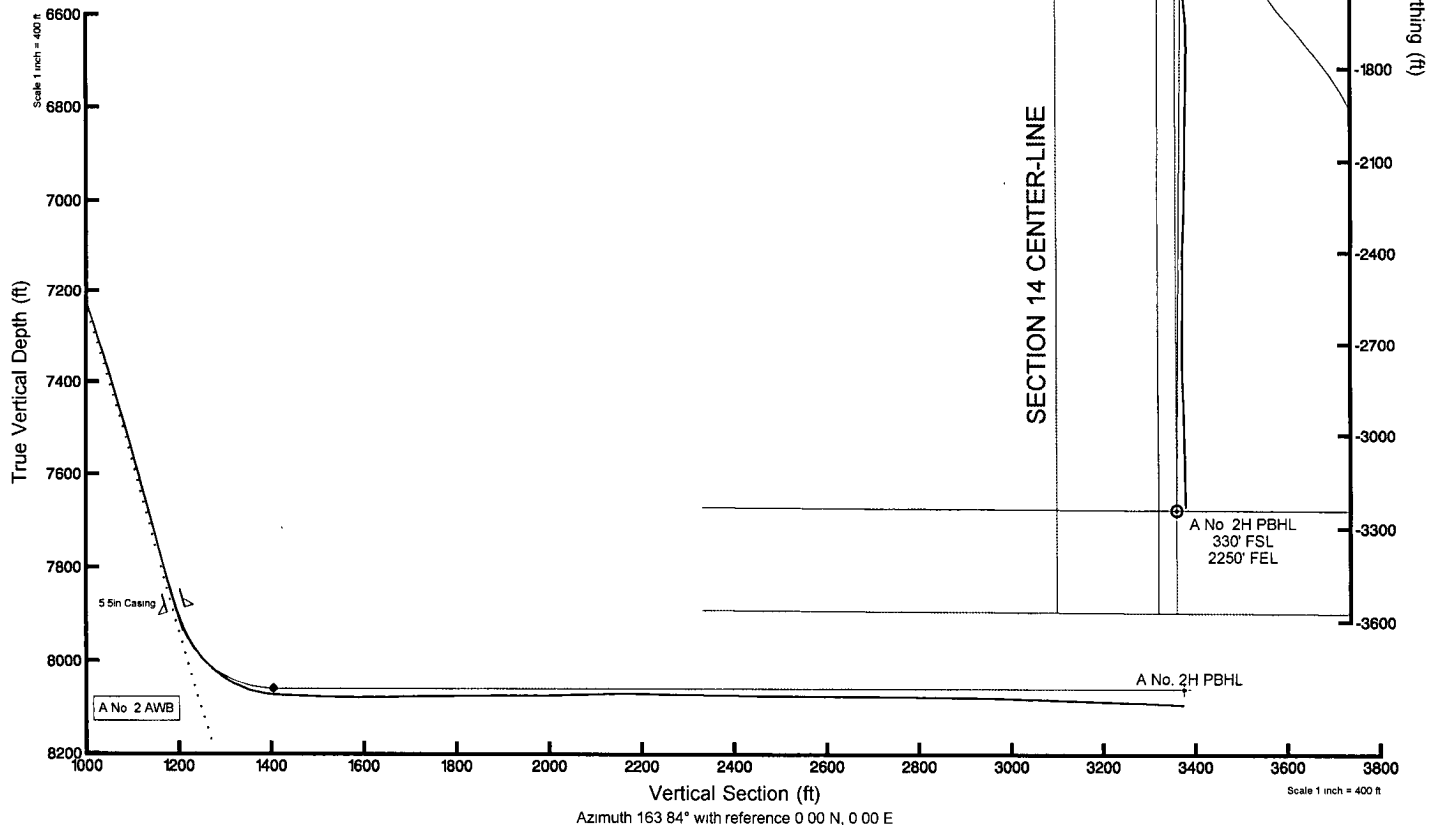
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	8000.00	16.740	142.480	7814.93	-991.04	788.30	0.00	1171.24
EST. KOP	8095.00	16.740	159.000	7905.96	-1014.68	801.54	4.99	1197.63
END OF CURVE	8371.65	90.000	159.000	8060.00	-1208.11	875.79	26.48	1404.09
END OF TURN	8800.57	90.000	180.446	8060.00	-1627.70	951.87	5.00	1828.27
A No. 2H PBHL	10415.42	90.000	180.446	8060.00	-3242.49	939.29	0.00	3375.80



BGGM (1945.0 to 2010.0) Dip 60.57° Field 49076.6 nT
Magnetic North is 8.14 degrees East of True North (at 6/16/2009)
Grid North is 0.15 degrees East of True North
To correct azimuth from True to Grid subtract 0.15 degrees
To correct azimuth from Magnetic to Grid add 7.99 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.99 = 97.99

Plot reference wellbore is Plan 85	
True vertical depths are referenced to Rig on State A 14 Com No. (RT)	Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (3001) US feet
Measured depths are referenced to Rig on State A 14 Com No. (RT)	North Reference: Grid north
Rig on State A 14 Com No. (RT) to Mean Sea Level: 3372 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: State A 14 Com No. 2H): 3385 feet	Depth: in feet
Coordinates are in feet referenced to Facility Center	Created by Victor Hernandez on 6/20/2008





Actual Wellpath Report

A No. 2H AWP

Page 1 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	A No. 2H SHL
Area	Eddy County, NM	Well	A No. 2H
Field	(State A) Sec 14, T19S, R29E	Wellbore	A No. 2H AWB
Facility	State A 14 Com No. 2H	Sidetrack from	A No. 2 AWB at 8000.00 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	Gomeoscr
Scale	0.999918	Report Generated	7/7/2009 at 8:00:07 AM
Convergence at slot	0.15° East	Database/Source file	WA_Midland/A_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	629369.79	605126.23	32°39'47.564"N	104°02'50.170"W
Facility Reference Pt			629369.79	605126.23	32°39'47.564"N	104°02'50.170"W
Field Reference Pt			629369.79	605126.23	32°39'47.564"N	104°02'50.170"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on State A 14 Com No. (RT) to Facility Vertical Datum	17.00ft
Horizontal Reference Pt	Facility Center	Rig on State A 14 Com No. (RT) to Mean Sea Level	3372.00ft
Vertical Reference Pt	Rig on State A 14 Com No. (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on State A 14 Com No. (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	163.84°



Actual Wellpath Report

A No. 2H AWP

Page 2 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
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Area	Eddy County, NM	Well	A No. 2H
Field	(State A) Sec 14, T19S, R29E	Wellbore	A No. 2H AWB
Facility	State A 14 Com No. 2H	Sidetrack from	A No. 2 AWB at 8000.00 MD

WELLPATH DATA (124 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	315.530	0.00	0.00	0.00	0.00	0.00	
100.00	0.390	315.530	100.00	-0.30	0.24	-0.24	0.39	
200.00	0.610	297.920	200.00	-0.97	0.73	-0.95	0.27	
300.00	0.390	339.170	299.99	-1.68	1.30	-1.54	0.41	
400.00	0.260	324.850	399.99	-2.23	1.81	-1.79	0.15	
500.00	0.250	55.930	499.99	-2.51	2.11	-1.74	0.36	
600.00	0.290	14.510	599.99	-2.80	2.48	-1.50	0.19	
700.00	0.330	56.170	699.99	-3.10	2.89	-1.19	0.22	
800.00	0.220	48.610	799.99	-3.27	3.17	-0.81	0.12	
900.00	0.360	13.770	899.98	-3.63	3.61	-0.59	0.22	
1000.00	0.560	53.460	999.98	-4.07	4.20	-0.12	0.36	
1100.00	0.860	67.770	1099.97	-4.32	4.78	0.96	0.35	
1200.00	0.850	52.120	1199.96	-4.67	5.52	2.24	0.23	
1300.00	0.720	73.740	1299.95	-4.95	6.15	3.43	0.32	
1400.00	0.350	79.370	1399.95	-4.92	6.38	4.34	0.37	
1500.00	0.270	85.680	1499.95	-4.84	6.45	4.87	0.09	
1600.00	0.440	54.250	1599.95	-4.92	6.70	5.42	0.25	
1700.00	0.340	113.670	1699.94	-4.86	6.80	6.00	0.40	
1800.00	0.230	168.640	1799.94	-4.47	6.48	6.31	0.28	
1900.00	0.290	246.030	1899.94	-4.24	6.19	6.12	0.33	
2000.00	0.160	247.380	1999.94	-4.19	6.03	5.76	0.13	
2100.00	0.360	284.000	2099.94	-4.33	6.05	5.33	0.25	
2200.00	0.230	244.920	2199.94	-4.46	6.04	4.84	0.23	
2300.00	0.380	311.580	2299.94	-4.71	6.18	4.41	0.36	
2400.00	0.160	335.800	2399.94	-5.12	6.52	4.10	0.24	
2500.00	0.340	307.980	2499.94	-5.50	6.83	3.81	0.21	
2600.00	0.290	358.570	2599.93	-5.99	7.27	3.57	0.27	
2700.00	0.500	336.820	2699.93	-6.67	7.92	3.40	0.25	
2800.00	0.330	355.140	2799.93	-7.38	8.61	3.20	0.21	
2900.00	0.370	328.100	2899.93	-7.98	9.17	3.00	0.17	
3000.00	0.140	17.860	2999.93	-8.39	9.56	2.87	0.30	
3100.00	0.150	334.320	3099.93	-8.62	9.80	2.85	0.11	
3200.00	0.280	355.420	3199.93	-8.99	10.16	2.78	0.15	
3300.00	0.340	135.010	3299.93	-8.97	10.19	2.97	0.58	
3400.00	3.610	144.360	3399.85	-5.74	7.42	5.01	3.27	
3500.00	6.110	143.250	3499.48	2.21	0.60	10.03	2.50	
3600.00	8.660	142.060	3598.65	14.19	-9.60	17.84	2.55	
3700.00	10.240	142.120	3697.29	29.44	-22.56	27.93	1.58	
3800.00	11.970	141.500	3795.41	47.29	-37.69	39.85	1.73	
3900.00	13.710	139.610	3892.91	67.69	-54.83	53.98	1.79	
4000.00	15.740	138.950	3989.62	90.80	-74.09	70.57	2.04	
4100.00	16.720	140.560	4085.63	116.32	-95.43	88.62	1.08	
4200.00	17.550	141.800	4181.19	143.50	-118.39	107.08	0.91	
4300.00	18.020	142.460	4276.41	171.88	-142.50	125.83	0.51	
4400.00	17.920	141.230	4371.54	200.49	-166.76	144.88	0.39	



Actual Wellpath Report

A No. 2H AWP

Page 3 of 5



**BAKER
HUGHES**

INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	A No. 2H SHL
Area	Eddy County, NM	Well	A No. 2H
Field	(State A) Sec 14, T19S, R29E	Wellbore	A No. 2H AWB
Facility	State A 14 Com No. 2H	Sidetrack from	A No. 2 AWB at 8000.00 MD

WELLPATH DATA (124 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
4500.00	17.590	141.930	4466.77	228.71	-190.65	163.84	0.39	
4600.00	17.350	141.500	4562.16	256.52	-214.21	182.43	0.27	
4700.00	16.430	143.450	4657.85	283.56	-237.24	200.14	1.08	
4800.00	16.810	144.180	4753.67	310.43	-260.33	217.02	0.43	
4900.00	17.270	144.020	4849.28	338.02	-284.07	234.21	0.46	
5000.00	16.360	142.430	4945.00	365.09	-307.24	251.52	1.02	
5100.00	16.200	140.650	5040.99	391.03	-329.19	268.95	0.52	
5200.00	16.010	139.690	5137.07	416.43	-350.50	286.71	0.33	
5300.00	16.240	145.870	5233.14	442.32	-372.59	303.48	1.73	
5400.00	16.570	145.970	5329.07	469.19	-395.98	319.31	0.33	
5500.00	17.220	143.770	5424.75	496.66	-419.74	336.04	0.91	
5600.00	17.900	143.160	5520.09	524.94	-443.98	354.00	0.70	
5700.00	16.200	139.870	5615.70	552.07	-466.94	372.21	1.95	
5800.00	15.030	141.210	5712.01	576.78	-487.72	389.32	1.22	
5900.00	14.500	141.720	5808.70	600.35	-507.65	405.20	0.55	
6000.00	14.650	145.900	5905.49	623.98	-527.95	420.04	1.06	
6100.00	15.700	148.990	6002.00	649.09	-550.02	434.11	1.33	
6200.00	17.030	146.550	6097.95	676.15	-573.83	449.15	1.50	
6300.00	16.410	144.670	6193.72	703.47	-597.58	465.39	0.82	
6400.00	16.520	142.890	6289.62	730.09	-620.44	482.14	0.52	
6500.00	15.930	141.360	6385.64	756.05	-642.50	499.28	0.73	
6600.00	15.080	142.540	6482.00	780.85	-663.54	515.76	0.91	
6700.00	14.740	143.780	6578.63	804.92	-684.13	531.19	0.47	
6800.00	16.150	140.780	6675.02	829.66	-705.17	547.50	1.62	
6900.00	19.180	139.850	6770.29	857.47	-728.51	566.90	3.04	
7000.00	18.730	140.610	6864.87	887.23	-753.47	587.68	0.51	
7100.00	16.890	144.550	6960.08	915.70	-777.72	606.29	2.20	
7200.00	17.930	144.130	7055.50	943.90	-802.02	623.74	1.05	
7300.00	19.830	139.500	7150.12	973.85	-827.40	643.78	2.42	
7400.00	20.440	136.870	7244.01	1004.87	-853.04	666.73	1.09	
7500.00	19.870	134.700	7337.88	1035.27	-877.74	690.75	0.94	
7600.00	17.870	139.840	7432.51	1064.14	-901.42	712.73	2.60	
7700.00	17.010	141.880	7527.91	1091.72	-924.66	731.65	1.06	
7800.00	17.070	137.600	7623.53	1118.45	-947.00	750.58	1.26	
7900.00	16.820	138.820	7719.19	1144.72	-968.73	770.00	0.43	
8000.00	16.740	142.480	7814.93	1171.24	-991.04	788.30	1.06	
8098.00	20.000	150.000	7907.94	1200.67	-1016.76	805.28	4.11	
8130.00	25.300	150.900	7937.46	1212.66	-1027.48	811.35	16.60	
8162.00	33.000	153.700	7965.39	1227.92	-1041.29	818.54	24.43	
8193.00	40.500	155.900	7990.21	1246.23	-1058.07	826.41	24.56	
8225.00	47.200	156.500	8013.27	1268.19	-1078.35	835.34	20.98	
8256.00	54.600	157.900	8032.81	1292.07	-1100.51	844.64	24.13	
8288.00	62.300	158.100	8049.54	1319.18	-1125.78	854.85	24.07	
8319.00	70.800	158.500	8061.87	1347.46	-1152.18	865.35	27.44	
8351.00	79.000	159.700	8070.20	1378.22	-1181.02	876.36	25.88	



Actual Wellpath Report

A No. 2H AWP

Page 4 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	A No. 2H SHL
Area	Eddy County, NM	Well	A No. 2H
Field	(State A) Sec 14, T19S, R29E	Wellbore	A No. 2H AWB
Facility	State A 14 Com No. 2H	Sidetrack from	A No. 2 AWB at 8000.00 MD

WELLPATH DATA (124 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8383.00	86.800	161.100	8074.15	1409.89	-1210.91	887.00	24.76	
8414.00	88.000	164.200	8075.56	1440.85	-1240.47	896.23	10.71	
8477.00	87.900	166.800	8077.81	1503.78	-1301.42	911.99	4.13	
8541.00	89.500	169.600	8079.26	1567.57	-1364.04	925.08	5.04	
8604.00	91.100	169.800	8078.93	1630.24	-1426.02	936.34	2.56	
8667.00	91.400	169.500	8077.56	1692.90	-1487.98	947.66	0.67	
8730.00	90.200	172.000	8076.68	1755.43	-1550.15	957.78	4.40	
8794.00	90.400	174.100	8076.34	1818.60	-1613.68	965.52	3.30	
8857.00	90.900	178.100	8075.63	1880.15	-1676.51	969.81	6.40	
8920.00	89.500	180.000	8075.41	1940.94	-1739.50	970.85	3.75	
8983.00	91.100	181.300	8075.08	2001.24	-1802.49	970.14	3.27	
9047.00	91.700	181.100	8073.51	2062.31	-1866.46	968.80	0.99	
9110.00	92.200	181.200	8071.37	2122.43	-1929.41	967.53	0.81	
9173.00	88.700	180.500	8070.88	2182.66	-1992.39	966.60	5.67	
9236.00	88.600	180.200	8072.36	2243.05	-2055.37	966.21	0.50	
9300.00	89.400	180.700	8073.48	2304.37	-2119.36	965.71	1.47	
9363.00	89.000	181.200	8074.36	2364.57	-2182.34	964.67	1.02	
9426.00	89.000	180.500	8075.46	2424.81	-2245.33	963.73	1.11	
9490.00	89.900	182.100	8076.07	2485.86	-2309.30	962.28	2.87	
9553.00	89.500	182.000	8076.40	2545.70	-2372.26	960.03	0.65	
9616.00	90.000	180.500	8076.68	2605.82	-2435.24	958.65	2.51	
9679.00	89.600	180.100	8076.90	2666.24	-2498.24	958.32	0.90	
9743.00	89.700	179.800	8077.29	2727.72	-2562.24	958.38	0.49	
9806.00	89.400	180.400	8077.78	2788.20	-2625.24	958.27	1.06	
9869.00	89.500	180.300	8078.39	2848.60	-2688.24	957.88	0.22	
9932.00	89.500	179.600	8078.94	2909.13	-2751.23	957.94	1.11	
9996.00	87.900	178.500	8080.39	2970.87	-2815.20	959.00	3.03	
10059.00	88.700	177.900	8082.26	3031.87	-2878.14	960.98	1.59	
10122.00	88.200	179.000	8083.96	3092.81	-2941.10	962.68	1.92	
10185.00	88.200	178.000	8085.94	3153.73	-3004.04	964.33	1.59	
10248.00	88.000	179.700	8088.03	3214.55	-3066.99	965.59	2.72	
10311.00	88.200	179.100	8090.12	3275.21	-3129.96	966.25	1.00	
10375.00	87.700	178.300	8092.41	3337.03	-3193.90	967.70	1.47	
10415.00†	87.700	178.300	8094.01	3375.73	-3233.85	968.89	0.00	Projection to Bit



Actual Wellpath Report

A No. 2H AWP

Page 5 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	A No. 2H SHL
Area	Eddy County, NM	Well	A No. 2H
Field	(State A) Sec 14, T19S, R29E	Wellbore	A No. 2H AWB
Facility	State A 14 Com No. 2H	Sidetrack from	A No. 2 AWB at 8000.00 MD

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
A No. 2H PBHL		8060.00	-3242.49	939.29	630309.00	601884.01	32°39'15.456"N	104°02'39.286"W	point

WELLPATH COMPOSITION					Ref Wellbore: A No. 2H AWB		Ref Wellpath: A No. 2H AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment		Wellbore	
0.00	8000.00	Generic gyro - continuous (Standard)			GYRO		A No. 2 AWB	
8000.00	10375.00	NaviTrak (Standard)			MWD		A No. 2H AWB	
10375.00	10415.00	Blind Drilling (std)			Projection to bit		A No. 2H AWB	