

Submit To Appropriate District Office State Lease - 6 copies Fee Lease - 5 copies 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 Confidential Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	Form C-105 Revised June 10, 2003 WELL API NO. 30-015-36222 5. Indicate Type of Lease STATE ☒ FEE ☐ State Oil & Gas Lease No.
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WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER _____ b. Type of Completion: NEW ☒ WORK ☐ DEEPEN ☐ PLUG ☐ DIFF. WELL OVER BACK RESVR. ☐ OTHER _____ 2. Name of Operator Cimarex Energy Co. of Colorado 3. Address of Operator PO Box 140907; Irving, TX 75014-0907	7. Lease Name or Unit Agreement Name S Crow Flats 16 State Com 8. Well No. 004 9. Pool name or Wildcat Abo Wildcat			
4. Well Location SHL: Unit Letter <u>H</u> : <u>1980</u> Feet From The <u>North</u> Line and <u>330</u> Feet From The <u>East</u> Line BHL: Unit Letter <u>E</u> : <u>2300</u> Feet From The <u>North</u> Line and <u>330</u> Feet From The <u>East</u> Line Section <u>16</u> Township <u>16S</u> Range <u>28E</u> NMPM County <u>Eddy</u>				
10. Date Spudded 06-30-08	11. Date T.D. Reached 08-04-08	12. Date Compl. (Ready to Prod.) 09-01-08	13. Elevations (DF& RKB, RT, GR, etc.) 3586' GR	14. Elev. Casinghead
15. Total Depth MD 10519' TVD 6490'	16. Plug Back T.D. MD 10519' TVD 6490'	17. If Multiple Compl. How Many Zones? 	18. Intervals Drilled By 	Rotary Tools Rotary
19. Producing Interval(s), of this completion - Top, Bottom, Name Abo Wildcat 6301'-9497' MD				20. Was Directional Survey Made Yes
21. Type Electric and Other Logs Run Neutron, Laterolog,				22. Was Well Cored No

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48	345'	17-1/2"	375 sx, circ 10 bbls	
9-5/8"	40	1840'	12-1/4"	900 sx, circ 77 bbls	
7"	26	6917'	8-3/8"	1150 sx, circ 21 sx	

24. LINER RECORD				25. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET
4-1/2"	6198'	9615'			2-7/8"	6130'

26. Perforation record (interval, size, and number) PEAK Iso-Pak assembly used 6301'-9497' Open Hole 9615'-10519'	27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DEPTH INTERVAL</th> <th>AMOUNT AND KIND MATERIAL USED</th> </tr> <tr> <td>8850'-9497'</td> <td>5000 gals 15% NEFE, 161000 gals Lightning 2000, 15000# of 30/50 White sand</td> </tr> <tr> <td>8116'-8850'</td> <td>5000 gals 15% NEFE, 181000 gals Lightning 2000, 15000# of 30/50 White sand</td> </tr> <tr> <td>7470'-8116'</td> <td>5000 gals 15% NEFE, 161000 gals Lightning 2000, 15000# of 30/50 White sand</td> </tr> <tr> <td>6905'-7470'</td> <td>5000 gals 15% NEFE, 141000 gals Lightning 2000, 15000# of 30/50 White sand</td> </tr> <tr> <td>6301'-6905'</td> <td>5000 gals 15% NEFE, 135000 gals Lightning 2000, 15000# of 30/50 White sand</td> </tr> </table>	DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED	8850'-9497'	5000 gals 15% NEFE, 161000 gals Lightning 2000, 15000# of 30/50 White sand	8116'-8850'	5000 gals 15% NEFE, 181000 gals Lightning 2000, 15000# of 30/50 White sand	7470'-8116'	5000 gals 15% NEFE, 161000 gals Lightning 2000, 15000# of 30/50 White sand	6905'-7470'	5000 gals 15% NEFE, 141000 gals Lightning 2000, 15000# of 30/50 White sand	6301'-6905'	5000 gals 15% NEFE, 135000 gals Lightning 2000, 15000# of 30/50 White sand
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28. PRODUCTION

Date First Production 9-1-08		Production Method (Flowing, gas lift, pumping - Size and type pump) Pumping 2-1/2" x 2" x 24' RHBC-BNC Rod Pump			Well Status (Prod. or Shut-in) Producing	
Date of Test 09-27-08	Hours Tested 24	Choke Size open	Prod'n For Test Period 104	Oil - Bbl 400	Gas - MCF 400	Water - Bbl. 17
Flow Tubing Press. 100	Casing Pressure 50	Calculated 24 Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.) 41.82

29. Disposition of Gas (Sold, used for fuel, vented, etc.) Flared for testing, then sold starting 9-25-08	Test Witnessed By
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30. List Attachments Deviation Summary, Directional Survey, C-102

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

Signature	Printed Name Scott Haynes	Title Reg Analyst	Date 11/12/2008
E-mail Address shaynes@cimarex.com			

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn. "B"
T. Salt	T. Strawn	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt	T. Atoka	T. Pictured Cliffs	T. Penn. "D"
T. Yates 342'	T. Miss	T. Cliff House	T. Leadville
T. 7 Rivers	T. Devonian	T. Menefee	T. Madison
T. Queen 1068'	T. Silurian	T. Point Lookout	T. Elbert
T. Grayburg	T. Montoya	T. Mancos	T. McCracken
T. San Andres 1927'	T. Simpson	T. Gallup	T. Ignacio Otzte
T. Glorieta 3330'	T. McKee	B. Greenhorn	T. Granite
T. Paddock	T. Ellenburger	T. Dakota	T.
T. Blinebry	T. Gr. Wash	T. Morrison	T.
T. Tubb 4605'	T. Delaware	T. Todilto	T.
T. Drinkard	T. Bone Spring	T. Entrada	T.
T. Abo Shale 5330'	T. Morrow	T. Wingate	T.
T. Wolfcamp 6629'	T.	T. Chinle	T.
T. Penn	T.	T. Permian	T.
T. Cisco (Bough C)	T.	T. Penn "A"	T.

OIL OR GAS SANDS OR ZONES

No. 1, fromto.....
No. 2, from.....to.....
No. 3, from.....to.....
No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology

From	To	Thickness In Feet	Lithology

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 30-015-36222	Pool Code	Pool Name Abo Wildcat
Property Code 35931	Property Name CROW FLATS "16" STATE COM	Well Number 4
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3586'

Surface Location

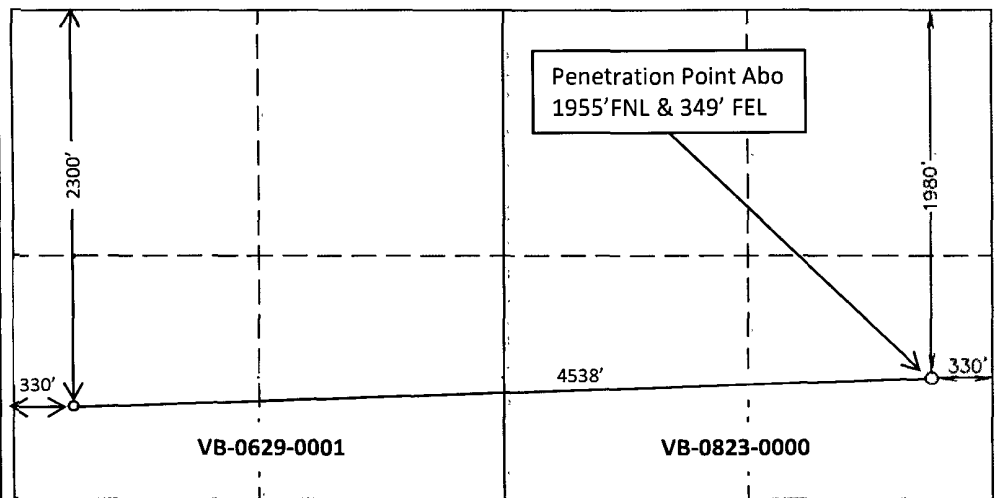
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	16 S	28 E		1980	NORTH	330	EAST	EDDY

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
E	16	16 S	28 E		2300	NORTH	330	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code P	Order No.
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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.  11-12-08 Signature Date Scott Haynes Printed Name
BOTTOM HOLE LOCATION Lat - 32°55'26.004" Long - 104°11'17.629" (NAD-83)	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. FEBRUARY 06 2008 Date Surveyed  7977 Signature of Professional Surveyor W.C. Jones Printed Name Certificate No. Gary L. Jones 7977 BASIN SURVEYS

OPERATOR
WELL/LEASE
COUNTY

CIMAREX ENERGY COMPANY
CROW FLATS 16 4H
EDDY RIG 074

STATE OF NEW MEXICO
DEVIATION REPORT

221	0.75
345	0.75
557	0.75
925	0.50
1,297	0.25
1,670	0.75
1,793	0.75
2,415	0.25
2,887	0.75
3,464	0.75
4,001	1.00
4,481	1.00
4,954	1.00
5,402	1.00
5,848	0.75
6,355	1.25

STATE OF TEXAS

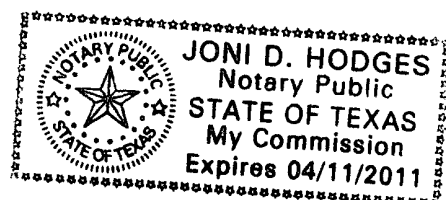
COUNTY OF MIDLAND

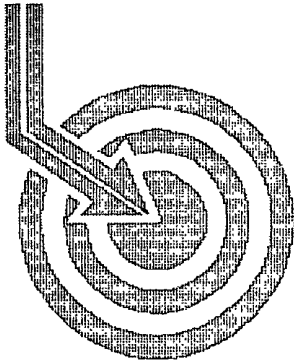
BY: Steve Moore

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

AUGUST 19, 2008, by Steve

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





Scientific Drilling

CIMAREX ENERGY

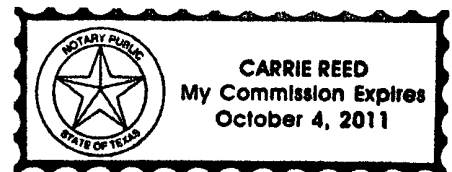
Field: Wildcat
Site: Eddy County, NM
Well: Crow Flats 16 State Com #4
Wellpath: VH - Job #32K0708556
Survey: 07/17/08

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

.....*Carrie Reed*.....Company Representative

Notorized this date 21st of August, 2008.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company: CIMAREX ENERGY	Date: 08/20/2008	Time: 16:24:38	Page: 1
Field: Wildcat	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Crow Flats 16 State Com #4	Section (VS) Reference:	Well (0.00N,0.00E,7.71Azi)	
Wellpath: VH - Job #32K0708556	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 07/17/08	Start Date: 07/17/2008
Company: Scientific Drilling Internatio	Engineer: Lanier 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	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.37	212.83	100.00	-0.29	-0.27	-0.18	0.37	0.32	212.83
200.00	0.78	265.02	199.99	-0.73	-0.60	-1.03	0.63	1.19	239.66
300.00	1.00	263.87	299.98	-1.09	-0.75	-2.57	0.22	2.68	253.67
400.00	0.61	255.03	399.97	-1.51	-0.98	-3.96	0.41	4.08	256.02
500.00	0.40	277.14	499.97	-1.72	-1.08	-4.82	0.28	4.94	257.38
600.00	0.31	288.70	599.97	-1.67	-0.95	-5.42	0.11	5.50	260.07
700.00	0.34	229.49	699.97	-1.84	-1.05	-5.90	0.32	5.99	259.87
800.00	0.45	254.98	799.96	-2.21	-1.35	-6.51	0.20	6.64	258.28
900.00	0.50	311.54	899.96	-2.12	-1.16	-7.21	0.45	7.30	260.85
1000.00	0.25	340.93	999.96	-1.68	-0.67	-7.61	0.31	7.64	265.00
1100.00	0.26	284.92	1099.96	-1.46	-0.40	-7.90	0.24	7.91	267.09
1200.00	0.49	303.78	1199.95	-1.24	-0.11	-8.47	0.26	8.48	269.29
1300.00	0.27	295.08	1299.95	-0.98	0.23	-9.04	0.23	9.05	271.47
1400.00	0.43	262.83	1399.95	-1.01	0.29	-9.63	0.25	9.63	271.70
1500.00	0.26	303.86	1499.95	-1.01	0.36	-10.19	0.29	10.20	272.05
1600.00	0.27	24.95	1599.95	-0.68	0.71	-10.28	0.34	10.30	273.92
1700.00	0.13	61.81	1699.95	-0.39	0.97	-10.08	0.18	10.13	275.51
1800.00	0.09	76.73	1799.95	-0.29	1.04	-9.90	0.05	9.96	276.02
1900.00	0.16	352.76	1899.95	-0.13	1.20	-9.84	0.18	9.92	276.95
2000.00	0.21	352.37	1999.95	0.18	1.52	-9.89	0.05	10.00	278.74
2100.00	0.28	38.21	2099.95	0.57	1.89	-9.76	0.20	9.94	280.98
2200.00	0.16	78.88	2199.95	0.82	2.11	-9.47	0.19	9.70	282.58
2300.00	0.18	350.54	2299.95	1.02	2.29	-9.36	0.24	9.64	283.78
2400.00	0.27	18.79	2399.94	1.40	2.67	-9.31	0.14	9.69	286.02
2500.00	0.27	30.69	2499.94	1.85	3.10	-9.11	0.06	9.63	288.78
2600.00	0.33	51.38	2599.94	2.27	3.48	-8.77	0.12	9.43	291.65
2700.00	0.32	94.03	2699.94	2.50	3.64	-8.26	0.24	9.03	293.78
2800.00	0.19	142.86	2799.94	2.40	3.49	-7.89	0.24	8.62	293.87
2900.00	0.17	262.90	2899.94	2.24	3.34	-7.93	0.31	8.61	292.82
3000.00	0.17	331.29	2999.94	2.33	3.45	-8.15	0.19	8.85	292.94
3100.00	0.24	269.25	3099.94	2.41	3.58	-8.43	0.22	9.16	292.99
3200.00	0.52	293.82	3199.94	2.51	3.76	-9.06	0.32	9.81	292.54
3300.00	0.64	304.95	3299.93	2.89	4.26	-9.93	0.16	10.81	293.23
3400.00	0.68	326.01	3399.92	3.59	5.07	-10.72	0.24	11.86	295.33
3500.00	0.67	325.73	3499.92	4.47	6.05	-11.38	0.01	12.89	297.99
3600.00	0.67	319.35	3599.91	5.29	6.98	-12.09	0.07	13.96	299.98
3700.00	0.78	320.49	3699.90	6.14	7.94	-12.90	0.11	15.15	301.62
3800.00	0.75	306.97	3799.89	6.92	8.86	-13.86	0.18	16.45	302.60
3900.00	0.77	310.04	3899.89	7.60	9.69	-14.90	0.05	17.77	303.04
4000.00	0.78	328.92	3999.88	8.49	10.70	-15.76	0.25	19.05	304.18
4100.00	0.83	306.18	4099.87	9.37	11.71	-16.70	0.32	20.40	305.05
4200.00	0.59	321.32	4199.86	10.07	12.54	-17.61	0.30	21.62	305.47
4300.00	0.69	334.10	4299.85	10.93	13.49	-18.19	0.17	22.65	306.56
4400.00	0.46	347.71	4399.85	11.80	14.42	-18.54	0.27	23.49	307.88
4500.00	0.50	313.31	4499.84	12.43	15.11	-18.94	0.29	24.23	308.58
4600.00	0.73	318.05	4599.84	13.10	15.89	-19.69	0.24	25.30	308.90
4700.00	0.57	345.02	4699.83	13.97	16.84	-20.24	0.34	26.33	309.76
4800.00	0.46	4.33	4799.83	14.83	17.72	-20.34	0.20	26.98	311.07



Scientific Drilling International Survey Report

Company: CIMAREX ENERGY	Date: 08/20/2008	Time: 16:24:38	Page: 2
Field: Wildcat	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Crow Flats 16 State Com #4	Section (VS) Reference:	Well (0.00N,0.00E,7.71Azi)	
Wellpath: VH - Job #32K0708556	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	0.42	344.70	4899.83	15.57	18.48	-20.40	0.16	27.53	312.16
5000.00	0.44	343.15	4999.82	16.26	19.20	-20.61	0.02	28.17	312.96
5100.00	0.29	310.56	5099.82	16.74	19.73	-20.92	0.25	28.75	313.33
5200.00	0.40	337.39	5199.82	17.18	20.21	-21.24	0.19	29.32	313.58
5300.00	0.44	39.78	5299.82	17.81	20.83	-21.13	0.44	29.67	314.59
5400.00	0.27	50.21	5399.81	18.31	21.28	-20.70	0.18	29.69	315.78
5500.00	0.21	15.29	5499.81	18.66	21.61	-20.48	0.15	29.77	316.54
5600.00	0.73	14.11	5599.81	19.48	22.40	-20.27	0.52	30.21	317.86
5700.00	0.57	34.30	5699.80	20.56	23.43	-19.84	0.28	30.70	319.75
5800.00	0.65	5.48	5799.80	21.57	24.40	-19.50	0.31	31.24	321.37
5900.00	1.50	46.89	5899.78	23.15	25.86	-18.49	1.10	31.79	324.44
6000.00	1.92	67.23	5999.74	25.01	27.41	-15.99	0.73	31.73	329.74
6100.00	2.10	67.84	6099.68	26.78	28.75	-12.75	0.18	31.45	336.08
6200.00	2.07	58.68	6199.61	28.83	30.38	-9.51	0.33	31.83	342.62
6300.00	1.86	71.04	6299.55	30.69	31.84	-6.43	0.47	32.49	348.58
6400.00	1.57	54.07	6399.51	32.36	33.17	-3.79	0.58	33.39	353.48
6500.00	1.14	61.23	6499.48	33.90	34.46	-1.81	0.46	34.50	357.00
6600.00	1.60	73.46	6599.45	35.07	35.33	0.40	0.54	35.33	0.65
6700.00	0.94	56.00	6699.43	36.19	36.19	2.42	0.76	36.27	3.83
6800.00	1.09	56.80	6799.41	37.35	37.17	3.90	0.15	37.37	5.99
6880.00	1.05	56.30	6879.40	38.34	37.99	5.14	0.05	38.34	7.71



Scientific
Drilling

Field: Wildcat
Site: Eddy County, NM
Well: Crow Flats 16 State Com #4
Wellpath: VH - Job #32K0708556
Survey: 07/17/08

G/T/M

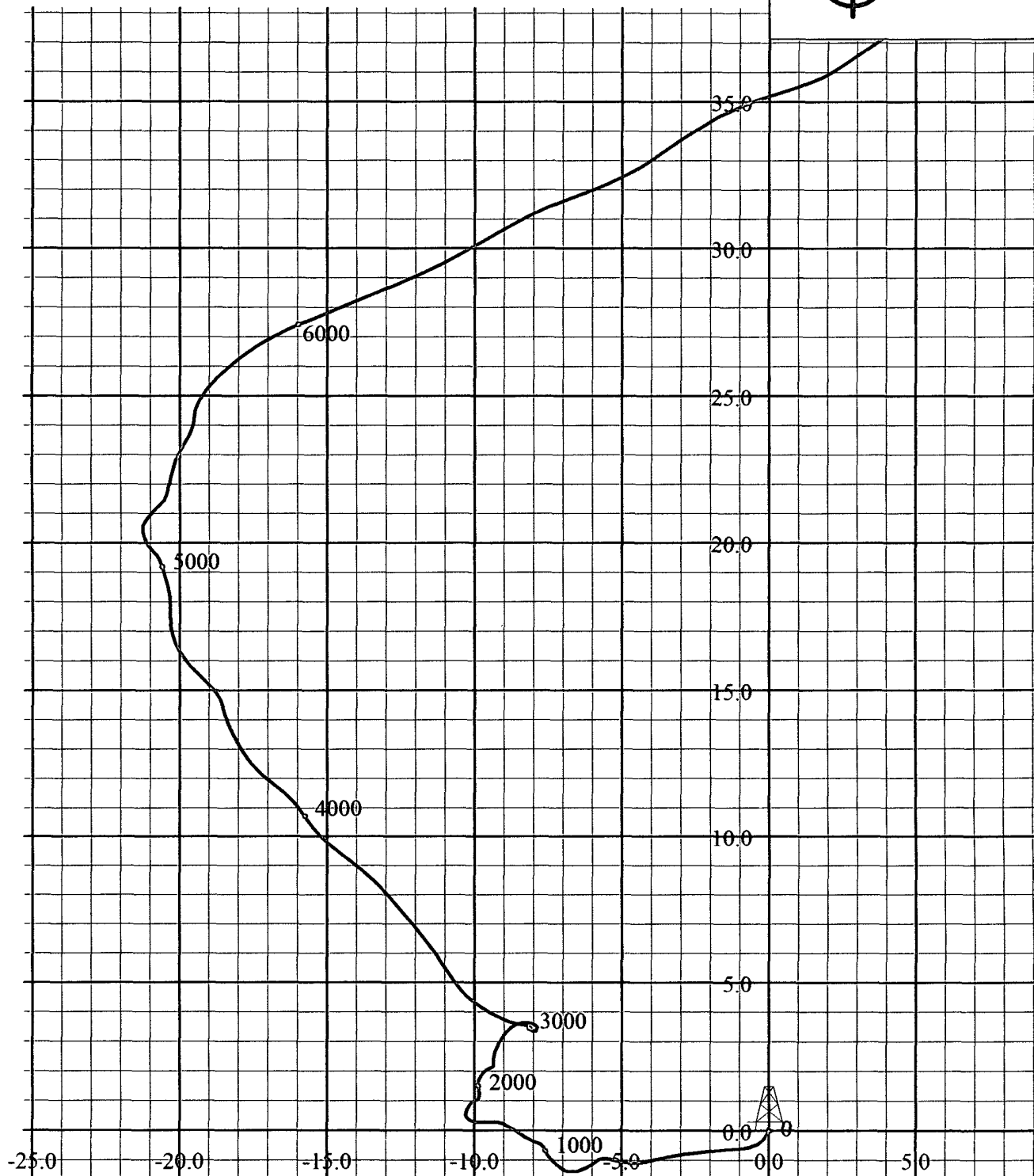


Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 08/20/2008
Model: igrf2000



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



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



Actual Wellpath Report

No. 4H AWP

Page 1 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

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	0.999912	Report Generated	8/4/2008 at 10:23:43 AM
Convergence at slot	0.09° East	Database/Source file	WA_Midland/No. 4H_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	590398.00	700231.60	32°55'29.453"N	104°10'24.391"W
Facility Reference Pt			590398.00	700231.60	32°55'29.453"N	104°10'24.391"W
Field Reference Pt			585840.74	698740.78	32°55'14.767"N	104°11'17.883"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 4H SHL (RT) to Facility Vertical Datum	22.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 4H SHL (RT) to GRN. ELEV.	3608.00ft
Vertical Reference Pt	Rig on No. 4H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 4H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	GRN. ELEV.	Section Azimuth	265.52°



Actual Wellpath Report

No. 4H AWP

Page 2 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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	212.740	0.00	0.00	0.00	0.00	590398.00	700231.60	32°55'29.453"N	104°10'24.391"W	0.00	0.000	0.00
100.00	0.370	212.740	100.00	0.20	-0.27	-0.17	590397.83	700231.33	32°55'29.450"N	104°10'24.393"W	0.32	212.740	0.37
200.00	0.780	264.930	199.99	1.07	-0.60	-1.03	590396.97	700231.00	32°55'29.447"N	104°10'24.403"W	1.19	239.573	0.63
300.00	1.000	263.780	299.98	2.62	-0.76	-2.57	590395.43	700230.84	32°55'29.445"N	104°10'24.421"W	2.68	253.583	0.22
400.00	0.610	254.940	399.97	4.02	-0.99	-3.95	590394.05	700230.61	32°55'29.443"N	104°10'24.437"W	4.08	255.932	0.41
500.00	0.400	277.050	499.97	4.88	-1.09	-4.81	590393.19	700230.51	32°55'29.442"N	104°10'24.447"W	4.94	257.285	0.28
600.00	0.310	288.610	599.97	5.48	-0.96	-5.42	590392.58	700230.64	32°55'29.444"N	104°10'24.454"W	5.50	259.980	0.11
700.00	0.340	229.400	699.97	5.96	-1.06	-5.90	590392.10	700230.54	32°55'29.442"N	104°10'24.460"W	5.99	259.776	0.32
800.00	0.450	254.890	799.96	6.59	-1.36	-6.50	590391.50	700230.24	32°55'29.440"N	104°10'24.467"W	6.64	258.194	0.20
900.00	0.500	311.450	899.96	7.28	-1.17	-7.21	590390.79	700230.43	32°55'29.441"N	104°10'24.476"W	7.30	260.760	0.45
1000.00	0.250	340.840	999.96	7.64	-0.68	-7.61	590390.39	700230.92	32°55'29.446"N	104°10'24.480"W	7.64	264.908	0.31
1100.00	0.260	284.830	1099.96	7.91	-0.41	-7.90	590390.10	700231.19	32°55'29.449"N	104°10'24.484"W	7.91	267.001	0.24
1200.00	0.490	303.690	1199.95	8.46	-0.12	-8.47	590389.53	700231.48	32°55'29.452"N	104°10'24.490"W	8.48	269.198	0.26
1300.00	0.270	294.990	1299.95	9.00	0.22	-9.04	590388.96	700231.82	32°55'29.455"N	104°10'24.497"W	9.05	271.382	0.23
1400.00	0.430	262.740	1399.95	9.58	0.27	-9.63	590388.37	700231.87	32°55'29.456"N	104°10'24.504"W	9.63	271.608	0.25
1500.00	0.260	303.770	1499.95	10.13	0.35	-10.19	590387.81	700231.95	32°55'29.457"N	104°10'24.510"W	10.20	271.961	0.29
1600.00	0.270	24.860	1599.95	10.19	0.69	-10.28	590387.72	700232.29	32°55'29.460"N	104°10'24.511"W	10.30	273.834	0.34
1700.00	0.130	61.720	1699.95	9.98	0.96	-10.08	590387.92	700232.56	32°55'29.463"N	104°10'24.509"W	10.13	275.420	0.18
1800.00	0.090	76.640	1799.95	9.79	1.03	-9.90	590388.10	700232.63	32°55'29.463"N	104°10'24.507"W	9.96	275.927	0.05
1900.00	0.160	352.670	1899.95	9.72	1.18	-9.85	590388.15	700232.78	32°55'29.465"N	104°10'24.506"W	9.92	276.862	0.18
2000.00	0.210	352.280	1999.95	9.74	1.51	-9.89	590388.11	700233.10	32°55'29.468"N	104°10'24.507"W	10.00	278.654	0.05
2100.00	0.280	38.120	2099.95	9.59	1.88	-9.76	590388.24	700233.48	32°55'29.472"N	104°10'24.505"W	9.94	280.894	0.20
2200.00	0.160	78.790	2199.95	9.28	2.10	-9.47	590388.53	700233.70	32°55'29.474"N	104°10'24.502"W	9.70	282.487	0.19
2300.00	0.180	350.450	2299.95	9.16	2.28	-9.36	590388.64	700233.88	32°55'29.476"N	104°10'24.501"W	9.64	283.686	0.24
2400.00	0.270	18.700	2399.94	9.08	2.66	-9.31	590388.69	700234.26	32°55'29.479"N	104°10'24.500"W	9.69	285.929	0.14
2500.00	0.270	30.600	2499.94	8.85	3.08	-9.12	590388.88	700234.68	32°55'29.484"N	104°10'24.498"W	9.63	288.688	0.06
2600.00	0.330	51.290	2599.94	8.48	3.47	-8.77	590389.23	700235.07	32°55'29.487"N	104°10'24.494"W	9.43	291.563	0.12
2700.00	0.320	93.940	2699.94	7.96	3.63	-8.27	590389.73	700235.23	32°55'29.489"N	104°10'24.488"W	9.03	293.686	0.24
2800.00	0.190	142.770	2799.94	7.60	3.48	-7.89	590390.11	700235.08	32°55'29.487"N	104°10'24.483"W	8.62	293.777	0.24
2900.00	0.170	262.810	2899.94	7.65	3.33	-7.94	590390.06	700234.93	32°55'29.486"N	104°10'24.484"W	8.61	292.734	0.31



Actual Wellpath Report

No. 4H AWP

Page 3 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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	0.170	331.200	2999.94	7.86	3.44	-8.16	590389.84	700235.04	32°55'29.487"N	104°10'24.487"W	8.85	292.852	0.19
3100.00	0.240	269.160	3099.94	8.13	3.56	-8.44	590389.56	700235.16	32°55'29.488"N	104°10'24.490"W	9.16	292.902	0.22
3200.00	0.520	293.730	3199.94	8.74	3.74	-9.06	590388.94	700235.34	32°55'29.490"N	104°10'24.497"W	9.81	292.447	0.32
3300.00	0.640	304.860	3299.93	9.58	4.25	-9.94	590388.06	700235.85	32°55'29.495"N	104°10'24.507"W	10.81	293.138	0.16
3400.00	0.680	325.920	3399.92	10.30	5.06	-10.73	590387.27	700236.66	32°55'29.503"N	104°10'24.517"W	11.86	295.239	0.24
3500.00	0.670	325.640	3499.92	10.88	6.03	-11.39	590386.61	700237.63	32°55'29.513"N	104°10'24.524"W	12.89	297.901	0.01
3600.00	0.670	319.260	3599.91	11.52	6.96	-12.10	590385.90	700238.56	32°55'29.522"N	104°10'24.533"W	13.96	299.892	0.07
3700.00	0.780	320.400	3699.90	12.26	7.92	-12.92	590385.08	700239.52	32°55'29.531"N	104°10'24.542"W	15.15	301.527	0.11
3800.00	0.750	306.880	3799.89	13.14	8.84	-13.87	590384.13	700240.44	32°55'29.541"N	104°10'24.554"W	16.45	302.507	0.18
3900.00	0.770	309.950	3899.89	14.11	9.67	-14.91	590383.09	700241.26	32°55'29.549"N	104°10'24.566"W	17.77	302.948	0.05
4000.00	0.780	328.830	3999.88	14.90	10.68	-15.78	590382.22	700242.28	32°55'29.559"N	104°10'24.576"W	19.05	304.088	0.25
4100.00	0.830	306.090	4099.87	15.75	11.69	-16.72	590381.28	700243.29	32°55'29.569"N	104°10'24.587"W	20.40	304.959	0.32
4200.00	0.590	321.230	4199.86	16.60	12.52	-17.63	590380.38	700244.12	32°55'29.577"N	104°10'24.597"W	21.62	305.380	0.30
4300.00	0.690	334.010	4299.85	17.11	13.46	-18.21	590379.79	700245.06	32°55'29.586"N	104°10'24.604"W	22.65	306.465	0.17
4400.00	0.460	347.620	4399.85	17.38	14.39	-18.56	590379.44	700245.99	32°55'29.596"N	104°10'24.608"W	23.49	307.789	0.27
4500.00	0.500	313.220	4499.84	17.73	15.08	-18.97	590379.04	700246.68	32°55'29.602"N	104°10'24.613"W	24.23	308.495	0.29
4600.00	0.730	317.960	4599.84	18.41	15.86	-19.71	590378.29	700247.45	32°55'29.610"N	104°10'24.622"W	25.30	308.813	0.24
4700.00	0.570	344.930	4699.83	18.89	16.81	-20.27	590377.74	700248.41	32°55'29.620"N	104°10'24.628"W	26.33	309.672	0.34
4800.00	0.460	4.240	4799.83	18.92	17.69	-20.37	590377.64	700249.29	32°55'29.628"N	104°10'24.630"W	26.98	310.977	0.20
4900.00	0.420	344.610	4899.83	18.93	18.44	-20.43	590377.57	700250.04	32°55'29.636"N	104°10'24.630"W	27.53	312.069	0.16
5000.00	0.440	343.060	4999.82	19.08	19.16	-20.64	590377.36	700250.76	32°55'29.643"N	104°10'24.633"W	28.17	312.872	0.02
5100.00	0.290	310.470	5099.82	19.35	19.70	-20.95	590377.05	700251.29	32°55'29.648"N	104°10'24.636"W	28.75	313.236	0.25
5200.00	0.400	337.300	5199.82	19.63	20.18	-21.27	590376.73	700251.78	32°55'29.653"N	104°10'24.640"W	29.32	313.490	0.19
5300.00	0.440	39.690	5299.82	19.48	20.80	-21.16	590376.84	700252.40	32°55'29.659"N	104°10'24.639"W	29.67	314.502	0.44
5400.00	0.270	50.120	5399.81	19.02	21.25	-20.74	590377.26	700252.84	32°55'29.663"N	104°10'24.634"W	29.69	315.693	0.18
5500.00	0.210	15.200	5499.81	18.76	21.57	-20.51	590377.49	700253.17	32°55'29.667"N	104°10'24.631"W	29.77	316.449	0.15
5600.00	0.730	14.020	5599.81	18.50	22.37	-20.31	590377.70	700253.97	32°55'29.675"N	104°10'24.629"W	30.21	317.766	0.52
5700.00	0.570	34.210	5699.80	17.99	23.40	-19.87	590378.13	700255.00	32°55'29.685"N	104°10'24.624"W	30.70	319.658	0.28
5800.00	0.650	5.390	5799.80	17.58	24.37	-19.54	590378.46	700255.97	32°55'29.694"N	104°10'24.620"W	31.24	321.282	0.31
5900.00	1.500	46.800	5899.78	16.46	25.83	-18.53	590379.47	700257.43	32°55'29.709"N	104°10'24.608"W	31.79	324.346	1.10



Actual Wellpath Report

No. 4H AWP

Page 4 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWP
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWP OH at 6300.00 MD

WELLPATH DATA (197 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	1.920	67.140	5999.74	13.85	27.38	-16.03	590381.97	700258.98	32°55'29.724"N	104°10'24.579"W	31.73	329.647	0.73
6100.00	2.100	67.750	6099.68	10.51	28.73	-12.80	590385.21	700260.32	32°55'29.737"N	104°10'24.540"W	31.45	335.991	0.18
6200.00	2.070	58.590	6199.61	7.16	30.36	-9.56	590388.44	700261.96	32°55'29.753"N	104°10'24.502"W	31.83	342.525	0.33
6300.00	1.860	70.950	6299.55	3.98	31.83	-6.48	590391.52	700263.43	32°55'29.768"N	104°10'24.466"W	32.49	348.489	0.47
6327.00	4.300	265.000	6326.53	4.57	31.89	-7.08	590390.92	700263.48	32°55'29.768"N	104°10'24.473"W	32.66	347.486	22.67
6341.00	8.400	265.200	6340.44	6.12	31.76	-8.62	590389.38	700263.35	32°55'29.767"N	104°10'24.491"W	32.90	344.813	29.29
6373.00	16.200	265.600	6371.68	12.93	31.22	-15.41	590382.59	700262.81	32°55'29.762"N	104°10'24.571"W	34.81	333.726	24.38
6405.00	24.000	263.500	6401.71	23.91	30.14	-26.34	590371.66	700261.73	32°55'29.751"N	104°10'24.699"W	40.03	318.841	24.48
6437.00	31.700	262.700	6429.98	38.84	28.33	-41.17	590356.83	700259.93	32°55'29.734"N	104°10'24.873"W	49.98	304.530	24.09
6466.00	39.100	261.000	6453.61	55.59	25.93	-57.78	590340.22	700257.52	32°55'29.710"N	104°10'25.068"W	63.33	294.164	25.74
6498.00	47.900	260.000	6476.80	77.50	22.28	-79.49	590318.52	700253.88	32°55'29.675"N	104°10'25.323"W	82.55	285.657	27.58
6528.00	57.000	257.800	6495.06	101.10	17.68	-102.79	590295.22	700249.28	32°55'29.629"N	104°10'25.597"W	104.30	279.758	30.88
6560.00	69.000	257.100	6509.56	129.28	11.48	-130.57	590267.44	700243.08	32°55'29.568"N	104°10'25.922"W	131.07	275.026	37.55
6589.00	81.700	256.400	6516.88	156.95	5.06	-157.82	590240.19	700236.66	32°55'29.505"N	104°10'26.242"W	157.91	271.837	43.86
6620.00	88.300	257.500	6519.58	187.47	-1.91	-187.89	590210.13	700229.69	32°55'29.437"N	104°10'26.595"W	187.90	269.419	21.58
6652.00	88.500	257.800	6520.48	219.15	-8.75	-219.14	590178.88	700222.85	32°55'29.370"N	104°10'26.962"W	219.31	267.714	1.13
6683.00	91.100	258.900	6520.59	249.91	-15.01	-249.50	590148.53	700216.59	32°55'29.308"N	104°10'27.318"W	249.95	266.558	9.11
6715.00	93.700	258.900	6519.25	281.66	-21.16	-280.87	590117.16	700210.44	32°55'29.248"N	104°10'27.686"W	281.66	265.691	8.12
6747.00	93.800	259.300	6517.15	313.39	-27.20	-312.22	590085.80	700204.40	32°55'29.188"N	104°10'28.054"W	313.41	265.021	1.29
6778.00	91.600	260.700	6515.69	344.21	-32.58	-342.72	590055.31	700199.03	32°55'29.136"N	104°10'28.412"W	344.26	264.570	8.41
6810.00	90.200	261.700	6515.19	376.12	-37.47	-374.33	590023.70	700194.13	32°55'29.088"N	104°10'28.783"W	376.20	264.284	5.38
6842.00	89.700	264.200	6515.22	408.08	-41.40	-406.09	589991.95	700190.21	32°55'29.049"N	104°10'29.156"W	408.19	264.179	7.97
6874.00	88.100	265.200	6515.83	440.07	-44.35	-437.95	589960.09	700187.25	32°55'29.021"N	104°10'29.529"W	440.19	264.217	5.90
6905.00	88.300	265.200	6516.81	471.06	-46.95	-468.82	589929.22	700184.66	32°55'28.995"N	104°10'29.892"W	471.17	264.282	0.65
6937.00	88.700	265.600	6517.64	503.04	-49.51	-500.71	589897.34	700182.09	32°55'28.971"N	104°10'30.266"W	503.15	264.353	1.77
6969.00	90.400	265.900	6517.90	535.04	-51.88	-532.62	589865.43	700179.72	32°55'28.948"N	104°10'30.640"W	535.14	264.436	5.39
7000.00	90.500	266.300	6517.65	566.04	-53.99	-563.54	589834.51	700177.61	32°55'28.927"N	104°10'31.003"W	566.12	264.527	1.33
7032.00	90.600	266.600	6517.34	598.03	-55.97	-595.48	589802.57	700175.63	32°55'28.908"N	104°10'31.378"W	598.11	264.630	0.99
7064.00	90.600	266.600	6517.01	630.03	-57.87	-627.42	589770.63	700173.74	32°55'28.890"N	104°10'31.753"W	630.09	264.730	0.00
7096.00	90.900	267.300	6516.59	662.01	-59.57	-659.38	589738.68	700172.03	32°55'28.873"N	104°10'32.127"W	662.06	264.838	2.38



Actual Wellpath Report

No. 4H AWP

Page 5 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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]
7127.00	89.300	268.400	6516.54	692.99	-60.74	-690.35	589707.71	700170.87	32°55'28.862"N	104°10'32.491"W	693.02	264.972	6.26
7159.00	89.000	268.000	6517.01	724.95	-61.74	-722.33	589675.73	700169.87	32°55'28.853"N	104°10'32.866"W	724.97	265.115	1.56
7191.00	88.800	268.400	6517.63	756.91	-62.75	-754.31	589643.76	700168.86	32°55'28.843"N	104°10'33.241"W	756.92	265.245	1.40
7222.00	89.000	268.000	6518.22	787.87	-63.72	-785.29	589612.78	700167.89	32°55'28.834"N	104°10'33.605"W	787.87	265.361	1.44
7254.00	90.200	267.700	6518.44	819.84	-64.92	-817.27	589580.81	700166.69	32°55'28.823"N	104°10'33.980"W	819.84	265.458	3.87
7286.00	90.400	267.700	6518.28	851.82	-66.20	-849.24	589548.84	700165.40	32°55'28.811"N	104°10'34.355"W	851.82	265.542	0.62
7317.00	90.400	267.700	6518.06	882.79	-67.45	-880.21	589517.87	700164.16	32°55'28.799"N	104°10'34.718"W	882.79	265.618	0.00
7349.00	90.300	267.700	6517.86	914.77	-68.73	-912.19	589485.90	700162.87	32°55'28.786"N	104°10'35.093"W	914.77	265.691	0.31
7381.00	88.800	267.000	6518.12	946.75	-70.21	-944.15	589453.93	700161.39	32°55'28.772"N	104°10'35.468"W	946.76	265.747	5.17
7412.00	88.800	267.000	6518.77	977.73	-71.83	-975.10	589422.99	700159.77	32°55'28.757"N	104°10'35.832"W	977.74	265.787	0.00
7444.00	88.700	267.000	6519.46	1009.72	-73.51	-1007.05	589391.04	700158.10	32°55'28.741"N	104°10'36.206"W	1009.73	265.825	0.31
7476.00	88.700	267.000	6520.19	1041.70	-75.18	-1039.00	589359.10	700156.42	32°55'28.724"N	104°10'36.581"W	1041.71	265.861	0.00
7507.00	89.300	267.300	6520.73	1072.68	-76.72	-1069.95	589328.14	700154.88	32°55'28.710"N	104°10'36.944"W	1072.70	265.899	2.16
7539.00	90.700	267.000	6520.73	1104.67	-78.31	-1101.91	589296.18	700153.29	32°55'28.694"N	104°10'37.319"W	1104.69	265.935	4.47
7571.00	90.700	267.700	6520.34	1136.65	-79.79	-1133.88	589264.22	700151.81	32°55'28.680"N	104°10'37.694"W	1136.68	265.975	2.19
7603.00	90.500	267.000	6520.00	1168.63	-81.27	-1165.84	589232.26	700150.33	32°55'28.666"N	104°10'38.069"W	1168.67	266.012	2.27
7634.00	90.500	267.000	6519.73	1199.62	-82.90	-1196.80	589201.31	700148.71	32°55'28.650"N	104°10'38.433"W	1199.67	266.038	0.00
7666.00	90.700	267.300	6519.40	1231.60	-84.49	-1228.76	589169.35	700147.12	32°55'28.635"N	104°10'38.808"W	1231.66	266.067	1.13
7698.00	90.800	267.300	6518.98	1263.58	-85.99	-1260.72	589137.40	700145.61	32°55'28.621"N	104°10'39.183"W	1263.65	266.098	0.31
7730.00	90.700	267.300	6518.56	1295.57	-87.50	-1292.68	589105.44	700144.11	32°55'28.606"N	104°10'39.558"W	1295.64	266.128	0.31
7762.00	90.700	267.300	6518.17	1327.55	-89.01	-1324.64	589073.48	700142.60	32°55'28.592"N	104°10'39.933"W	1327.63	266.156	0.00
7794.00	90.800	267.300	6517.75	1359.53	-90.52	-1356.60	589041.52	700141.09	32°55'28.577"N	104°10'40.308"W	1359.62	266.183	0.31
7826.00	90.700	267.700	6517.33	1391.51	-91.91	-1388.57	589009.55	700139.70	32°55'28.564"N	104°10'40.683"W	1391.61	266.213	1.29
7858.00	90.500	267.700	6517.00	1423.48	-93.20	-1420.54	588977.59	700138.41	32°55'28.552"N	104°10'41.058"W	1423.60	266.246	0.62
7890.00	88.500	267.700	6517.28	1455.46	-94.48	-1452.51	588945.62	700137.13	32°55'28.540"N	104°10'41.433"W	1455.58	266.278	6.25
7921.00	88.700	267.700	6518.03	1486.43	-95.72	-1483.48	588914.65	700135.89	32°55'28.528"N	104°10'41.796"W	1486.57	266.308	0.65
7953.00	88.300	267.700	6518.87	1518.39	-97.01	-1515.44	588882.69	700134.60	32°55'28.515"N	104°10'42.171"W	1518.54	266.337	1.25
7985.00	88.000	267.700	6519.90	1550.35	-98.29	-1547.40	588850.74	700133.32	32°55'28.503"N	104°10'42.546"W	1550.52	266.365	0.94
8016.00	89.600	266.300	6520.55	1581.33	-99.91	-1578.35	588819.79	700131.70	32°55'28.488"N	104°10'42.909"W	1581.51	266.378	6.86
8048.00	89.200	266.300	6520.89	1613.33	-101.98	-1610.28	588787.86	700129.63	32°55'28.468"N	104°10'43.284"W	1613.51	266.376	1.25



Actual Wellpath Report

No. 4H AWP

Page 6 of 9



BAKER
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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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]
8079.00	90.200	264.900	6521.05	1644.33	-104.36	-1641.19	588756.96	700127.25	32°55'28.445"N	104°10'43.646"W	1644.50	266.362	5.55
8111.00	90.000	264.900	6521.00	1676.33	-107.20	-1673.06	588725.09	700124.41	32°55'28.417"N	104°10'44.020"W	1676.49	266.334	0.62
8143.00	90.100	265.200	6520.97	1708.32	-109.96	-1704.94	588693.21	700121.65	32°55'28.390"N	104°10'44.394"W	1708.48	266.310	0.99
8175.00	91.200	264.900	6520.60	1740.32	-112.72	-1736.82	588661.34	700118.89	32°55'28.363"N	104°10'44.768"W	1740.47	266.287	3.56
8207.00	91.000	264.900	6519.99	1772.31	-115.57	-1768.69	588629.47	700116.04	32°55'28.336"N	104°10'45.142"W	1772.46	266.262	0.62
8238.00	90.700	264.900	6519.53	1803.31	-118.32	-1799.56	588598.60	700113.29	32°55'28.309"N	104°10'45.505"W	1803.45	266.238	0.97
8270.00	88.900	264.200	6519.64	1835.30	-121.36	-1831.42	588566.75	700110.25	32°55'28.279"N	104°10'45.878"W	1835.43	266.209	6.04
8302.00	88.900	264.500	6520.26	1867.29	-124.51	-1863.25	588534.91	700107.10	32°55'28.248"N	104°10'46.252"W	1867.41	266.177	0.94
8333.00	88.500	264.500	6520.96	1898.28	-127.48	-1894.10	588504.07	700104.13	32°55'28.219"N	104°10'46.614"W	1898.39	266.150	1.29
8365.00	88.400	264.500	6521.82	1930.26	-130.55	-1925.94	588472.23	700101.06	32°55'28.190"N	104°10'46.987"W	1930.36	266.122	0.31
8397.00	88.200	264.500	6522.77	1962.24	-133.61	-1957.78	588440.39	700098.00	32°55'28.160"N	104°10'47.361"W	1962.34	266.096	0.62
8429.00	88.100	264.500	6523.81	1994.22	-136.68	-1989.62	588408.56	700094.93	32°55'28.130"N	104°10'47.735"W	1994.31	266.070	0.31
8461.00	87.900	264.500	6524.92	2026.19	-139.74	-2021.45	588376.73	700091.87	32°55'28.100"N	104°10'48.108"W	2026.28	266.045	0.62
8493.00	87.700	264.500	6526.15	2058.16	-142.81	-2053.28	588344.90	700088.80	32°55'28.070"N	104°10'48.481"W	2058.24	266.021	0.62
8524.00	87.700	264.500	6527.40	2089.13	-145.78	-2084.11	588314.07	700085.84	32°55'28.041"N	104°10'48.843"W	2089.21	265.999	0.00
8556.00	87.600	264.500	6528.71	2121.10	-148.84	-2115.94	588282.25	700082.77	32°55'28.011"N	104°10'49.217"W	2121.17	265.976	0.31
8588.00	87.600	264.900	6530.05	2153.07	-151.79	-2147.77	588250.42	700079.82	32°55'27.983"N	104°10'49.590"W	2153.13	265.957	1.25
8619.00	87.600	264.500	6531.35	2184.04	-154.66	-2178.61	588219.58	700076.96	32°55'27.955"N	104°10'49.952"W	2184.10	265.939	1.29
8651.00	87.500	264.500	6532.71	2216.01	-157.72	-2210.44	588187.76	700073.89	32°55'27.925"N	104°10'50.325"W	2216.06	265.919	0.31
8683.00	87.500	264.900	6534.11	2247.97	-160.67	-2242.27	588155.93	700070.94	32°55'27.896"N	104°10'50.699"W	2248.02	265.901	1.25
8715.00	87.400	264.900	6535.53	2279.94	-163.52	-2274.11	588124.09	700068.10	32°55'27.868"N	104°10'51.073"W	2279.98	265.887	0.31
8747.00	86.600	264.500	6537.21	2311.89	-166.47	-2305.93	588092.28	700065.15	32°55'27.840"N	104°10'51.446"W	2311.93	265.871	2.79
8779.00	85.900	264.900	6539.30	2343.82	-169.42	-2337.73	588060.48	700062.20	32°55'27.811"N	104°10'51.819"W	2343.86	265.855	2.52
8811.00	85.400	264.900	6541.73	2375.72	-172.25	-2369.51	588028.71	700059.36	32°55'27.783"N	104°10'52.192"W	2375.76	265.842	1.56
8843.00	85.100	264.900	6544.38	2407.61	-175.09	-2401.27	587996.94	700056.53	32°55'27.756"N	104°10'52.564"W	2407.65	265.830	0.94
8875.00	85.300	265.200	6547.06	2439.50	-177.84	-2433.04	587965.18	700053.78	32°55'27.729"N	104°10'52.937"W	2439.53	265.819	1.12
8906.00	86.400	264.500	6549.30	2470.42	-180.61	-2463.83	587934.39	700051.00	32°55'27.702"N	104°10'53.299"W	2470.45	265.807	4.20
8938.00	86.000	264.200	6551.42	2502.34	-183.76	-2495.61	587902.62	700047.86	32°55'27.671"N	104°10'53.671"W	2502.36	265.789	1.56
8970.00	87.100	264.500	6553.35	2534.27	-186.90	-2527.39	587870.83	700044.71	32°55'27.641"N	104°10'54.044"W	2534.30	265.771	3.56
9002.00	86.900	264.500	6555.02	2566.22	-189.97	-2559.20	587839.03	700041.65	32°55'27.611"N	104°10'54.418"W	2566.24	265.755	0.62



Actual Wellpath Report

No. 4H AWP

Page 7 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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]
9034.00	88.000	264.500	6556.45	2598.19	-193.03	-2591.02	587807.21	700038.59	32°55'27.581"N	104°10'54.791"W	2598.20	265.739	3.44
9066.00	88.000	264.900	6557.56	2630.16	-195.98	-2622.87	587775.37	700035.63	32°55'27.552"N	104°10'55.164"W	2630.18	265.727	1.25
9098.00	87.500	264.900	6558.82	2662.14	-198.83	-2654.72	587743.52	700032.79	32°55'27.524"N	104°10'55.538"W	2662.15	265.717	1.56
9129.00	87.500	264.900	6560.17	2693.11	-201.58	-2685.56	587712.68	700030.04	32°55'27.498"N	104°10'55.900"W	2693.12	265.707	0.00
9161.00	88.000	264.900	6561.43	2725.08	-204.42	-2717.41	587680.83	700027.20	32°55'27.470"N	104°10'56.274"W	2725.09	265.698	1.56
9193.00	88.000	265.200	6562.54	2757.06	-207.18	-2749.27	587648.97	700024.44	32°55'27.443"N	104°10'56.648"W	2757.07	265.690	0.94
9225.00	88.000	265.200	6563.66	2789.04	-209.86	-2781.14	587617.11	700021.76	32°55'27.417"N	104°10'57.022"W	2789.05	265.685	0.00
9257.00	88.200	265.200	6564.72	2821.02	-212.53	-2813.01	587585.24	700019.09	32°55'27.391"N	104°10'57.395"W	2821.03	265.679	0.62
9289.00	88.000	265.200	6565.78	2853.00	-215.21	-2844.88	587553.37	700016.41	32°55'27.365"N	104°10'57.769"W	2853.01	265.674	0.62
9320.00	88.000	265.200	6566.86	2883.98	-217.80	-2875.76	587522.50	700013.82	32°55'27.340"N	104°10'58.132"W	2883.99	265.669	0.00
9352.00	88.000	265.200	6567.98	2915.96	-220.48	-2907.62	587490.64	700011.14	32°55'27.314"N	104°10'58.506"W	2915.97	265.664	0.00
9384.00	87.700	265.200	6569.18	2947.94	-223.15	-2939.49	587458.78	700008.47	32°55'27.288"N	104°10'58.879"W	2947.95	265.659	0.94
9416.00	87.600	265.200	6570.49	2979.91	-225.83	-2971.35	587426.92	700005.79	32°55'27.262"N	104°10'59.253"W	2979.92	265.654	0.31
9448.00	87.100	264.900	6571.97	3011.88	-228.59	-3003.20	587395.07	700003.03	32°55'27.235"N	104°10'59.627"W	3011.88	265.647	1.82
9479.00	87.300	264.900	6573.49	3042.84	-231.34	-3034.04	587364.24	700000.28	32°55'27.208"N	104°10'59.989"W	3042.84	265.640	0.65
9512.00	87.500	265.700	6574.98	3075.80	-234.04	-3066.89	587331.38	699997.58	32°55'27.182"N	104°11'00.374"W	3075.81	265.636	2.50
9544.00	88.300	264.800	6576.16	3107.78	-236.69	-3098.76	587299.52	699994.93	32°55'27.156"N	104°11'00.748"W	3107.79	265.632	3.76
9576.00	90.300	265.200	6576.55	3139.78	-239.48	-3130.63	587267.65	699992.14	32°55'27.129"N	104°11'01.122"W	3139.78	265.626	6.37
9607.00	90.700	265.200	6576.28	3170.77	-242.07	-3161.52	587236.76	699989.55	32°55'27.104"N	104°11'01.484"W	3170.78	265.622	1.29
9639.00	90.900	264.800	6575.83	3202.77	-244.86	-3193.40	587204.89	699986.76	32°55'27.077"N	104°11'01.858"W	3202.77	265.615	1.40
9671.00	91.100	264.800	6575.27	3234.76	-247.76	-3225.26	587173.03	699983.86	32°55'27.048"N	104°11'02.232"W	3234.77	265.607	0.62
9703.00	92.100	265.200	6574.38	3266.75	-250.55	-3257.13	587141.17	699981.07	32°55'27.021"N	104°11'02.606"W	3266.75	265.601	3.37
9735.00	90.800	263.800	6573.57	3298.73	-253.61	-3288.97	587109.33	699978.01	32°55'26.991"N	104°11'02.980"W	3298.73	265.591	5.97
9766.00	90.000	264.800	6573.35	3329.72	-256.69	-3319.81	587078.48	699974.93	32°55'26.961"N	104°11'03.342"W	3329.72	265.579	4.13
9798.00	89.900	264.700	6573.38	3361.72	-259.62	-3351.68	587046.62	699972.00	32°55'26.933"N	104°11'03.716"W	3361.72	265.571	0.44
9830.00	89.700	264.900	6573.49	3393.72	-262.52	-3383.55	587014.76	699969.10	32°55'26.905"N	104°11'04.089"W	3393.72	265.563	0.88
9862.00	90.500	265.600	6573.44	3425.72	-265.17	-3415.44	586982.87	699966.45	32°55'26.879"N	104°11'04.464"W	3425.72	265.561	3.32
9894.00	90.300	266.100	6573.21	3457.71	-267.49	-3447.35	586950.96	699964.14	32°55'26.856"N	104°11'04.838"W	3457.72	265.563	1.68
9926.00	91.200	266.500	6572.79	3489.71	-269.55	-3479.28	586919.03	699962.07	32°55'26.836"N	104°11'05.213"W	3489.71	265.570	3.08
9957.00	91.800	266.600	6571.98	3520.69	-271.42	-3510.22	586888.10	699960.21	32°55'26.818"N	104°11'05.576"W	3520.69	265.579	1.96



Actual Wellpath Report

No. 4H AWP

Page 8 of 9



**BAKER
HUGHES**

INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

WELLPATH DATA (197 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]
9989.00	91.600	266.600	6571.03	3552.67	-273.31	-3542.15	586856.17	699958.31	32°55'26.800"N	104°11'05.950"W	3552.67	265.588	0.62
10021.00	90.800	265.700	6570.36	3584.66	-275.46	-3574.07	586824.26	699956.16	32°55'26.779"N	104°11'06.325"W	3584.67	265.593	3.76
10052.00	90.700	264.900	6569.96	3615.66	-278.00	-3604.96	586793.37	699953.62	32°55'26.754"N	104°11'06.687"W	3615.66	265.590	2.60
10084.00	91.100	264.900	6569.45	3647.65	-280.85	-3636.83	586761.50	699950.78	32°55'26.727"N	104°11'07.061"W	3647.66	265.584	1.25
10116.00	90.700	264.000	6568.95	3679.64	-283.94	-3668.67	586729.66	699947.69	32°55'26.697"N	104°11'07.435"W	3679.65	265.574	3.08
10148.00	91.100	265.000	6568.45	3711.63	-287.01	-3700.52	586697.81	699944.62	32°55'26.667"N	104°11'07.808"W	3711.64	265.565	3.37
10179.00	91.900	265.700	6567.64	3742.62	-289.52	-3731.41	586666.93	699942.11	32°55'26.642"N	104°11'08.171"W	3742.62	265.563	3.43
10211.00	91.400	265.600	6566.72	3774.61	-291.94	-3763.30	586635.04	699939.68	32°55'26.619"N	104°11'08.545"W	3774.61	265.564	1.59
10243.00	91.600	266.400	6565.88	3806.60	-294.18	-3795.21	586603.13	699937.45	32°55'26.597"N	104°11'08.919"W	3806.60	265.568	2.58
10275.00	92.500	266.300	6564.73	3838.57	-296.21	-3827.13	586571.22	699935.41	32°55'26.577"N	104°11'09.294"W	3838.57	265.574	2.83
10307.00	92.200	265.700	6563.42	3870.55	-298.44	-3859.02	586539.32	699933.18	32°55'26.556"N	104°11'09.668"W	3870.55	265.578	2.09
10339.00	92.200	265.500	6562.19	3902.52	-300.90	-3890.91	586507.44	699930.73	32°55'26.532"N	104°11'10.042"W	3902.52	265.578	0.62
10371.00	92.500	265.500	6560.88	3934.49	-303.40	-3922.78	586475.57	699928.22	32°55'26.508"N	104°11'10.416"W	3934.50	265.577	0.94
10402.00	92.200	265.200	6559.61	3965.47	-305.92	-3953.65	586444.70	699925.71	32°55'26.483"N	104°11'10.778"W	3965.47	265.576	1.37
10434.00	92.100	264.100	6558.41	3997.44	-308.90	-3985.49	586412.87	699922.73	32°55'26.454"N	104°11'11.152"W	3997.44	265.568	3.45
10466.00	92.500	265.000	6557.13	4029.41	-311.93	-4017.32	586381.04	699919.69	32°55'26.424"N	104°11'11.525"W	4029.41	265.560	3.08
10518.00†	92.500	265.000	6554.86	4081.36	-316.46	-4069.07	586329.29	699915.17	32°55'26.380"N	104°11'12.133"W	4081.36	265.553	0.00



Actual Wellpath Report

No. 4H AWP

Page 9 of 9



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 4H SHL
Area	Eddy County, NM	Well	No. 4H
Field	(Crow) Sec 16, T16S, R28E	Wellbore	No. 4H AWB
Facility	Crow Flats 16 State Com No. 4H	Sidetrack from	No. 4 AWB OH at 6300.00 MD

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 4H BHL		6490.00	-355.17	-4537.51	585860.90	699876.46	32°55'26.004"N	104°11'17.629"W	point

WELLPATH COMPOSITION

Ref Wellbore: No. 4H AWB

Ref Wellpath: No. 4H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	6300.00	Generic gyro - continuous (Standard)	GYRO	No. 4 AWB OH
6300.00	10466.00	NaviTrak (Standard)	MWD	No. 4H AWB
10466.00	10518.00	Blind Drilling (std)	Projection to bit	No. 4H AWB



Cimarex Energy Co. of Colorado

Location Eddy County, NM
Field (Crow) Sec 16, T16S, R28E
Facility Crow Flats 16 State Com No 4H

Slot No. 4H SHL
Well No 4H
Wellbore No 4H PWB



Pbt reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No 4H SHL (RT)	Grid System NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No 4H SHL (RT)	North Reference Grid north
Rig on No 4H SHL (RT) to GRN ELEV 3608 feet	Scale True distance
GRN ELEV. to Mud line (Facility Crow Flats 16 State Com No 4H) -3586 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by Victor Hernandez on 8/4/2008

