

30-015-36437

5215 N. O'Connor Blvd.
Suite 1500
Irving, TX 75039
972-401-3111
972-443-6486

RM

Cimarex Energy Co. of Colorado

January 16, 2009

JAN 21 2009
OCD-ARTESIA

United States Department of the Interior
Bureau of Land Management
620 East Greene Street
Carlsbad, NM 88220
Attn: Ms. Betty Hill

Re: 3160-4 Drumstick 7 Federal com 3
30-015-36437
Request for Tight Hole Status

Dear Ms. Hill,

Enclosed is a 3160-4 (no logs were run on this well) for the Drumstick 7 Federal Com 3 well in Eddy County, NM. Cimarex would like to request Tight Hole Status for as long as possible.

If you need anything else, please call me at 469-420-2715.

Sincerely,

Scott Haynes

Scott Haynes
Reg Analyst

Received C-105.
Waiting on BLM
approved copy will receive in
1 year

shaynes@cimarex.com

Acid, Fracture, Treatment, Cement Squeeze, etc. Attachment

Drumstick 7 Federal Com 3

7-16S-29E

Eddy County, NM

Depth Interval	Amount and Type of Material Used
Stage 1 10355'-10933'	Pump 26 bbls slick water. Pump 119 bbls of 15% HCL NEFE acid, pump 190 bbls slick water, SD ISIP 5260#, 404 bbls slick water. 119 bbls deep spot 15% HCL acid, 833 bbls slick water, 119 bbls 2000 x-linker pad .5 to 1 PPG 30/50# white sand in lightning 2000 gel, 238 bbls slick water, flush with 20# liner gel.
Stage 2 9499'-10355'	Pump 140 bbls slick water SD ISIP 4385#, 309 bbls slick water, 238 bbls deep spot 25% HCL acid, 714 bbls slick water, 119 bbls lightning 2000 x-linker pad, .5 to 1 PPG 30/50# white sand in lightning 2000 gel, 800 bbls slick water. Pump 5000# 30/50 white sand ramped to 1PPG in 119 bbls of lightning 2000 gel. flush with 119 bbls slick water. drop 1 3/4" ball. pump 119 bbls 15% HCL NEFE acid, 205 bbls slick water.
Stage 3 8676'-9499	Pump 168 bbls slick water SD ISIP 4342#. 190 bbls slick water, 179 bbls deep spot 15% HCL acid, 476 bbls slick water, 238 bbls deep spot 15% HCL acid. 595 bbls slick water, 119 bbls lightning 2000 x-linker pad, .5 PPG 30/50 white sand in lightning 2000 gel, pump 712 bbls slick water, 119 bbl lightning 2000 x-link pad, .5 ppg 30/50 white sand in lightning 2000 gel. pump 833 bbl slick water, 1PPG 30/50 white sand in lightning 2000 gel, flush with 119 bbls slick water drop 2" ball. pump 119 bbls 15% HCL acid, 163 bbl slick water.
Stage 4 8013'-8676'	pump 157 bbls slick water SDF ISIP 4760#, 190 bbls slick water, 178 bbls deepspot 15% HCL acid, 595 bbls slick water, 119 bbls Lightning 2000 x-linker pad, .5 to 1 ppg 30/50 white sand in lightning 2000 gel, 714 bbls slick water, 119 bbl Lightning 2000 x-linker pad, .5 ppg 30/50 white sand in lightning 2000 gel 833 slick water, 1ppg 30/50 white sand in lightning 2000 gel, flush with 119 bbl 20# liner gel drop 2 1/4" ball. pump 119 bbl 15% HCL NEFE acid, 160 bbl slick water.
Stage 5 7378'-8013'	pump 149 bbls slick water SD ISIP 5268#, 190 bbls slick water, 179 bbls deep spot 15% HCL acid, 595 bbls slick water, 238 bbl deep spot 15% HCL acid. Pump 714 bbl slick water, 119 bbl lightning 2000 x-linker pad, .5 ppg 30/50 white sand in lightning 2000 gel, 714 bbl slick water .1ppg 30/50 white sand in lightning 2000 gel, flush with 119bbl 20# liner gel, drop 2 1/2" ball. pump 119 bbl 15% HCL NEFE, 157 bbl slick water.
Stage 6 7378'-8013'	Pump 205 bbls slick water, SD ISIP 5029#, 71 bbls slick water, 119 bbls deep spot 15% acid 357 bbls slick water, 119 bbls lightning 2000 x-linker pad, .5 to 1 30/50# white sand in lightning 2000 gel, 595 bbl slick water, .1 ppg 30/50 white sand in lightning 2000 gel. flush with 238 bbl slick water.

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36437	Pool Code 97627	Pool Name Ishee Lake; Abo
Property Code	Property Name DRUMSTICK "7" FEDERAL COM	Well Number 3
GRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3668'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	7	16 S	29 E		1880	SOUTH	330	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	7	16 S	29 E		1885'	SOUTH	346'	WEST	EDDY
Dedicated Acres 144.96	Joint or Infill	Consolidation Code P	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <u>Scott Haynes</u> 01-16-09 Signature Date Scott Haynes Printed Name	
				SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief. JUNE 18, 2008 Date Surveyed <u>Gary L. Jones</u> Signature Professional Surveyor 7977 Certificate No. Basin Surveys	

OPERATOR CIMAREX ENERGY COMPANY
WELL/LEASE DRUMSTICK 7 FED. COM 3
COUNTY EDDY RIG 74

STATE OF NEW MEXICO
DEVIATION REPORT

417	0.25
768	1.75
1,042	0.25
1,539	0.50
2,045	0.50
2,632	0.75
3,361	1.25
4,033	1.00
4,293	1.00
4,833	1.00
5,394	0.75
5,824	0.75
6,415	1.25
6,620	1.25

STATE OF TEXAS

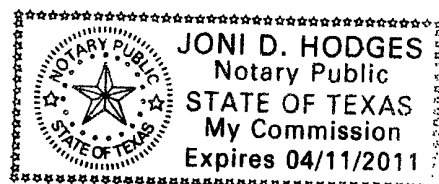
COUNTY OF MIDLAND

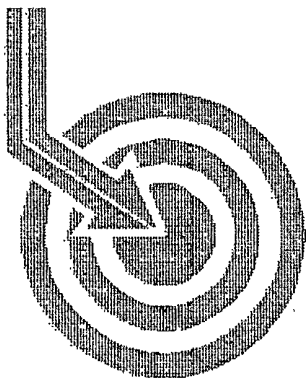
BY: Steve Moore

The foregoing instrument was acknowledged before me on
Moore on behalf of Patterson-UTL Drilling Company LLC.

OCTOBER 21, 2008, by Steve

Joni D. Hodges
Notary Public for Midland County, Texas
My Commission Expires: 4/11/11





Scientific Drilling

CIMAREX ENERGY

Field: Abo
Site: Eddy County, NM
Well: Drumstick 7 Federal Com #3H
Wellpath: VH - Job #32K0908688
Survey: 09/06/08

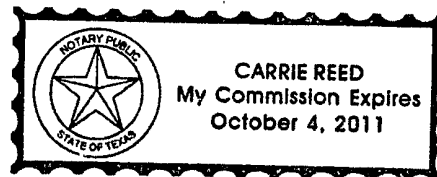
This survey is correct to the best of my knowledge
and is supported by actual field data.

Lu Harb.....Company Representative

Notorized this date 14th of October, 2008.

Carrie Reed

Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company:: CIMAREX ENERGY	Date:: 10/05/2008	Time:: 12:00:33	Page:: 1
Field:: Abo	Co-ordinate(N/E) Reference::	Site: Eddy County, NM, Grid North	
Site:: Eddy County, NM	Vertical (TVD) Reference::	SITE 0:0	
Well:: Drumstick 7 Federal Com #3H1	Section (VS) Reference::	Well (0:00N,0:00E,271.30Azi)	
Wellpath:: VHL - Job #32K0908688	Survey Calculation Method:: Minimum Curvature	Db:: Sybase:	

Survey:: 09/06/08	Start Date:: 09/06/2008
Company:: Scientific Drilling Internatio	Engineer:: Madrid w/GeoGyro
Tool:: Keeper, Keeper Gyro	Tied-to:: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClS ft	ClS deg
0:00	0:00	359:88	0:00	0:00	0:00	0:00	0:00	0:00	0:00
100:00	0:60	89:43	100:00	-0:52	0:01	0:52	0:60	0:52	89:43
200:00	0:77	77:90	199:99	-1:70	0:15	1:70	0:22	1:71	84:93
300:00	1:04	72:72	299:98	-3:21	0:56	3:23	0:28	3:28	80:13
400:00	0:89	60:61	399:96	-4:74	1:21	4:77	0:25	4:92	75:74
500:00	0:98	59:98	499:95	-6:14	2:02	6:19	0:09	6:51	71:91
600:00	1:00	65:82	599:94	-7:66	2:81	7:72	0:10	8:22	70:03
700:00	0:99	63:70	699:92	-9:21	3:55	9:30	0:04	9:95	69:11
800:00	0:73	72:04	799:91	-10:58	4:13	10:68	0:29	11:45	68:87
900:00	0:70	74:92	899:90	-11:77	4:48	11:87	0:05	12:69	69:32
1000:00	0:66	87:83	999:89	-12:93	4:66	13:04	0:16	13:85	70:32
1100:00	0:33	70:70	1099:89	-13:77	4:78	13:88	0:36	14:68	71:01
1200:00	0:32	100:15	1199:89	-14:32	4:83	14:43	0:17	15:22	71:51
1300:00	0:07	119:75	1299:89	-14:65	4:75	14:76	0:26	15:50	72:18
1400:00	0:10	36:92	1399:89	-14:75	4:79	14:86	0:11	15:62	72:16
1500:00	0:16	62:92	1499:89	-14:93	4:92	15:04	0:08	15:82	71:89
1600:00	0:20	55:52	1599:89	-15:19	5:08	15:31	0:05	16:13	71:64
1700:00	0:21	71:45	1699:89	-15:50	5:24	15:63	0:06	16:48	71:47
1800:00	0:10	78:85	1799:89	-15:76	5:31	15:89	0:11	16:75	71:51
1900:00	0:16	183:46	1899:89	-15:84	5:19	15:96	0:21	16:79	71:99
2000:00	0:08	182:03	1999:89	-15:84	4:98	15:95	0:08	16:71	72:66
2100:00	0:22	260:50	2099:89	-15:65	4:88	15:76	0:22	16:50	72:80
2200:00	0:32	262:17	2199:89	-15:18	4:81	15:29	0:10	16:03	72:54
2300:00	0:23	251:03	2299:88	-14:72	4:71	14:83	0:10	15:56	72:39
2400:00	0:28	253:87	2399:88	-14:30	4:57	14:40	0:05	15:11	72:38
2500:00	0:45	240:20	2499:88	-13:73	4:31	13:83	0:19	14:48	72:69
2600:00	0:54	240:37	2599:88	-12:99	3:88	13:08	0:09	13:64	73:46
2700:00	0:78	229:93	2699:87	-12:07	3:21	12:15	0:27	12:56	75:19
2800:00	0:63	233:95	2799:86	-11:12	2:45	11:18	0:16	11:45	77:64
2900:00	0:97	236:61	2899:85	-9:99	1:66	10:03	0:34	10:17	80:60
3000:00	0:95	233:80	2999:84	-8:64	0:70	8:65	0:05	8:68	85:34
3100:00	1:08	241:49	3099:82	-7:16	-0:23	7:16	0:19	7:16	91:88
3200:00	1:05	248:59	3199:81	-5:50	-1:02	5:48	0:14	5:57	100:54
3300:00	1:00	248:98	3299:79	-3:85	-1:67	3:81	0:05	4:16	113:63
3400:00	1:00	249:30	3399:78	-2:23	-2:29	2:18	0:01	3:16	136:41
3500:00	0:95	255:02	3499:76	-0:62	-2:81	0:56	0:11	2:87	168:71
3600:00	1:00	254:71	3599:75	1:01	-3:25	-1:08	0:05	3:43	198:38
3700:00	1:06	262:40	3699:73	2:76	-3:61	-2:84	0:15	4:59	218:21
3800:00	0:96	261:07	3799:71	4:50	-3:86	-4:58	0:10	5:99	229:91
3900:00	1:02	258:36	3899:70	6:19	-4:17	-6:28	0:08	7:54	236:44
4000:00	1:08	265:50	3999:68	7:99	-4:42	-8:10	0:14	9:22	241:35
4100:00	1:00	261:75	4099:67	9:79	-4:62	-9:90	0:10	10:92	244:97
4200:00	0:72	266:58	4199:65	11:28	-4:78	-11:39	0:29	12:35	247:21
4300:00	0:69	271:39	4299:65	12:51	-4:81	-12:62	0:07	13:50	249:14
4400:00	0:63	282:48	4399:64	13:65	-4:67	-13:76	0:14	14:53	251:23
4500:00	0:54	272:19	4499:64	14:66	-4:54	-14:76	0:14	15:45	252:92
4600:00	0:61	277:94	4599:63	15:66	-4:45	-15:76	0:09	16:38	254:25
4700:00	0:56	285:80	4699:63	16:66	-4:24	-16:76	0:09	17:29	255:81
4800:00	0:55	300:32	4799:62	17:55	-3:86	-17:64	0:14	18:06	257:65



Scientific
Drilling

Scientific Drilling International Survey Report

Company: CIMAREX ENERGY
Field: Abo
Site: Eddy County, NM
Well: Drumstick 7 Federal Com #3H
Wellpath: VHI - Job #32K0908688

Date: 10/05/2008 Time: 12:00:33 Page: 2
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical(FVD) Reference: SITE 0:0
Section(VS) Reference: Well (0:00N,0:00E,271.30Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

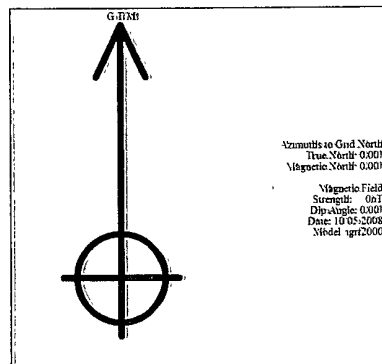
Survey

MD ft	Incl deg	Azim deg	FVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900:00	0:45	309:03	4899:62	18:28	-3:37	-18:36	0:13	18:67	259:59
5000:00	0:57	309:35	4999:61	18:98	-2:81	-19:05	0:12	19:26	261:61
5100:00	0:34	311:91	5099:61	19:60	-2:30	-19:66	0:23	19:79	263:33
5200:00	0:12	331:87	5199:61	19:88	-2:01	-19:93	0:23	20:03	264:25
5300:00	0:30	299:04	5299:61	20:16	-1:79	-20:21	0:21	20:29	264:94
5400:00	0:31	316:30	5399:61	20:58	-1:47	-20:62	0:09	20:68	265:94
5500:00	0:29	343:50	5499:61	20:85	-1:03	-20:88	0:14	20:91	267:18
5600:00	0:40	256:21	5599:60	21:27	-0:87	-21:29	0:48	21:31	267:67
5700:00	0:20	148:42	5699:60	21:51	-1:10	-21:54	0:50	21:57	267:08
5800:00	0:17	82:05	5799:60	21:27	-1:23	-21:30	0:20	21:34	266:70
5900:00	0:32	71:67	5899:60	20:86	-1:12	-20:89	0:16	20:92	266:93
6000:00	0:46	87:56	5999:60	20:20	-1:01	-20:22	0:18	20:25	267:13
6100:00	0:33	83:81	6099:60	19:51	-0:97	-19:54	0:13	19:56	267:17
6200:00	0:40	103:35	6199:60	18:88	-1:02	-18:91	0:14	18:94	266:93
6300:00	0:80	84:92	6299:59	17:85	-1:03	-17:88	0:44	17:91	266:69
6400:00	0:89	83:97	6399:58	16:38	-0:89	-16:41	0:09	16:43	266:89
6500:00	1:04	70:23	6499:56	14:77	-0:50	-14:78	0:27	14:79	268:05
6528:00	0:89	70:02	6527:56	14:33	-0:34	-14:34	0:54	14:34	268:63

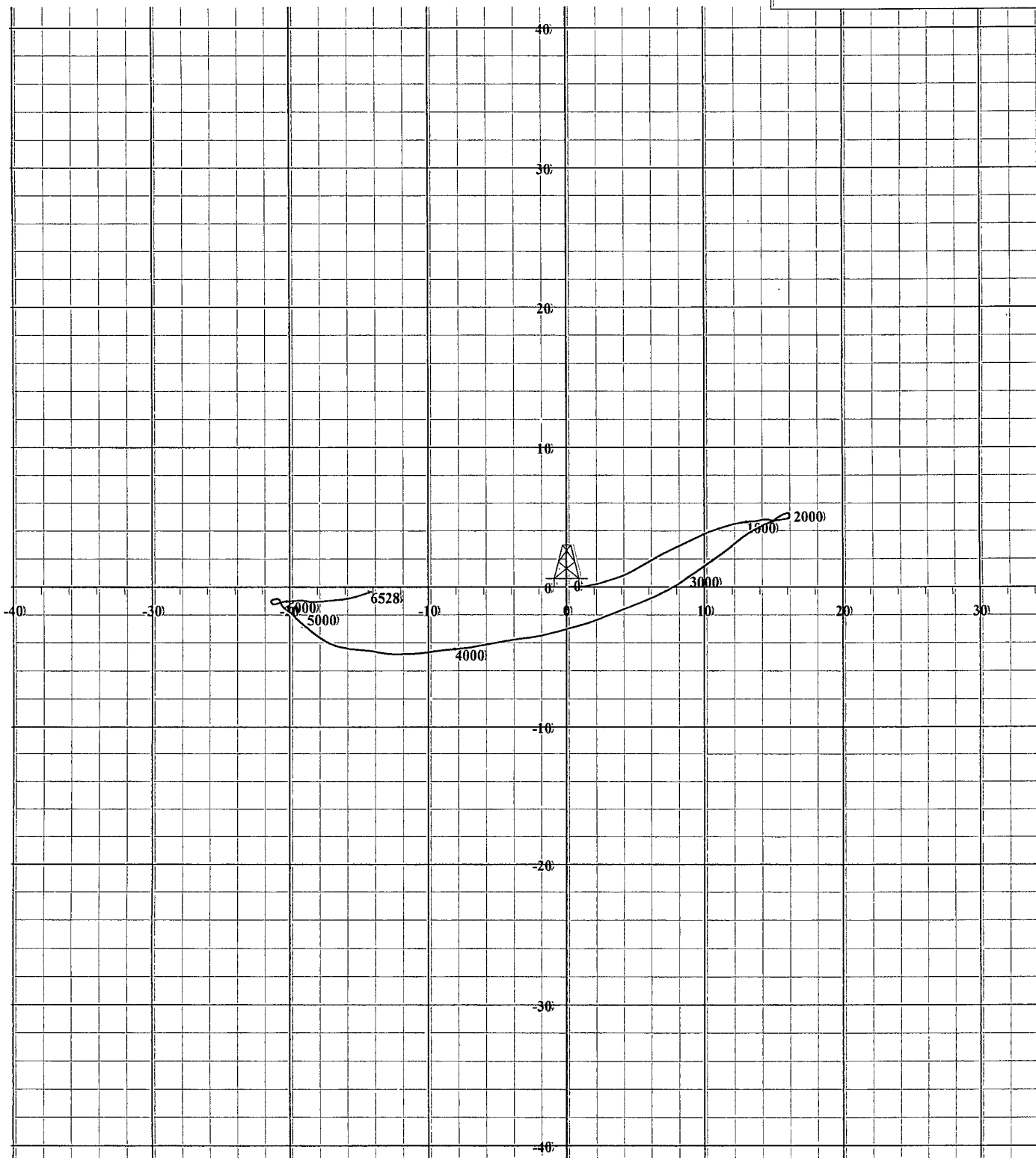


Scientific
Drilling

Field: Abo
Site: Eddy County, NM
Well: Drumstick 7 Federal Com #3H
Wellpath: VH - Job #32K0908688
Survey: 09/06/08



South(-)/North(+) [5ft/in]



West(-)/East(+) [5ft/in]



Actual Wellpath Report

No. 3H AWP

Page 1 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com 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	Victor Hernandez
Scale	0.999915	Report Generated	9/26/2008 at 9:18:40 AM
Convergence at slot	0.12° 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	610863.30	703644.50	32°56'02.852"N	104°06'24.194"W
Facility Reference Pt			610863.30	703644.50	32°56'02.852"N	104°06'24.194"W
Field Reference Pt			610863.30	703644.50	32°56'02.852"N	104°06'24.194"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 3H SHL (RT) to Facility Vertical Datum	22.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 3H SHL (RT) to Mean Sea Level	3690.00ft
Vertical Reference Pt	Rig on No. 3H SHL (RT)	Facility Vertical Datum 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	271.30°



Actual Wellpath Report

No. 3H AWP

Page 2 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
0.00	0.000	89.430	0.00	0.00	0.00	0.00	610863.30	703644.50	32°56'02.852"N	104°06'24.194"W	0.00	0.000	0.00
100.00	0.600	89.430	100.00	-0.52	0.01	0.52	610863.82	703644.51	32°56'02.852"N	104°06'24.188"W	0.52	89.430	0.60
200.00	0.770	77.900	199.99	-1.70	0.15	1.70	610865.00	703644.65	32°56'02.853"N	104°06'24.174"W	1.71	84.927	0.22
300.00	1.040	72.720	299.98	-3.21	0.56	3.23	610866.53	703645.06	32°56'02.857"N	104°06'24.156"W	3.28	80.128	0.28
400.00	0.890	60.610	399.96	-4.74	1.21	4.77	610868.07	703645.71	32°56'02.864"N	104°06'24.138"W	4.92	75.742	0.25
500.00	0.980	59.980	499.95	-6.14	2.02	6.19	610869.49	703646.52	32°56'02.872"N	104°06'24.122"W	6.51	71.910	0.09
600.00	1.000	65.820	599.94	-7.66	2.81	7.72	610871.02	703647.31	32°56'02.879"N	104°06'24.104"W	8.22	70.032	0.10
700.00	0.990	63.700	699.92	-9.21	3.55	9.30	610872.59	703648.05	32°56'02.887"N	104°06'24.085"W	9.95	69.114	0.04
800.00	0.730	72.040	799.91	-10.58	4.13	10.68	610873.97	703648.63	32°56'02.892"N	104°06'24.069"W	11.45	68.869	0.29
900.00	0.700	74.920	899.90	-11.77	4.48	11.87	610875.17	703648.98	32°56'02.896"N	104°06'24.055"W	12.69	69.319	0.05
1000.00	0.660	87.830	999.89	-12.93	4.66	13.04	610876.34	703649.16	32°56'02.898"N	104°06'24.041"W	13.85	70.322	0.16
1100.00	0.330	70.700	1099.89	-13.77	4.78	13.88	610877.18	703649.28	32°56'02.899"N	104°06'24.031"W	14.68	71.006	0.36
1200.00	0.320	100.150	1199.89	-14.32	4.83	14.43	610877.73	703649.32	32°56'02.899"N	104°06'24.025"W	15.22	71.512	0.17
1300.00	0.070	119.750	1299.89	-14.65	4.75	14.76	610878.06	703649.25	32°56'02.899"N	104°06'24.021"W	15.50	72.175	0.26
1400.00	0.100	36.920	1399.89	-14.75	4.79	14.86	610878.16	703649.28	32°56'02.899"N	104°06'24.020"W	15.62	72.156	0.11
1500.00	0.160	62.920	1499.89	-14.93	4.92	15.04	610878.34	703649.42	32°56'02.900"N	104°06'24.018"W	15.82	71.892	0.08
1600.00	0.200	55.520	1599.89	-15.19	5.08	15.31	610878.61	703649.58	32°56'02.902"N	104°06'24.014"W	16.13	71.640	0.05
1700.00	0.210	71.450	1699.89	-15.50	5.24	15.63	610878.93	703649.74	32°56'02.903"N	104°06'24.011"W	16.48	71.470	0.06
1800.00	0.100	78.850	1799.89	-15.76	5.31	15.89	610879.18	703649.81	32°56'02.904"N	104°06'24.008"W	16.75	71.508	0.11
1900.00	0.160	183.460	1899.89	-15.84	5.19	15.96	610879.26	703649.69	32°56'02.903"N	104°06'24.007"W	16.79	71.988	0.21
2000.00	0.080	182.030	1999.89	-15.83	4.98	15.95	610879.25	703649.48	32°56'02.901"N	104°06'24.007"W	16.71	72.658	0.08
2100.00	0.220	260.500	2099.89	-15.65	4.88	15.76	610879.06	703649.38	32°56'02.900"N	104°06'24.009"W	16.50	72.796	0.22
2200.00	0.320	262.170	2199.89	-15.18	4.81	15.29	610878.59	703649.31	32°56'02.899"N	104°06'24.015"W	16.03	72.541	0.10
2300.00	0.230	251.030	2299.88	-14.72	4.71	14.83	610878.13	703649.21	32°56'02.898"N	104°06'24.020"W	15.56	72.389	0.10
2400.00	0.280	253.870	2399.88	-14.30	4.57	14.40	610877.70	703649.07	32°56'02.897"N	104°06'24.025"W	15.11	72.383	0.05
2500.00	0.450	240.200	2499.88	-13.73	4.31	13.83	610877.13	703648.81	32°56'02.894"N	104°06'24.032"W	14.48	72.686	0.19
2600.00	0.540	240.370	2599.88	-12.99	3.88	13.08	610876.38	703648.38	32°56'02.890"N	104°06'24.041"W	13.64	73.464	0.09
2700.00	0.780	229.930	2699.87	-12.07	3.21	12.15	610875.45	703647.71	32°56'02.883"N	104°06'24.052"W	12.56	75.191	0.27
2800.00	0.630	233.950	2799.86	-11.12	2.45	11.18	610874.48	703646.95	32°56'02.876"N	104°06'24.063"W	11.45	77.643	0.16
2900.00	0.970	236.610	2899.85	-9.99	1.66	10.03	610873.33	703646.16	32°56'02.868"N	104°06'24.077"W	10.17	80.601	0.34



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
3000.00	0.950	233.800	2999.84	-8.64	0.70	8.65	610871.95	703645.20	32°56'02.859"N	104°06'24.093"W	8.68	85.343	0.05
3100.00	1.080	241.490	3099.82	-7.16	-0.23	7.16	610870.46	703644.27	32°56'02.849"N	104°06'24.110"W	7.16	91.876	0.19
3200.00	1.050	248.590	3199.81	-5.50	-1.02	5.48	610868.78	703643.48	32°56'02.842"N	104°06'24.130"W	5.57	100.538	0.14
3300.00	1.000	248.980	3299.79	-3.85	-1.67	3.81	610867.11	703642.83	32°56'02.835"N	104°06'24.150"W	4.16	113.627	0.05
3400.00	1.000	249.300	3399.78	-2.23	-2.29	2.18	610865.48	703642.21	32°56'02.829"N	104°06'24.169"W	3.16	136.405	0.01
3500.00	0.950	255.020	3499.76	-0.62	-2.81	0.56	610863.86	703641.69	32°56'02.824"N	104°06'24.188"W	2.87	168.711	0.11
3600.00	1.000	254.710	3599.75	1.01	-3.25	-1.08	610862.22	703641.25	32°56'02.820"N	104°06'24.207"W	3.43	198.381	0.05
3700.00	1.060	262.400	3699.73	2.76	-3.61	-2.84	610860.46	703640.89	32°56'02.816"N	104°06'24.228"W	4.59	218.214	0.15
3800.00	0.960	261.070	3799.71	4.50	-3.86	-4.58	610858.72	703640.64	32°56'02.814"N	104°06'24.248"W	5.99	229.906	0.10
3900.00	1.020	258.360	3899.70	6.19	-4.17	-6.28	610857.02	703640.33	32°56'02.811"N	104°06'24.268"W	7.54	236.436	0.08
4000.00	1.080	265.500	3999.68	7.99	-4.42	-8.10	610855.21	703640.08	32°56'02.808"N	104°06'24.289"W	9.22	241.350	0.14
4100.00	1.000	261.750	4099.67	9.79	-4.62	-9.90	610853.40	703639.88	32°56'02.806"N	104°06'24.310"W	10.92	244.970	0.10
4200.00	0.720	266.580	4199.65	11.28	-4.78	-11.39	610851.91	703639.72	32°56'02.805"N	104°06'24.328"W	12.35	247.212	0.29
4300.00	0.690	271.390	4299.65	12.51	-4.81	-12.62	610850.68	703639.69	32°56'02.805"N	104°06'24.342"W	13.50	249.143	0.07
4400.00	0.630	282.480	4399.64	13.65	-4.67	-13.76	610849.54	703639.83	32°56'02.806"N	104°06'24.356"W	14.53	251.234	0.14
4500.00	0.540	272.190	4499.64	14.66	-4.54	-14.76	610848.54	703639.96	32°56'02.807"N	104°06'24.368"W	15.45	252.917	0.14
4600.00	0.610	277.940	4599.63	15.66	-4.45	-15.76	610847.54	703640.05	32°56'02.808"N	104°06'24.379"W	16.38	254.249	0.09
4700.00	0.560	285.800	4699.63	16.66	-4.24	-16.76	610846.54	703640.26	32°56'02.810"N	104°06'24.391"W	17.29	255.806	0.09
4800.00	0.550	300.320	4799.62	17.55	-3.86	-17.64	610845.66	703640.64	32°56'02.814"N	104°06'24.401"W	18.06	257.648	0.14
4900.00	0.450	309.030	4899.62	18.28	-3.37	-18.36	610844.94	703641.13	32°56'02.819"N	104°06'24.410"W	18.67	259.589	0.13
5000.00	0.570	309.350	4999.61	18.98	-2.81	-19.05	610844.25	703641.69	32°56'02.824"N	104°06'24.418"W	19.26	261.606	0.12
5100.00	0.340	311.910	5099.61	19.60	-2.30	-19.66	610843.64	703642.20	32°56'02.830"N	104°06'24.425"W	19.79	263.333	0.23
5200.00	0.120	331.870	5199.61	19.88	-2.01	-19.93	610843.37	703642.49	32°56'02.832"N	104°06'24.428"W	20.03	264.248	0.23
5300.00	0.300	299.040	5299.61	20.16	-1.79	-20.21	610843.09	703642.71	32°56'02.835"N	104°06'24.431"W	20.29	264.944	0.21
5400.00	0.310	316.300	5399.61	20.58	-1.47	-20.62	610842.68	703643.03	32°56'02.838"N	104°06'24.436"W	20.68	265.936	0.09
5500.00	0.290	343.500	5499.61	20.85	-1.03	-20.88	610842.42	703643.47	32°56'02.842"N	104°06'24.439"W	20.91	267.184	0.14
5600.00	0.400	256.210	5599.60	21.27	-0.87	-21.29	610842.01	703643.63	32°56'02.844"N	104°06'24.444"W	21.31	267.667	0.48
5700.00	0.200	148.420	5699.60	21.51	-1.10	-21.54	610841.76	703643.40	32°56'02.841"N	104°06'24.447"W	21.57	267.078	0.50
5800.00	0.170	82.050	5799.60	21.27	-1.23	-21.30	610842.00	703643.27	32°56'02.840"N	104°06'24.444"W	21.34	266.702	0.20
5900.00	0.320	71.670	5899.60	20.86	-1.12	-20.89	610842.41	703643.38	32°56'02.841"N	104°06'24.439"W	20.92	266.938	0.16



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWP
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
6000.00	0.460	87.560	5999.60	20.20	-1.01	-20.22	610843.08	703643.49	32°56'02.842"N	104°06'24.432"W	20.25	267.128	0.18
6100.00	0.330	83.810	6099.60	19.51	-0.97	-19.54	610843.76	703643.53	32°56'02.843"N	104°06'24.423"W	19.56	267.168	0.13
6200.00	0.400	103.350	6199.60	18.88	-1.02	-18.91	610844.39	703643.48	32°56'02.842"N	104°06'24.416"W	18.94	266.925	0.14
6300.00	0.800	84.920	6299.59	17.85	-1.03	-17.88	610845.43	703643.47	32°56'02.842"N	104°06'24.404"W	17.91	266.687	0.44
6400.00	0.890	83.970	6399.58	16.38	-0.89	-16.41	610846.89	703643.61	32°56'02.843"N	104°06'24.387"W	16.43	266.891	0.09
6500.00	1.040	70.230	6499.56	14.77	-0.50	-14.78	610848.52	703644.00	32°56'02.847"N	104°06'24.368"W	14.79	268.052	0.27
6528.00	0.890	70.020	6527.56	14.33	-0.34	-14.34	610848.96	703644.16	32°56'02.849"N	104°06'24.362"W	14.34	268.632	0.54
6568.00	0.800	79.700	6567.56	13.76	-0.19	-13.77	610849.53	703644.31	32°56'02.850"N	104°06'24.356"W	13.77	269.225	0.42
6600.00	0.600	75.700	6599.55	13.38	-0.11	-13.39	610849.91	703644.39	32°56'02.851"N	104°06'24.351"W	13.39	269.551	0.64
6632.00	2.400	285.300	6631.55	13.87	-0.11	-13.87	610849.43	703644.61	32°56'02.853"N	104°06'24.357"W	13.87	270.467	9.18
6664.00	7.000	280.100	6663.43	16.45	0.63	-16.44	610846.86	703645.13	32°56'02.858"N	104°06'24.387"W	16.45	272.202	14.42
6695.00	11.900	278.100	6694.00	21.49	1.41	-21.47	610841.83	703645.91	32°56'02.866"N	104°06'24.446"W	21.51	273.769	15.84
6727.00	17.000	278.200	6724.98	29.42	2.55	-29.37	610833.93	703647.05	32°56'02.878"N	104°06'24.539"W	29.48	274.957	15.94
6759.00	22.100	278.100	6755.12	40.05	4.06	-39.97	610823.34	703648.56	32°56'02.893"N	104°06'24.663"W	40.17	275.806	15.94
6791.00	26.900	277.800	6784.23	53.23	5.90	-53.11	610810.20	703650.39	32°56'02.911"N	104°06'24.817"W	53.43	276.334	15.00
6823.00	32.100	277.700	6812.07	68.88	8.02	-68.71	610794.59	703652.52	32°56'02.933"N	104°06'25.000"W	69.18	276.656	16.25
6854.00	37.100	277.200	6837.58	86.38	10.30	-86.16	610777.14	703654.79	32°56'02.956"N	104°06'25.205"W	86.78	276.814	16.15
6886.00	42.100	277.500	6862.23	106.65	12.91	-106.39	610756.92	703657.41	32°56'02.982"N	104°06'25.442"W	107.17	276.917	15.64
6918.00	47.200	277.400	6884.99	129.00	15.82	-128.68	610734.63	703660.32	32°56'03.011"N	104°06'25.704"W	129.65	277.009	15.94
6945.00	51.900	277.600	6902.50	149.43	18.50	-149.04	610714.27	703663.00	32°56'03.038"N	104°06'25.942"W	150.19	277.077	17.42
6976.00	56.000	277.500	6920.74	174.33	21.79	-173.88	610689.43	703666.29	32°56'03.071"N	104°06'26.234"W	175.24	277.144	13.23
6994.00	58.300	277.500	6930.51	189.37	23.77	-188.88	610674.44	703668.27	32°56'03.091"N	104°06'26.410"W	190.36	277.173	12.78
7026.00	63.400	280.000	6946.09	217.06	28.03	-216.48	610646.84	703672.53	32°56'03.134"N	104°06'26.733"W	218.29	277.378	17.33
7056.00	73.200	281.000	6957.17	244.54	33.11	-243.85	610619.47	703677.61	32°56'03.185"N	104°06'27.054"W	246.09	277.733	32.81
7088.00	87.200	280.800	6962.60	275.56	39.06	-274.74	610588.58	703683.56	32°56'03.244"N	104°06'27.417"W	277.50	278.092	43.75
7120.00	90.000	280.000	6963.38	307.14	44.84	-306.20	610557.12	703689.33	32°56'03.302"N	104°06'27.786"W	309.47	278.330	9.10
7152.00	91.500	277.600	6962.96	338.86	49.73	-337.82	610525.51	703694.23	32°56'03.351"N	104°06'28.157"W	341.46	278.374	8.84
7183.00	91.300	274.600	6962.21	369.74	53.02	-368.63	610494.70	703697.52	32°56'03.384"N	104°06'28.518"W	372.43	278.185	9.70
7215.00	91.600	274.200	6961.40	401.69	55.48	-400.53	610462.81	703699.97	32°56'03.409"N	104°06'28.892"W	404.35	277.886	1.56
7247.00	91.900	271.600	6960.42	433.66	57.10	-432.47	610430.87	703701.59	32°56'03.426"N	104°06'29.267"W	436.22	277.521	18.18



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
7278.00	91.500	268.500	6959.50	464.63	57.12	-463.45	610399.89	703701.62	32°56'03.427"N	104°06'29.630"W	466.96	277.026	10.08
7310.00	91.600	267.700	6958.63	496.57	56.06	-495.42	610367.92	703700.56	32°56'03.417"N	104°06'30.005"W	498.58	276.456	2.52
7342.00	89.800	267.600	6958.24	528.50	54.75	-527.39	610335.95	703699.24	32°56'03.405"N	104°06'30.381"W	530.23	275.927	5.63
7374.00	89.500	267.400	6958.44	560.43	53.35	-559.36	610303.99	703697.85	32°56'03.392"N	104°06'30.756"W	561.90	275.449	1.13
7405.00	91.200	266.600	6958.25	591.34	51.73	-590.32	610273.04	703696.23	32°56'03.376"N	104°06'31.119"W	592.58	275.008	6.06
7437.00	92.700	266.500	6957.16	623.21	49.81	-622.24	610241.12	703694.30	32°56'03.358"N	104°06'31.494"W	624.23	274.576	4.70
7469.00	91.500	266.400	6955.99	655.07	47.83	-654.15	610209.20	703692.32	32°56'03.339"N	104°06'31.868"W	655.90	274.182	3.76
7500.00	89.900	267.000	6955.61	685.97	46.04	-685.10	610178.26	703690.54	32°56'03.322"N	104°06'32.231"W	686.65	273.845	5.51
7532.00	90.300	266.900	6955.55	717.88	44.34	-717.05	610146.31	703688.84	32°56'03.306"N	104°06'32.606"W	718.42	273.538	1.29
7564.00	88.200	267.400	6955.97	749.79	42.75	-749.01	610114.36	703687.25	32°56'03.291"N	104°06'32.981"W	750.23	273.267	6.75
7595.00	88.400	267.000	6956.89	780.70	41.24	-779.96	610083.41	703685.73	32°56'03.276"N	104°06'33.344"W	781.05	273.026	1.44
7627.00	88.100	266.500	6957.87	812.58	39.42	-811.89	610051.48	703683.92	32°56'03.259"N	104°06'33.719"W	812.85	272.780	1.82
7659.00	88.700	266.400	6958.76	844.45	37.44	-843.82	610019.55	703681.94	32°56'03.240"N	104°06'34.094"W	844.65	272.541	1.90
7690.00	90.900	266.300	6958.87	875.33	35.47	-874.75	609988.62	703679.97	32°56'03.221"N	104°06'34.457"W	875.47	272.322	7.10
7722.00	91.600	266.200	6958.17	907.20	33.38	-906.68	609956.70	703677.87	32°56'03.201"N	104°06'34.831"W	907.29	272.108	2.21
7754.00	92.400	265.900	6957.06	939.05	31.17	-938.58	609924.80	703675.67	32°56'03.180"N	104°06'35.206"W	939.10	271.902	2.67
7785.00	90.300	266.300	6956.33	969.91	29.07	-969.50	609893.88	703673.56	32°56'03.160"N	104°06'35.568"W	969.94	271.717	6.90
7817.00	90.800	266.200	6956.02	1001.78	26.97	-1001.43	609861.96	703671.47	32°56'03.140"N	104°06'35.943"W	1001.79	271.543	1.59
7848.00	91.800	265.700	6955.32	1032.64	24.78	-1032.34	609831.05	703669.28	32°56'03.119"N	104°06'36.306"W	1032.64	271.375	3.61
7880.00	90.300	266.200	6954.73	1064.49	22.52	-1064.26	609799.14	703667.02	32°56'03.097"N	104°06'36.680"W	1064.50	271.212	4.94
7912.00	90.900	266.000	6954.39	1096.36	20.35	-1096.18	609767.21	703664.85	32°56'03.076"N	104°06'37.055"W	1096.37	271.063	1.98
7944.00	91.400	265.900	6953.75	1128.21	18.09	-1128.10	609735.30	703662.59	32°56'03.055"N	104°06'37.429"W	1128.24	270.919	1.59
7975.00	89.600	266.300	6953.48	1159.08	15.98	-1159.02	609704.38	703660.48	32°56'03.034"N	104°06'37.792"W	1159.13	270.790	5.95
8007.00	90.000	266.400	6953.59	1190.96	13.94	-1190.96	609672.45	703658.44	32°56'03.015"N	104°06'38.167"W	1191.04	270.671	1.29
8039.00	90.200	268.000	6953.54	1222.88	12.38	-1222.92	609640.49	703656.88	32°56'03.000"N	104°06'38.542"W	1222.98	270.580	5.04
8070.00	90.700	267.400	6953.29	1253.82	11.14	-1253.89	609609.52	703655.63	32°56'02.989"N	104°06'38.906"W	1253.94	270.509	2.52
8102.00	90.800	269.500	6952.87	1285.77	10.27	-1285.87	609577.54	703654.77	32°56'02.981"N	104°06'39.281"W	1285.91	270.458	6.57
8134.00	91.800	269.700	6952.15	1317.75	10.05	-1317.86	609545.55	703654.55	32°56'02.979"N	104°06'39.656"W	1317.90	270.437	3.19
8166.00	92.300	270.000	6951.00	1349.72	9.96	-1349.84	609513.57	703654.46	32°56'02.979"N	104°06'40.031"W	1349.88	270.423	1.82
8197.00	90.500	271.000	6950.25	1380.71	10.23	-1380.83	609482.59	703654.73	32°56'02.982"N	104°06'40.395"W	1380.87	270.425	6.64



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
8229.00	91.500	271.100	6949.69	1412.70	10.82	-1412.82	609450.60	703655.32	32°56'02.989"N	104°06'40.770"W	1412.86	270.439	3.14
8260.00	92.400	271.300	6948.63	1443.68	11.47	-1443.80	609419.63	703655.97	32°56'02.996"N	104°06'41.134"W	1443.84	270.455	2.97
8292.00	90.600	271.700	6947.80	1475.67	12.31	-1475.77	609387.66	703656.80	32°56'03.005"N	104°06'41.509"W	1475.82	270.478	5.76
8324.00	91.300	271.800	6947.26	1507.66	13.28	-1507.75	609355.68	703657.78	32°56'03.015"N	104°06'41.884"W	1507.81	270.505	2.21
8356.00	92.000	272.000	6946.34	1539.65	14.34	-1539.72	609323.74	703658.84	32°56'03.026"N	104°06'42.259"W	1539.79	270.534	2.27
8389.00	92.700	271.300	6944.99	1572.62	15.29	-1572.68	609290.76	703659.79	32°56'03.036"N	104°06'42.646"W	1572.75	270.557	3.00
8419.00	92.700	271.000	6943.58	1602.59	15.89	-1602.64	609260.80	703660.39	32°56'03.043"N	104°06'42.997"W	1602.72	270.568	1.00
8451.00	92.500	270.400	6942.13	1634.55	16.28	-1634.61	609228.84	703660.78	32°56'03.047"N	104°06'43.372"W	1634.69	270.571	1.97
8483.00	92.300	270.400	6940.79	1666.52	16.51	-1666.58	609196.87	703661.01	32°56'03.050"N	104°06'43.747"W	1666.66	270.568	0.62
8514.00	92.600	270.800	6939.46	1697.49	16.83	-1697.55	609165.90	703661.33	32°56'03.054"N	104°06'44.111"W	1697.63	270.568	1.61
8543.00	92.400	271.200	6938.20	1726.46	17.34	-1726.51	609136.94	703661.84	32°56'03.060"N	104°06'44.451"W	1726.60	270.575	1.54
8574.00	92.900	272.600	6936.76	1757.43	18.36	-1757.46	609105.99	703662.86	32°56'03.071"N	104°06'44.814"W	1757.56	270.599	4.79
8606.00	93.200	272.400	6935.06	1789.37	19.76	-1789.39	609074.07	703664.26	32°56'03.085"N	104°06'45.188"W	1789.50	270.633	1.13
8638.00	94.000	272.600	6933.05	1821.30	21.15	-1821.29	609042.17	703665.65	32°56'03.099"N	104°06'45.563"W	1821.42	270.665	2.58
8670.00	94.100	272.100	6930.79	1853.22	22.46	-1853.19	609010.28	703666.96	32°56'03.113"N	104°06'45.937"W	1853.32	270.694	1.59
8702.00	94.400	273.300	6928.42	1885.12	23.96	-1885.06	608978.40	703668.46	32°56'03.129"N	104°06'46.311"W	1885.21	270.728	3.86
8733.00	92.300	274.400	6926.61	1916.03	26.04	-1915.94	608947.53	703670.54	32°56'03.150"N	104°06'46.673"W	1916.11	270.779	7.64
8764.00	90.500	274.700	6925.85	1946.97	28.50	-1946.83	608916.64	703673.00	32°56'03.175"N	104°06'47.035"W	1947.04	270.839	5.89
8796.00	90.600	274.400	6925.54	1978.92	31.04	-1978.73	608884.75	703675.54	32°56'03.200"N	104°06'47.409"W	1978.97	270.899	0.99
8828.00	90.600	274.700	6925.21	2010.87	33.58	-2010.62	608852.85	703678.07	32°56'03.226"N	104°06'47.784"W	2010.90	270.957	0.94
8859.00	90.800	274.400	6924.83	2041.82	36.04	-2041.52	608821.95	703680.53	32°56'03.251"N	104°06'48.146"W	2041.84	271.011	1.16
8891.00	91.700	272.800	6924.13	2073.78	38.04	-2073.45	608790.03	703682.54	32°56'03.272"N	104°06'48.521"W	2073.80	271.051	5.74
8923.00	91.700	272.400	6923.18	2105.76	39.50	-2105.41	608758.08	703683.99	32°56'03.287"N	104°06'48.895"W	2105.78	271.075	1.25
8986.00	92.000	271.100	6921.15	2168.72	41.42	-2168.34	608695.15	703685.92	32°56'03.307"N	104°06'49.634"W	2168.74	271.094	2.12
9018.00	92.600	271.000	6919.86	2200.70	42.00	-2200.31	608663.18	703686.50	32°56'03.314"N	104°06'50.009"W	2200.71	271.094	1.90
9050.00	92.800	272.200	6918.36	2232.66	42.90	-2232.26	608631.23	703687.39	32°56'03.323"N	104°06'50.384"W	2232.67	271.101	3.80
9081.00	91.900	272.100	6917.08	2263.63	44.06	-2263.21	608600.28	703688.56	32°56'03.335"N	104°06'50.747"W	2263.64	271.115	2.92
9113.00	90.400	272.700	6916.44	2295.62	45.40	-2295.18	608568.32	703689.89	32°56'03.349"N	104°06'51.122"W	2295.63	271.133	5.05
9144.00	90.700	272.700	6916.14	2326.61	46.86	-2326.14	608537.36	703691.35	32°56'03.364"N	104°06'51.485"W	2326.61	271.154	0.97
9176.00	91.600	272.400	6915.50	2358.59	48.28	-2358.10	608505.40	703692.78	32°56'03.379"N	104°06'51.860"W	2358.60	271.173	2.96



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
9208.00	92.300	272.600	6914.41	2390.57	49.68	-2390.05	608473.45	703694.17	32°56'03.393"N	104°06'52.235"W	2390.57	271.191	2.27
9240.00	90.800	272.900	6913.55	2422.54	51.21	-2422.00	608441.51	703695.71	32°56'03.409"N	104°06'52.610"W	2422.55	271.211	4.78
9271.00	91.400	272.500	6912.95	2453.53	52.67	-2452.96	608410.55	703697.17	32°56'03.424"N	104°06'52.973"W	2453.53	271.230	2.33
9303.00	89.900	271.900	6912.59	2485.52	53.90	-2484.94	608378.58	703698.40	32°56'03.437"N	104°06'53.348"W	2485.52	271.243	5.05
9335.00	89.900	272.000	6912.65	2517.52	54.99	-2516.92	608346.60	703699.48	32°56'03.449"N	104°06'53.723"W	2517.52	271.252	0.31
9367.00	90.300	271.600	6912.59	2549.52	55.99	-2548.90	608314.62	703700.49	32°56'03.459"N	104°06'54.099"W	2549.52	271.258	1.77
9399.00	90.500	271.000	6912.37	2581.52	56.72	-2580.89	608282.63	703701.22	32°56'03.467"N	104°06'54.474"W	2581.52	271.259	1.98
9430.00	89.900	271.200	6912.26	2612.52	57.32	-2611.89	608251.64	703701.81	32°56'03.473"N	104°06'54.837"W	2612.52	271.257	2.04
9462.00	90.300	270.600	6912.20	2644.51	57.82	-2643.88	608219.65	703702.31	32°56'03.479"N	104°06'55.213"W	2644.52	271.253	2.25
9494.00	90.900	269.900	6911.87	2676.51	57.96	-2675.88	608187.65	703702.45	32°56'03.481"N	104°06'55.588"W	2676.51	271.241	2.88
9525.00	89.600	269.800	6911.73	2707.50	57.88	-2706.88	608156.66	703702.37	32°56'03.481"N	104°06'55.952"W	2707.50	271.225	4.21
9557.00	89.400	269.400	6912.01	2739.48	57.65	-2738.88	608124.66	703702.15	32°56'03.479"N	104°06'56.327"W	2739.48	271.206	1.40
9589.00	89.800	269.500	6912.23	2771.46	57.35	-2770.88	608092.67	703701.84	32°56'03.477"N	104°06'56.703"W	2771.47	271.186	1.29
9620.00	90.000	269.400	6912.29	2802.45	57.05	-2801.87	608061.67	703701.54	32°56'03.475"N	104°06'57.067"W	2802.46	271.166	0.72
9651.00	90.300	268.800	6912.21	2833.42	56.56	-2832.87	608030.68	703701.06	32°56'03.471"N	104°06'57.430"W	2833.43	271.144	2.16
9683.00	91.100	268.600	6911.82	2865.39	55.84	-2864.86	607998.69	703700.33	32°56'03.464"N	104°06'57.806"W	2865.40	271.117	2.58
9714.00	90.900	269.400	6911.28	2896.36	55.29	-2895.85	607967.70	703699.79	32°56'03.459"N	104°06'58.169"W	2896.38	271.094	2.66
9745.00	91.300	269.100	6910.68	2927.33	54.89	-2926.84	607936.71	703699.38	32°56'03.456"N	104°06'58.533"W	2927.36	271.074	1.61
9777.00	90.400	270.500	6910.21	2959.32	54.78	-2958.84	607904.72	703699.27	32°56'03.455"N	104°06'58.908"W	2959.34	271.061	5.20
9809.00	90.900	269.900	6909.84	2991.31	54.89	-2990.83	607872.73	703699.38	32°56'03.457"N	104°06'59.284"W	2991.34	271.051	2.44
9841.00	91.400	269.900	6909.20	3023.29	54.83	-3022.83	607840.74	703699.33	32°56'03.457"N	104°06'59.659"W	3023.32	271.039	1.56
9872.00	90.100	270.300	6908.79	3054.28	54.89	-3053.82	607809.74	703699.38	32°56'03.458"N	104°07'00.023"W	3054.32	271.030	4.39
9904.00	90.600	270.200	6908.60	3086.28	55.03	-3085.82	607777.75	703699.52	32°56'03.461"N	104°07'00.398"W	3086.31	271.022	1.59
9936.00	91.400	270.900	6908.04	3118.27	55.33	-3117.82	607745.76	703699.83	32°56'03.464"N	104°07'00.773"W	3118.31	271.017	3.32
9967.00	90.300	270.900	6907.58	3149.26	55.82	-3148.81	607714.77	703700.32	32°56'03.470"N	104°07'01.137"W	3149.30	271.016	3.55
9999.00	90.500	270.900	6907.36	3181.26	56.32	-3180.80	607682.77	703700.82	32°56'03.475"N	104°07'01.512"W	3181.30	271.014	0.62
10031.00	91.200	270.800	6906.88	3213.26	56.80	-3212.80	607650.78	703701.29	32°56'03.481"N	104°07'01.888"W	3213.30	271.013	2.21
10061.00	89.600	270.100	6906.67	3243.25	57.03	-3242.79	607620.79	703701.53	32°56'03.484"N	104°07'02.240"W	3243.30	271.008	5.82
10093.00	90.000	270.500	6906.79	3275.25	57.20	-3274.79	607588.79	703701.70	32°56'03.486"N	104°07'02.615"W	3275.29	271.001	1.77
10125.00	90.700	270.600	6906.59	3307.24	57.51	-3306.79	607556.80	703702.00	32°56'03.490"N	104°07'02.991"W	3307.29	270.996	2.21



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
10157.00	91.200	270.900	6906.06	3339.24	57.93	-3338.78	607524.81	703702.42	32°56'03.494"N	104°07'03.366"W	3339.29	270.994	1.82
10188.00	90.500	271.100	6905.60	3370.23	58.47	-3369.77	607493.82	703702.96	32°56'03.500"N	104°07'03.730"W	3370.28	270.994	2.35
10220.00	90.900	270.700	6905.21	3402.23	58.97	-3401.77	607461.83	703703.47	32°56'03.506"N	104°07'04.105"W	3402.28	270.993	1.77
10252.00	89.900	270.900	6904.98	3434.23	59.42	-3433.76	607429.84	703703.91	32°56'03.511"N	104°07'04.480"W	3434.28	270.991	3.19
10283.00	90.300	269.900	6904.93	3465.22	59.63	-3464.76	607398.84	703704.13	32°56'03.514"N	104°07'04.844"W	3465.28	270.986	3.47
10315.00	90.800	269.000	6904.62	3497.20	59.33	-3496.76	607366.85	703703.82	32°56'03.511"N	104°07'05.219"W	3497.26	270.972	3.22
10347.00	91.300	267.900	6904.04	3529.16	58.46	-3528.74	607334.87	703702.96	32°56'03.503"N	104°07'05.595"W	3529.23	270.949	3.78
10378.00	91.900	267.300	6903.17	3560.08	57.16	-3559.70	607303.91	703701.66	32°56'03.491"N	104°07'05.958"W	3560.16	270.920	2.74
10410.00	91.000	267.200	6902.36	3591.99	55.63	-3591.65	607271.96	703700.12	32°56'03.477"N	104°07'06.333"W	3592.09	270.887	2.83
10442.00	91.500	266.500	6901.66	3623.89	53.87	-3623.60	607240.02	703698.37	32°56'03.460"N	104°07'06.708"W	3624.00	270.852	2.69
10474.00	92.100	266.400	6900.66	3655.76	51.89	-3655.52	607208.10	703696.39	32°56'03.441"N	104°07'07.082"W	3655.89	270.813	1.90
10505.00	92.600	266.500	6899.39	3686.62	49.97	-3686.44	607177.19	703694.47	32°56'03.423"N	104°07'07.445"W	3686.77	270.777	1.64
10537.00	93.000	266.500	6897.82	3718.47	48.02	-3718.34	607145.29	703692.52	32°56'03.404"N	104°07'07.819"W	3718.65	270.740	1.25
10569.00	93.600	266.000	6895.98	3750.29	45.93	-3750.22	607113.41	703690.43	32°56'03.384"N	104°07'08.194"W	3750.50	270.702	2.44
10600.00	92.500	266.000	6894.33	3781.11	43.77	-3781.10	607082.53	703688.27	32°56'03.363"N	104°07'08.556"W	3781.35	270.663	3.55
10632.00	92.400	266.200	6892.96	3812.95	41.60	-3812.99	607050.64	703686.09	32°56'03.342"N	104°07'08.930"W	3813.22	270.625	0.70
10664.00	92.200	265.600	6891.68	3844.78	39.31	-3844.89	607018.75	703683.81	32°56'03.320"N	104°07'09.304"W	3845.09	270.586	1.97
10696.00	91.900	265.200	6890.54	3876.59	36.75	-3876.76	606986.88	703681.24	32°56'03.296"N	104°07'09.678"W	3876.94	270.543	1.56
10727.00	91.200	264.000	6889.70	3907.37	33.83	-3907.61	606956.03	703678.33	32°56'03.267"N	104°07'10.040"W	3907.76	270.496	4.48
10759.00	90.700	263.000	6889.17	3939.07	30.21	-3939.40	606924.24	703674.71	32°56'03.232"N	104°07'10.414"W	3939.52	270.439	3.49
10791.00	90.100	262.000	6888.94	3970.69	26.03	-3971.13	606892.52	703670.53	32°56'03.192"N	104°07'10.786"W	3971.21	270.376	3.64
10823.00	90.300	261.900	6888.83	4002.26	21.55	-4002.81	606860.84	703666.05	32°56'03.148"N	104°07'11.158"W	4002.87	270.308	0.70
10854.00	90.500	261.300	6888.62	4032.82	17.02	-4033.48	606830.18	703661.52	32°56'03.104"N	104°07'11.518"W	4033.51	270.242	2.04
10886.00	90.400	261.200	6888.36	4064.33	12.16	-4065.10	606798.55	703656.65	32°56'03.056"N	104°07'11.889"W	4065.12	270.171	0.44
10893.00	90.400	261.200	6888.32	4071.22	11.08	-4072.02	606791.63	703655.58	32°56'03.046"N	104°07'11.970"W	4072.04	270.156	0.00
10933.00†	90.400	261.200	6888.04	4110.60	4.97	-4111.55	606752.11	703649.46	32°56'02.986"N	104°07'12.434"W	4111.55	270.069	0.00



Actual Wellpath Report

No. 3H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 3H SHL
Area	Eddy County, NM	Well	No. 3H
Field	(Drumstick) Sec. 7, T16S, R29E	Wellbore	No. 3H AWB
Facility	Drumstick 7 Fed Com No. 3H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 3H BHL		6881.80	93.91	-4125.32	606738.34	703738.40	32°56'03.866"N	104°07'12.593"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	6528.00	Generic gyro - continuous (Standard)	GYRO	No. 3H AWB
6528.00	10893.00	NaviTrak (Standard)	MWD	No. 3H AWB
10893.00	10933.00	Blind Drilling (std)	Projection to bit	No. 3H AWB



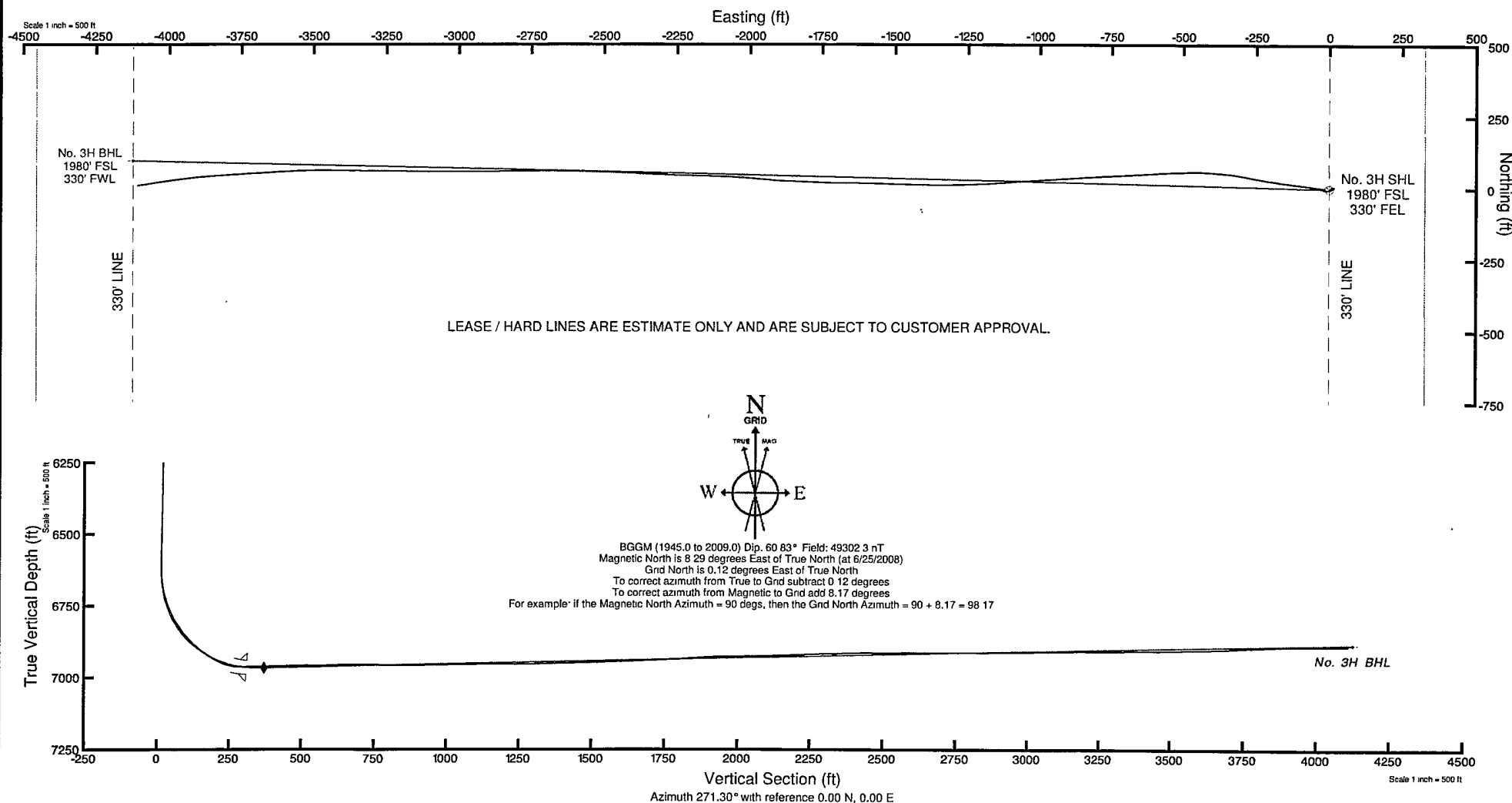
Cimarex Energy Co. of Colorado

Location: Eddy County, NM
Field: (Drumstick) Sec. 7, T16S, R29E
Facility: Drumstick 7 Fed Com No. 3H

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



Plot reference wellpath is Plan #3_GYRO	
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 Gnd north
Rig on No. 3H SHL (RT) to Mean Sea Level 3690 feet	Scale True distance
Mean Sea Level to Mud line (Facility Drumstick 7 Fed Com No. 3H) -3668 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 9/26/2008





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** Cimarex Energy **