

Results of Directional Survey

API number:	30-025-40183		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	TRES EQUIS STATE # 2H

surface	ULSTR:	C	06	T 24S	R 33E
				330 FNL	1980 FWL

BH Loc	ULSTR:	N	06	T 24S	R 33E
15523	MD	11184.3	TVD	339 FSL	2031 FWL
				4941 FNL	

Top Perf/OH	ULSTR:	C	06	T 24S	R 33E
10901	MD	10895.3	TVD	390 FNL	2008 FWL

Bot Perf/OH	ULSTR:	N	06	T 24S	R 33E
15386	MD	11184.4	TVD	476 FSL	2026 FWL
				4804 FNL	

	MD	N/S	E/W	VD
	10883	-53.61	28.67	10878.6
TOP PERFS/OH	10901	-60.34	27.97	10895.27
	10914	-65.20	27.46	10907.31
	15382	-4469.87	45.58	11184.39
BOT PERFS/OH	15386	-4473.86	45.83	11184.39
	15477	-4564.68	51.47	11184.31

NEXT TO LAST	15477	-4564.68	51.47	11184.31
LAST READING	15523	-4610.54	51.47	11184.31
TD	15523	-4610.54	51.47	11184.31

Surface Location	330	FN	1980	FW
Projected BHL	4941	FN	2031	FW
Location of				
Top Perfs/OH	390	FN	2008	FW
Bottom Perfs/OH	4804	FN	2026	FW

SUMMARY of Subsurface Locations

Surface Location	C-06-24S-33E	330	FN	1980	FW	Vert. Depth
Top Perfs/OH	C-06-24S-33E	390	FN	2008	FW	10895.27
Bottom Perfs/OH	N-06-24S-33E	4804	FN	2026	FW	11184.39
Projected TD	N-06-24S-33E	4941	FN	2031	FW	11184.31



INTEQ

HOBBS OCD

FEB 10 2012

RECEIVED

SUR: C-6-24s-33e, 330/N & 1980/W
BHL: N-06-24s-33e, 4941/N & 2031/W
API # 30-025-40183

End of Well Report

Cimarex Energy Co.

Lea County, NM

Tres Equis State No. 2H

Precision 77

Well Specifications

Well Name: Tres Equis State No. 2H
Start Date: 9/9/2011
Client: Cimarex Energy Co.
Rig Name: Precision 77
County: Lea County, NM
Field: (Tres Equis) Sec 6, T24S, R33E

Well Location:

NAD83 / TM New Mexico State Planes, Eastern Zone (3001)

Grid Coordinates

Easting: 763911.80'
Northing: 456554.80'

Geographical Coordinates

Latitude: 32°15'11.134"N
Longitude: 103°36'48.051"W

RT: 3,679.0' above M.S.L.

Date TD Reached: 9/27/2011

Final Depth MD: 15,523'

Final Depth TVD: 11,184.31'



Cimarex Energy Co.

Location Lea County, NM
Field (Tres Equis) Sec 6, T24S, R33E
Facility Tres Equis State 2H

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



Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*100ft)	VS (ft)
Tie On	10736 00	2 040	272 660	10733 38	-37 40	33 51	0 00	37 60
Est KOP	10786 00	2 040	272 660	10783 35	-37 32	31 74	0 00	37 50
EOC	11229 93	88 500	179 938	11070 00	-316 28	22 10	20 00	316 40
Target Line	11229 05	88 502	179 938	11070 00	-316 40	22 10	2 00	316 52
No 2H PBHL	15533 55	88 502	179 938	11182 50	-4619 43	26 78	0 00	4619 50

Plot reference wellpath is Plan #1

True vertical depths are referenced to Rig on No 2H SHL (KB)

Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet

Measured depths are referenced to Rig on No 2H SHL (KB)

North Reference Grid north

Rig on No 2H SHL (KB) to Mean Sea Level 3679 feet

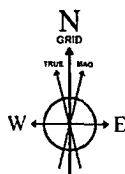
Scale True distance

Mean Sea Level to Mud line (At Slot No 2H SHL) 0 feet

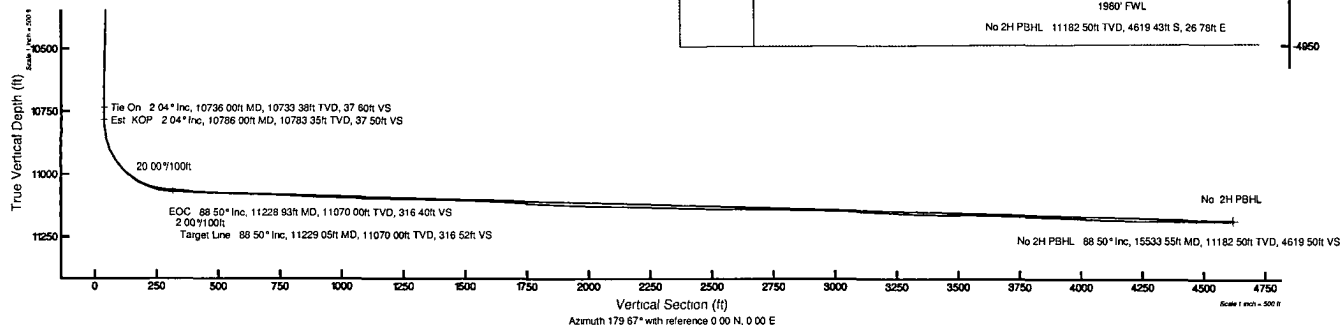
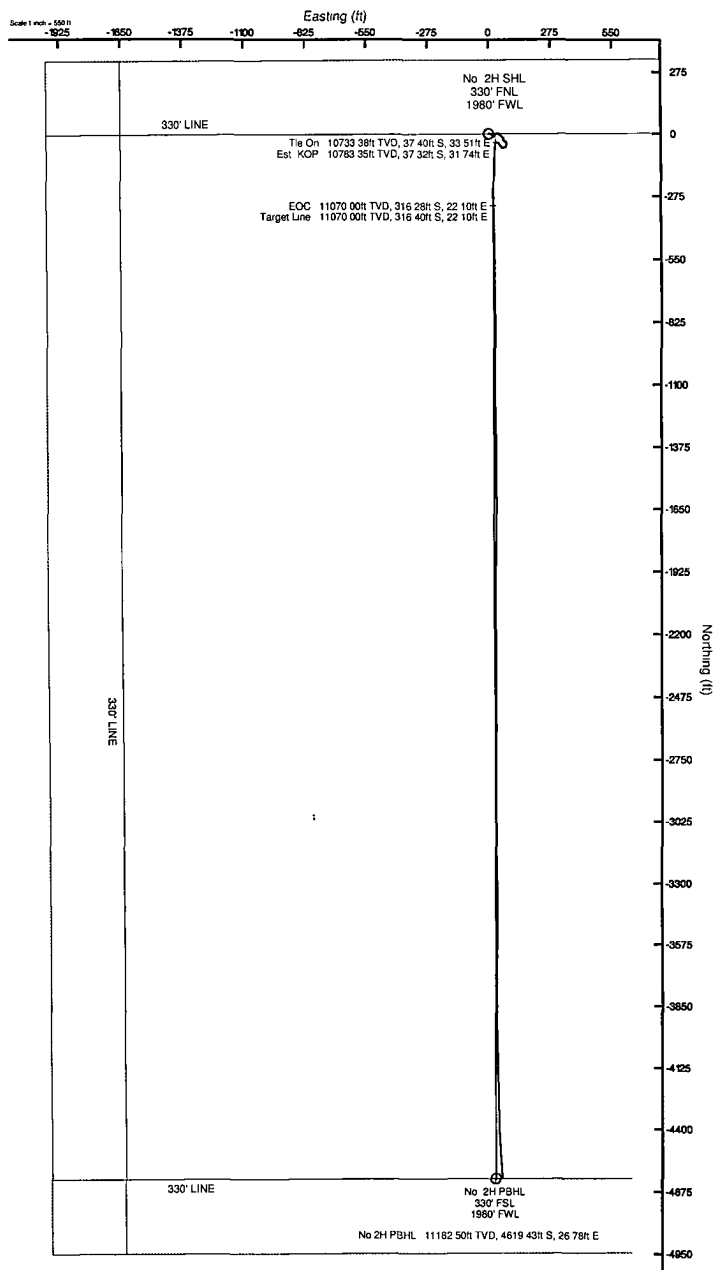
Depths are in feet

Coordinates are in feet referenced to Slot

Created by gentbry on 9/9/2011



BGGM (1945 0 to 2012 0) Dip 60 21° Field 48662 3 nT
Magnetic North is 7 62 degrees East of True North (at 9/7/2011)
Grid North is 0 38 degrees East of True North
To correct azimuth from True to Grid subtract 0 38 degrees
To correct azimuth from Magnetic to Grid add 7 24 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 - 7.24 = 97.24





Actual Wellpath Report

No. 2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWB
Facility	Tres Equis State 2H		

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	0.999966	Report Generated	9/28/2011 at 7:26:25 AM
Convergence at slot	0.38° East	Database/Source file	WA Midland/No. 2H_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	763911.80	456554.80	32°15'11.134"N	103°36'48.051"W
Facility Reference Pt			763911.80	456554.80	32°15'11.134"N	103°36'48.051"W
Field Reference Pt			763911.80	456554.80	32°15'11.134"N	103°36'48.051"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 2H SHL (KB) to GL	3679.00ft
Horizontal Reference Pt	Slot	Rig on No. 2H SHL (KB) to Mean Sea Level	3679.00ft
Vertical Reference Pt	Rig on No. 2H SHL (KB)	Rig on No. 2H SHL (KB) to Mud Line at Slot (No. 2H SHL)	3679.00ft
MD Reference Pt	Rig on No. 2H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.67°



Actual Wellpath Report

No. 2H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWP
Facility	Tres Equis State 2H		

WELLPATH DATA (195 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	63.910	0.00	0.00	0.00	0.00	763911.80	456554.80	32°15'11.134"N	103°36'48.051"W	0.00	
30.00	0.000	63.910	30.00	0.00	0.00	0.00	763911.80	456554.80	32°15'11.134"N	103°36'48.051"W	0.00	
46.00	1.030	63.910	46.00	-0.06	0.06	0.13	763911.93	456554.86	32°15'11.135"N	103°36'48.050"W	6.44	
141.00	1.110	70.940	140.98	-0.73	0.74	1.77	763913.57	456555.54	32°15'11.142"N	103°36'48.030"W	0.16	
236.00	1.160	75.770	235.96	-1.26	1.28	3.57	763915.37	456556.08	32°15'11.147"N	103°36'48.009"W	0.11	
330.00	1.140	71.970	329.95	-1.77	1.80	5.38	763917.18	456556.60	32°15'11.152"N	103°36'47.988"W	0.08	
425.00	1.160	115.420	424.93	-1.64	1.68	7.15	763918.95	456556.48	32°15'11.151"N	103°36'47.968"W	0.90	
519.00	1.380	138.860	518.91	-0.37	0.42	8.75	763920.55	456555.22	32°15'11.138"N	103°36'47.949"W	0.59	
614.00	1.610	142.210	613.87	1.56	-1.50	10.32	763922.12	456553.30	32°15'11.119"N	103°36'47.931"W	0.26	
709.00	1.770	137.280	708.83	3.70	-3.63	12.13	763923.93	456551.17	32°15'11.098"N	103°36'47.910"W	0.23	
803.00	1.880	131.470	802.78	5.80	-5.72	14.27	763926.07	456549.08	32°15'11.077"N	103°36'47.885"W	0.23	
898.00	1.820	130.110	897.73	7.82	-7.72	16.60	763928.39	456547.08	32°15'11.057"N	103°36'47.858"W	0.08	
992.00	1.610	144.520	991.69	9.87	-9.76	18.50	763930.30	456545.04	32°15'11.037"N	103°36'47.836"W	0.51	
1087.00	1.540	115.060	1086.66	11.50	-11.39	20.43	763932.23	456543.41	32°15'11.020"N	103°36'47.814"W	0.85	
1182.00	1.240	123.680	1181.63	12.63	-12.50	22.45	763934.25	456542.30	32°15'11.009"N	103°36'47.791"W	0.38	
1276.00	1.130	96.640	1275.61	13.31	-13.17	24.21	763936.01	456541.63	32°15'11.002"N	103°36'47.770"W	0.60	
1371.00	0.550	27.620	1370.60	13.02	-12.87	25.36	763937.15	456541.93	32°15'11.005"N	103°36'47.757"W	1.12	
1460.00	0.730	356.080	1459.60	12.08	-11.93	25.51	763937.31	456542.87	32°15'11.015"N	103°36'47.755"W	0.44	
1560.00	0.370	25.780	1559.59	11.15	-11.00	25.61	763937.41	456543.80	32°15'11.024"N	103°36'47.754"W	0.45	
1655.00	0.260	39.730	1654.59	10.71	-10.56	25.88	763937.68	456544.24	32°15'11.028"N	103°36'47.750"W	0.14	
1749.00	0.180	33.350	1748.59	10.42	-10.27	26.10	763937.90	456544.53	32°15'11.031"N	103°36'47.748"W	0.09	
1844.00	0.160	96.270	1843.59	10.32	-10.16	26.31	763938.11	456544.64	32°15'11.032"N	103°36'47.745"W	0.19	
1938.00	0.100	107.810	1937.59	10.36	-10.20	26.52	763938.32	456544.60	32°15'11.032"N	103°36'47.743"W	0.07	
2033.00	0.140	129.710	2032.59	10.46	-10.30	26.69	763938.49	456544.50	32°15'11.031"N	103°36'47.741"W	0.06	
2128.00	0.080	30.340	2127.59	10.47	-10.32	26.81	763938.61	456544.48	32°15'11.030"N	103°36'47.740"W	0.18	
2222.00	0.090	43.000	2221.59	10.36	-10.21	26.90	763938.70	456544.59	32°15'11.032"N	103°36'47.739"W	0.02	
2317.00	0.040	175.690	2316.59	10.34	-10.19	26.95	763938.75	456544.61	32°15'11.032"N	103°36'47.738"W	0.13	
2411.00	0.220	316.250	2410.59	10.24	-10.09	26.83	763938.63	456544.71	32°15'11.033"N	103°36'47.739"W	0.27	
2506.00	0.360	323.990	2505.59	9.87	-9.72	26.53	763938.33	456545.08	32°15'11.036"N	103°36'47.743"W	0.15	
2601.00	0.230	330.950	2600.59	9.46	-9.31	26.26	763938.06	456545.49	32°15'11.041"N	103°36'47.746"W	0.14	
2695.00	0.460	359.200	2694.58	8.92	-8.77	26.16	763937.96	456546.03	32°15'11.046"N	103°36'47.747"W	0.30	
2790.00	0.500	15.880	2789.58	8.14	-7.99	26.27	763938.07	456546.81	32°15'11.054"N	103°36'47.746"W	0.15	
2884.00	0.820	28.890	2883.58	7.16	-7.00	26.71	763938.51	456547.80	32°15'11.063"N	103°36'47.741"W	0.37	
2979.00	0.780	23.920	2978.57	5.97	-5.82	27.30	763939.10	456548.98	32°15'11.075"N	103°36'47.734"W	0.08	
3074.00	1.000	35.960	3073.55	4.72	-4.55	28.05	763939.85	456550.25	32°15'11.087"N	103°36'47.725"W	0.30	
3168.00	0.960	36.230	3167.54	3.42	-3.25	28.99	763940.79	456551.55	32°15'11.100"N	103°36'47.714"W	0.04	
3263.00	1.170	51.160	3262.52	2.18	-2.00	30.22	763942.02	456552.80	32°15'11.113"N	103°36'47.699"W	0.36	
3357.00	1.110	48.310	3356.51	0.98	-0.80	31.65	763943.45	456554.00	32°15'11.124"N	103°36'47.683"W	0.09	
3547.00	1.200	55.730	3546.47	-1.35	1.55	34.67	763946.46	456556.35	32°15'11.147"N	103°36'47.647"W	0.09	
3641.00	0.770	111.370	3640.46	-1.66	1.87	36.07	763947.87	456556.67	32°15'11.150"N	103°36'47.631"W	1.06	
3736.00	0.440	63.630	3735.45	-1.59	1.80	36.99	763948.79	456556.60	32°15'11.150"N	103°36'47.620"W	0.61	
3830.00	0.540	87.030	3829.45	-1.77	1.98	37.75	763949.55	456556.78	32°15'11.151"N	103°36'47.611"W	0.24	
3925.00	0.720	87.840	3924.44	-1.81	2.03	38.80	763950.60	456556.83	32°15'11.152"N	103°36'47.599"W	0.19	
4020.00	0.790	109.840	4019.43	-1.60	1.83	40.01	763951.81	456556.63	32°15'11.150"N	103°36'47.585"W	0.31	
4114.00	0.430	114.490	4113.43	-1.23	1.46	40.94	763952.74	456556.26	32°15'11.146"N	103°36'47.574"W	0.39	



Actual Wellpath Report

No. 2H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWB
Facility	Tres Equis State 2H		

WELLPATH DATA (195 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
4209.00	0.810	118.170	4208.42	-0.76	1.00	41.86	763953.66	456555.80	32°15'11.141"N	103°36'47.564"W	0.40	
4303.00	1.830	124.570	4302.40	0.42	-0.17	43.68	763955.48	456554.63	32°15'11.130"N	103°36'47.542"W	1.09	
4398.00	2.560	130.600	4397.33	2.68	-2.41	46.54	763958.34	456552.39	32°15'11.107"N	103°36'47.509"W	0.80	
4493.00	2.380	135.570	4492.24	5.48	-5.20	49.53	763961.33	456549.60	32°15'11.080"N	103°36'47.475"W	0.29	
4587.00	2.740	126.680	4586.14	8.24	-7.93	52.70	763964.50	456546.87	32°15'11.052"N	103°36'47.438"W	0.57	
4682.00	3.130	124.390	4681.02	11.08	-10.75	56.66	763968.46	456544.05	32°15'11.024"N	103°36'47.392"W	0.43	
4776.00	2.620	127.600	4774.90	13.86	-13.51	60.48	763972.28	456541.29	32°15'10.997"N	103°36'47.348"W	0.57	
4871.00	2.010	130.240	4869.82	16.28	-15.92	63.47	763975.27	456538.89	32°15'10.973"N	103°36'47.313"W	0.65	
4966.00	1.440	146.090	4964.78	18.36	-17.98	65.41	763977.21	456536.82	32°15'10.952"N	103°36'47.291"W	0.78	
5060.00	1.210	184.030	5058.76	20.33	-19.95	66.00	763977.80	456534.85	32°15'10.933"N	103°36'47.284"W	0.95	
5155.00	0.810	210.300	5153.74	21.91	-21.53	65.59	763977.39	456533.27	32°15'10.917"N	103°36'47.289"W	0.63	
5249.00	1.090	185.000	5247.73	23.37	-23.00	65.18	763976.97	456531.80	32°15'10.902"N	103°36'47.294"W	0.53	
5344.00	1.400	177.500	5342.71	25.43	-25.06	65.15	763976.95	456529.74	32°15'10.882"N	103°36'47.294"W	0.37	
5439.00	1.020	167.320	5437.69	27.42	-27.04	65.38	763977.18	456527.76	32°15'10.862"N	103°36'47.292"W	0.46	
5533.00	1.260	149.800	5531.67	29.13	-28.75	66.09	763977.89	456526.05	32°15'10.845"N	103°36'47.284"W	0.45	
5628.00	1.040	122.800	5626.65	30.51	-30.12	67.34	763979.14	456524.68	32°15'10.832"N	103°36'47.269"W	0.61	
5722.00	0.920	140.860	5720.63	31.56	-31.17	68.53	763980.33	456523.63	32°15'10.821"N	103°36'47.255"W	0.35	
5817.00	0.970	131.380	5815.62	32.69	-32.29	69.62	763981.41	456522.51	32°15'10.810"N	103°36'47.243"W	0.17	
5912.00	0.850	98.850	5910.61	33.34	-32.93	70.92	763982.71	456521.87	32°15'10.804"N	103°36'47.228"W	0.55	
6006.00	0.630	131.570	6004.60	33.80	-33.38	71.99	763983.79	456521.42	32°15'10.799"N	103°36'47.215"W	0.50	
6101.00	0.790	120.830	6099.60	34.49	-34.06	72.94	763984.74	456520.74	32°15'10.792"N	103°36'47.204"W	0.22	
6195.00	0.680	141.250	6193.59	35.26	-34.83	73.85	763985.65	456519.97	32°15'10.785"N	103°36'47.194"W	0.30	
6290.00	0.430	158.330	6288.58	36.03	-35.60	74.33	763986.13	456519.20	32°15'10.777"N	103°36'47.188"W	0.31	
6385.00	0.720	120.350	6383.58	36.67	-36.23	74.98	763986.78	456518.57	32°15'10.771"N	103°36'47.181"W	0.49	
6479.00	0.570	129.260	6477.57	37.27	-36.83	75.85	763987.65	456517.97	32°15'10.765"N	103°36'47.171"W	0.19	
6574.00	0.410	166.640	6572.57	37.90	-37.46	76.30	763988.09	456517.34	32°15'10.759"N	103°36'47.166"W	0.37	
6668.00	0.290	93.810	6666.57	38.24	-37.80	76.61	763988.41	456517.00	32°15'10.755"N	103°36'47.162"W	0.45	
6763.00	0.350	104.450	6761.57	38.34	-37.89	77.13	763988.93	456516.91	32°15'10.754"N	103°36'47.156"W	0.09	
6858.00	0.320	77.120	6856.57	38.35	-37.90	77.67	763989.47	456516.90	32°15'10.754"N	103°36'47.150"W	0.17	
6952.00	0.290	115.260	6950.56	38.40	-37.95	78.14	763989.94	456516.86	32°15'10.754"N	103°36'47.144"W	0.21	
7047.00	0.200	134.980	7045.56	38.62	-38.17	78.48	763990.28	456516.64	32°15'10.752"N	103°36'47.140"W	0.13	
7141.00	0.180	334.480	7139.56	38.60	-38.15	78.53	763990.33	456516.65	32°15'10.752"N	103°36'47.140"W	0.40	
7236.00	0.150	177.560	7234.56	38.59	-38.14	78.47	763990.27	456516.66	32°15'10.752"N	103°36'47.140"W	0.34	
7331.00	0.470	169.820	7329.56	39.10	-38.65	78.55	763990.34	456516.16	32°15'10.747"N	103°36'47.139"W	0.34	
7420.00	0.200	237.820	7418.56	39.54	-39.09	78.48	763990.28	456515.71	32°15'10.742"N	103°36'47.140"W	0.49	
7520.00	0.520	183.220	7518.56	40.09	-39.63	78.31	763990.10	456515.17	32°15'10.737"N	103°36'47.142"W	0.44	
7614.00	0.460	157.740	7612.55	40.86	-40.41	78.42	763990.22	456514.39	32°15'10.729"N	103°36'47.141"W	0.24	
7709.00	0.140	156.560	7707.55	41.32	-40.87	78.62	763990.41	456513.93	32°15'10.725"N	103°36'47.139"W	0.34	
7898.00	0.500	137.450	7896.55	42.15	-41.69	79.27	763991.06	456513.11	32°15'10.717"N	103°36'47.131"W	0.20	
7993.00	0.620	172.430	7991.55	42.96	-42.50	79.61	763991.41	456512.30	32°15'10.709"N	103°36'47.127"W	0.37	
8087.00	0.680	160.400	8085.54	43.99	-43.53	79.87	763991.66	456511.27	32°15'10.698"N	103°36'47.124"W	0.16	
8182.00	0.500	189.460	8180.54	44.94	-44.47	79.99	763991.79	456510.33	32°15'10.689"N	103°36'47.123"W	0.36	
8277.00	0.560	175.410	8275.53	45.81	-45.34	79.96	763991.75	456509.46	32°15'10.680"N	103°36'47.124"W	0.15	
8371.00	0.790	150.340	8369.52	46.83	-46.36	80.31	763992.11	456508.44	32°15'10.670"N	103°36'47.119"W	0.39	
8466.00	0.970	211.660	8464.52	48.08	-47.62	80.22	763992.01	456507.18	32°15'10.658"N	103°36'47.121"W	0.96	



Actual Wellpath Report

No. 2H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWB
Facility	Tres Equis State 2H		

WELLPATH DATA (195 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
8560.00	1.040	200.970	8558.50	49.55	-49.09	79.49	763991.29	456505.71	32°15'10.643"N	103°36'47.129"W	0.21	
8655.00	1.230	197.760	8653.48	51.32	-50.87	78.87	763990.67	456503.93	32°15'10.626"N	103°36'47.137"W	0.21	
8750.00	1.210	222.750	8748.46	53.03	-52.58	77.88	763989.68	456502.23	32°15'10.609"N	103°36'47.148"W	0.56	
8844.00	1.120	200.500	8842.44	54.61	-54.17	76.89	763988.68	456500.64	32°15'10.593"N	103°36'47.160"W	0.49	
8939.00	0.990	201.270	8937.43	56.24	-55.80	76.26	763988.06	456499.00	32°15'10.577"N	103°36'47.167"W	0.14	
9033.00	0.970	218.260	9031.41	57.62	-57.18	75.48	763987.27	456497.62	32°15'10.564"N	103°36'47.177"W	0.31	
9128.00	1.330	238.460	9126.39	58.82	-58.39	74.04	763985.84	456496.41	32°15'10.552"N	103°36'47.193"W	0.57	
9223.00	1.380	247.160	9221.37	59.83	-59.41	72.05	763983.84	456495.39	32°15'10.542"N	103°36'47.217"W	0.22	
9317.00	1.290	240.690	9315.34	60.77	-60.37	70.08	763981.88	456494.43	32°15'10.532"N	103°36'47.240"W	0.19	
9412.00	1.140	247.080	9410.32	61.65	-61.26	68.28	763980.07	456493.54	32°15'10.524"N	103°36'47.261"W	0.21	
9506.00	1.530	250.180	9504.30	62.43	-62.05	66.23	763978.03	456492.75	32°15'10.516"N	103°36'47.285"W	0.42	
9601.00	2.040	257.110	9599.25	63.22	-62.86	63.39	763975.19	456491.95	32°15'10.508"N	103°36'47.318"W	0.58	
9696.00	1.410	279.500	9694.21	63.39	-63.04	60.59	763972.39	456491.76	32°15'10.507"N	103°36'47.350"W	0.96	
9790.00	0.440	292.290	9788.19	63.05	-62.71	59.12	763970.92	456492.09	32°15'10.510"N	103°36'47.368"W	1.05	
9885.00	0.490	317.150	9883.19	62.61	-62.28	58.50	763970.30	456492.53	32°15'10.514"N	103°36'47.375"W	0.22	
9979.00	2.250	325.310	9977.16	60.79	-60.46	57.18	763968.98	456494.34	32°15'10.532"N	103°36'47.390"W	1.88	
10074.00	3.080	321.640	10072.06	57.24	-56.93	54.53	763966.33	456497.87	32°15'10.567"N	103°36'47.420"W	0.89	
10169.00	3.060	328.600	10166.92	53.06	-52.76	51.63	763963.43	456502.04	32°15'10.609"N	103°36'47.454"W	0.39	
10263.00	2.930	327.900	10260.79	48.87	-48.59	49.05	763960.84	456506.21	32°15'10.650"N	103°36'47.484"W	0.14	
10358.00	2.510	311.890	10355.69	45.41	-45.14	46.21	763958.01	456509.66	32°15'10.685"N	103°36'47.517"W	0.91	
10452.00	2.520	310.550	10449.60	42.67	-42.42	43.10	763954.90	456512.38	32°15'10.712"N	103°36'47.552"W	0.06	
10547.00	2.210	307.970	10544.51	40.17	-39.94	40.07	763951.87	456514.86	32°15'10.737"N	103°36'47.588"W	0.34	
10642.00	2.240	291.140	10639.44	38.36	-38.14	36.90	763948.70	456516.66	32°15'10.754"N	103°36'47.624"W	0.69	
10736.00	2.040	272.660	10733.38	37.60	-37.40	33.51	763945.31	456517.40	32°15'10.762"N	103°36'47.664"W	0.76	
10757.00	1.800	272.700	10754.37	37.56	-37.37	32.81	763944.61	456517.43	32°15'10.762"N	103°36'47.672"W	1.14	
10788.00	2.300	223.800	10785.35	37.98	-37.80	31.89	763943.69	456517.01	32°15'10.758"N	103°36'47.683"W	5.67	
10820.00	6.600	193.400	10817.25	40.23	-40.05	31.02	763942.82	456514.75	32°15'10.736"N	103°36'47.693"W	14.88	
10851.00	12.500	190.200	10847.81	45.26	-45.09	30.01	763941.81	456509.71	32°15'10.686"N	103°36'47.705"W	19.10	
10883.00	18.800	188.100	10878.60	53.78	-53.61	28.67	763940.47	456501.19	32°15'10.602"N	103°36'47.721"W	19.76	
10914.00	25.400	184.400	10907.31	65.36	-65.20	27.46	763939.26	456489.60	32°15'10.487"N	103°36'47.736"W	21.75	
10945.00	32.000	181.600	10934.49	80.21	-80.05	26.72	763938.52	456474.75	32°15'10.340"N	103°36'47.746"W	21.72	
10977.00	38.400	181.500	10960.63	98.63	-98.48	26.22	763938.02	456456.32	32°15'10.158"N	103°36'47.753"W	20.00	
11008.00	45.200	181.300	10983.72	119.28	-119.13	25.72	763937.52	456435.68	32°15'09.954"N	103°36'47.761"W	21.94	
11040.00	52.000	181.400	11004.87	143.25	-143.11	25.15	763936.95	456411.69	32°15'09.717"N	103°36'47.769"W	21.25	
11071.00	58.900	181.200	11022.44	168.76	-168.62	24.58	763936.37	456386.18	32°15'09.464"N	103°36'47.778"W	22.26	
11103.00	66.000	181.500	11037.23	197.10	-196.97	23.90	763935.70	456357.84	32°15'09.184"N	103°36'47.788"W	22.20	
11134.00	72.700	181.100	11048.16	226.08	-225.95	23.25	763935.05	456328.86	32°15'08.897"N	103°36'47.798"W	21.65	
11145.00	74.900	180.600	11051.23	236.64	-236.51	23.09	763934.89	456318.30	32°15'08.793"N	103°36'47.801"W	20.47	
11166.00	79.100	179.900	11055.95	257.10	-256.97	23.00	763934.80	456297.84	32°15'08.590"N	103°36'47.803"W	20.26	
11197.00	84.700	178.800	11060.32	287.78	-287.65	23.35	763935.15	456267.16	32°15'08.287"N	103°36'47.802"W	18.40	
11229.00	84.900	179.500	11063.22	319.64	-319.51	23.83	763935.63	456235.30	32°15'07.971"N	103°36'47.799"W	2.27	
11260.00	85.700	179.400	11065.76	350.54	-350.40	24.12	763935.92	456204.41	32°15'07.666"N	103°36'47.797"W	2.60	
11323.00	86.700	180.100	11069.93	413.40	-413.26	24.40	763936.20	456141.55	32°15'07.044"N	103°36'47.799"W	1.94	
11386.00	87.300	179.300	11073.23	476.31	-476.18	24.73	763936.53	456078.64	32°15'06.421"N	103°36'47.800"W	1.59	
11449.00	87.500	179.700	11076.09	539.25	-539.11	25.28	763937.08	456015.71	32°15'05.798"N	103°36'47.799"W	0.71	



Actual Wellpath Report

No. 2H AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWB
Facility	Tres Equis State 2H		

WELLPATH DATA (195 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
11513.00	88.100	180.000	11078.54	603.20	-603.06	25.44	763937.24	455951.76	32°15'05.165"N	103°36'47.802"W	1.05	
11575.00	88.600	179.500	11080.33	665.17	-665.03	25.71	763937.51	455889.79	32°15'04.552"N	103°36'47.804"W	1.14	
11638.00	87.400	179.100	11082.53	728.13	-727.99	26.48	763938.28	455826.84	32°15'03.929"N	103°36'47.800"W	2.01	
11701.00	87.200	178.400	11085.50	791.05	-790.90	27.86	763939.66	455763.92	32°15'03.307"N	103°36'47.788"W	1.15	
11764.00	87.700	179.000	11088.30	853.98	-853.83	29.28	763941.08	455701.01	32°15'02.684"N	103°36'47.777"W	1.24	
11828.00	87.800	179.900	11090.81	917.93	-917.77	29.90	763941.70	455637.06	32°15'02.051"N	103°36'47.775"W	1.41	
11891.00	88.300	180.300	11092.96	980.89	-980.74	29.79	763941.59	455574.10	32°15'01.428"N	103°36'47.781"W	1.02	
11954.00	88.300	180.200	11094.82	1043.86	-1043.71	29.51	763941.31	455511.13	32°15'00.805"N	103°36'47.789"W	0.16	
12017.00	89.000	180.300	11096.31	1106.84	-1106.69	29.24	763941.04	455448.15	32°15'00.182"N	103°36'47.797"W	1.12	
12080.00	89.000	179.400	11097.41	1169.83	-1169.68	29.40	763941.20	455385.16	32°14'59.559"N	103°36'47.800"W	1.43	
12143.00	88.800	179.700	11098.62	1232.82	-1232.66	29.90	763941.70	455322.18	32°14'58.935"N	103°36'47.799"W	0.57	
12206.00	89.200	179.400	11099.72	1295.81	-1295.65	30.39	763942.19	455259.19	32°14'58.312"N	103°36'47.798"W	0.79	
12269.00	88.500	179.600	11100.98	1358.79	-1358.64	30.94	763942.74	455196.21	32°14'57.689"N	103°36'47.797"W	1.16	
12332.00	88.700	179.200	11102.52	1421.77	-1421.61	31.60	763943.40	455133.24	32°14'57.066"N	103°36'47.794"W	0.71	
12395.00	87.800	180.100	11104.44	1484.74	-1484.58	31.99	763943.79	455070.27	32°14'56.442"N	103°36'47.795"W	2.02	
12458.00	87.800	179.700	11106.86	1547.70	-1547.54	32.10	763943.90	455007.32	32°14'55.820"N	103°36'47.798"W	0.63	
12521.00	88.000	179.100	11109.17	1610.65	-1610.49	32.76	763944.55	454944.37	32°14'55.197"N	103°36'47.795"W	1.00	
12584.00	86.900	180.200	11111.97	1673.59	-1673.42	33.14	763944.94	454881.44	32°14'54.574"N	103°36'47.796"W	2.47	
12647.00	86.700	179.900	11115.49	1736.49	-1736.33	33.09	763944.88	454818.54	32°14'53.951"N	103°36'47.801"W	0.57	
12710.00	87.600	180.900	11118.62	1799.40	-1799.25	32.65	763944.45	454755.62	32°14'53.329"N	103°36'47.811"W	2.13	
12772.00	87.500	181.200	11121.27	1861.33	-1861.18	31.51	763943.31	454693.69	32°14'52.716"N	103°36'47.829"W	0.51	
12836.00	87.900	181.400	11123.84	1925.25	-1925.11	30.06	763941.86	454629.76	32°14'52.084"N	103°36'47.851"W	0.70	
12899.00	87.300	179.700	11126.48	1988.19	-1988.05	29.46	763941.26	454566.82	32°14'51.461"N	103°36'47.863"W	2.86	
12961.00	88.900	180.200	11128.54	2050.15	-2050.01	29.51	763941.31	454504.86	32°14'50.848"N	103°36'47.867"W	2.70	
13024.00	89.600	179.600	11129.36	2113.14	-2113.01	29.62	763941.42	454441.87	32°14'50.224"N	103°36'47.871"W	1.46	
13087.00	89.300	179.800	11129.97	2176.14	-2176.00	29.95	763941.75	454378.88	32°14'49.601"N	103°36'47.872"W	0.57	
13150.00	87.900	179.600	11131.50	2239.12	-2238.98	30.28	763942.08	454315.90	32°14'48.978"N	103°36'47.873"W	2.24	
13213.00	88.500	180.500	11133.48	2302.09	-2301.95	30.22	763942.02	454252.93	32°14'48.355"N	103°36'47.879"W	1.72	
13276.00	88.600	180.300	11135.08	2365.06	-2364.93	29.78	763941.58	454189.96	32°14'47.732"N	103°36'47.889"W	0.35	
13339.00	88.700	179.700	11136.56	2428.04	-2427.91	29.78	763941.58	454126.98	32°14'47.108"N	103°36'47.894"W	0.97	
13402.00	89.500	180.600	11137.55	2491.03	-2490.90	29.62	763941.42	454063.99	32°14'46.485"N	103°36'47.901"W	1.91	
13465.00	90.100	179.500	11137.77	2554.03	-2553.90	29.56	763941.36	454000.99	32°14'45.862"N	103°36'47.906"W	1.99	
13541.00	89.300	180.400	11138.17	2630.02	-2629.90	29.63	763941.43	453925.00	32°14'45.110"N	103°36'47.911"W	1.58	
13590.00	89.300	180.800	11138.77	2679.01	-2678.89	29.12	763940.92	453876.01	32°14'44.625"N	103°36'47.921"W	0.82	
13653.00	89.700	180.600	11139.32	2742.00	-2741.88	28.35	763940.15	453813.02	32°14'44.002"N	103°36'47.935"W	0.71	
13716.00	88.600	180.400	11140.25	2804.99	-2804.87	27.80	763939.60	453750.03	32°14'43.379"N	103°36'47.946"W	1.77	
13779.00	88.900	180.100	11141.63	2867.97	-2867.86	27.52	763939.32	453687.05	32°14'42.755"N	103°36'47.954"W	0.67	
13842.00	88.500	179.900	11143.06	2930.95	-2930.84	27.52	763939.32	453624.07	32°14'42.132"N	103°36'47.959"W	0.71	
13904.00	88.800	180.000	11144.52	2992.93	-2992.82	27.58	763939.38	453562.08	32°14'41.519"N	103°36'47.964"W	0.51	
13967.00	87.400	179.000	11146.61	3055.90	-3055.78	28.13	763939.93	453499.13	32°14'40.896"N	103°36'47.962"W	2.73	
14030.00	87.300	178.500	11149.52	3118.82	-3118.70	29.50	763941.30	453436.21	32°14'40.273"N	103°36'47.951"W	0.81	
14093.00	87.400	179.200	11152.43	3181.75	-3181.62	30.76	763942.56	453373.29	32°14'39.651"N	103°36'47.941"W	1.12	
14156.00	87.300	178.800	11155.34	3244.67	-3244.54	31.86	763943.66	453310.37	32°14'39.028"N	103°36'47.933"W	0.65	
14218.00	87.500	178.900	11158.16	3306.60	-3306.47	33.10	763944.90	453248.45	32°14'38.415"N	103°36'47.924"W	0.36	
14282.00	88.300	179.900	11160.50	3370.56	-3370.42	33.77	763945.57	453184.50	32°14'37.782"N	103°36'47.921"W	2.00	



Actual Wellpath Report

No. 2H AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 2H AWB
Facility	Tres Equis State 2H		

WELLPATH DATA (195 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
14345.00	89.200	180.200	11161.88	3433.54	-3433.40	33.72	763945.52	453121.52	32°14'37.159"N	103°36'47.926"W	1.51	
14407.00	89.500	180.200	11162.58	3495.53	-3495.40	33.50	763945.30	453059.53	32°14'36.546"N	103°36'47.934"W	0.48	
14470.00	89.600	180.800	11163.07	3558.53	-3558.39	32.95	763944.75	452996.53	32°14'35.922"N	103°36'47.945"W	0.97	
14533.00	88.600	180.600	11164.06	3621.51	-3621.38	32.18	763943.98	452933.55	32°14'35.299"N	103°36'47.959"W	1.62	
14628.00	88.500	180.400	11166.47	3716.47	-3716.35	31.35	763943.15	452838.59	32°14'34.359"N	103°36'47.976"W	0.24	
14722.00	88.400	179.600	11169.01	3810.43	-3810.31	31.35	763943.15	452744.63	32°14'33.430"N	103°36'47.983"W	0.86	
14816.00	88.400	178.300	11171.64	3904.38	-3904.26	33.08	763944.88	452650.68	32°14'32.500"N	103°36'47.971"W	1.38	
14910.00	87.700	179.700	11174.83	3998.32	-3998.19	34.72	763946.52	452556.76	32°14'31.570"N	103°36'47.959"W	1.66	
15004.00	87.900	179.400	11178.44	4092.25	-4092.11	35.45	763947.25	452462.83	32°14'30.641"N	103°36'47.958"W	0.38	
15099.00	87.800	178.600	11182.01	4187.18	-4187.03	37.11	763948.91	452367.92	32°14'29.702"N	103°36'47.946"W	0.85	
15193.00	90.000	178.900	11183.81	4281.14	-4280.99	39.16	763950.96	452273.97	32°14'28.772"N	103°36'47.929"W	2.36	
15288.00	89.600	178.100	11184.14	4376.12	-4375.95	41.65	763953.45	452179.01	32°14'27.832"N	103°36'47.908"W	0.94	
15382.00	90.100	177.100	11184.39	4470.06	-4469.87	45.58	763957.38	452085.09	32°14'26.902"N	103°36'47.869"W	1.19	
15477.00	90.000	175.800	11184.31	4564.91	-4564.68	51.47	763963.26	451990.28	32°14'25.964"N	103°36'47.808"W	1.37	
15523.00	90.000	175.298	11184.31	4610.79	-4610.54	55.04	763966.83	451944.42	32°14'25.510"N	103°36'47.770"W	1.09	Proj. to Bit

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 2H PBHL		11182.50	-4619.43	26.78	763938.58	451935.54	32°14'25.424"N	103°36'48.100"W	point

WELLPATH COMPOSITION - Ref Wellbore: No. 2H AWB - Ref Wellpath: No. 2H AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	10736.00	Generic gyro - northseeking (Standard)	VES Gyro <0-10736>	No. 2H AWB
10736.00	15523.00	NaviTrak (Standard)	MWD NaviTrak <10757-XXXX>	No. 2H AWB



Company: Cimarex Energy

Lease: Tres Equis State #2H

Rig Name: Precision 77

State/County: New Mexico/Lea

Latitude: 32.25

GRID North is 0.38 Degrees East of True North

VS-Azi: 179.67 Degrees



RKB : 30 feet

SUR: C-6-24s-33e, 330/N & 1980/W
BHL: N-06-24s-33e, 4941/N & 2031/W
API # 30-025-40183

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: tresquis#2h-01_ed.ut

Minimum Curvature Method

Report Date/Time: 10/4/2011 / 09:02

Vaughn Energy Services

Fort Worth, Texas

817-741-3610

Surveyor: Ray Seago

Tres Equis State #2H

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
46.00	1.03	63.91	46.00	0.18	0.37	-0.18	0.41	63.91	2.25
141.00	1.11	70.94	140.98	0.86	2.01	-0.85	2.18	66.85	0.16
236.00	1.16	75.77	235.96	1.39	3.81	-1.37	4.06	69.89	0.12
330.00	1.14	71.97	329.94	1.92	5.63	-1.89	5.95	71.16	0.08
425.00	1.16	115.42	424.93	1.80	7.40	-1.76	7.61	76.31	0.90
519.00	1.38	138.86	518.90	0.54	9.00	-0.49	9.02	86.56	0.60
614.00	1.61	142.21	613.87	-1.38	10.57	1.44	10.66	97.41	0.26
709.00	1.77	137.28	708.83	-3.51	12.38	3.58	12.87	105.82	0.23
803.00	1.88	131.47	802.78	-5.60	14.53	5.68	15.57	111.07	0.23
898.00	1.82	130.11	897.73	-7.60	16.85	7.70	18.48	114.28	0.08
992.00	1.61	144.52	991.69	-9.63	18.75	9.74	21.08	117.19	0.51
1087.00	1.54	115.06	1086.66	-11.26	20.68	11.38	23.55	118.57	0.84
1182.00	1.24	123.68	1181.63	-12.37	22.69	12.50	25.84	118.60	0.38
1276.00	1.13	96.64	1275.61	-13.04	24.45	13.18	27.71	118.07	0.60
1371.00	0.55	27.62	1370.60	-12.74	25.59	12.89	28.59	116.47	1.12
1460.00	0.73	356.08	1459.60	-11.79	25.75	11.94	28.32	114.61	0.44
1560.00	0.37	25.78	1559.59	-10.87	25.85	11.01	28.04	112.80	0.45
1655.00	0.26	39.73	1654.59	-10.42	26.12	10.57	28.12	111.76	0.13

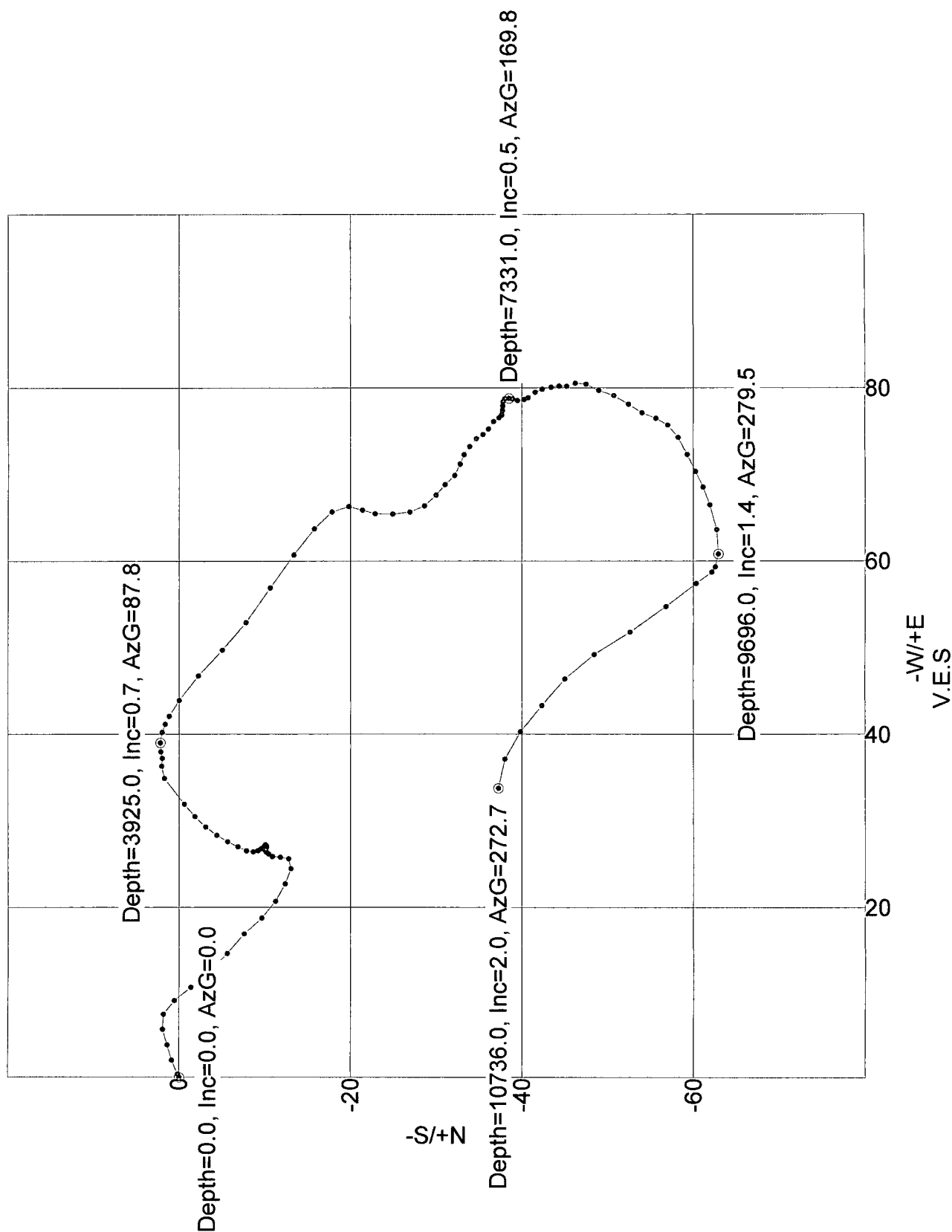
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1749.00	0.18	33.35	1748.59	-10.13	26.34	10.29	28.22	111.05	0.09
1844.00	0.16	96.27	1843.59	-10.02	26.55	10.18	28.38	110.69	0.19
1938.00	0.10	107.81	1937.59	-10.06	26.75	10.22	28.58	110.61	-0.07
2033.00	0.14	129.71	2032.59	-10.16	26.92	10.31	28.77	110.68	0.06
2128.00	0.08	30.34	2127.59	-10.17	27.04	10.33	28.89	110.62	0.18
2222.00	0.09	43.00	2221.59	-10.06	27.13	10.21	28.93	110.34	0.02
2317.00	0.04	175.69	2316.59	-10.03	27.18	10.19	28.97	110.26	0.13
2411.00	0.22	316.25	2410.59	-9.93	27.06	10.09	28.83	110.15	0.26
2506.00	0.36	323.99	2505.59	-9.56	26.76	9.72	28.42	109.66	0.15
2601.00	0.23	330.95	2600.59	-9.16	26.49	9.31	28.03	109.06	0.14
2695.00	0.46	359.20	2694.58	-8.61	26.40	8.76	27.77	108.06	0.30
2790.00	0.50	15.88	2789.58	-7.82	26.51	7.98	27.64	106.44	0.15
2884.00	0.82	28.89	2883.57	-6.83	26.95	6.99	27.80	104.23	0.38
2979.00	0.78	23.92	2978.56	-5.64	27.54	5.80	28.11	101.58	0.09
3074.00	1.00	35.96	3073.55	-4.38	28.29	4.55	28.62	98.81	0.30
3168.00	0.96	36.23	3167.54	-3.08	29.23	3.25	29.40	96.02	0.04
3263.00	1.17	51.16	3262.52	-1.83	30.46	2.00	30.52	93.43	0.36
3357.00	1.11	48.31	3356.50	-0.62	31.89	0.80	31.90	91.11	0.09
3547.00	1.20	55.73	3546.47	1.72	34.90	-1.52	34.94	87.18	0.09
3641.00	0.77	111.37	3640.45	2.04	36.30	-1.83	36.36	86.78	1.05
3736.00	0.44	63.63	3735.45	1.97	37.22	-1.76	37.27	86.97	0.60
3830.00	0.54	87.03	3829.45	2.16	37.99	-1.94	38.05	86.75	0.23
3925.00	0.72	87.84	3924.44	2.20	39.02	-1.98	39.09	86.77	0.19
4020.00	0.79	109.84	4019.43	2.00	40.24	-1.77	40.29	87.15	0.31
4114.00	0.43	114.49	4113.43	1.63	41.17	-1.40	41.21	87.73	0.39
4209.00	0.81	118.17	4208.42	1.17	42.09	-0.92	42.11	88.41	0.40
4303.00	1.83	124.57	4302.39	0.00	43.92	0.25	43.92	90.00	1.09
4398.00	2.56	130.60	4397.32	-2.25	46.78	2.51	46.84	92.75	0.80
4493.00	2.38	135.57	4492.24	-5.03	49.77	5.32	50.03	95.77	0.30
4587.00	2.74	126.68	4586.14	-7.77	52.94	8.07	53.51	98.35	0.57
4682.00	3.13	124.39	4681.02	-10.59	56.90	10.92	57.88	100.54	0.43
4776.00	2.62	127.60	4774.90	-13.35	60.72	13.70	62.17	102.40	0.57
4871.00	2.01	130.24	4869.82	-15.75	63.72	16.12	65.64	103.89	0.65
4966.00	1.44	146.09	4964.78	-17.83	65.66	18.20	68.04	105.19	0.78
5060.00	1.21	184.03	5058.75	-19.80	66.25	20.18	69.15	106.64	0.95
5155.00	0.81	210.30	5153.74	-21.38	65.84	21.76	69.23	107.99	0.63
5249.00	1.09	185.00	5247.73	-22.85	65.43	23.23	69.30	109.25	0.53
5344.00	1.40	177.50	5342.70	-24.92	65.40	25.29	69.98	110.86	0.36
5439.00	1.02	167.32	5437.68	-26.90	65.63	27.28	70.93	112.29	0.46

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S		+E/-W		Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
				FT	FT	FT	FT				
5533.00	1.26	149.80	5531.66	-28.61		66.34		28.99	72.24	113.33	-0.45
5628.00	1.04	122.80	5626.65	-29.98		67.59		30.37	73.94	113.92	0.61
5722.00	0.92	140.86	5720.63	-31.02		68.78		31.42	75.45	114.28	0.35
5817.00	0.97	131.38	5815.62	-32.14		69.86		32.55	76.90	114.71	0.17
5912.00	0.85	98.85	5910.61	-32.79		71.16		33.20	78.35	114.74	0.55
6006.00	0.63	131.57	6004.60	-33.24		72.24		33.65	79.52	114.71	0.50
6101.00	0.79	120.83	6099.59	-33.92		73.20		34.34	80.68	114.86	0.22
6195.00	0.68	141.25	6193.59	-34.69		74.11		35.12	81.82	115.08	0.30
6290.00	0.43	158.33	6288.58	-35.46		74.59		35.89	82.59	115.43	0.31
6385.00	0.72	120.35	6383.58	-36.10		75.24		36.53	83.45	115.63	0.49
6479.00	0.57	129.26	6477.57	-36.70		76.11		37.13	84.50	115.74	0.20
6574.00	0.41	166.64	6572.57	-37.32		76.55		37.76	85.17	115.99	0.36
6668.00	0.29	93.81	6666.57	-37.66		76.87		38.10	85.60	116.10	0.45
6763.00	0.35	104.45	6761.56	-37.75		77.39		38.20	86.10	116.00	0.09
6858.00	0.32	77.12	6856.56	-37.76		77.93		38.21	86.59	115.86	0.17
6952.00	0.29	115.26	6950.56	-37.81		78.39		38.26	87.03	115.75	0.21
7047.00	0.20	134.98	7045.56	-38.02		78.72		38.48	87.43	115.78	0.13
7141.00	0.18	334.48	7139.56	-38.00		78.78		38.46	87.46	115.75	0.39
7236.00	0.15	177.56	7234.56	-38.00		78.72		38.45	87.41	115.77	0.34
7331.00	0.47	169.82	7329.56	-38.50		78.79		38.95	87.69	116.04	0.33
7420.00	0.20	237.82	7418.56	-38.94		78.72		39.39	87.83	116.32	0.49
7520.00	0.52	183.22	7518.56	-39.49		78.54		39.94	87.91	116.69	0.44
7614.00	0.46	157.74	7612.55	-40.27		78.66		40.72	88.37	117.11	0.24
7709.00	0.14	156.56	7707.55	-40.73		78.85		41.18	88.75	117.32	0.33
7898.00	0.50	137.45	7896.55	-41.54		79.50		42.00	89.70	117.59	0.20
7993.00	0.62	172.43	7991.54	-42.36		79.85		42.82	90.39	117.95	0.37
8087.00	0.68	160.40	8085.54	-43.39		80.10		43.85	91.10	118.44	0.16
8182.00	0.50	189.46	8180.53	-44.33		80.22		44.79	91.66	118.92	0.36
8277.00	0.56	175.41	8275.53	-45.19		80.19		45.65	92.05	119.40	0.15
8371.00	0.79	150.34	8369.52	-46.21		80.55		46.68	92.87	119.84	0.39
8466.00	0.97	211.66	8464.51	-47.47		80.45		47.93	93.41	120.54	0.96
8560.00	1.04	200.97	8558.50	-48.94		79.73		49.40	93.55	121.54	0.21
8655.00	1.23	197.76	8653.48	-50.71		79.11		51.17	93.97	122.66	0.21
8750.00	1.21	222.75	8748.46	-52.42		78.12		52.87	94.07	123.86	0.56
8844.00	1.12	200.50	8842.44	-54.01		77.12		54.46	94.15	125.01	0.49
8939.00	0.99	201.27	8937.42	-55.65		76.49		56.09	94.60	126.04	0.14
9033.00	0.97	218.26	9031.41	-57.04		75.70		57.48	94.79	127.00	0.31
9128.00	1.33	238.46	9126.39	-58.25		74.26		58.68	94.38	128.11	0.56
9223.00	1.38	247.16	9221.37	-59.27		72.27		59.68	93.47	129.35	0.22

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9317.00	1.29	240.69	9315.34	-60.23	70.31	60.63	92.58	130.58	.019
9412.00	1.14	247.08	9410.32	-61.12	68.50	61.51	91.80	131.74	0.21
9506.00	1.53	250.18	9504.29	-61.91	66.46	62.29	90.83	132.97	0.42
9601.00	2.04	257.11	9599.25	-62.72	63.61	63.08	89.33	134.59	0.58
9696.00	1.41	279.50	9694.20	-62.90	60.81	63.25	87.49	135.97	0.96
9790.00	0.44	292.29	9788.19	-62.57	59.33	62.91	86.23	136.52	1.05
9885.00	0.49	317.15	9883.19	-62.14	58.72	62.48	85.49	136.62	0.21
9979.00	2.25	325.31	9977.16	-60.33	57.39	60.66	83.27	136.43	1.89
10074.00	3.08	321.64	10072.05	-56.79	54.75	57.11	78.88	136.05	0.89
10169.00	3.06	328.60	10166.92	-52.63	51.84	52.92	73.87	135.43	0.39
10263.00	2.93	327.90	10260.79	-48.45	49.26	48.73	69.09	134.52	0.15
10358.00	2.51	311.89	10355.68	-45.00	46.42	45.27	64.65	134.11	0.91
10452.00	2.52	310.55	10449.59	-42.28	43.32	42.53	60.53	134.31	0.06
10547.00	2.21	307.97	10544.51	-39.80	40.29	40.03	56.63	134.65	0.35
10642.00	2.24	291.14	10639.44	-38.00	37.11	38.22	53.12	135.68	0.69
10736.00	2.04	272.66	10733.38	-37.26	33.73	37.46	50.26	137.85	0.76



Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Ray Seago
Tres Equis State #2H





A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

October 5, 2011

Cimarex Energy Company
600 N. Marienfeld St., Ste. 600
Midland, TX 79701

Attn: Drilling Department

Re: **Tres Equis State #2H**

Please find enclosed a copy of the survey from 0' to 10736' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

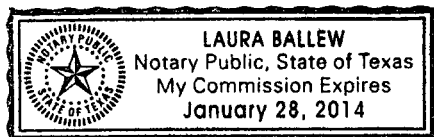
Sincerely,

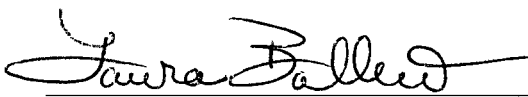

Keith Havelka
Operations

State of Texas §

County of Nueces §

This instrument was acknowledged before me on the 5th day of October, 2011, by Keith Havelka.





Notary Public in and for the State of Texas.