



INTEQ

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End of Well Report

Cimarex Energy Co.

Eddy County, NM

Oracle 21 Fed No.3 STO1

Cactus 122

Well Specifications

Well Name: Oracle 21 Fed No. 3H STO1
Start Date: 7/13/2011
Client: Cimarex Energy Co.
Rig Name: Cactus 122
County: Eddy County, NM
Field: (Oracle) Sec 21, T25S, R26E

Well Location:

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

Grid Coordinates

Easting: 550522.60'
Northing: 407730.20'

Geographical Coordinates

Latitude: 32°07'15.333"N
Longitude: 104°18'13.190"W

RT: 3,432' above M.S.L.

Date TD Reached: 8/3/2011

Final Depth MD: 13,276'

Final Depth TVD: 9,499.65'



Cimarex Energy Co.

Location: Eddy County, NM
Field: (Oracle) Sec 21, T25S, R26E
Facility: Oracle 21 Fed 3H

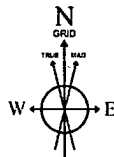
Slot: No. 3H SHL
Well: No. 3H
Wellbore: No. 3H PWB



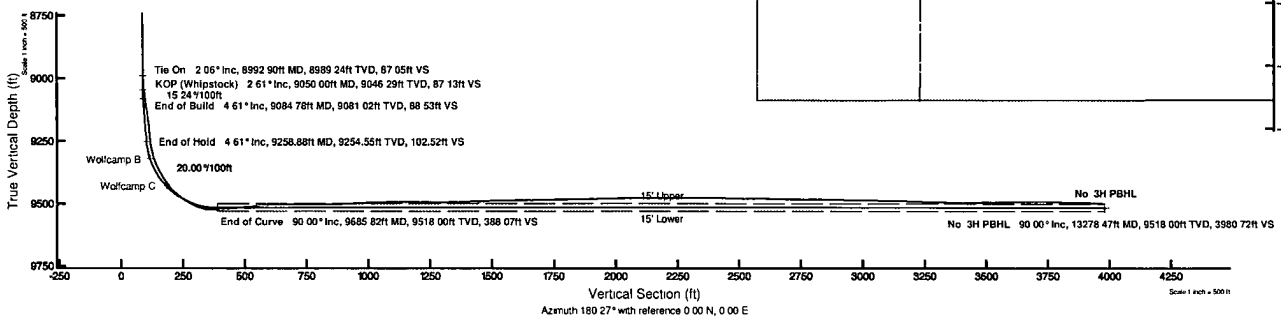
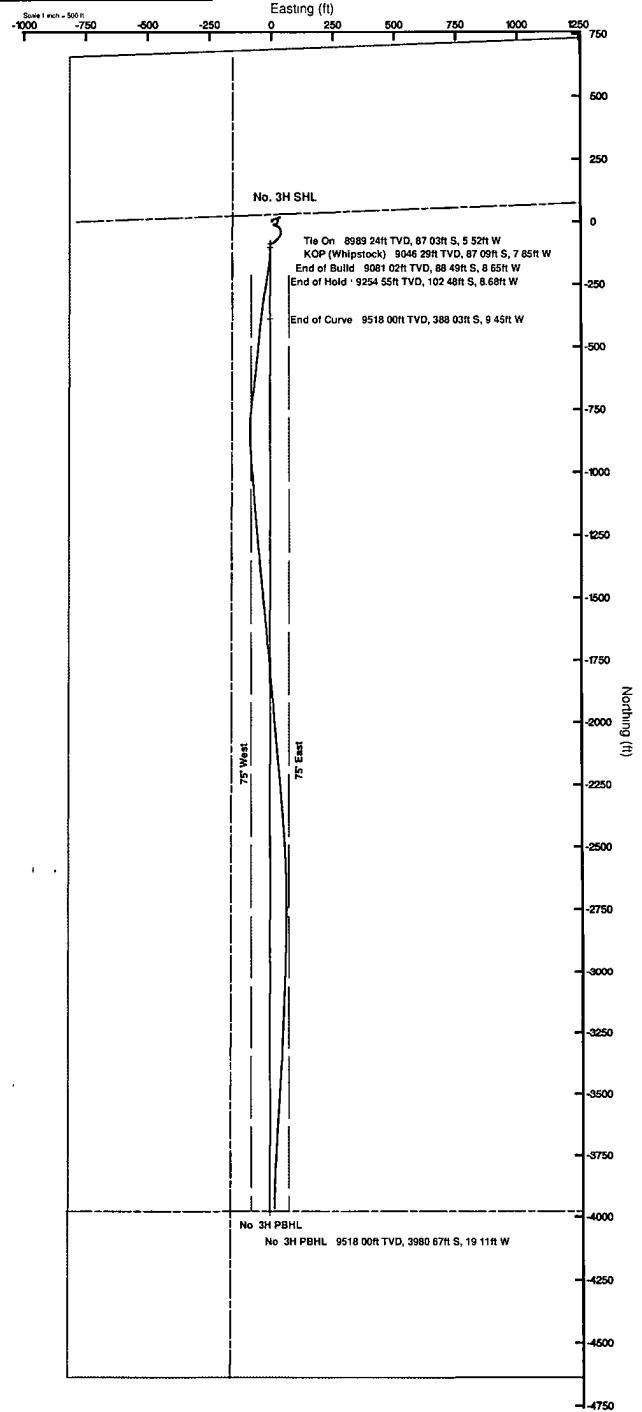
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8992.90	2.060	266.110	8989.24	-87.03	-5.52	0.00	87.05
KOP (Whipstock)	9050.00	2.611	270.213	9046.29	-87.09	-7.85	1.01	87.13
End of Build	9084.78	4.611	180.154	9081.02	-88.49	-8.65	15.24	88.53
End of Hold	9258.88	4.611	180.154	9254.55	-102.48	-8.68	0.00	102.52
End of Curve	9685.82	90.000	180.154	9518.00	-388.03	-9.45	20.00	388.07
No. 3H PBHL	13278.47	90.000	180.154	9518.00	-3980.67	-19.11	0.00	3980.72

Plot reference wellpath is Plan 2	
True vertical depths are referenced to Rig on No. 3H SHL (KB)	Grid System: NAD83 / TM New Mexico SP Eastern Zone (3001) US feet
Measured depths are referenced to Rig on No. 3H SHL (KB)	North Reference: Grid north
Rig on No. 3H SHL (KB) to Mean Sea Level 3432 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No. 3H SHL) 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: calphik on 7/22/2011



BGGM (1945 0 to 2012 0) Dip: 59.96° Field: 48509.8 nT
Magnetic North is 7.95 degrees East of True North (at 7/15/2011)
Grid North is 0.02 degrees East of True North
To correct azimuth from True to Grid subtract 0.02 degrees
To correct azimuth from Magnetic to Grid add 7.94 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.94 = 97.94





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No.3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Oracle) Sec 21, T25S, R26E	Wellbore	No.3H AWB
Facility	Oracle 21 Fed 3H		

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	0.999909	Report Generated	8/3/2011 at 7:33:56 AM
Convergence at slot	0.02° 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	550522.60	407730.20	32°07'15.333"N	104°18'13.190"W
Facility Reference Pt			550522.60	407730.20	32°07'15.333"N	104°18'13.190"W
Field Reference Pt			550612.60	407763.50	32°07'15.663"N	104°18'12.143"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 3H SHL (KB) to GL	3432.00ft
Horizontal Reference Pt	Slot	Rig on No. 3H SHL (KB) to Mean Sea Level	3432.00ft
Vertical Reference Pt	Rig on No. 3H SHL (KB)	Rig on No. 3H SHL (KB) to Mud Line at Slot (No. 3H SHL)	3432.00ft
MD Reference Pt	Rig on No. 3H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.27°



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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Oracle) Sec 21, T25S, R26E	Wellbore	No.3H AWP
Facility	Oracle 21 Fed 3H		

WELLPATH DATA (178 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	257.780	0.00	0.00	0.00	0.00	550522.60	407730.20	32°07'15.333"N	104°18'13.190"W	0.00	
29.00	0.000	257.780	29.00	0.00	0.00	0.00	550522.60	407730.20	32°07'15.333"N	104°18'13.190"W	0.00	
100.00	0.890	257.780	100.00	0.12	-0.12	-0.54	550522.06	407730.08	32°07'15.332"N	104°18'13.196"W	1.25	
200.00	0.620	266.860	199.99	0.32	-0.31	-1.84	550520.76	407729.89	32°07'15.330"N	104°18'13.211"W	0.29	
300.00	0.250	15.020	299.99	0.14	-0.13	-2.32	550520.28	407730.07	32°07'15.332"N	104°18'13.217"W	0.74	
400.00	0.220	330.020	399.99	-0.24	0.25	-2.36	550520.24	407730.45	32°07'15.336"N	104°18'13.217"W	0.18	
500.00	0.130	320.110	499.99	-0.49	0.50	-2.53	550520.07	407730.70	32°07'15.338"N	104°18'13.219"W	0.09	
600.00	0.540	355.690	599.98	-1.04	1.06	-2.64	550519.96	407731.26	32°07'15.344"N	104°18'13.220"W	0.44	
700.00	0.760	355.570	699.98	-2.18	2.19	-2.72	550519.88	407732.39	32°07'15.355"N	104°18'13.221"W	0.22	
800.00	0.930	351.780	799.97	-3.64	3.65	-2.89	550519.71	407733.85	32°07'15.369"N	104°18'13.223"W	0.18	
900.00	0.840	1.240	899.95	-5.17	5.19	-2.99	550519.61	407735.39	32°07'15.385"N	104°18'13.225"W	0.17	
928.90	0.700	22.260	928.85	-5.55	5.56	-2.92	550519.68	407735.76	32°07'15.388"N	104°18'13.224"W	1.08	
1024.90	1.310	63.650	1024.84	-6.59	6.59	-1.72	550520.88	407736.79	32°07'15.399"N	104°18'13.210"W	0.95	
1120.90	1.470	69.310	1120.81	-7.52	7.52	0.42	550523.02	407737.72	32°07'15.408"N	104°18'13.185"W	0.22	
1216.90	1.710	66.590	1216.77	-8.53	8.52	2.89	550525.49	407738.72	32°07'15.418"N	104°18'13.156"W	0.26	
1312.90	2.480	67.100	1312.71	-9.93	9.90	6.11	550528.71	407740.10	32°07'15.431"N	104°18'13.119"W	0.80	
1408.90	3.170	69.130	1408.59	-11.70	11.65	10.51	550533.11	407741.85	32°07'15.449"N	104°18'13.068"W	0.73	
1504.90	3.210	72.800	1504.44	-13.47	13.39	15.56	550538.15	407743.59	32°07'15.466"N	104°18'13.009"W	0.22	
1600.90	2.310	72.630	1600.33	-14.86	14.76	19.97	550542.57	407744.96	32°07'15.479"N	104°18'12.958"W	0.94	
1696.90	1.350	68.880	1696.28	-15.86	15.75	22.87	550545.47	407745.95	32°07'15.489"N	104°18'12.924"W	1.01	
1792.90	1.040	66.750	1792.26	-16.62	16.50	24.73	550547.32	407746.70	32°07'15.496"N	104°18'12.902"W	0.33	
1888.90	0.950	66.510	1888.24	-17.29	17.16	26.26	550548.85	407747.36	32°07'15.503"N	104°18'12.884"W	0.09	
1984.90	0.930	65.430	1984.23	-17.94	17.80	27.70	550550.29	407748.00	32°07'15.509"N	104°18'12.868"W	0.03	
2080.90	0.710	70.150	2080.22	-18.47	18.33	28.96	550551.56	407748.53	32°07'15.515"N	104°18'12.853"W	0.24	
2176.90	0.670	69.140	2176.21	-18.87	18.73	30.05	550552.64	407748.93	32°07'15.519"N	104°18'12.840"W	0.04	
2272.90	0.420	79.170	2272.21	-19.14	19.00	30.92	550553.51	407749.20	32°07'15.521"N	104°18'12.830"W	0.28	
2368.90	0.250	95.400	2368.21	-19.19	19.04	31.47	550554.07	407749.24	32°07'15.522"N	104°18'12.824"W	0.20	
2464.90	0.130	120.480	2464.21	-19.12	18.97	31.77	550554.37	407749.17	32°07'15.521"N	104°18'12.820"W	0.15	
2560.90	0.120	183.240	2560.21	-18.97	18.81	31.86	550554.46	407749.01	32°07'15.519"N	104°18'12.819"W	0.14	
2656.90	0.220	201.750	2656.21	-18.69	18.54	31.79	550554.39	407748.74	32°07'15.517"N	104°18'12.820"W	0.12	
2752.90	0.230	202.170	2752.21	-18.34	18.19	31.65	550554.24	407748.39	32°07'15.513"N	104°18'12.822"W	0.01	
2848.90	0.310	205.240	2848.20	-17.93	17.78	31.46	550554.06	407747.98	32°07'15.509"N	104°18'12.824"W	0.08	
2944.90	0.300	210.870	2944.20	-17.48	17.33	31.22	550553.82	407747.53	32°07'15.505"N	104°18'12.827"W	0.03	
3040.90	0.350	229.230	3040.20	-17.07	16.92	30.87	550553.47	407747.12	32°07'15.501"N	104°18'12.831"W	0.12	
3136.90	0.470	245.670	3136.20	-16.71	16.57	30.29	550552.89	407746.77	32°07'15.497"N	104°18'12.838"W	0.17	
3232.90	0.530	253.860	3232.20	-16.42	16.28	29.51	550552.10	407746.48	32°07'15.494"N	104°18'12.847"W	0.10	
3328.90	0.570	261.490	3328.19	-16.22	16.09	28.61	550551.21	407746.29	32°07'15.492"N	104°18'12.857"W	0.09	
3424.90	0.560	270.020	3424.19	-16.15	16.02	27.67	550550.26	407746.22	32°07'15.492"N	104°18'12.868"W	0.09	
3520.90	0.370	269.830	3520.18	-16.14	16.02	26.89	550549.48	407746.21	32°07'15.492"N	104°18'12.877"W	0.20	
3616.90	0.290	256.160	3616.18	-16.08	15.96	26.34	550548.94	407746.16	32°07'15.491"N	104°18'12.883"W	0.12	
3712.90	0.290	256.510	3712.18	-15.97	15.84	25.87	550548.47	407746.04	32°07'15.490"N	104°18'12.889"W	0.00	
3808.90	0.190	250.180	3808.18	-15.85	15.73	25.48	550548.08	407745.93	32°07'15.489"N	104°18'12.893"W	0.11	
3904.90	0.320	224.260	3904.18	-15.61	15.49	25.15	550547.74	407745.68	32°07'15.486"N	104°18'12.897"W	0.18	
4000.90	0.430	210.810	4000.18	-15.10	14.98	24.78	550547.37	407745.18	32°07'15.481"N	104°18'12.902"W	0.15	
4096.90	0.700	202.810	4096.17	-14.25	14.13	24.36	550546.96	407744.33	32°07'15.473"N	104°18'12.906"W	0.29	



Actual Wellpath Report

No.3H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Oracle) Sec 21, T25S, R26E	Wellbore	No.3H AWP
Facility	Oracle 21 Fed 3H		

WELLPATH DATA (178 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
4192.90	0.780	204.230	4192.16	-13.11	13.00	23.87	550546.47	407743.20	32°07'15.462"N	104°18'12.912"W	0.09	
4384.90	0.870	208.710	4384.14	-10.64	10.53	22.63	550545.23	407740.73	32°07'15.437"N	104°18'12.927"W	0.06	
4480.90	0.810	204.800	4480.13	-9.38	9.27	22.00	550544.59	407739.47	32°07'15.425"N	104°18'12.934"W	0.09	
4576.90	0.740	189.720	4576.13	-8.15	8.05	21.61	550544.21	407738.24	32°07'15.413"N	104°18'12.939"W	0.22	
4672.90	0.660	182.170	4672.12	-6.98	6.88	21.48	550544.08	407737.08	32°07'15.401"N	104°18'12.940"W	0.13	
4768.90	0.500	176.350	4768.11	-6.01	5.91	21.49	550544.09	407736.11	32°07'15.392"N	104°18'12.940"W	0.18	
4864.90	0.460	174.110	4864.11	-5.21	5.11	21.55	550544.15	407735.31	32°07'15.384"N	104°18'12.939"W	0.05	
4960.90	0.560	177.320	4960.11	-4.36	4.26	21.61	550544.21	407734.46	32°07'15.375"N	104°18'12.938"W	0.11	
5056.90	0.530	181.350	5056.10	-3.45	3.35	21.63	550544.22	407733.54	32°07'15.366"N	104°18'12.938"W	0.05	
5152.90	0.300	226.270	5152.10	-2.83	2.73	21.43	550544.03	407732.93	32°07'15.360"N	104°18'12.941"W	0.40	
5248.90	0.610	227.070	5248.10	-2.31	2.21	20.88	550543.48	407732.41	32°07'15.355"N	104°18'12.947"W	0.32	
5344.90	0.640	226.440	5344.09	-1.58	1.49	20.12	550542.71	407731.69	32°07'15.348"N	104°18'12.956"W	0.03	
5440.90	1.030	179.720	5440.08	-0.35	0.26	19.73	550542.33	407730.46	32°07'15.336"N	104°18'12.960"W	0.78	
5536.90	1.630	172.810	5536.05	1.87	-1.96	19.91	550542.50	407728.24	32°07'15.314"N	104°18'12.958"W	0.65	
5632.90	1.160	191.630	5632.03	4.17	-4.27	19.88	550542.48	407725.93	32°07'15.291"N	104°18'12.959"W	0.68	
5728.90	2.530	221.340	5727.98	6.72	-6.81	18.29	550540.88	407723.39	32°07'15.266"N	104°18'12.977"W	1.70	
5824.90	1.210	230.930	5823.92	8.96	-9.04	16.10	550538.70	407721.16	32°07'15.244"N	104°18'13.003"W	1.41	
5920.90	3.160	273.120	5919.85	9.47	-9.54	12.67	550535.27	407720.67	32°07'15.239"N	104°18'13.043"W	2.50	
6016.90	3.210	255.860	6015.71	10.01	-10.05	7.42	550530.02	407720.15	32°07'15.234"N	104°18'13.104"W	1.00	
6112.90	0.660	196.340	6111.65	11.21	-11.24	4.66	550527.26	407718.97	32°07'15.222"N	104°18'13.136"W	3.05	
6208.90	1.090	103.850	6207.64	11.96	-11.98	5.39	550527.99	407718.22	32°07'15.215"N	104°18'13.127"W	1.35	
6304.90	1.900	120.090	6303.61	12.96	-13.00	7.65	550530.25	407717.20	32°07'15.205"N	104°18'13.101"W	0.94	
6400.90	1.840	118.890	6399.56	14.49	-14.54	10.38	550532.98	407715.66	32°07'15.189"N	104°18'13.069"W	0.07	
6496.90	1.540	113.140	6495.52	15.73	-15.80	12.92	550535.51	407714.41	32°07'15.177"N	104°18'13.040"W	0.36	
6592.90	1.490	96.780	6591.48	16.38	-16.45	15.34	550537.94	407713.75	32°07'15.170"N	104°18'13.011"W	0.45	
6688.90	1.950	106.870	6687.44	16.98	-17.07	18.14	550540.74	407713.13	32°07'15.164"N	104°18'12.979"W	0.57	
6784.90	2.050	113.100	6783.38	18.12	-18.22	21.29	550543.88	407711.98	32°07'15.153"N	104°18'12.942"W	0.25	
6880.90	2.240	125.700	6879.31	19.87	-19.99	24.39	550546.99	407710.21	32°07'15.135"N	104°18'12.906"W	0.53	
6976.90	2.020	137.010	6975.25	22.19	-22.32	27.07	550549.66	407707.88	32°07'15.112"N	104°18'12.875"W	0.49	
7072.90	1.670	143.120	7071.20	24.54	-24.68	29.06	550551.66	407705.53	32°07'15.089"N	104°18'12.852"W	0.42	
7168.90	1.450	147.510	7167.16	26.67	-26.82	30.55	550553.15	407703.38	32°07'15.068"N	104°18'12.835"W	0.26	
7264.90	1.720	150.480	7263.13	28.94	-29.10	31.91	550554.51	407701.11	32°07'15.045"N	104°18'12.819"W	0.29	
7360.90	1.860	168.500	7359.08	31.72	-31.88	32.93	550555.53	407698.33	32°07'15.018"N	104°18'12.807"W	0.60	
7456.90	1.940	156.080	7455.03	34.73	-34.89	33.90	550556.50	407695.31	32°07'14.988"N	104°18'12.796"W	0.44	
7552.90	2.720	173.280	7550.95	38.47	-38.64	34.83	550557.43	407691.57	32°07'14.951"N	104°18'12.785"W	1.08	
7648.90	3.790	187.820	7646.79	43.88	-44.04	34.66	550557.26	407686.16	32°07'14.897"N	104°18'12.787"W	1.40	
7744.90	4.180	200.110	7742.56	50.31	-50.47	33.03	550555.63	407679.73	32°07'14.834"N	104°18'12.806"W	0.98	
7840.90	4.170	209.160	7838.31	56.66	-56.81	30.13	550552.72	407673.40	32°07'14.771"N	104°18'12.840"W	0.69	
7936.90	3.480	216.580	7934.10	62.06	-62.19	26.69	550549.29	407668.01	32°07'14.718"N	104°18'12.880"W	0.88	
8032.90	2.980	222.580	8029.94	66.26	-66.37	23.26	550545.86	407663.84	32°07'14.676"N	104°18'12.920"W	0.63	
8128.90	2.740	224.930	8125.82	69.74	-69.83	19.95	550542.55	407660.37	32°07'14.642"N	104°18'12.958"W	0.28	
8224.90	2.760	225.350	8221.71	73.00	-73.08	16.69	550539.29	407657.13	32°07'14.610"N	104°18'12.996"W	0.03	
8320.90	2.230	228.670	8317.62	75.87	-75.94	13.64	550536.24	407654.27	32°07'14.582"N	104°18'13.031"W	0.57	
8416.90	1.970	225.660	8413.56	78.27	-78.33	11.06	550533.66	407651.88	32°07'14.558"N	104°18'13.061"W	0.29	
8512.90	1.750	230.860	8509.51	80.36	-80.40	8.74	550531.34	407649.80	32°07'14.538"N	104°18'13.088"W	0.29	



Actual Wellpath Report

No.3H AWP

Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Oracle) Sec 21, T25S, R26E	Wellbore	No.3H AWB
Facility	Oracle 21 Fed 3H		

WELLPATH DATA (178 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
8608.90	1.800	233.030	8605.46	82.20	-82.24	6.40	550529.00	407647.97	32°07'14.519"N	104°18'13.116"W	0.09	
8704.90	1.870	238.130	8701.41	83.95	-83.97	3.87	550526.47	407646.24	32°07'14.502"N	104°18'13.145"W	0.19	
8800.90	1.970	244.320	8797.36	85.51	-85.51	1.05	550523.65	407644.70	32°07'14.487"N	104°18'13.178"W	0.24	
8896.90	2.050	258.550	8893.30	86.58	-86.57	-2.12	550520.48	407643.64	32°07'14.477"N	104°18'13.215"W	0.53	
8992.90	2.060	266.110	8989.24	87.05	-87.03	-5.52	550517.08	407643.18	32°07'14.472"N	104°18'13.254"W	0.28	
9063.00	8.100	186.700	9059.08	92.06	-92.02	-7.36	550515.24	407638.18	32°07'14.423"N	104°18'13.276"W	11.38	
9094.00	8.300	181.100	9089.76	96.47	-96.43	-7.66	550514.94	407633.78	32°07'14.379"N	104°18'13.279"W	2.65	
9126.00	7.700	188.000	9121.45	100.90	-100.86	-8.00	550514.60	407629.35	32°07'14.335"N	104°18'13.283"W	3.54	
9158.00	7.200	189.300	9153.18	105.01	-104.97	-8.62	550513.98	407625.24	32°07'14.295"N	104°18'13.290"W	1.65	
9189.00	6.700	188.000	9183.95	108.72	-108.67	-9.19	550513.41	407621.54	32°07'14.258"N	104°18'13.297"W	1.69	
9227.00	5.800	177.700	9221.73	112.83	-112.79	-9.42	550513.18	407617.42	32°07'14.217"N	104°18'13.300"W	3.77	
9259.00	5.900	175.700	9253.56	116.09	-116.04	-9.23	550513.37	407614.17	32°07'14.185"N	104°18'13.298"W	0.71	
9290.00	12.000	179.900	9284.17	120.90	-120.86	-9.11	550513.49	407609.35	32°07'14.137"N	104°18'13.296"W	19.78	
9322.00	18.000	181.800	9315.07	129.18	-129.13	-9.26	550513.34	407601.08	32°07'14.055"N	104°18'13.298"W	18.81	
9353.00	22.700	185.000	9344.12	139.93	-139.89	-9.93	550512.67	407590.33	32°07'13.949"N	104°18'13.306"W	15.58	
9383.00	27.800	185.600	9371.25	152.68	-152.62	-11.12	550511.48	407577.59	32°07'13.823"N	104°18'13.320"W	17.02	
9415.00	33.100	187.200	9398.83	168.79	-168.73	-12.94	550509.66	407561.48	32°07'13.664"N	104°18'13.341"W	16.75	
9447.00	37.800	187.000	9424.89	187.21	-187.14	-15.23	550507.37	407543.07	32°07'13.481"N	104°18'13.368"W	14.69	
9479.00	45.000	187.900	9448.87	208.20	-208.11	-17.99	550504.61	407522.11	32°07'13.274"N	104°18'13.400"W	22.58	
9510.00	51.000	189.100	9469.61	230.98	-230.88	-21.40	550501.20	407499.34	32°07'13.049"N	104°18'13.439"W	19.57	
9542.00	56.700	189.600	9488.48	256.49	-256.37	-25.60	550497.00	407473.86	32°07'12.797"N	104°18'13.488"W	17.86	
9574.00	63.700	190.100	9504.37	283.85	-283.71	-30.35	550492.25	407446.52	32°07'12.526"N	104°18'13.544"W	21.92	
9605.00	71.800	189.400	9516.10	312.13	-311.96	-35.20	550487.40	407418.27	32°07'12.246"N	104°18'13.600"W	26.21	
9637.00	80.000	188.200	9523.89	342.80	-342.61	-39.94	550482.66	407387.62	32°07'11.943"N	104°18'13.655"W	25.88	
9668.00	91.600	186.700	9526.15	373.42	-373.21	-43.94	550478.66	407357.02	32°07'11.640"N	104°18'13.702"W	37.73	
9700.00	94.900	186.100	9524.34	405.18	-404.96	-47.50	550475.10	407325.28	32°07'11.326"N	104°18'13.743"W	10.48	
9732.00	94.500	185.800	9521.72	436.91	-436.68	-50.81	550471.80	407293.56	32°07'11.012"N	104°18'13.782"W	1.56	
9763.00	95.200	185.200	9519.10	467.68	-467.42	-53.77	550468.84	407262.82	32°07'10.708"N	104°18'13.816"W	2.97	
9795.00	95.400	185.700	9516.14	499.41	-499.14	-56.79	550465.81	407231.10	32°07'10.394"N	104°18'13.852"W	1.68	
9826.00	95.000	186.200	9513.33	530.13	-529.85	-59.99	550462.61	407200.40	32°07'10.090"N	104°18'13.889"W	2.06	
9858.00	94.300	186.300	9510.74	561.85	-561.55	-63.47	550459.14	407168.70	32°07'09.777"N	104°18'13.930"W	2.21	
9890.00	92.700	186.300	9508.78	593.61	-593.30	-66.97	550455.63	407136.96	32°07'09.463"N	104°18'13.970"W	5.00	
9921.00	91.900	187.500	9507.54	624.38	-624.05	-70.69	550451.91	407106.21	32°07'09.158"N	104°18'14.014"W	4.65	
9953.00	91.700	188.200	9506.54	656.09	-655.73	-75.06	550447.55	407074.53	32°07'08.845"N	104°18'14.065"W	2.27	
9984.00	90.500	187.200	9505.94	686.82	-686.45	-79.21	550443.39	407043.82	32°07'08.541"N	104°18'14.113"W	5.04	
10016.00	90.200	186.900	9505.74	718.59	-718.20	-83.14	550439.47	407012.06	32°07'08.227"N	104°18'14.159"W	1.33	
10048.00	89.700	185.500	9505.77	750.42	-750.02	-86.60	550436.01	406980.25	32°07'07.912"N	104°18'14.199"W	4.65	
10080.00	89.000	185.400	9506.14	782.29	-781.87	-89.64	550432.97	406948.40	32°07'07.597"N	104°18'14.235"W	2.21	
10112.00	89.500	183.600	9506.55	814.20	-813.77	-92.15	550430.46	406916.51	32°07'07.281"N	104°18'14.264"W	5.84	
10143.00	91.500	178.600	9506.28	845.18	-844.75	-92.74	550429.87	406885.53	32°07'06.974"N	104°18'14.271"W	17.37	
10175.00	92.300	176.100	9505.22	877.12	-876.69	-91.26	550431.35	406853.59	32°07'06.658"N	104°18'14.254"W	8.20	
10207.00	92.700	175.700	9503.83	909.00	-908.58	-88.98	550433.63	406821.70	32°07'06.343"N	104°18'14.227"W	1.77	
10237.00	92.700	176.100	9502.41	938.88	-938.47	-86.83	550435.77	406791.82	32°07'06.047"N	104°18'14.202"W	1.33	
10269.00	92.900	175.900	9500.85	970.75	-970.36	-84.61	550438.00	406759.93	32°07'05.732"N	104°18'14.177"W	0.88	
10300.00	92.900	175.900	9499.28	1001.62	-1001.24	-82.39	550440.22	406729.06	32°07'05.426"N	104°18'14.151"W	0.00	



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Oracle) Sec 21, T25S, R26E	Wellbore	No.3H AWB
Facility	Oracle 21 Fed 3H		

WELLPATH DATA (178 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
10332.00	91.500	176.000	9498.05	1033.50	-1033.13	-80.13	550442.47	406697.16	32°07'05.110"N	104°18'14.125"W	4.39	
10364.00	90.500	176.000	9497.50	1065.41	-1065.05	-77.90	550444.71	406665.25	32°07'04.794"N	104°18'14.099"W	3.12	
10395.00	90.700	175.500	9497.17	1096.31	-1095.96	-75.60	550447.00	406634.34	32°07'04.489"N	104°18'14.072"W	1.74	
10427.00	90.300	175.000	9496.89	1128.19	-1127.85	-72.95	550449.65	406602.45	32°07'04.173"N	104°18'14.042"W	2.00	
10458.00	90.000	175.400	9496.81	1159.07	-1158.74	-70.36	550452.25	406571.57	32°07'03.867"N	104°18'14.012"W	1.61	
10490.00	89.800	175.400	9496.87	1190.95	-1190.64	-67.79	550454.81	406539.67	32°07'03.552"N	104°18'13.982"W	0.62	
10522.00	89.400	175.600	9497.09	1222.84	-1222.54	-65.28	550457.32	406507.77	32°07'03.236"N	104°18'13.953"W	1.40	
10554.00	89.400	175.300	9497.42	1254.72	-1254.44	-62.75	550459.86	406475.88	32°07'02.920"N	104°18'13.923"W	0.94	
10585.00	89.500	174.600	9497.72	1285.59	-1285.31	-60.02	550462.59	406445.00	32°07'02.615"N	104°18'13.892"W	2.28	
10617.00	91.600	174.500	9497.42	1317.42	-1317.17	-56.98	550465.63	406413.16	32°07'02.300"N	104°18'13.856"W	6.57	
10649.00	91.600	174.700	9496.52	1349.26	-1349.01	-53.97	550468.64	406381.31	32°07'01.985"N	104°18'13.822"W	0.62	
10680.00	91.500	174.700	9495.68	1380.10	-1379.87	-51.10	550471.50	406350.46	32°07'01.679"N	104°18'13.788"W	0.32	
10713.00	91.900	174.500	9494.70	1412.92	-1412.71	-48.00	550474.60	406317.62	32°07'01.354"N	104°18'13.752"W	1.36	
10744.00	91.600	174.000	9493.76	1443.74	-1443.54	-44.90	550477.71	406286.80	32°07'01.049"N	104°18'13.716"W	1.88	
10776.00	91.600	174.200	9492.86	1475.54	-1475.35	-41.61	550481.00	406254.98	32°07'00.734"N	104°18'13.678"W	0.62	
10808.00	91.600	174.500	9491.97	1507.35	-1507.19	-38.46	550484.14	406223.15	32°07'00.419"N	104°18'13.642"W	0.94	
10871.00	91.500	174.800	9490.27	1570.03	-1569.89	-32.59	550490.02	406160.46	32°06'59.799"N	104°18'13.574"W	0.50	
10966.00	91.200	174.900	9488.03	1664.58	-1664.48	-24.06	550498.54	406065.87	32°06'58.863"N	104°18'13.475"W	0.33	
11060.00	90.800	174.600	9486.39	1758.12	-1758.07	-15.46	550507.14	405972.29	32°06'57.937"N	104°18'13.375"W	0.53	
11155.00	91.200	175.600	9484.73	1852.72	-1852.71	-7.35	550515.25	405877.66	32°06'57.000"N	104°18'13.281"W	1.13	
11250.00	91.200	175.100	9482.74	1947.35	-1947.37	0.35	550522.95	405783.01	32°06'56.063"N	104°18'13.192"W	0.53	
11344.00	90.900	174.600	9481.02	2040.91	-2040.98	8.79	550531.39	405689.41	32°06'55.137"N	104°18'13.094"W	0.62	
11439.00	90.400	175.100	9479.94	2135.48	-2135.59	17.31	550539.91	405594.81	32°06'54.201"N	104°18'12.995"W	0.74	
11536.00	90.000	175.000	9479.60	2232.08	-2232.23	25.68	550548.28	405498.18	32°06'53.245"N	104°18'12.898"W	0.43	
11631.00	90.200	175.700	9479.44	2326.73	-2326.91	33.39	550555.98	405403.50	32°06'52.308"N	104°18'12.809"W	0.77	
11725.00	89.000	176.000	9480.09	2420.44	-2420.66	40.19	550562.78	405309.76	32°06'51.380"N	104°18'12.730"W	1.32	
11820.00	89.000	177.000	9481.75	2515.22	-2515.47	45.99	550568.58	405214.96	32°06'50.442"N	104°18'12.663"W	1.05	
11915.00	89.300	178.500	9483.16	2610.11	-2610.38	49.72	550572.31	405120.06	32°06'49.503"N	104°18'12.620"W	1.61	
12010.00	89.400	179.800	9484.24	2705.09	-2705.36	51.12	550573.72	405025.09	32°06'48.563"N	104°18'12.604"W	1.37	
12105.00	89.500	180.500	9485.15	2800.08	-2800.36	50.88	550573.47	404930.10	32°06'47.623"N	104°18'12.607"W	0.74	
12200.00	89.500	182.000	9485.98	2895.06	-2895.33	48.80	550571.40	404835.14	32°06'46.683"N	104°18'12.632"W	1.58	
12295.00	88.000	181.200	9488.05	2990.01	-2990.27	46.15	550568.75	404740.21	32°06'45.744"N	104°18'12.663"W	1.79	
12389.00	89.400	182.600	9490.18	3083.94	-3084.19	43.04	550565.63	404646.30	32°06'44.814"N	104°18'12.699"W	2.11	
12485.00	87.800	182.100	9492.53	3179.85	-3180.07	39.10	550561.70	404550.42	32°06'43.865"N	104°18'12.745"W	1.75	
12580.00	88.600	182.700	9495.51	3274.74	-3274.94	35.12	550557.72	404455.56	32°06'42.927"N	104°18'12.792"W	1.05	
12675.00	88.500	182.500	9497.92	3369.63	-3369.81	30.82	550553.41	404360.70	32°06'41.988"N	104°18'12.842"W	0.24	
12770.00	91.600	184.300	9497.83	3464.47	-3464.63	25.18	550547.78	404265.89	32°06'41.050"N	104°18'12.908"W	3.77	
12864.00	91.100	183.700	9495.62	3558.24	-3558.37	18.63	550541.23	404172.16	32°06'40.122"N	104°18'12.985"W	0.83	
12959.00	90.100	183.200	9494.62	3653.09	-3653.20	12.91	550535.51	404077.34	32°06'39.184"N	104°18'13.051"W	1.18	
13054.00	89.500	183.100	9494.96	3747.97	-3748.05	7.69	550530.29	403982.50	32°06'38.245"N	104°18'13.112"W	0.64	
13149.00	88.900	182.500	9496.28	3842.87	-3842.93	3.05	550525.65	403887.63	32°06'37.306"N	104°18'13.167"W	0.89	
13225.00	88.300	181.600	9498.14	3918.81	-3918.86	0.33	550522.93	403811.71	32°06'36.555"N	104°18'13.198"W	1.42	
13276.00	88.300	181.600	9499.65	3969.77	-3969.81	-1.09	550521.51	403760.76	32°06'36.051"N	104°18'13.215"W	0.00	Proj. to Bit

TARGETS:

[illegible]

No. 3H PBHL	9518.00	-3980.67	-19.08	550503.52	403749.90	32°06'35.943"N	104°18'13.424"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
29.00	8992.90	Generic gyro - northseeking (Standard)	Gyro	No.3H AWB
8992.90	13276.00	NaviTrak (Standard)	MWD_WS	No.3H AWB