

Results of Directional Survey

API number:	30-025-40637		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	HANSON 26 FEDERAL <i>Corn</i> # 3H

surface	ULSTR:	B	26	T 20S	R 34E
				330 FNL	1855 FEL

BH Loc	ULSTR:	O	26	T 20S	R 34E
15526	MD	11140.8	TVD	336 FSL	1917 FEL
				4944 FNL	

Top Perf/OH	ULSTR:	B	26	T 20S	R 34E
11300	MD	11092.4	TVD	721 FNL	1902 FEL

Bot Perf/OH	ULSTR:	O	26	T 20S	R 34E
15503	MD	11142.5	TVD	359 FSL	1918 FEL
				4921 FNL	

	MD	N/S	E/W	VD
	11298	-388.71	-46.54	11092.19
TOP PERFS/OH	11300	-390.70	-46.56	11092.41
	11330	-420.51	-46.90	11095.70
	15481	-4569.31	-63.89	11144.22
BOT PERFS/OH	15503	-4591.40	-63.16	11142.53
	15526	-4614.49	-62.40	11140.77

NEXT TO LAST	15481	-4569.31	-63.89	11144.22
LAST READING	15526	-4614.49	-62.40	11140.77
TD	15526	-4614.49	-62.40	11140.77

Surface Location	330	FN	1855	FE
Projected BHL	4944	FN	1917	FE
Location of				
Top Perfs/OH	721	FN	1902	FE
Bottom Perfs/OH	4921	FN	1918	FE

SUMMARY of Subsurface Locations

Surface Location	B-26-20S-34E	330	FN	1855	FE	Vert. Depth
Top Perfs/OH	B-26-20S-34E	721	FN	1902	FE	11092.41
Bottom Perfs/OH	O-26-20S-34E	4921	FN	1918	FE	11142.53
Projected TD	O-26-20S-34E	4944	FN	1917	FE	11140.77



Cimarex Energy Co.

Location: Lea County, NM
Field: (Hanson) Sec 26, T20S, R34E
Facility: Hanson 26 Federal Com No. 3

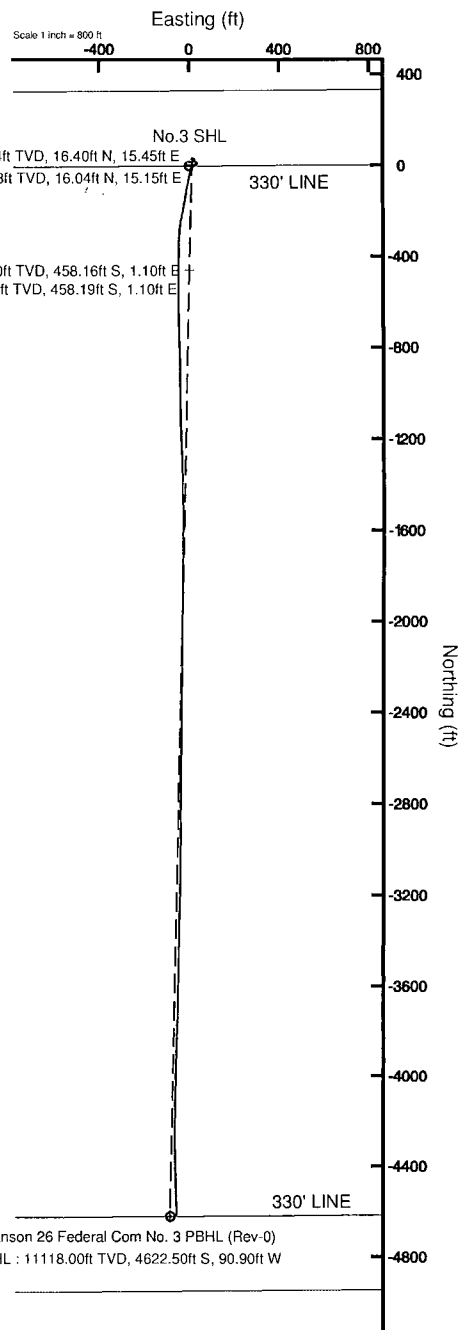
Slot: No.3 SHL
Well: No.3
Wellbore: No.3 PWB



DEC 18 2012

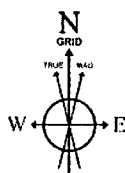
RECEIVED

SUR: B-26-20s-34e, 330/N & 1855/E
BHL: O-26-20s-34e, 4944/N & 1917/E
API # 30-025-40637

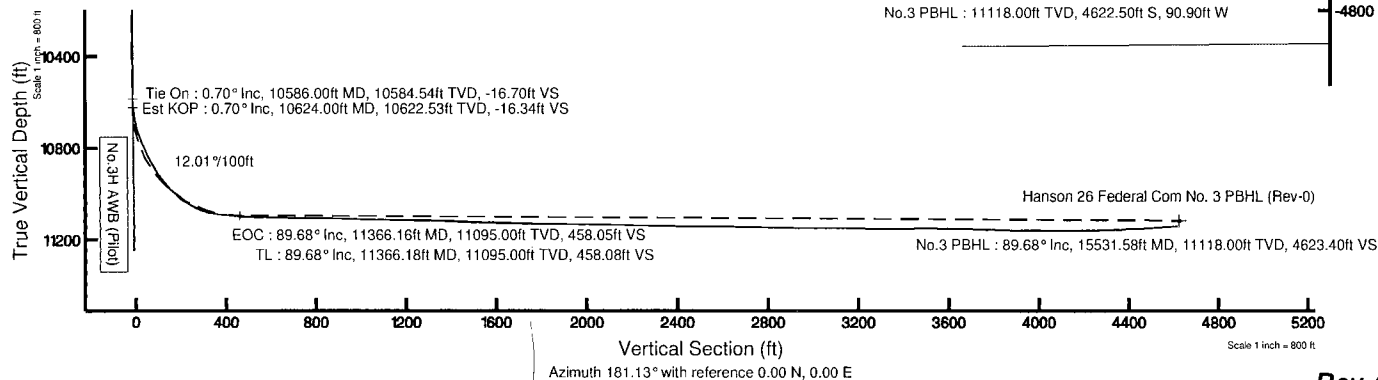


Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	10586.00	0.700	219.700	10584.54	16.40	15.45	0.00	-16.70
Est KOP	10624.00	0.700	219.700	10622.53	16.04	15.15	0.00	-16.34
EOC	11366.16	89.684	181.266	11095.00	-458.16	1.10	12.01	458.05
TL	11366.18	89.684	181.266	11095.00	-458.19	1.10	2.00	458.08
No.3 PWBH	15531.58	89.684	181.266	11118.00	-4622.50	-90.90	0.00	4623.40

Plot reference wellpath is Rev-C.0	
True vertical depths are referenced to Rig on No.3 SHL (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.3 SHL (KB)	North Reference: Grid north
Rig on No.3 SHL (KB) to Mean Sea Level: 3607 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.3 SHL): -3589 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gentbry on 08/20/2012



BGGM (1945.0 to 2014.0) Dip: 60.44° Field: 48698.7 nT
Magnetic North is 7.55 degrees East of True North (at 08/06/2012)
Grid North is 0.43 degrees East of True North
To correct azimuth from True to Grid subtract 0.43 degrees
To correct azimuth from Magnetic to Grid add 7.12 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.12 = 97.12



Rev-C.0



Actual Wellpath Report

No.3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.3H AWB
Facility	Hanson 26 Federal Com No.3	Sidetrack from	No.3H AWB (Pilot) at 10586.00 MD

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.99998	Report Generated	09/04/2012 at 10:52:33 AM
Convergence at slot	0.43° East	Database/Source file	WA Midland/No.3H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	789375.20	564923.20	32°33'01.633"N	103°31'42.045"W
Facility Reference Pt			789375.20	564923.20	32°33'01.633"N	103°31'42.045"W
Field Reference Pt			786380.10	564574.40	32°32'58.404"N	103°32'17.066"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.3 SHL (KB) to Facility Vertical Datum	18.00ft
Horizontal Reference Pt	Slot	Rig on No.3 SHL (KB) to Mean Sea Level	3607.00ft
Vertical Reference Pt	Rig on No.3 SHL (KB)	Rig on No.3 SHL (KB) to Mud Line at Slot (No.3 SHL)	18.00ft
MD Reference Pt	Rig on No.3 SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	181.13°



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REFERENCE WELLPATH IDENTIFICATION			
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Facility	Hanson 26 Federal Com No.3	Sidetrack from	No.3H AWB (Pilot) at 10586.00 MD

WELLPATH DATA (159 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	69.400	0.00	0.00	0.00	0.00	789375.20	564923.20	32°33'01.633"N	103°31'42.045"W	0.00	
18.00	0.000	69.400	18.00	0.00	0.00	0.00	789375.20	564923.20	32°33'01.633"N	103°31'42.045"W	0.00	
106.70	0.290	69.400	106.70	-0.08	0.08	0.21	789375.41	564923.28	32°33'01.633"N	103°31'42.042"W	0.33	
201.90	0.220	171.560	201.90	0.01	-0.02	0.46	789375.66	564923.18	32°33'01.632"N	103°31'42.039"W	0.42	
297.10	0.360	271.930	297.10	0.18	-0.19	0.19	789375.39	564923.01	32°33'01.631"N	103°31'42.042"W	0.48	
392.30	0.420	270.350	392.30	0.18	-0.18	-0.46	789374.74	564923.02	32°33'01.631"N	103°31'42.050"W	0.06	
487.40	0.450	262.880	487.39	0.24	-0.22	-1.18	789374.02	564922.98	32°33'01.631"N	103°31'42.058"W	0.07	
582.60	0.450	261.140	582.59	0.36	-0.32	-1.92	789373.28	564922.88	32°33'01.630"N	103°31'42.067"W	0.01	
677.80	0.680	292.090	677.79	0.22	-0.17	-2.81	789372.39	564923.03	32°33'01.631"N	103°31'42.078"W	0.39	
773.00	0.780	296.360	772.98	0.25	0.33	-3.91	789371.29	564923.53	32°33'01.636"N	103°31'42.090"W	0.12	
804.70	0.850	305.240	804.67	-0.48	0.56	-4.30	789370.90	564923.76	32°33'01.639"N	103°31'42.095"W	0.45	
899.90	0.910	300.610	899.86	-1.25	1.36	-5.53	789369.67	564924.56	32°33'01.646"N	103°31'42.109"W	0.10	
995.10	0.940	298.690	995.05	-1.98	2.12	-6.86	789368.34	564925.32	32°33'01.654"N	103°31'42.125"W	0.05	
1090.30	1.000	292.250	1090.24	-2.64	2.80	-8.32	789366.88	564926.00	32°33'01.661"N	103°31'42.142"W	0.13	
1185.40	1.070	292.180	1185.32	-3.26	3.45	-9.91	789365.29	564926.65	32°33'01.668"N	103°31'42.160"W	0.07	
1280.60	1.070	282.210	1280.51	-3.75	3.98	-11.60	789363.60	564927.18	32°33'01.673"N	103°31'42.180"W	0.20	
1375.80	1.030	274.000	1375.69	-3.96	4.23	-13.32	789361.88	564927.43	32°33'01.675"N	103°31'42.200"W	0.16	
1471.00	0.760	286.100	1470.88	-4.17	4.46	-14.78	789360.42	564927.66	32°33'01.678"N	103°31'42.217"W	0.34	
1566.20	0.590	279.090	1566.07	-4.40	4.71	-15.87	789359.33	564927.91	32°33'01.680"N	103°31'42.230"W	0.20	
1661.30	0.310	283.740	1661.17	-4.52	4.85	-16.60	789358.60	564928.05	32°33'01.682"N	103°31'42.238"W	0.30	
1756.50	0.170	311.750	1756.37	-4.67	5.01	-16.96	789358.24	564928.21	32°33'01.683"N	103°31'42.242"W	0.19	
1851.60	0.360	71.220	1851.47	-4.87	5.20	-16.78	789358.42	564928.40	32°33'01.685"N	103°31'42.240"W	0.49	
1946.80	0.510	76.300	1946.66	-5.08	5.39	-16.09	789359.11	564928.59	32°33'01.687"N	103°31'42.232"W	0.16	
2042.00	0.560	89.730	2041.86	-5.20	5.50	-15.21	789359.99	564928.70	32°33'01.688"N	103°31'42.222"W	0.14	
2137.10	0.880	105.720	2136.95	-5.02	5.30	-14.04	789361.16	564928.50	32°33'01.686"N	103°31'42.208"W	0.39	
2232.30	0.700	102.940	2232.14	-4.72	4.97	-12.77	789362.43	564928.17	32°33'01.683"N	103°31'42.193"W	0.19	
2327.40	0.680	116.560	2327.24	-4.36	4.59	-11.70	789363.50	564927.79	32°33'01.679"N	103°31'42.181"W	0.17	
2422.60	0.710	116.190	2422.43	-3.87	4.08	-10.67	789364.53	564927.28	32°33'01.674"N	103°31'42.169"W	0.03	
2517.80	0.680	127.110	2517.62	-3.28	3.47	-9.69	789365.51	564926.67	32°33'01.668"N	103°31'42.158"W	0.14	
2612.90	0.650	122.900	2612.72	-2.67	2.84	-8.78	789366.42	564926.04	32°33'01.661"N	103°31'42.147"W	0.06	
2708.10	0.790	118.500	2707.91	-2.08	2.24	-7.75	789367.45	564925.43	32°33'01.655"N	103°31'42.135"W	0.16	
2803.20	1.170	95.120	2803.00	-1.71	1.84	-6.21	789368.99	564925.04	32°33'01.651"N	103°31'42.117"W	0.57	
2898.40	1.790	84.690	2898.16	-1.81	1.89	-3.76	789371.44	564925.09	32°33'01.652"N	103°31'42.088"W	0.71	
2993.60	2.220	84.230	2993.30	-2.20	2.21	-0.45	789374.75	564925.41	32°33'01.655"N	103°31'42.050"W	0.45	
3088.70	2.410	82.240	3088.33	-2.73	2.66	3.37	789378.57	564925.86	32°33'01.659"N	103°31'42.005"W	0.22	
3183.90	2.570	78.430	3183.44	-3.51	3.36	7.44	789382.64	564926.56	32°33'01.665"N	103°31'41.957"W	0.24	
3279.00	3.060	77.130	3278.42	-4.59	4.36	12.00	789387.20	564927.56	32°33'01.675"N	103°31'41.904"W	0.52	
3374.20	2.860	75.640	3373.49	-5.84	5.51	16.78	789391.98	564928.71	32°33'01.686"N	103°31'41.848"W	0.23	
3469.30	2.230	80.940	3468.50	-6.80	6.39	20.91	789396.11	564929.59	32°33'01.694"N	103°31'41.800"W	0.71	
3564.50	1.820	86.730	3563.64	-7.24	6.77	24.25	789399.45	564929.97	32°33'01.698"N	103°31'41.761"W	0.48	
3659.70	1.650	75.250	3658.80	-7.73	7.20	27.08	789402.28	564930.40	32°33'01.702"N	103°31'41.728"W	0.41	
3754.80	1.400	76.700	3753.86	-8.40	7.82	29.53	789404.73	564931.02	32°33'01.708"N	103°31'41.699"W	0.27	
3850.00	1.110	77.500	3849.04	-8.91	8.29	31.57	789406.77	564931.49	32°33'01.712"N	103°31'41.675"W	0.31	
3945.20	1.240	75.480	3944.22	-9.40	8.74	33.46	789408.66	564931.94	32°33'01.717"N	103°31'41.653"W	0.14	
4040.30	0.770	63.410	4039.31	-9.98	9.29	35.03	789410.23	564932.49	32°33'01.722"N	103°31'41.635"W	0.54	



Actual Wellpath Report

No.3H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.3H AWP
Facility	Hanson 26 Federal Com No.3	Sidetrack from	No.3H AWP (Pilot) at 10586.00 MD

WELLPATH DATA (159 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4135.50	0.850	73.570	4134.50	-10.49	9.77	36.28	789411.48	564932.97	32°33'01.727"N	103°31'41.620"W	0.17	
4230.60	0.710	68.870	4229.59	-10.92	10.19	37.51	789412.71	564933.39	32°33'01.731"N	103°31'41.606"W	0.16	
4325.80	0.380	62.810	4324.78	-11.30	10.54	38.34	789413.54	564933.74	32°33'01.734"N	103°31'41.596"W	0.35	
4420.90	0.140	34.660	4419.88	-11.54	10.78	38.69	789413.88	564933.98	32°33'01.736"N	103°31'41.592"W	0.28	
4516.10	0.320	341.960	4515.08	-11.89	11.13	38.67	789413.87	564934.33	32°33'01.740"N	103°31'41.592"W	0.27	
4611.30	0.360	345.930	4610.28	-12.43	11.67	38.51	789413.71	564934.87	32°33'01.745"N	103°31'41.594"W	0.05	
4706.40	0.360	24.610	4705.38	-12.99	12.24	38.57	789413.76	564935.44	32°33'01.751"N	103°31'41.593"W	0.25	
4801.60	0.690	271.370	4800.58	-13.27	12.52	38.12	789413.32	564935.72	32°33'01.754"N	103°31'41.598"W	0.94	
4896.80	1.050	282.290	4895.76	-13.44	12.72	36.69	789411.89	564935.92	32°33'01.756"N	103°31'41.615"W	0.41	
4991.90	1.420	304.360	4990.84	-14.25	13.57	34.87	789410.07	564936.77	32°33'01.764"N	103°31'41.636"W	0.63	
5087.10	1.000	323.590	5086.02	-15.56	14.91	33.40	789408.60	564938.11	32°33'01.778"N	103°31'41.653"W	0.61	
5182.20	1.140	293.510	5181.11	-16.58	15.95	32.04	789407.24	564939.15	32°33'01.788"N	103°31'41.669"W	0.60	
5277.40	1.240	297.340	5276.29	-17.39	16.80	30.26	789405.46	564940.00	32°33'01.797"N	103°31'41.690"W	0.13	
5372.60	0.870	301.100	5371.47	-18.21	17.65	28.72	789403.92	564940.85	32°33'01.805"N	103°31'41.708"W	0.40	
5436.00	1.230	279.950	5434.86	-18.55	18.01	27.64	789402.84	564941.21	32°33'01.809"N	103°31'41.720"W	0.83	
5533.00	1.200	290.500	5531.84	-19.05	18.55	25.66	789400.86	564941.75	32°33'01.814"N	103°31'41.743"W	0.23	
5628.00	0.400	348.200	5626.83	-19.70	19.22	24.66	789399.86	564942.42	32°33'01.821"N	103°31'41.755"W	1.10	
5818.00	0.600	337.200	5816.82	-21.26	20.79	24.14	789399.34	564943.99	32°33'01.837"N	103°31'41.761"W	0.12	
6008.00	0.700	346.800	6006.81	-23.29	22.84	23.49	789398.69	564946.04	32°33'01.857"N	103°31'41.768"W	0.08	
6199.00	0.600	347.400	6197.80	-25.40	24.95	23.01	789398.21	564948.15	32°33'01.878"N	103°31'41.774"W	0.05	
6388.00	0.600	349.000	6386.79	-27.32	26.89	22.60	789397.80	564950.08	32°33'01.897"N	103°31'41.778"W	0.01	
6579.00	0.600	352.100	6577.78	-29.29	28.86	22.28	789397.47	564952.06	32°33'01.916"N	103°31'41.782"W	0.02	
6770.00	0.500	332.600	6768.77	-31.01	30.59	21.75	789396.95	564953.79	32°33'01.934"N	103°31'41.788"W	0.11	
6961.00	0.400	294.400	6959.76	-32.01	31.60	20.76	789395.96	564954.80	32°33'01.944"N	103°31'41.799"W	0.16	
7152.00	0.400	284.500	7150.76	-32.42	32.05	19.51	789394.71	564955.25	32°33'01.948"N	103°31'41.814"W	0.04	
7343.00	0.500	237.900	7341.75	-32.12	31.77	18.16	789393.36	564954.97	32°33'01.946"N	103°31'41.830"W	0.19	
7533.00	0.300	283.900	7531.75	-31.78	31.45	16.97	789392.17	564954.65	32°33'01.943"N	103°31'41.844"W	0.19	
7723.00	0.300	284.100	7721.74	-32.00	31.69	16.01	789391.21	564954.89	32°33'01.945"N	103°31'41.855"W	0.00	
7913.00	0.300	300.400	7911.74	-32.35	32.06	15.10	789390.30	564955.26	32°33'01.949"N	103°31'41.865"W	0.04	
8104.00	0.100	242.300	8102.74	-32.52	32.24	14.52	789389.72	564955.44	32°33'01.951"N	103°31'41.872"W	0.14	
8294.00	0.300	256.800	8292.74	-32.31	32.05	13.89	789389.09	564955.25	32°33'01.949"N	103°31'41.880"W	0.11	
8484.00	0.500	229.300	8482.74	-31.64	31.39	12.78	789387.97	564954.59	32°33'01.942"N	103°31'41.893"W	0.14	
8675.00	0.300	214.400	8673.73	-30.66	30.44	11.86	789387.06	564953.64	32°33'01.933"N	103°31'41.903"W	0.12	
8867.00	0.600	146.200	8865.73	-29.42	29.19	12.14	789387.34	564952.39	32°33'01.920"N	103°31'41.900"W	0.29	
9057.00	0.600	133.400	9055.72	-27.94	27.68	13.41	789388.61	564950.88	32°33'01.905"N	103°31'41.886"W	0.07	
9248.00	0.700	40.400	9246.71	-28.17	27.88	14.90	789390.09	564951.08	32°33'01.907"N	103°31'41.868"W	0.50	
9439.00	0.700	92.900	9437.69	-29.03	28.71	16.82	789392.02	564951.91	32°33'01.915"N	103°31'41.846"W	0.32	
9630.00	1.500	155.700	9628.66	-26.74	26.37	19.01	789394.21	564949.57	32°33'01.892"N	103°31'41.820"W	0.70	
9820.00	1.300	159.100	9818.61	-22.49	22.09	20.80	789396.00	564945.29	32°33'01.850"N	103°31'41.800"W	0.11	
10013.00	0.700	195.200	10011.58	-19.32	18.91	21.27	789396.47	564942.11	32°33'01.818"N	103°31'41.794"W	0.44	
10204.00	1.000	275.600	10202.56	-18.32	17.94	19.31	789394.51	564941.14	32°33'01.809"N	103°31'41.817"W	0.59	
10396.00	0.500	240.700	10394.55	-18.03	17.70	16.91	789392.11	564940.90	32°33'01.806"N	103°31'41.846"W	0.34	
10586.00	0.700	219.700	10584.54	-16.70	16.40	15.45	789390.65	564939.60	32°33'01.794"N	103°31'41.863"W	0.15	
10630.00	5.300	196.800	10628.46	-14.53	14.25	14.69	789389.89	564937.44	32°33'01.772"N	103°31'41.872"W	10.60	
10662.00	9.700	197.400	10660.18	-10.52	10.26	13.45	789388.65	564933.46	32°33'01.733"N	103°31'41.887"W	13.75	



Actual Wellpath Report

No.3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.3H AWB
Facility	Hanson 26 Federal Com No.3	Sidetrack from	No.3H AWB (Pilot) at 10586.00 MD

WELLPATH DATA (159 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10694.00	13.300	195.900	10691.54	-4.37	4.14	11.64	789386.84	564927.34	32°33'01.673"N	103°31'41.908"W	11.29	
10726.00	16.700	194.000	10722.44	3.67	-3.86	9.52	789384.72	564919.34	32°33'01.594"N	103°31'41.934"W	10.73	
10757.00	20.500	192.100	10751.82	13.35	-13.50	7.30	789382.50	564909.71	32°33'01.499"N	103°31'41.961"W	12.41	
10789.00	24.200	190.400	10781.41	25.33	-25.43	4.94	789380.14	564897.77	32°33'01.381"N	103°31'41.989"W	11.74	
10821.00	25.900	191.700	10810.40	38.67	-38.73	-2.34	789377.54	564884.48	32°33'01.249"N	103°31'42.021"W	5.58	
10853.00	27.600	191.100	10838.97	52.84	-52.84	-0.50	789374.70	564870.36	32°33'01.110"N	103°31'42.055"W	5.38	
10885.00	29.500	191.700	10867.08	67.89	-67.83	-3.53	789371.67	564855.37	32°33'00.962"N	103°31'42.092"W	6.00	
10917.00	32.500	192.500	10894.51	84.07	-83.95	-6.99	789368.21	564839.26	32°33'00.803"N	103°31'42.134"W	9.46	
10949.00	36.500	190.600	10920.87	101.89	-101.70	-10.60	789364.60	564821.50	32°33'00.627"N	103°31'42.177"W	12.94	
10981.00	39.100	190.100	10946.16	121.25	-120.99	-14.12	789361.08	564802.21	32°33'00.437"N	103°31'42.220"W	8.18	
11012.00	42.000	189.600	10969.71	141.17	-140.85	-17.57	789357.63	564782.35	32°33'00.240"N	103°31'42.262"W	9.41	
11044.00	45.800	190.300	10992.76	163.09	-162.70	-21.40	789353.80	564760.50	32°33'00.024"N	103°31'42.309"W	11.97	
11076.00	50.900	190.900	11014.02	186.66	-186.19	-25.81	789349.39	564737.01	32°32'59.792"N	103°31'42.363"W	16.00	
11108.00	56.200	191.300	11033.03	212.01	-211.44	-30.76	789344.44	564711.76	32°32'59.543"N	103°31'42.423"W	16.59	
11140.00	61.900	190.600	11049.48	239.04	-238.38	-35.97	789339.23	564684.83	32°32'59.277"N	103°31'42.486"W	17.91	
11172.00	67.000	187.700	11063.28	267.61	-266.87	-40.54	789334.66	564656.34	32°32'58.995"N	103°31'42.542"W	17.91	
11204.00	71.700	184.100	11074.56	297.44	-296.64	-43.60	789331.60	564626.57	32°32'58.701"N	103°31'42.580"W	18.07	
11234.00	77.100	182.000	11082.63	326.31	-325.48	-45.13	789330.07	564597.73	32°32'58.416"N	103°31'42.601"W	19.22	
11266.00	82.500	181.100	11088.29	357.79	-356.95	-45.98	789329.22	564566.26	32°32'58.104"N	103°31'42.613"W	17.10	
11298.00	83.500	180.900	11092.19	389.55	-388.71	-46.54	789328.66	564534.50	32°32'57.790"N	103°31'42.623"W	3.19	
11330.00	83.900	180.400	11095.70	421.35	-420.51	-46.90	789328.30	564502.70	32°32'57.475"N	103°31'42.630"W	1.99	
11362.00	85.100	180.400	11098.77	453.20	-452.36	-47.12	789328.08	564470.85	32°32'57.160"N	103°31'42.635"W	3.75	
11394.00	86.600	180.400	11101.09	485.12	-484.28	-47.34	789327.86	564438.93	32°32'56.845"N	103°31'42.641"W	4.69	
11426.00	88.600	180.500	11102.43	517.08	-516.25	-47.60	789327.61	564406.96	32°32'56.528"N	103°31'42.646"W	6.26	
11458.00	88.900	179.800	11103.12	549.07	-548.24	-47.68	789327.52	564374.97	32°32'56.212"N	103°31'42.650"W	2.38	
11521.00	89.000	179.100	11104.28	612.03	-611.23	-47.07	789328.13	564311.99	32°32'55.588"N	103°31'42.649"W	1.12	
11617.00	89.200	178.600	11105.79	707.95	-707.20	-45.15	789330.05	564216.02	32°32'54.639"N	103°31'42.635"W	0.56	
11712.00	89.700	178.000	11106.70	802.83	-802.15	-42.33	789332.87	564121.07	32°32'53.699"N	103°31'42.610"W	0.82	
11807.00	87.900	180.100	11108.69	897.73	-897.11	-40.75	789334.45	564026.12	32°32'52.759"N	103°31'42.600"W	2.91	
11903.00	88.300	179.500	11111.87	993.65	-993.05	-40.42	789334.78	563930.17	32°32'51.810"N	103°31'42.605"W	0.75	
11998.00	89.100	179.300	11114.03	1088.59	-1088.02	-39.42	789335.78	563835.20	32°32'50.870"N	103°31'42.601"W	0.87	
12094.00	89.400	178.400	11115.28	1184.50	-1183.99	-37.50	789337.70	563739.23	32°32'49.921"N	103°31'42.587"W	0.99	
12190.00	89.200	177.400	11116.46	1280.34	-1279.92	-33.98	789341.22	563643.31	32°32'48.971"N	103°31'42.555"W	1.06	
12286.00	88.000	179.500	11118.80	1376.20	-1375.85	-31.38	789343.82	563547.38	32°32'48.022"N	103°31'42.533"W	2.52	
12381.00	87.900	178.300	11122.20	1471.06	-1470.77	-29.56	789345.64	563452.46	32°32'47.083"N	103°31'42.520"W	1.27	
12476.00	89.000	180.800	11124.77	1565.99	-1565.72	-28.82	789346.38	563357.51	32°32'46.143"N	103°31'42.520"W	2.87	
12571.00	88.800	180.200	11126.59	1660.96	-1660.70	-29.65	789345.55	563262.54	32°32'45.203"N	103°31'42.538"W	0.67	
12667.00	88.200	180.000	11129.11	1756.91	-1756.67	-29.81	789345.39	563166.57	32°32'44.254"N	103°31'42.548"W	0.66	
12762.00	89.400	181.100	11131.10	1851.88	-1851.64	-30.73	789344.48	563071.60	32°32'43.314"N	103°31'42.567"W	1.71	
12857.00	89.000	180.200	11132.42	1946.87	-1946.62	-31.80	789343.40	562976.62	32°32'42.374"N	103°31'42.588"W	1.04	
12952.00	89.800	181.800	11133.42	2041.86	-2041.60	-33.46	789341.74	562881.65	32°32'41.435"N	103°31'42.616"W	1.88	
13047.00	88.300	179.100	11134.99	2136.83	-2136.57	-34.21	789340.99	562786.68	32°32'40.495"N	103°31'42.633"W	3.25	
13142.00	88.700	181.700	11137.48	2231.78	-2231.53	-34.87	789340.33	562691.72	32°32'39.556"N	103°31'42.649"W	2.77	
13237.00	88.800	180.700	11139.55	2326.76	-2326.48	-36.86	789338.34	562596.77	32°32'38.616"N	103°31'42.681"W	1.06	
13332.00	88.600	179.300	11141.71	2421.71	-2421.46	-36.86	789338.34	562501.80	32°32'37.677"N	103°31'42.689"W	1.49	



Actual Wellpath Report

No.3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.3 SHL
Area	Lea County, NM	Well	No.3
Field	(Hanson) Sec 26, T20S, R34E	Wellbore	No.3H AWB
Facility	Hanson 26 Federal Com No.3	Sidetrack from	No.3H AWB (Pilot) at 10586.00 MD

WELLPATH DATA (159 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13427.00	89.700	181.300	11143.12	2516.69	-2516.44	-37.36	789337.84	562406.82	32°32'36.737"N	103°31'42.703"W	2.40	
13522.00	89.700	181.300	11143.61	2611.68	-2611.41	-39.51	789335.69	562311.85	32°32'35.797"N	103°31'42.737"W	0.00	
13617.00	88.600	179.900	11145.02	2706.67	-2706.39	-40.51	789334.69	562216.87	32°32'34.858"N	103°31'42.757"W	1.87	
13712.00	88.800	180.800	11147.18	2801.63	-2801.36	-41.09	789334.11	562121.90	32°32'33.918"N	103°31'42.772"W	0.97	
13806.00	89.000	180.400	11148.98	2895.61	-2895.34	-42.07	789333.13	562027.92	32°32'32.988"N	103°31'42.792"W	0.48	
13901.00	89.600	180.300	11150.14	2990.59	-2990.33	-42.65	789332.55	561932.93	32°32'32.048"N	103°31'42.807"W	0.64	
13996.00	90.200	180.200	11150.31	3085.58	-3085.33	-43.07	789332.13	561837.94	32°32'31.108"N	103°31'42.820"W	0.64	
14091.00	88.900	181.900	11151.06	3180.57	-3180.31	-44.81	789330.39	561742.96	32°32'30.169"N	103°31'42.849"W	2.25	
14186.00	89.600	181.400	11152.30	3275.56	-3275.26	-47.54	789327.66	561648.01	32°32'29.230"N	103°31'42.889"W	0.91	
14280.00	90.100	181.300	11152.55	3369.56	-3369.23	-49.76	789325.44	561554.04	32°32'28.300"N	103°31'42.923"W	0.54	
14375.00	90.900	180.700	11151.72	3464.55	-3464.21	-51.41	789323.79	561459.07	32°32'27.360"N	103°31'42.951"W	1.05	
14470.00	88.700	181.000	11152.05	3559.55	-3559.20	-52.82	789322.38	561364.08	32°32'26.421"N	103°31'42.976"W	2.34	
14565.00	88.600	181.300	11154.29	3654.52	-3654.15	-54.73	789320.47	561269.13	32°32'25.481"N	103°31'43.007"W	0.33	
14659.00	88.200	182.600	11156.91	3748.47	-3748.06	-57.93	789317.27	561175.23	32°32'24.552"N	103°31'43.052"W	1.45	
14754.00	88.800	181.800	11159.40	3843.42	-3842.95	-61.57	789313.63	561080.33	32°32'23.614"N	103°31'43.103"W	1.05	
14848.00	89.700	181.600	11160.63	3937.41	-3936.90	-64.36	789310.84	560986.39	32°32'22.684"N	103°31'43.144"W	0.98	
14913.00	89.100	181.200	11161.31	4002.40	-4001.88	-65.95	789309.25	560921.41	32°32'22.042"N	103°31'43.168"W	1.11	
15008.00	89.900	181.200	11162.14	4097.40	-4096.85	-67.94	789307.26	560826.44	32°32'21.102"N	103°31'43.200"W	0.84	
15102.00	90.900	180.600	11161.48	4191.39	-4190.84	-69.41	789305.79	560732.46	32°32'20.172"N	103°31'43.225"W	1.24	
15197.00	91.600	179.600	11159.41	4286.35	-4285.81	-69.58	789305.62	560637.48	32°32'19.232"N	103°31'43.236"W	1.28	
15292.00	92.600	179.100	11155.93	4381.24	-4380.74	-68.50	789306.70	560542.56	32°32'18.293"N	103°31'43.232"W	1.18	
15386.00	93.600	178.600	11150.85	4475.03	-4474.58	-66.62	789308.58	560448.72	32°32'17.364"N	103°31'43.218"W	1.19	
15481.00	94.400	178.100	11144.22	4569.69	-4569.31	-63.89	789311.31	560353.99	32°32'16.427"N	103°31'43.194"W	0.99	
15526.00	94.400	178.100	11140.77	4614.49	-4614.16	-62.40	789312.80	560309.15	32°32'15.983"N	103°31'43.181"W	0.00	Proj to Bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hanson 26 Federal Com No. 3 PBHL (Rev-0)		11118.00	-4622.50	-90.90	789284.30	560300.80	32°32'15.903"N	103°31'43.515"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
18.00	5436.00	Generic gyro - northseeking (Standard)	GyroData Gyro <106.7-5436>	No.3H AWB (Pilot)
5436.00	10586.00	NaviTrak (Standard)	BHI MWD NvaiTrak <5533-XXXX> (Pilot Hole	No.3H AWB (Pilot)
10586.00	15526.00	NaviTrak (Standard)	BHI / Navitrak MWD 7 7/8" <10630 - >	No.3H AWB