



Cimarex Energy Co.

Location Lea County, NM
Field (State DR) Sec 16, T19S, R32E
Facility State DR No. 8H

Slot No 8H SHL
Well No 8H
Wellbore No 8H PWB



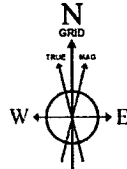
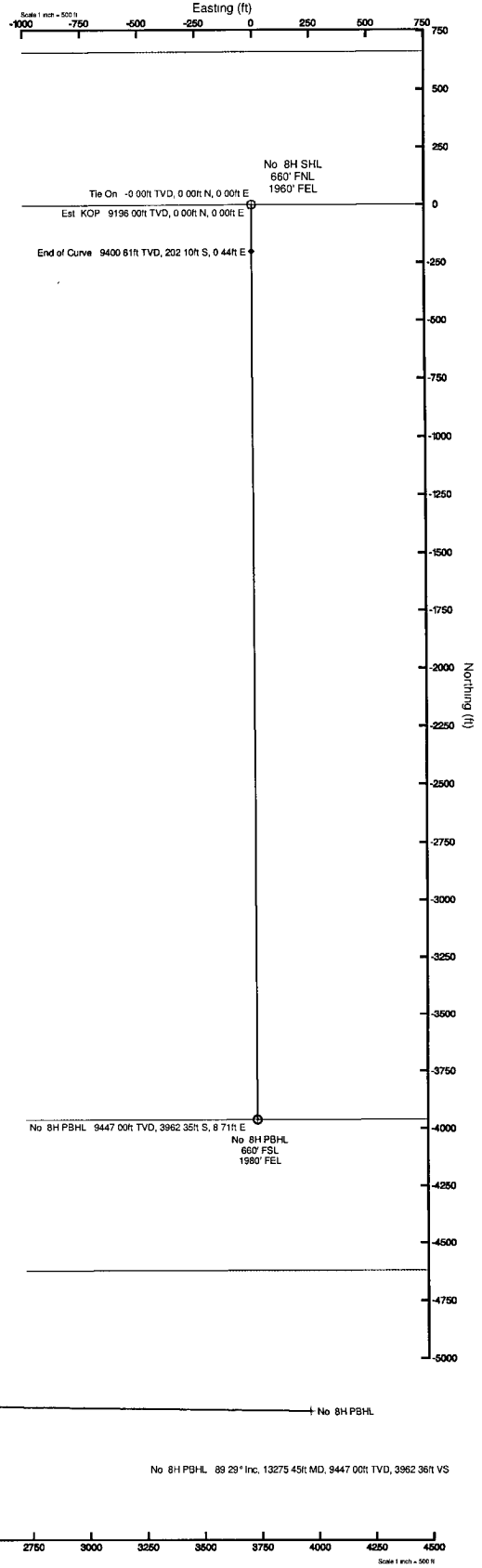
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	179.874	0.00	0.00	0.00	0.00	0.00
Est KOP	9196.00	0.000	179.874	9196.00	0.00	0.00	0.00	0.00
End of Curve	9514.90	89.293	179.874	9400.61	-202.10	0.44	28.00	202.10
No 8H PBHL	13275.45	89.293	179.874	9447.00	-3962.35	8.71	0.00	3962.36

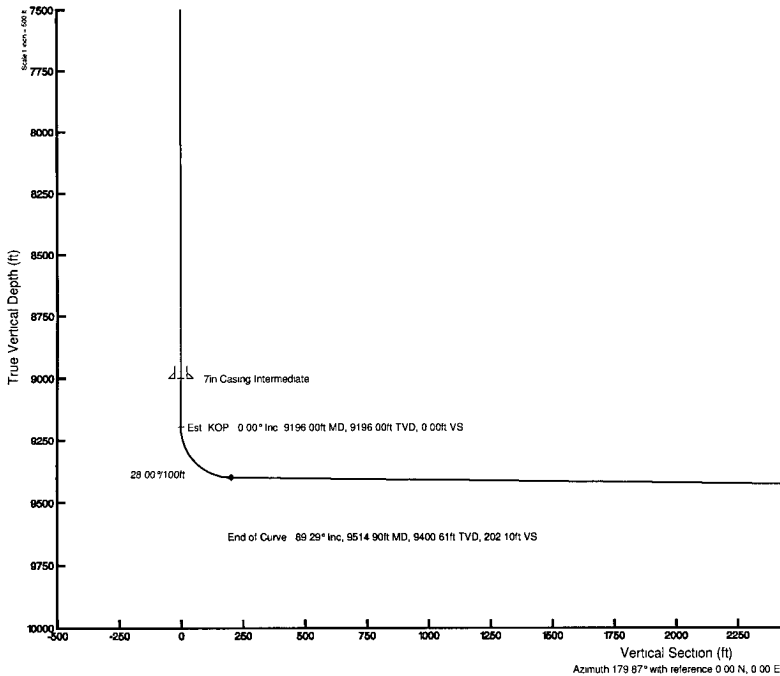
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Plot reference wellpath is Prelio 2	Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (2001), US feet
True vertical depths are referenced to Rig on No. 8H SHL (GL)	North Reference: Grid north
Measured depths are referenced to Rig on No. 8H SHL (GL)	Scale: True distance
Rig on No. 8H SHL (GL) to Mean Sea Level: 3626 feet	Depths are in feet
Mean Sea Level to Mast line (Facility State DR No. 8H): 3626 feet	Created by: Victor Hernandez on 8/9/2010
Coordinates are in feet referenced to SL	



BGGM (1945 0 to 2011 0) Dip 60 60° Field 49013 nT
 Magnetic North is 7.85 degrees East of True North (at 8/9/2010)
 Grid North is 0.30 degrees East of True North
 To correct azimuth from True to Grid subtract 0.30 degrees
 To correct azimuth from Magnetic to Grid add 7.54 degrees
 For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.54 = 97.54





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REFERENCE WELLPATH IDENTIFICATION			
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Area	Lea County, NM	Well	No. 8H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 8H PWB
Facility	State DR No. 8H		

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	0.999944	Report Generated	8/9/2010 at 2:20:10 PM
Convergence at slot	0.30° East	Database/Source file	WA_Midland/No._8H_PWB.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	714988.80	606434.80	32°39'57.119"N	103°46'08.522"W
Facility Reference Pt			714988.80	606434.80	32°39'57.119"N	103°46'08.522"W
Field Reference Pt			712327.80	606759.10	32°40'00.467"N	103°46'39.631"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 8H SHL (GL) to GL	0.00ft
Horizontal Reference Pt	SL	Rig on No. 8H SHL (GL) to Mean Sea Level	3626.00ft
Vertical Reference Pt	Rig on No. 8H SHL (GL)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 8H SHL (GL)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.87°

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Area	Lea County, NM	Well	No. 8H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 8H PWB
Facility	State DR No. 8H		

WELLPATH DATA (44 stations) † = interpolated/extrapolated station												
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	179.874	0.00	0.00	0.00	0.00	714988.80	606434.80	32°39'57.119"N	103°46'08.522"W	0.00	Tie On
9196.00	0.000	179.874	9196.00	0.00	0.00	0.00	714988.80	606434.80	32°39'57.119"N	103°46'08.522"W	0.00	Est. KOP
9296.00†	28.000	179.874	9292.07	23.95	-23.95	0.05	714988.85	606410.85	32°39'56.882"N	103°46'08.523"W	28.00	
9396.00†	56.000	179.874	9365.64	90.20	-90.20	0.20	714989.00	606344.60	32°39'56.227"N	103°46'08.525"W	28.00	
9496.00†	84.000	179.874	9399.51	183.24	-183.24	0.40	714989.20	606251.57	32°39'55.306"N	103°46'08.529"W	28.00	
9514.90	89.293	179.874	9400.61	202.10	-202.10	0.44	714989.24	606232.71	32°39'55.119"N	103°46'08.529"W	28.00	End of Curve
9596.00†	89.293	179.874	9401.61	283.19	-283.19	0.62	714989.42	606151.62	32°39'54.317"N	103°46'08.532"W	0.00	
9696.00†	89.293	179.874	9402.85	383.19	-383.18	0.84	714989.64	606051.64	32°39'53.328"N	103°46'08.536"W	0.00	
9796.00†	89.293	179.874	9404.08	483.18	-483.18	1.06	714989.86	605951.65	32°39'52.338"N	103°46'08.540"W	0.00	
9896.00†	89.293	179.874	9405.31	583.17	-583.17	1.28	714990.08	605851.67	32°39'51.349"N	103°46'08.543"W	0.00	
9996.00†	89.293	179.874	9406.55	683.16	-683.16	1.50	714990.30	605751.68	32°39'50.360"N	103°46'08.547"W	0.00	
10096.00†	89.293	179.874	9407.78	783.16	-783.15	1.72	714990.52	605651.69	32°39'49.370"N	103°46'08.551"W	0.00	
10196.00†	89.293	179.874	9409.01	883.15	-883.15	1.94	714990.74	605551.71	32°39'48.381"N	103°46'08.554"W	0.00	
10296.00†	89.293	179.874	9410.25	983.14	-983.14	2.16	714990.96	605451.72	32°39'47.391"N	103°46'08.558"W	0.00	
10396.00†	89.293	179.874	9411.48	1083.13	-1083.13	2.38	714991.18	605351.73	32°39'46.402"N	103°46'08.562"W	0.00	
10496.00†	89.293	179.874	9412.71	1183.12	-1183.12	2.60	714991.40	605251.75	32°39'45.413"N	103°46'08.565"W	0.00	
10596.00†	89.293	179.874	9413.95	1283.12	-1283.11	2.82	714991.62	605151.76	32°39'44.423"N	103°46'08.569"W	0.00	
10696.00†	89.293	179.874	9415.18	1383.11	-1383.11	3.04	714991.84	605051.77	32°39'43.434"N	103°46'08.572"W	0.00	
10796.00†	89.293	179.874	9416.42	1483.10	-1483.10	3.26	714992.06	604951.79	32°39'42.445"N	103°46'08.576"W	0.00	
10896.00†	89.293	179.874	9417.65	1583.09	-1583.09	3.48	714992.28	604851.80	32°39'41.455"N	103°46'08.580"W	0.00	
10996.00†	89.293	179.874	9418.88	1683.09	-1683.08	3.70	714992.50	604751.82	32°39'40.466"N	103°46'08.583"W	0.00	
11096.00†	89.293	179.874	9420.12	1783.08	-1783.07	3.92	714992.72	604651.83	32°39'39.477"N	103°46'08.587"W	0.00	
11196.00†	89.293	179.874	9421.35	1883.07	-1883.07	4.14	714992.94	604551.84	32°39'38.487"N	103°46'08.591"W	0.00	
11296.00†	89.293	179.874	9422.58	1983.06	-1983.06	4.36	714993.16	604451.86	32°39'37.498"N	103°46'08.594"W	0.00	
11396.00†	89.293	179.874	9423.82	2083.06	-2083.05	4.58	714993.38	604351.87	32°39'36.508"N	103°46'08.598"W	0.00	
11496.00†	89.293	179.874	9425.05	2183.05	-2183.04	4.80	714993.60	604251.88	32°39'35.519"N	103°46'08.602"W	0.00	
11596.00†	89.293	179.874	9426.28	2283.04	-2283.04	5.02	714993.82	604151.90	32°39'34.530"N	103°46'08.605"W	0.00	
11696.00†	89.293	179.874	9427.52	2383.03	-2383.03	5.24	714994.04	604051.91	32°39'33.540"N	103°46'08.609"W	0.00	
11796.00†	89.293	179.874	9428.75	2483.03	-2483.02	5.46	714994.26	603951.93	32°39'32.551"N	103°46'08.613"W	0.00	
11896.00†	89.293	179.874	9429.98	2583.02	-2583.01	5.68	714994.48	603851.94	32°39'31.562"N	103°46'08.616"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 8H SHL
Area	Lea County, NM	Well	No. 8H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 8H PWB
Facility	State DR No. 8H		

WELLPATH DATA (44 stations) † = interpolated/extrapolated station												
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
11996.00†	89.293	179.874	9431.22	2683.01	-2683.00	5.90	714994.70	603751.95	32°39'30.572"N	103°46'08.620"W	0.00	
12096.00†	89.293	179.874	9432.45	2783.00	-2783.00	6.12	714994.92	603651.97	32°39'29.583"N	103°46'08.623"W	0.00	
12196.00†	89.293	179.874	9433.68	2883.00	-2882.99	6.34	714995.14	603551.98	32°39'28.594"N	103°46'08.627"W	0.00	
12296.00†	89.293	179.874	9434.92	2982.99	-2982.98	6.56	714995.36	603451.99	32°39'27.604"N	103°46'08.631"W	0.00	
12396.00†	89.293	179.874	9436.15	3082.98	-3082.97	6.78	714995.58	603352.01	32°39'26.615"N	103°46'08.634"W	0.00	
12496.00†	89.293	179.874	9437.39	3182.97	-3182.96	7.00	714995.80	603252.02	32°39'25.625"N	103°46'08.638"W	0.00	
12596.00†	89.293	179.874	9438.62	3282.96	-3282.96	7.22	714996.02	603152.03	32°39'24.636"N	103°46'08.642"W	0.00	
12696.00†	89.293	179.874	9439.85	3382.96	-3382.95	7.44	714996.24	603052.05	32°39'23.647"N	103°46'08.645"W	0.00	
12796.00†	89.293	179.874	9441.09	3482.95	-3482.94	7.66	714996.46	602952.06	32°39'22.657"N	103°46'08.649"W	0.00	
12896.00†	89.293	179.874	9442.32	3582.94	-3582.93	7.88	714996.68	602852.08	32°39'21.668"N	103°46'08.653"W	0.00	
12996.00†	89.293	179.874	9443.55	3682.93	-3682.93	8.10	714996.90	602752.09	32°39'20.679"N	103°46'08.656"W	0.00	
13096.00†	89.293	179.874	9444.79	3782.93	-3782.92	8.32	714997.12	602652.10	32°39'19.689"N	103°46'08.660"W	0.00	
13196.00†	89.293	179.874	9446.02	3882.92	-3882.91	8.54	714997.34	602552.12	32°39'18.700"N	103°46'08.664"W	0.00	
13275.45	89.293	179.874	9447.00†	3962.36	-3962.35	8.71	714997.51	602472.68	32°39'17.914"N	103°46'08.666"W	0.00	No. 8H PBHL

HOLE & CASING SECTIONS Ref Wellbore: No. 8H PWB Ref Wellpath: Prelim_2									
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]
9.625in Casing Surface	0.00	4800.00	4800.00	0.00	4800.00	0.00	0.00	0.00	0.00
7in Casing Intermediate	0.00	9000.00	9000.00	0.00	9000.00	0.00	0.00	0.00	0.00



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 8H SHL
Area	Lea County, NM	Well	No. 8H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 8H PWB
Facility	State DR No. 8H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 8H PBHL	13275.45	9447.00	-3962.35	8.71	714997.51	602472.68	32°39'17.914"N	103°46'08.666"W	point

SURVEY PROGRAM: Ref Wellbore: No. 8H PWB : Ref Wellpath: Prelim_2				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13275.45	NaviTrak (Standard)		No. 8H PWB