

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF CIMAREX ENERGY CO.
FOR A NON-STANDARD OIL SPACING AND
PRORATION UNIT AND FOR COMPULSORY
POOLING, LEA COUNTY, NEW MEXICO.

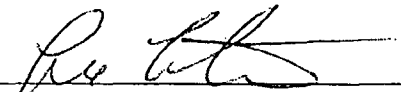
Case No. _____

AFFIDAVIT OF LEE CATALANO

COUNTY OF MIDLAND)
) ss.
STATE OF TEXAS)

Lee Catalano, being duly sworn upon his oath, deposes and states:

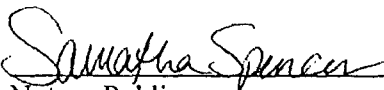
1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am a geologist for Cimarex Energy Co. ("Cimarex").
3. Exhibit A is a structure map on top of the Bone Spring formation. The formation dips to the south. Exhibit A also contains production data from existing, vertical Bone Spring wells.
4. Exhibit B is a cross section which shows the productive interval and stratigraphic target for horizontal Bone Spring wells in the area.
5. Attached as Exhibit C is the horizontal drilling plan for the proposed well. A horizontal wellbore will test a greater reservoir length, increasing the chances for an economic completion.
6. All four quarter-quarter sections in the well unit are prospective in the Bone Spring, and Cimarex anticipates producing reserves from each quarter-quarter section.



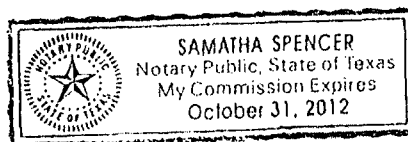
Lee Catalano

SUBSCRIBED AND SWORN TO before me this 7th day of June, 2010 by Lee Catalano.

My Commission Expires: October 31, 2012



Notary Public



Oil Conservation Division
Case No. _____
Exhibit No. 2

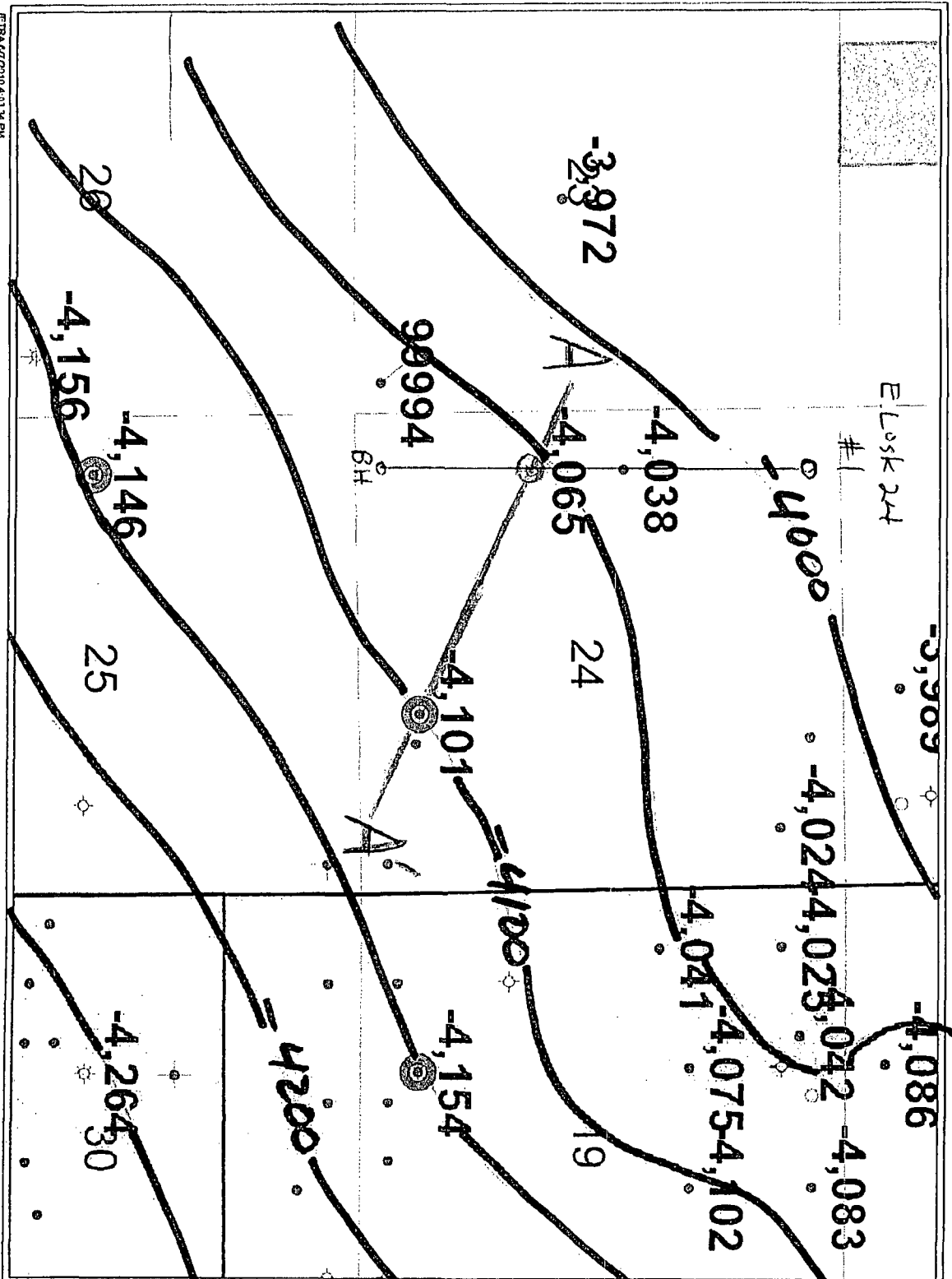


Exhibit A

Cimarex

East Lusk 24 Lease

Top Bone Spring

Structure Map

LeaCo., NIM



POSTED WELL DATA
 FMTOPS - X MKRLGCI(SS) (FEET)
 FMTOPS - BSGUGDSJ (SS)
 WELL_DATA_(REC)

ATTRIBUTE MAP
 Zone: WELL - BONESPRINGS, OIS PRE
 Zone: WELL - BONESPRINGS, OIS PR

- WELL SYMBOLS
- Abandoned GAS Well
 - Abandoned Oil Well
 - Dry Hole
 - Gas Well
 - New Symbol
 - Oil Well

REMARKS

CI 50'

By: LEC

June 7, 2010

West

ELEV. KB: 3.626
304-2



SAMSON RESOURCES COMPANY
COMP. DATE: 1/1/1981
WEST TONTO FEDRL CM

1195 RIZE S24
710 FSL 1980 FEL
BONE SPRINGS CO. 3.666 REL
BONE SPRINGS W. 2.780 BBL

A

ELEV. KB: 3.816
304-2



NEARBY PRODUCING COMPANY
COMP. DATE: 1/1/1981
DIAMONDBACK 24 FEDERAL CON

1195 RIZE S24
710 FSL 1980 FEL
BONE SPRINGS CO. 3.666 REL
BONE SPRINGS W. 2.780 BBL

East
A'

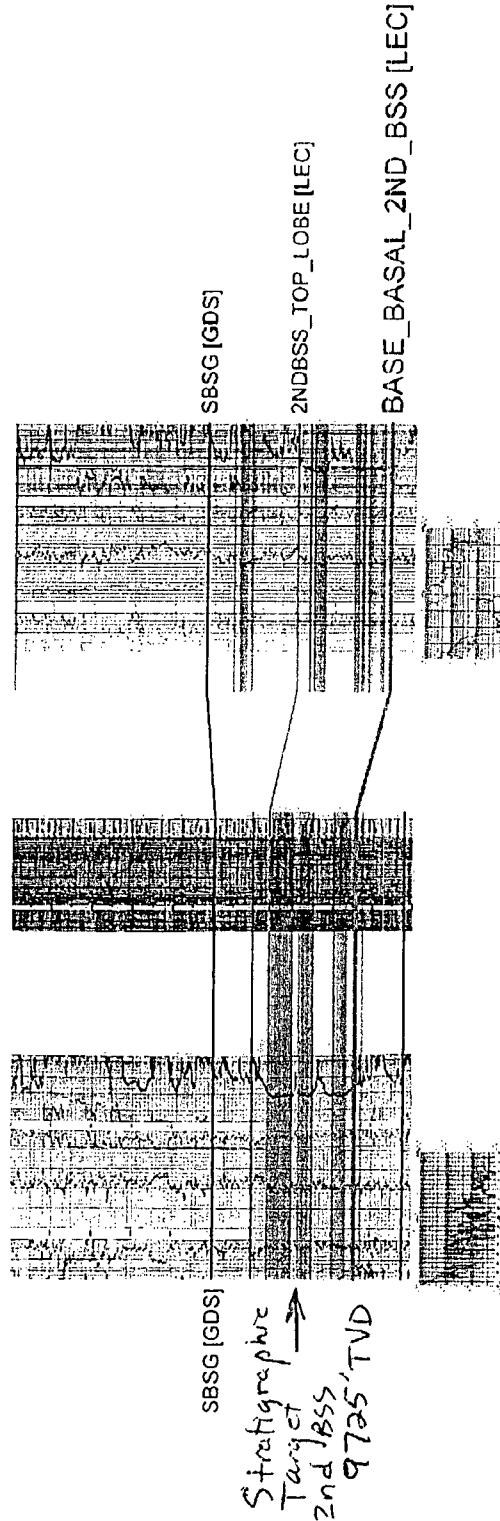


Exhibit B

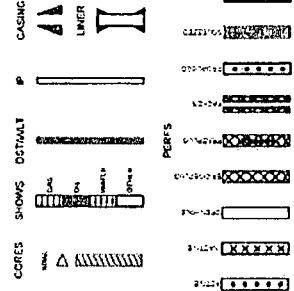
CIMAREX ENERGY

E. Lusk 24 Lease

2nd Bone Spring SS

Struc. X-section

LeaCo., NM



By: Lee Catalano
June 7, 2010 4:05 PM

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 15, 2009

Submit one copy to appropriate
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name EAST LUSK "24" FEDERAL COM	Well Number 1
OGRID No.	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3614'

Surface Location

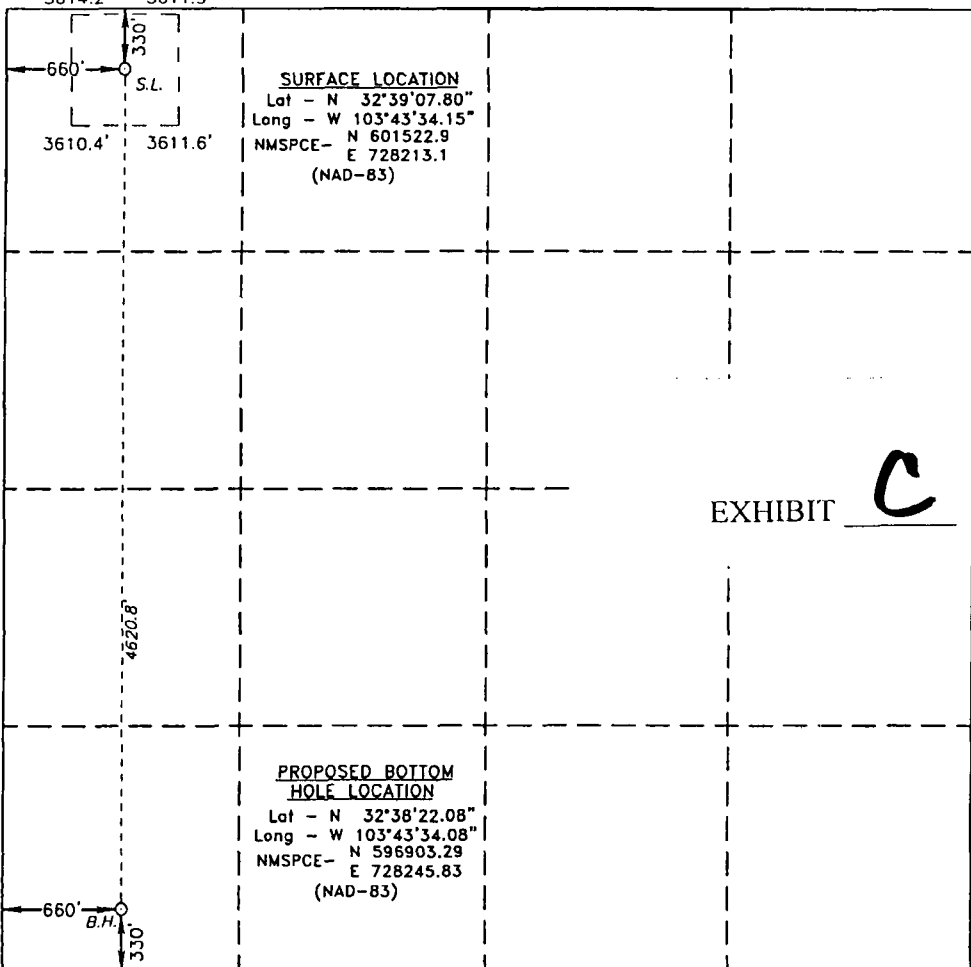
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	19 S	32 E		330	NORTH	660	WEST	LEA

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
M	24	19 S	32 E		330	SOUTH	660	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	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 or has a right to drill this well at this 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. Signature _____ Date _____ Name _____ WELLBORE CERTIFICATION certify that the well location shown at was plotted from field notes of _____ surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Surveyed _____ Signature & Seal of Professional Surveyor _____ Certificate No. Gary L. Jones 7977 BASIN SURVEYS
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Cimarex Energy Co.

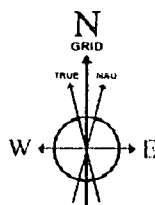
Location: Lea County, NM
Field: (East 24) Sec 24, T19S, R32E
Facility: East Lusk 24 Fed Com No. 1H

Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H PWB



Well Profile Data

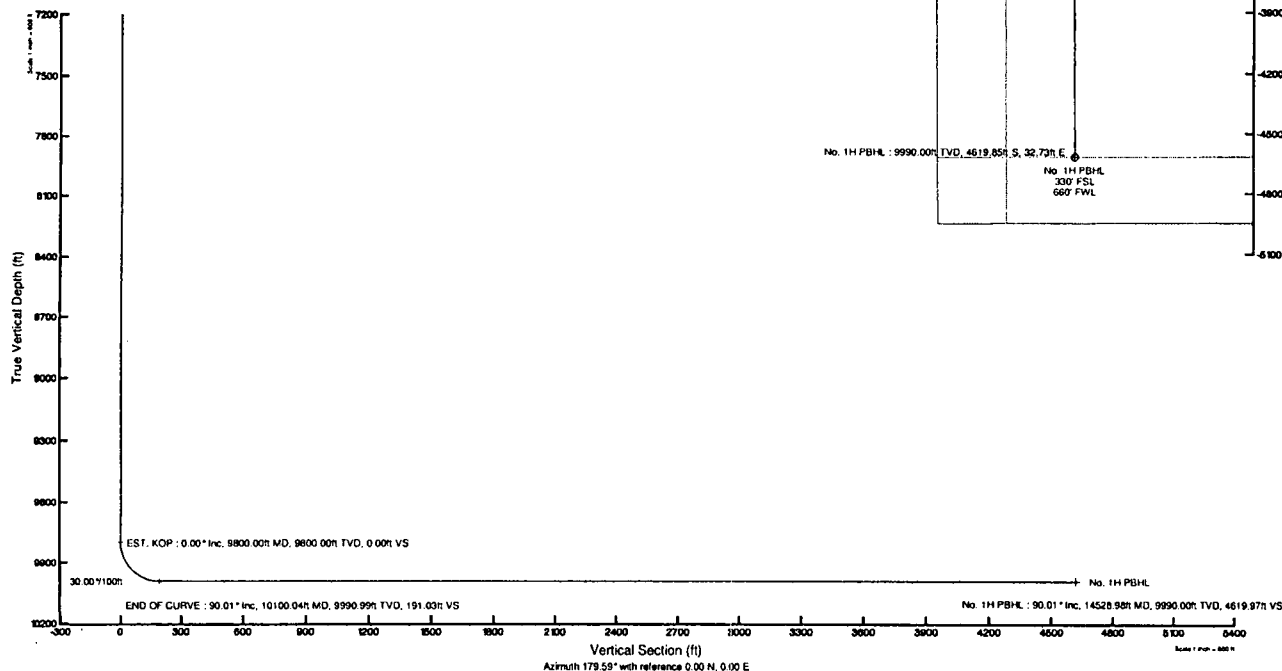
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	179.594	0.00	0.00	0.00	0.00	0.00
EST. KOP	9800.00	0.000	179.594	9800.00	0.00	0.00	0.00	0.00
END OF CURVE	10100.04	90.013	179.594	9990.99	-191.02	1.35	30.00	191.03
No. 1H PBHL	14528.98	90.013	179.594	9990.00	-4619.85	32.73	0.00	4619.97



BGGM (1945.0 to 2011.0) Dip: 60.60° Field: 49026.8 nT
Magnetic North is 7.85 degrees East of True North (at 6/1/2010)
Grid North is 0.33 degrees East of True North
To correct azimuth from True to Grid subtract 0.33 degrees
To correct azimuth from Magnetic to Grid add 7.53 degrees

For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.53 = 97.53

Plot reference well path is Prelim.	
True vertical depths are referenced to Rig on No. 1H SHL (GL)	Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H SHL (GL)	North Reference: Grid north
Rig on No. 1H SHL (GL) to Mean Sea Level: 3614 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: East Lusk 24 Fed Com No. 1H): 3614 feet	Depths are in feet
Coordinates are in feet referenced to SL	Created by Victor Hernandez on 6/1/2010





Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(East 24) Sec 24, T19S, R32E	Wellbore	No. 1H PWB
Facility	East Lusk 24 Fed Com No. 1H		

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	0.999949	Report Generated	6/1/2010 at 2:27:20 PM
Convergence at slot	0.33° East	Database/Source file	WA_Midland/No. 1H_PWB.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	728213.10	601522.90	32°39'07.795"N	103°43'34.152"W
Facility Reference Pt			728213.10	601522.90	32°39'07.795"N	103°43'34.152"W
Field Reference Pt			728213.10	601522.90	32°39'07.795"N	103°43'34.152"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1H SHL (GL) to GL	0.00ft
Horizontal Reference Pt	SL	Rig on No. 1H SHL (GL) to Mean Sea Level	3614.00ft
Vertical Reference Pt	Rig on No. 1H SHL (GL)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (GL)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.59°



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(East 24) Sec 24, T19S, R32E	Wellbore	No. 1H PWB
Facility	East Lusk 24 Fed Com No. 1H		

WELLPATH DATA (51 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	DLS [°/100ft]	Comments
0.00	0.000	179.594	0.00	0.00	0.00	0.00	728213.10	601522.90	32°39'07.795"N	103°43'34.152"W	0.00	Tie On
9800.00	0.000	179.594	9800.00	0.00	0.00	0.00	728213.10	601522.90	32°39'07.795"N	103°43'34.152"W	0.00	EST. KOP
9900.00†	30.000	179.594	9895.49	25.59	-25.59	0.18	728213.28	601497.31	32°39'07.541"N	103°43'34.152"W	30.00	
10000.00†	60.000	179.594	9965.40	95.49	-95.49	0.68	728213.78	601427.41	32°39'06.850"N	103°43'34.150"W	30.00	
10100.00†	90.000	179.594	9990.99	190.99	-190.98	1.35	728214.45	601331.91	32°39'05.905"N	103°43'34.149"W	30.00	
10100.04	90.013	179.594	9990.99	191.03	-191.02	1.35	728214.45	601331.89	32°39'05.904"N	103°43'34.149"W	30.00	END OF CURVE
10200.00†	90.013	179.594	9990.96	290.99	-290.98	2.06	728215.16	601231.94	32°39'04.915"N	103°43'34.147"W	0.00	
10300.00†	90.013	179.594	9990.94	390.99	-390.98	2.77	728215.87	601131.94	32°39'03.926"N	103°43'34.146"W	0.00	
10400.00†	90.013	179.594	9990.92	490.99	-490.97	3.48	728216.58	601031.95	32°39'02.937"N	103°43'34.144"W	0.00	
10500.00†	90.013	179.594	9990.90	590.99	-590.97	4.19	728217.29	600931.96	32°39'01.947"N	103°43'34.143"W	0.00	
10600.00†	90.013	179.594	9990.87	690.99	-690.97	4.90	728218.00	600831.97	32°39'00.958"N	103°43'34.141"W	0.00	
10700.00†	90.013	179.594	9990.85	790.99	-790.97	5.60	728218.70	600731.98	32°38'59.968"N	103°43'34.139"W	0.00	
10800.00†	90.013	179.594	9990.83	890.99	-890.96	6.31	728219.41	600631.98	32°38'58.979"N	103°43'34.138"W	0.00	
10900.00†	90.013	179.594	9990.81	990.99	-990.96	7.02	728220.12	600531.99	32°38'57.989"N	103°43'34.136"W	0.00	
11000.00†	90.013	179.594	9990.79	1090.99	-1090.96	7.73	728220.83	600432.00	32°38'57.000"N	103°43'34.135"W	0.00	
11100.00†	90.013	179.594	9990.76	1190.99	-1190.96	8.44	728221.54	600332.01	32°38'56.010"N	103°43'34.133"W	0.00	
11200.00†	90.013	179.594	9990.74	1290.99	-1290.95	9.15	728222.25	600232.01	32°38'55.021"N	103°43'34.131"W	0.00	
11300.00†	90.013	179.594	9990.72	1390.99	-1390.95	9.85	728222.95	600132.02	32°38'54.032"N	103°43'34.130"W	0.00	
11400.00†	90.013	179.594	9990.70	1490.99	-1490.95	10.56	728223.66	600032.03	32°38'53.042"N	103°43'34.128"W	0.00	
11500.00†	90.013	179.594	9990.67	1590.99	-1590.95	11.27	728224.37	599932.04	32°38'52.053"N	103°43'34.127"W	0.00	
11600.00†	90.013	179.594	9990.65	1690.99	-1690.94	11.98	728225.08	599832.05	32°38'51.063"N	103°43'34.125"W	0.00	
11700.00†	90.013	179.594	9990.63	1790.99	-1790.94	12.69	728225.79	599732.05	32°38'50.074"N	103°43'34.123"W	0.00	
11800.00†	90.013	179.594	9990.61	1890.99	-1890.94	13.40	728226.50	599632.06	32°38'49.084"N	103°43'34.122"W	0.00	
11900.00†	90.013	179.594	9990.59	1990.99	-1990.94	14.11	728227.21	599532.07	32°38'48.095"N	103°43'34.120"W	0.00	
12000.00†	90.013	179.594	9990.56	2090.99	-2090.93	14.81	728227.91	599432.08	32°38'47.105"N	103°43'34.119"W	0.00	
12100.00†	90.013	179.594	9990.54	2190.99	-2190.93	15.52	728228.62	599332.09	32°38'46.116"N	103°43'34.117"W	0.00	
12200.00†	90.013	179.594	9990.52	2290.99	-2290.93	16.23	728229.33	599232.09	32°38'45.126"N	103°43'34.115"W	0.00	
12300.00†	90.013	179.594	9990.50	2390.99	-2390.93	16.94	728230.04	599132.10	32°38'44.137"N	103°43'34.114"W	0.00	
12400.00†	90.013	179.594	9990.47	2490.99	-2490.92	17.65	728230.75	599032.11	32°38'43.148"N	103°43'34.112"W	0.00	
12500.00†	90.013	179.594	9990.45	2590.99	-2590.92	18.36	728231.46	598932.12	32°38'42.158"N	103°43'34.111"W	0.00	



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(East 24) Sec 24, T19S, R32E	Wellbore	No. 1H PWB
Facility	East Lusk 24 Fed Com No. 1H		

WELLPATH DATA (51 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	DLS [°/100ft]	Comments
12600.00†	90.013	179.594	9990.43	2690.99	-2690.92	19.07	728232.16	598832.12	32°38'41.169"N	103°43'34.109"W	0.00	
12700.00†	90.013	179.594	9990.41	2790.99	-2790.92	19.77	728232.87	598732.13	32°38'40.179"N	103°43'34.107"W	0.00	
12800.00†	90.013	179.594	9990.38	2890.99	-2890.91	20.48	728233.58	598632.14	32°38'39.190"N	103°43'34.106"W	0.00	
12900.00†	90.013	179.594	9990.36	2990.99	-2990.91	21.19	728234.29	598532.15	32°38'38.200"N	103°43'34.104"W	0.00	
13000.00†	90.013	179.594	9990.34	3090.99	-3090.91	21.90	728235.00	598432.16	32°38'37.211"N	103°43'34.103"W	0.00	
13100.00†	90.013	179.594	9990.32	3190.99	-3190.91	22.61	728235.71	598332.16	32°38'36.221"N	103°43'34.101"W	0.00	
13200.00†	90.013	179.594	9990.30	3290.99	-3290.90	23.32	728236.41	598232.17	32°38'35.232"N	103°43'34.099"W	0.00	
13300.00†	90.013	179.594	9990.27	3390.99	-3390.90	24.02	728237.12	598132.18	32°38'34.243"N	103°43'34.098"W	0.00	
13400.00†	90.013	179.594	9990.25	3490.99	-3490.90	24.73	728237.83	598032.19	32°38'33.253"N	103°43'34.096"W	0.00	
13500.00†	90.013	179.594	9990.23	3590.99	-3590.90	25.44	728238.54	597932.19	32°38'32.264"N	103°43'34.095"W	0.00	
13600.00†	90.013	179.594	9990.21	3690.99	-3690.89	26.15	728239.25	597832.20	32°38'31.274"N	103°43'34.093"W	0.00	
13700.00†	90.013	179.594	9990.18	3790.99	-3790.89	26.86	728239.96	597732.21	32°38'30.285"N	103°43'34.091"W	0.00	
13800.00†	90.013	179.594	9990.16	3890.99	-3890.89	27.57	728240.67	597632.22	32°38'29.295"N	103°43'34.090"W	0.00	
13900.00†	90.013	179.594	9990.14	3990.99	-3990.89	28.28	728241.37	597532.23	32°38'28.306"N	103°43'34.088"W	0.00	
14000.00†	90.013	179.594	9990.12	4090.99	-4090.88	28.98	728242.08	597432.24	32°38'27.316"N	103°43'34.087"W	0.00	
14100.00†	90.013	179.594	9990.10	4190.99	-4190.88	29.69	728242.79	597332.24	32°38'26.327"N	103°43'34.085"W	0.00	
14200.00†	90.013	179.594	9990.07	4290.99	-4290.88	30.40	728243.50	597232.25	32°38'25.338"N	103°43'34.083"W	0.00	
14300.00†	90.013	179.594	9990.05	4390.99	-4390.88	31.11	728244.21	597132.26	32°38'24.348"N	103°43'34.082"W	0.00	
14400.00†	90.013	179.594	9990.03	4490.99	-4490.87	31.82	728244.92	597032.26	32°38'23.359"N	103°43'34.080"W	0.00	
14500.00†	90.013	179.594	9990.01	4590.99	-4590.87	32.53	728245.62	596932.27	32°38'22.369"N	103°43'34.079"W	0.00	
14528.98	90.013	179.594	9990.00†	4619.97	-4619.85	32.73	728245.83	596903.29	32°38'22.082"N	103°43'34.078"W	0.00	No. 1H PBHL



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(East 24) Sec 24, T19S, R32E	Wellbore	No. 1H PWB
Facility	East Lusk 24 Fed Com No. 1H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1H PBHL	14528.98	9990.00	4619.85	32.73	728245.83	596903.29	32°38'22.082"N	103°43'34.078"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	14528.98	NaviTrak (Standard)		No. 1H PWB