

Results of Directional Survey

API number:	30-005-29043		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	WASP 2 STATE # 3H

surface	ULSTR:	E	02	T 15S	R 31E
				1980 FNL	375 FWL

BH Loc	ULSTR:	H	02	T 15S	R 31E
13041 MD		8840.2	TVD	1949 FNL	4895 FWL
					385 FEL

Top Perf/OH	ULSTR:	E	02	T 15S	R 31E
8348 MD		8344.8	TVD	2018 FNL	482 FWL

Bot Perf/OH	ULSTR:	H	02	T 15S	R 31E
12850 MD		8839.4	TVD	1953 FNL	4704 FWL
					576 FEL

	MD	N/S	E/W	VD
	8324.3	-37.69	107.06	8321.06
TOP PERFS/OH	8348	-37.70	107.47	8344.76
	8419.5	-37.73	108.70	8416.25
	12831	26.42	4310.00	8839.30
BOT PERFS/OH	12850	26.87	4329.00	8839.38
	12926	28.66	4404.98	8839.71

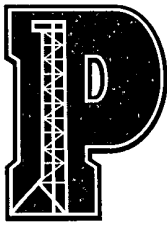
NEXT TO LAST	12926	28.66	4404.98	8839.71
LAST READING	12989	29.81	4467.97	8839.99
TD	13041	30.76	4519.96	8840.22

Surface Location	1980 FN	375 FW
Projected BHL	1949 FN	4895 FW
Location of		
Top Perfs/OH	2018 FN	482 FW
Bottom Perfs/OH	1953 FN	4704 FW

SUMMARY of Subsurface Locations

Surface Location	E-02-15S-31E	1980 FN	375 FW	Vert. Depth
Top Perfs/OH	E-02-15S-31E	2018 FN	482 FW	8344.76
Bottom Perfs/OH	H-02-15S-31E	1953 FN	4704 FW	8839.38
Projected TD	H-02-15S-31E	1949 FN	4895 FW	8840.22

AUG 18 2011



PATRIOT DRILLING, LLC

HOBBS OCD

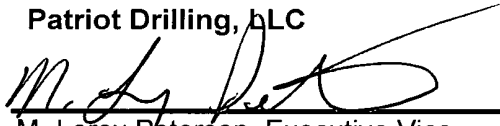
JUL 28 2011

OPERATOR: Cimarex Energy CO.
WELL/LEASE: Wasp 2 State Com. # 3H
COUNTY: Chaves Co., New Mexico
Sec. 2, T15S, R31E

**STATE OF NEW MEXICO
DEVIATION REPORT**

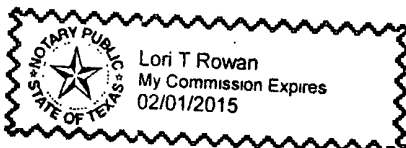
<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
264	1	4,570	2
764	1	4,761	1
1,237	1	4,951	1
1,714	1	5,142	1
2,094	1	5,427	2
2,507	1	5,617	2
2,952	2	5,808	1
3,142	3	6,093	2
3,333	5	6,283	1
3,523	2	6,567	2
3,714	3	6,854	2
3,809	2	7,424	2
3,907	2	7,709	2
3,999	2	7,994	2
4,189	1	8,279	1
4,379	1	8,564	2

Patriot Drilling, hLC


M. Leroy Peterson, Executive Vice-
President

The foregoing instrument was acknowledged before me on this 29th day of April, 2011 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2015




Lori T. Rowan
Notary Public for Ector Co., Texas



Cimarex Energy Co.

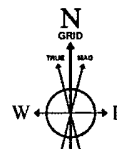
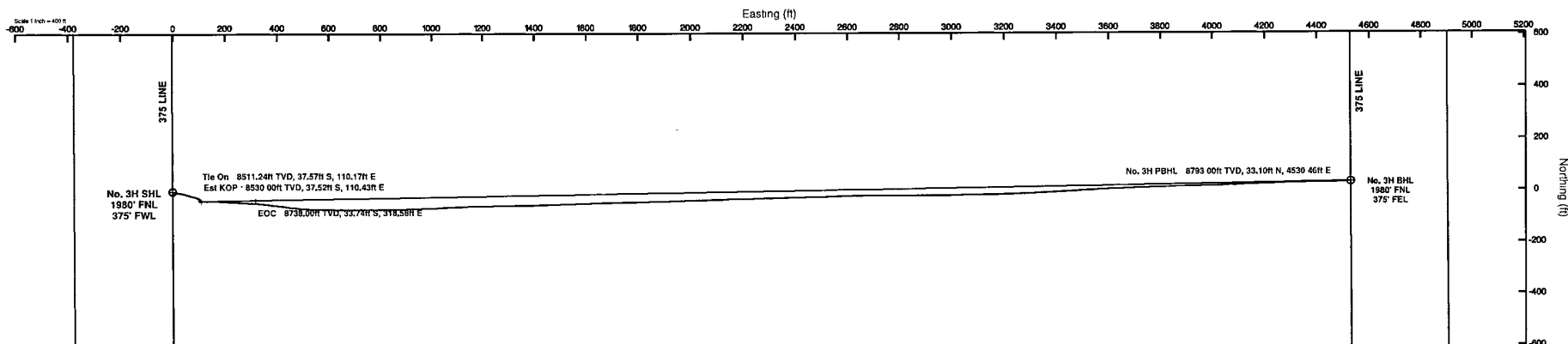
Location: Chaves County, NM
Field: (WASP) Sec 2, T15S, R31E
Facility: WASP 2 St No. 3H

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



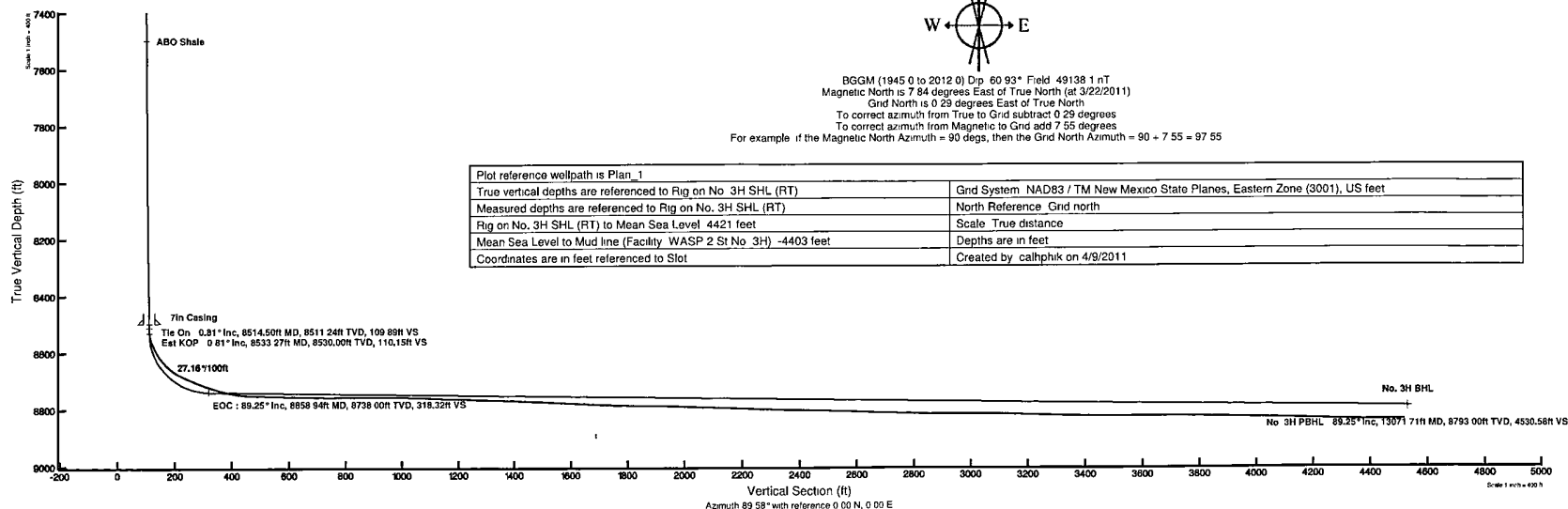
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8514.50	0.810	79.670	8511.24	-37.57	110.17	0.00	109.89
Est KOP	8533.27	0.810	79.670	8530.00	-37.52	110.43	0.00	110.15
EOC	8858.94	89.252	89.091	8738.00	-33.74	318.58	27.16	318.32
No. 3H PBHL	13071.71	89.252	89.091	8793.00	33.10	4530.46	0.00	4530.58



BGGM (1945 0 to 2012 0) Dip 60.93° Field 49138 1 nT
Magnetic North is 7.84 degrees East of True North (at 3/22/2011)
Grid North is 0.29 degrees East of True North
To correct azimuth from True to Grid subtract 0.29 degrees
To correct azimuth from Magnetic to Grid add 7.55 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.55 = 97.55

Plot reference wellpath is Plan_1	
True vertical depths are referenced to Rig on No. 3H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 3H SHL (RT)	North Reference: Grid north
Rig on No. 3H SHL (RT) to Mean Sea Level: 4421 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: WASP 2 St No. 3H) -4403 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: calhphk on 4/9/2011





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	(WASP) Sec 2, T15S, R31E	Wellbore	No. 3H AWB
Facility	WASP 2 St No. 3H		

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	Calhphik
Scale	0.99994	Report Generated	4/25/2011 at 9:05:02 AM
Convergence at slot	0.29° 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	704844.70	745001.50	33°02'48.705"N	103°47'58.999"W
Facility Reference Pt			704844.70	745001.50	33°02'48.705"N	103°47'58.999"W
Field Reference Pt			704819.20	742043.80	33°02'19.441"N	103°47'59.475"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 3H SHL (RT) to GL	18.00ft
Horizontal Reference Pt	Slot	Rig on No. 3H SHL (RT) to Mean Sea Level	4421.00ft
Vertical Reference Pt	Rig on No. 3H SHL (RT)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 3H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	89.58°



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No. 3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Chaves County, NM	Well	No. 3H
Field	(WASP) Sec 2, T15S, R31E	Wellbore	No. 3H AWB
Facility	WASP 2 St No. 3H		

WELLPATH DATA (151 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	136.630	0.00	0.00	0.00	0.00	704844.70	745001.50	33°02'48.705"N	103°47'58.999"W	0.00
100.00	0.460	136.630	100.00	0.27	-0.29	0.28	704844.98	745001.21	33°02'48.702"N	103°47'58.995"W	0.46
200.00	0.480	138.570	200.00	0.82	-0.90	0.83	704845.53	745000.60	33°02'48.696"N	103°47'58.989"W	0.03
300.00	0.410	140.860	299.99	1.32	-1.49	1.33	704846.03	745000.01	33°02'48.690"N	103°47'58.983"W	0.07
400.00	0.300	142.230	399.99	1.70	-1.97	1.72	704846.42	744999.53	33°02'48.685"N	103°47'58.979"W	0.11
500.00	0.290	139.490	499.99	2.03	-2.37	2.04	704846.74	744999.13	33°02'48.681"N	103°47'58.975"W	0.02
600.00	0.380	142.040	599.99	2.39	-2.83	2.41	704847.11	744998.67	33°02'48.677"N	103°47'58.970"W	0.09
713.80	0.380	105.130	713.79	2.98	-3.22	3.01	704847.71	744998.28	33°02'48.673"N	103°47'58.963"W	0.21
809.00	0.260	142.550	808.98	3.42	-3.48	3.44	704848.14	744998.02	33°02'48.670"N	103°47'58.958"W	0.25
904.10	0.160	159.260	904.08	3.59	-3.77	3.62	704848.32	744997.73	33°02'48.667"N	103°47'58.956"W	0.12
999.10	0.160	124.580	999.08	3.75	-3.97	3.78	704848.48	744997.53	33°02'48.665"N	103°47'58.954"W	0.10
1094.20	0.220	145.070	1094.18	3.96	-4.20	3.99	704848.69	744997.30	33°02'48.663"N	103°47'58.952"W	0.09
1189.20	0.140	309.070	1189.18	3.97	-4.27	4.01	704848.71	744997.23	33°02'48.662"N	103°47'58.952"W	0.38
1284.30	0.370	336.480	1284.28	3.76	-3.92	3.79	704848.49	744997.58	33°02'48.666"N	103°47'58.954"W	0.27
1379.40	0.720	299.020	1379.38	3.12	-3.35	3.15	704847.85	744998.15	33°02'48.671"N	103°47'58.962"W	0.51
1474.30	0.940	280.580	1474.27	1.84	-2.91	1.86	704846.56	744998.59	33°02'48.676"N	103°47'58.977"W	0.36
1569.60	0.770	267.660	1569.56	0.43	-2.80	0.45	704845.15	744998.70	33°02'48.677"N	103°47'58.993"W	0.27
1664.50	0.840	268.150	1664.45	-0.90	-2.85	-0.88	704843.82	744998.65	33°02'48.677"N	103°47'59.009"W	0.07
1759.70	0.600	264.270	1759.64	-2.09	-2.92	-2.07	704842.63	744998.58	33°02'48.676"N	103°47'59.023"W	0.26
1854.90	0.100	127.050	1854.84	-2.52	-3.02	-2.50	704842.20	744998.48	33°02'48.675"N	103°47'59.028"W	0.71
1949.80	0.900	91.310	1949.73	-1.71	-3.08	-1.69	704843.01	744998.42	33°02'48.674"N	103°47'59.019"W	0.87
2045.10	1.340	89.580	2045.02	0.15	-3.09	0.17	704844.87	744998.41	33°02'48.674"N	103°47'58.997"W	0.46
2140.30	1.350	87.130	2140.19	2.38	-3.03	2.40	704847.10	744998.47	33°02'48.675"N	103°47'58.971"W	0.06
2235.40	1.350	87.080	2235.26	4.62	-2.92	4.64	704849.34	744998.58	33°02'48.676"N	103°47'58.944"W	0.00
2330.50	1.130	91.180	2330.34	6.68	-2.88	6.70	704851.40	744998.62	33°02'48.676"N	103°47'58.920"W	0.25
2425.90	1.180	96.350	2425.72	8.59	-3.01	8.62	704853.31	744998.49	33°02'48.674"N	103°47'58.898"W	0.12
2521.10	1.110	100.130	2520.90	10.47	-3.28	10.50	704855.20	744998.22	33°02'48.672"N	103°47'58.875"W	0.11
2616.30	1.320	98.540	2616.08	12.46	-3.60	12.49	704857.19	744997.90	33°02'48.668"N	103°47'58.852"W	0.22
2711.40	1.640	93.310	2711.15	14.90	-3.84	14.93	704859.63	744997.66	33°02'48.666"N	103°47'58.823"W	0.36
2806.80	2.090	96.080	2806.50	17.99	-4.11	18.02	704862.72	744997.39	33°02'48.663"N	103°47'58.787"W	0.48
2902.30	2.430	99.540	2901.92	21.72	-4.63	21.75	704866.45	744996.87	33°02'48.658"N	103°47'58.743"W	0.38
2997.60	2.970	101.850	2997.12	26.12	-5.47	26.16	704870.86	744996.03	33°02'48.649"N	103°47'58.692"W	0.58
3092.60	3.670	100.030	3091.96	31.52	-6.50	31.56	704876.26	744995.00	33°02'48.639"N	103°47'58.628"W	0.75
3187.70	4.330	104.000	3186.83	37.99	-7.90	38.04	704882.74	744993.60	33°02'48.625"N	103°47'58.552"W	0.75
3283.20	4.960	105.230	3282.01	45.45	-9.86	45.53	704890.22	744991.64	33°02'48.605"N	103°47'58.464"W	0.67
3378.50	5.070	105.680	3376.95	53.47	-12.08	53.56	704898.25	744989.42	33°02'48.582"N	103°47'58.370"W	0.12
3473.60	4.180	105.640	3471.74	60.83	-14.15	60.94	704905.64	744987.35	33°02'48.562"N	103°47'58.284"W	0.94
3568.90	4.020	106.560	3566.79	67.37	-16.04	67.49	704912.18	744985.46	33°02'48.543"N	103°47'58.207"W	0.18
3664.30	3.970	104.460	3661.96	73.76	-17.82	73.89	704918.58	744983.69	33°02'48.525"N	103°47'58.132"W	0.16
3759.60	3.480	102.960	3757.06	79.76	-19.29	79.90	704924.60	744982.21	33°02'48.510"N	103°47'58.061"W	0.52
3854.90	2.970	106.580	3852.21	84.93	-20.64	85.09	704929.78	744980.86	33°02'48.496"N	103°47'58.000"W	0.58
3950.00	2.570	110.000	3947.20	89.29	-22.07	89.45	704934.15	744979.43	33°02'48.482"N	103°47'57.949"W	0.45
4045.40	2.310	114.080	4042.51	93.04	-23.59	93.22	704937.91	744977.91	33°02'48.467"N	103°47'57.905"W	0.33
4140.50	2.040	115.830	4137.54	96.30	-25.11	96.49	704941.18	744976.39	33°02'48.451"N	103°47'57.867"W	0.29
4235.40	1.690	117.600	4232.39	99.05	-26.49	99.25	704943.94	744975.01	33°02'48.438"N	103°47'57.834"W	0.37



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	(WASP) Sec 2, T15S, R31E	Wellbore	No. 3H AWP
Facility	WASP 2 St No. 3H		

WELLPATH DATA (151 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]
4330.60	1.460	116.910	4327.55	101.37	-27.69	101.58	704946.27	744973.81	33°02'48.426"N	103°47'57.807"W	0.24
4425.80	1.150	123.300	4422.73	103.24	-28.77	103.46	704948.15	744972.74	33°02'48.415"N	103°47'57.785"W	0.36
4521.00	0.880	132.800	4517.92	104.57	-29.79	104.79	704949.48	744971.72	33°02'48.405"N	103°47'57.769"W	0.33
4615.10	0.700	136.180	4612.01	105.49	-30.69	105.72	704950.41	744970.81	33°02'48.396"N	103°47'57.758"W	0.20
4711.80	0.910	135.140	4708.70	106.44	-31.66	106.67	704951.36	744969.84	33°02'48.386"N	103°47'57.747"W	0.22
4806.80	0.730	139.790	4803.69	107.35	-32.66	107.59	704952.29	744968.84	33°02'48.376"N	103°47'57.737"W	0.20
4901.90	0.540	143.560	4898.78	108.00	-33.48	108.25	704952.94	744968.02	33°02'48.368"N	103°47'57.729"W	0.20
4996.90	0.700	133.800	4993.78	108.68	-34.24	108.93	704953.63	744967.26	33°02'48.360"N	103°47'57.721"W	0.20
5092.00	0.480	132.150	5088.87	109.39	-34.91	109.65	704954.34	744966.59	33°02'48.354"N	103°47'57.713"W	0.23
5187.30	0.480	144.630	5184.17	109.91	-35.51	110.18	704954.87	744965.99	33°02'48.348"N	103°47'57.706"W	0.11
5282.40	0.370	169.700	5279.26	110.19	-36.13	110.46	704955.15	744965.37	33°02'48.342"N	103°47'57.703"W	0.22
5377.70	0.390	165.180	5374.56	110.33	-36.75	110.60	704955.29	744964.75	33°02'48.335"N	103°47'57.702"W	0.04
5472.60	0.360	164.820	5469.46	110.48	-37.35	110.76	704955.45	744964.15	33°02'48.330"N	103°47'57.700"W	0.03
5568.00	0.280	179.520	5564.86	110.56	-37.87	110.84	704955.53	744963.63	33°02'48.324"N	103°47'57.699"W	0.12
5662.90	0.220	222.960	5659.76	110.44	-38.24	110.72	704955.41	744963.26	33°02'48.321"N	103°47'57.700"W	0.20
5758.20	0.280	247.020	5755.06	110.10	-38.46	110.38	704955.07	744963.04	33°02'48.319"N	103°47'57.704"W	0.13
5853.40	0.290	287.130	5850.26	109.65	-38.48	109.94	704954.63	744963.02	33°02'48.318"N	103°47'57.709"W	0.21
5948.60	0.480	276.090	5945.45	109.03	-38.37	109.31	704954.00	744963.13	33°02'48.320"N	103°47'57.717"W	0.21
6043.70	0.490	290.120	6040.55	108.25	-38.19	108.53	704953.22	744963.31	33°02'48.321"N	103°47'57.726"W	0.13
6138.80	0.500	289.990	6135.65	107.48	-37.91	107.76	704952.45	744963.60	33°02'48.324"N	103°47'57.735"W	0.01
6234.10	0.490	285.820	6230.94	106.70	-37.65	106.98	704951.67	744963.85	33°02'48.327"N	103°47'57.744"W	0.04
6329.20	0.670	289.210	6326.04	105.78	-37.36	106.06	704950.57	744964.14	33°02'48.330"N	103°47'57.755"W	0.19
6424.50	0.580	301.050	6421.33	104.85	-36.93	105.12	704949.81	744964.58	33°02'48.334"N	103°47'57.766"W	0.16
6519.40	0.460	306.500	6516.23	104.13	-36.45	104.40	704949.10	744965.05	33°02'48.339"N	103°47'57.774"W	0.14
6614.50	0.380	303.490	6611.33	103.57	-36.05	103.83	704948.53	744965.45	33°02'48.343"N	103°47'57.781"W	0.09
6709.60	0.400	305.640	6706.42	103.04	-35.68	103.30	704947.99	744965.82	33°02'48.346"N	103°47'57.787"W	0.03
6804.80	0.440	307.630	6801.62	102.48	-35.27	102.74	704947.43	744966.24	33°02'48.351"N	103°47'57.794"W	0.04
6899.90	0.410	306.120	6896.72	101.92	-34.84	102.18	704946.87	744966.66	33°02'48.355"N	103°47'57.800"W	0.03
6995.00	0.380	296.690	6991.82	101.36	-34.50	101.62	704946.31	744967.00	33°02'48.358"N	103°47'57.807"W	0.08
7090.20	0.370	310.040	7087.01	100.85	-34.16	101.10	704945.80	744967.34	33°02'48.362"N	103°47'57.813"W	0.09
7185.50	0.340	330.910	7182.31	100.48	-33.72	100.73	704945.42	744967.79	33°02'48.366"N	103°47'57.817"W	0.14
7279.50	0.350	323.930	7276.31	100.18	-33.24	100.42	704945.12	744968.26	33°02'48.371"N	103°47'57.821"W	0.05
7374.40	0.230	347.450	7371.21	99.97	-32.82	100.21	704944.91	744968.68	33°02'48.375"N	103°47'57.823"W	0.18
7469.70	0.390	100.870	7466.51	100.25	-32.70	100.49	704945.18	744968.81	33°02'48.376"N	103°47'57.820"W	0.55
7565.10	0.490	110.600	7561.91	100.95	-32.90	101.19	704945.88	744968.60	33°02'48.374"N	103°47'57.812"W	0.13
7660.00	0.370	133.870	7656.80	101.55	-33.26	101.79	704946.48	744968.25	33°02'48.370"N	103°47'57.805"W	0.22
7755.20	0.500	132.090	7752.00	102.07	-33.75	102.32	704947.01	744967.76	33°02'48.366"N	103°47'57.799"W	0.14
7850.50	0.650	155.980	7847.30	102.59	-34.52	102.85	704947.54	744966.98	33°02'48.358"N	103°47'57.792"W	0.29
7944.60	0.610	145.300	7941.39	103.09	-35.42	103.35	704948.05	744966.08	33°02'48.349"N	103°47'57.787"W	0.13
8038.80	0.750	138.980	8035.58	103.77	-36.30	104.04	704948.74	744965.21	33°02'48.340"N	103°47'57.779"W	0.17
8134.00	0.520	124.590	8130.78	104.53	-37.01	104.81	704949.50	744964.49	33°02'48.333"N	103°47'57.770"W	0.29
8229.10	0.680	108.460	8225.87	105.42	-37.43	105.70	704950.39	744964.07	33°02'48.329"N	103°47'57.759"W	0.24
8324.30	1.000	95.610	8321.06	106.78	-37.69	107.06	704951.75	744963.81	33°02'48.326"N	103°47'57.743"W	0.39
8419.50	0.980	86.820	8416.25	108.42	-37.73	108.70	704953.39	744963.77	33°02'48.326"N	103°47'57.724"W	0.16
8514.50	0.810	79.670	8511.24	109.89	-37.57	110.17	704954.86	744963.94	33°02'48.327"N	103°47'57.707"W	0.21



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	(WASP) Sec 2, T15S, R31E	Wellbore	No. 3H AWB
Facility	WASP 2 St No. 3H		

WELLPATH DATA (151 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]
8560.00	16.900	88.200	8556.05	116.87	-37.30	117.14	704961.84	744964.20	33°02'48.330"N	103°47'57.625"W	35.38
8592.00	26.000	89.900	8585.80	128.56	-37.14	128.83	704973.52	744964.36	33°02'48.331"N	103°47'57.487"W	28.50
8624.00	34.700	91.300	8613.39	144.71	-37.33	144.98	704989.67	744964.17	33°02'48.328"N	103°47'57.298"W	27.28
8655.00	43.100	91.700	8637.49	164.14	-37.85	164.42	705009.11	744963.65	33°02'48.322"N	103°47'57.069"W	27.11
8687.00	52.300	93.200	8659.01	187.75	-38.88	188.04	705032.73	744962.62	33°02'48.310"N	103°47'56.792"W	28.96
8719.00	62.300	93.100	8676.27	214.60	-40.36	214.90	705059.58	744961.14	33°02'48.295"N	103°47'56.476"W	31.25
8750.00	66.600	93.100	8689.64	242.51	-41.87	242.82	705087.50	744959.63	33°02'48.278"N	103°47'56.149"W	13.87
8782.00	67.400	93.400	8702.14	271.90	-43.54	272.23	705116.91	744957.96	33°02'48.260"N	103°47'55.803"W	2.64
8813.00	69.900	93.700	8713.43	300.70	-45.33	301.04	705145.72	744956.17	33°02'48.241"N	103°47'55.465"W	8.11
8845.00	72.200	95.200	8723.82	330.86	-47.68	331.21	705175.89	744953.82	33°02'48.216"N	103°47'55.111"W	8.44
8877.00	74.800	96.400	8732.91	361.35	-50.78	361.73	705206.41	744950.72	33°02'48.184"N	103°47'54.752"W	8.88
8909.00	78.100	97.500	8740.40	392.20	-54.55	392.61	705237.29	744946.95	33°02'48.145"N	103°47'54.390"W	10.84
8940.00	82.400	97.900	8745.65	422.44	-58.64	422.88	705267.55	744942.86	33°02'48.103"N	103°47'54.034"W	13.93
8972.00	86.500	97.700	8748.75	453.96	-62.96	454.43	705299.10	744938.54	33°02'48.059"N	103°47'53.664"W	12.83
9003.00	88.500	94.000	8750.10	484.73	-66.12	485.23	705329.90	744935.39	33°02'48.026"N	103°47'53.302"W	13.56
9035.00	88.100	92.600	8751.05	516.65	-67.96	517.16	705361.83	744933.54	33°02'48.006"N	103°47'52.927"W	4.55
9099.00	88.800	90.700	8752.78	580.58	-69.80	581.11	705425.77	744931.70	33°02'47.985"N	103°47'52.176"W	3.16
9162.00	88.800	90.200	8754.10	643.56	-70.30	644.09	705488.75	744931.21	33°02'47.977"N	103°47'51.436"W	0.79
9225.00	89.300	90.200	8755.14	706.55	-70.52	707.08	705551.74	744930.99	33°02'47.971"N	103°47'50.696"W	0.79
9288.00	90.500	89.600	8755.25	769.55	-70.41	770.08	705614.73	744931.10	33°02'47.969"N	103°47'49.956"W	2.13
9352.00	90.600	89.700	8754.64	833.54	-70.02	834.08	705678.73	744931.49	33°02'47.970"N	103°47'49.204"W	0.22
9415.00	90.300	88.400	8754.14	896.54	-68.97	897.07	705741.71	744932.53	33°02'47.977"N	103°47'48.464"W	2.12
9510.00	89.000	88.200	8754.72	991.51	-66.15	992.02	705836.66	744935.35	33°02'48.000"N	103°47'47.349"W	1.38
9605.00	86.800	87.300	8758.21	1086.39	-62.43	1086.88	705931.51	744939.08	33°02'48.032"N	103°47'46.234"W	2.50
9699.00	88.000	88.400	8762.47	1180.25	-58.90	1180.71	706025.34	744942.60	33°02'48.062"N	103°47'45.132"W	1.73
9794.00	88.400	89.500	8765.45	1275.19	-57.16	1275.65	706120.27	744944.34	33°02'48.075"N	103°47'44.016"W	1.23
9889.00	87.800	89.100	8768.60	1370.14	-56.00	1370.59	706215.20	744945.50	33°02'48.081"N	103°47'42.901"W	0.76
9984.00	87.700	88.600	8772.33	1465.06	-54.10	1465.49	706310.10	744947.40	33°02'48.095"N	103°47'41.786"W	0.54
10079.00	87.400	88.000	8776.39	1559.95	-51.28	1560.36	706404.97	744950.22	33°02'48.118"N	103°47'40.671"W	0.71
10173.00	86.700	87.800	8781.23	1653.78	-47.84	1654.18	706498.77	744953.66	33°02'48.148"N	103°47'39.569"W	0.77
10267.00	88.200	89.000	8785.41	1747.67	-45.22	1748.04	706592.63	744956.28	33°02'48.169"N	103°47'38.466"W	2.04
10362.00	89.400	89.100	8787.40	1842.64	-43.65	1843.01	706687.59	744957.85	33°02'48.180"N	103°47'37.350"W	1.27
10457.00	88.700	88.000	8788.98	1937.61	-41.24	1937.96	706782.54	744960.26	33°02'48.199"N	103°47'36.235"W	1.37
10552.00	87.900	87.900	8791.80	2032.53	-37.85	2032.86	706877.43	744963.65	33°02'48.227"N	103°47'35.120"W	0.85
10647.00	88.000	88.300	8795.20	2127.43	-34.70	2127.74	706972.31	744966.80	33°02'48.254"N	103°47'34.005"W	0.43
10742.00	87.700	88.900	8798.76	2222.35	-32.38	2222.65	707067.21	744969.12	33°02'48.272"N	103°47'32.890"W	0.71
10837.00	88.700	88.300	8801.74	2317.29	-30.06	2317.57	707162.13	744971.44	33°02'48.290"N	103°47'31.775"W	1.23
10932.00	89.000	88.700	8803.65	2412.25	-27.57	2412.52	707257.07	744973.93	33°02'48.310"N	103°47'30.659"W	0.53
11027.00	88.100	88.600	8806.05	2507.21	-25.34	2507.46	707352.01	744976.16	33°02'48.327"N	103°47'29.544"W	0.95
11122.00	87.500	87.900	8809.70	2602.11	-22.44	2602.35	707446.88	744979.06	33°02'48.351"N	103°47'28.429"W	0.97
11217.00	89.000	89.800	8812.60	2697.05	-20.53	2697.28	707541.81	744980.97	33°02'48.365"N	103°47'27.313"W	2.55
11311.00	88.100	90.100	8814.98	2791.02	-20.45	2791.25	707635.77	744981.05	33°02'48.361"N	103°47'26.210"W	1.01
11406.00	90.200	90.100	8816.39	2886.00	-20.62	2886.23	707730.75	744980.88	33°02'48.354"N	103°47'25.094"W	2.21
11501.00	90.000	89.000	8816.22	2981.00	-19.87	2981.22	707825.74	744981.63	33°02'48.357"N	103°47'23.978"W	1.18
11596.00	89.700	89.200	8816.47	3076.00	-18.38	3076.21	707920.72	744983.12	33°02'48.367"N	103°47'22.862"W	0.38



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	(WASP) Sec 2, T15S, R31E	Wellbore	No. 3H AWB
Facility	WASP 2 St No. 3H		

WELLPATH DATA (151 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]
11691.00	87.900	88.600	8818.46	3170.96	-16.56	3171.17	708015.67	744984.95	33°02'48.380"N	103°47'21.746"W	2.00
11787.00	88.300	88.000	8821.65	3266.89	-13.71	3267.07	708111.57	744987.79	33°02'48.403"N	103°47'20.619"W	0.75
11882.00	88.900	87.200	8823.97	3361.80	-9.73	3361.96	708206.45	744991.77	33°02'48.438"N	103°47'19.504"W	1.05
11977.00	89.300	86.400	8825.46	3456.68	-4.43	3456.80	708301.29	744997.07	33°02'48.485"N	103°47'18.390"W	0.94
12074.00	90.500	86.800	8825.62	3550.55	-1.15	3550.63	708395.11	745002.65	33°02'48.536"N	103°47'17.287"W	1.35
12166.00	89.900	87.300	8825.29	3645.45	6.03	3645.51	708489.98	745007.53	33°02'48.579"N	103°47'16.173"W	0.82
12261.00	89.400	88.300	8825.87	3740.40	9.68	3740.43	708584.90	745011.18	33°02'48.610"N	103°47'15.057"W	1.18
12356.00	89.100	88.300	8827.12	3835.37	12.50	3835.38	708679.84	745014.00	33°02'48.633"N	103°47'13.942"W	0.32
12451.00	88.600	88.500	8829.02	3930.33	15.15	3930.33	708774.78	745016.65	33°02'48.655"N	103°47'12.826"W	0.57
12546.00	88.800	88.700	8831.18	4025.29	17.47	4025.27	708869.72	745018.97	33°02'48.673"N	103°47'11.710"W	0.30
12641.00	88.400	88.000	8833.50	4120.24	20.21	4120.20	708964.65	745021.70	33°02'48.695"N	103°47'10.595"W	0.85
12736.00	87.500	88.000	8836.90	4215.14	23.52	4215.08	709059.52	745025.02	33°02'48.723"N	103°47'09.480"W	0.95
12831.00	89.600	88.500	8839.30	4310.08	26.42	4310.00	709154.44	745027.92	33°02'48.747"N	103°47'08.365"W	2.27
12926.00	89.900	88.800	8839.71	4405.07	28.66	4404.98	709249.40	745030.16	33°02'48.764"N	103°47'07.249"W	0.45
12989.00	89.600	89.100	8839.99	4468.06	29.81	4467.97	709312.39	745031.31	33°02'48.772"N	103°47'06.509"W	0.67
13041.00	89.300	89.100	8840.49	4520.06	30.63	4519.96	709364.38	745032.13	33°02'48.777"N	103°47'05.898"W	0.58

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 3H BHL		8793.00	33.10	4530.46	709374.88	745034.60	33°02'48.801"N	103°47'05.775"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	8514.50	Generic gyro - northseeking (Standard)	Gyro	No. 3H AWB
8514.50	13041.00	NaviTrak (Standard)	MWD	No. 3H AWB