

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88203
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Cimarex Energy Co. of Colorado 600 N. Marienfeld, Ste. 600 Midland, TX 79701		² OGRID Number 162683 ✓
		³ API Number 30-025-27417 ✓
⁴ Property Code 300556 ✓	⁵ Property Name State HH ✓	⁶ Well No. 001 ✓
⁹ Proposed Pool 1 Gem; Bone Spring ✓		¹⁰ Proposed Pool 2

⁷ 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	36	19S	32E		1980	North	660	East	Lea ✓

⁸ Proposed 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	36	19S	32E		1980	North	330	West	Lea

Additional Well Information

¹¹ Work Type Code Recompletion	¹² Well Type Code Oil	¹³ Cable/Rotary	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3582 GL
¹⁶ Multiple N	¹⁷ Proposed Depth 12714	¹⁸ Formation Bone Spring	¹⁹ Contractor N/A	²⁰ Spud Date When Approved
Depth to Groundwater		Distance from nearest fresh water well		Distance from nearest surface water
Pit Liner: Synthetic ☐ mils thick Clay ☐ Pit Volume _____ bbls Drilling Method _____ Closed-Loop System ☒ Flowback Tanks Fresh Water ☐ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17½	13¾	48	1355	1200	Circ
12¼	9¾	36	5100	3100	Circ
7¾	5½	17	13800	1100	7638
4¾	3½	9.3	8568-11797	220	8568
4¾	3½	9.3	8430-14132	300	8430

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone Describe the blowout prevention program, if any Use additional sheets if necessary.

In 2011, Cimarex attempted to recomplete this well laterally in the First Bone Spring. Recompletion was unsuccessful. Cimarex now proposes to plug off the current FBSS lateral and recomplete to Second Bone Spring as shown below:

Plug current FBSS lateral by setting cement retainer @ 8555 and squeezing with 100 sx H. Then set whipstock @ 8530 and kick off 4¾" SBSS lateral @ 8522 and drill to EOC @ 10130, then to TD @ 14132 MD, 9910 TVD. Cement with 300 sx H, TOC @ top of liner @ 8430.

**Permit Expires 2 Years From Approval
Date Unless Drilling Underway**

Please see attached C102 and WBD.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ , a general permit ☐ , or an (attached) alternative OCD-approved plan ☐ .		OIL CONSERVATION DIVISION	
Signature: <i>Natalie Krueger</i>		Approved by: <i>[Signature]</i>	
Printed name: Natalie Krueger		Title: PETROLEUM ENGINEER	
Title: Regulatory		Approval Date: AUG 23 2011 Expiration Date	
E-mail Address: <u>nkrueger@cimarex.com</u>			
Date: August 16, 2011	Phone: 432-620-1936	Conditions of Approval Attached ☐	

AUG 23 2011

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HOBBS OCD

AUG 17 2011

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised July 18, 2010

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 30-025-27417	Pool Code 27220	Pool Name Gem; Bone Spring
Property Code 300556	Property Name STATE HH	Well Number 1
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3578'

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	36	19 S	32 E		1980	NORTH	660	EAST	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
E	36	19 S	32 E		1980	NORTH	330	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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

PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°37'07.007"
Long - W 103°43'37.877"
NMSPCE - N 589314.42
E 727964.28
(NAD-83)

SURFACE LOCATION
Lat - N 32°37'06.856"
Long - W 103°42'47.714"
NMSPCE - N 589323.9
E 732254.5
(NAD-83)

Project Area

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.

Natalie Krueger 8/16/2011
Signature Date

Natalie Krueger
Printed Name
Regulatory Analyst
Email Address

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.

GARY L. JONES 8/16/2010
Date Surveyed

GARY L. JONES
Signature & Seal of Professional Surveyor

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 23900



DRILLING PROGNOSIS Cimarex Energy Company

HOBBS OCD

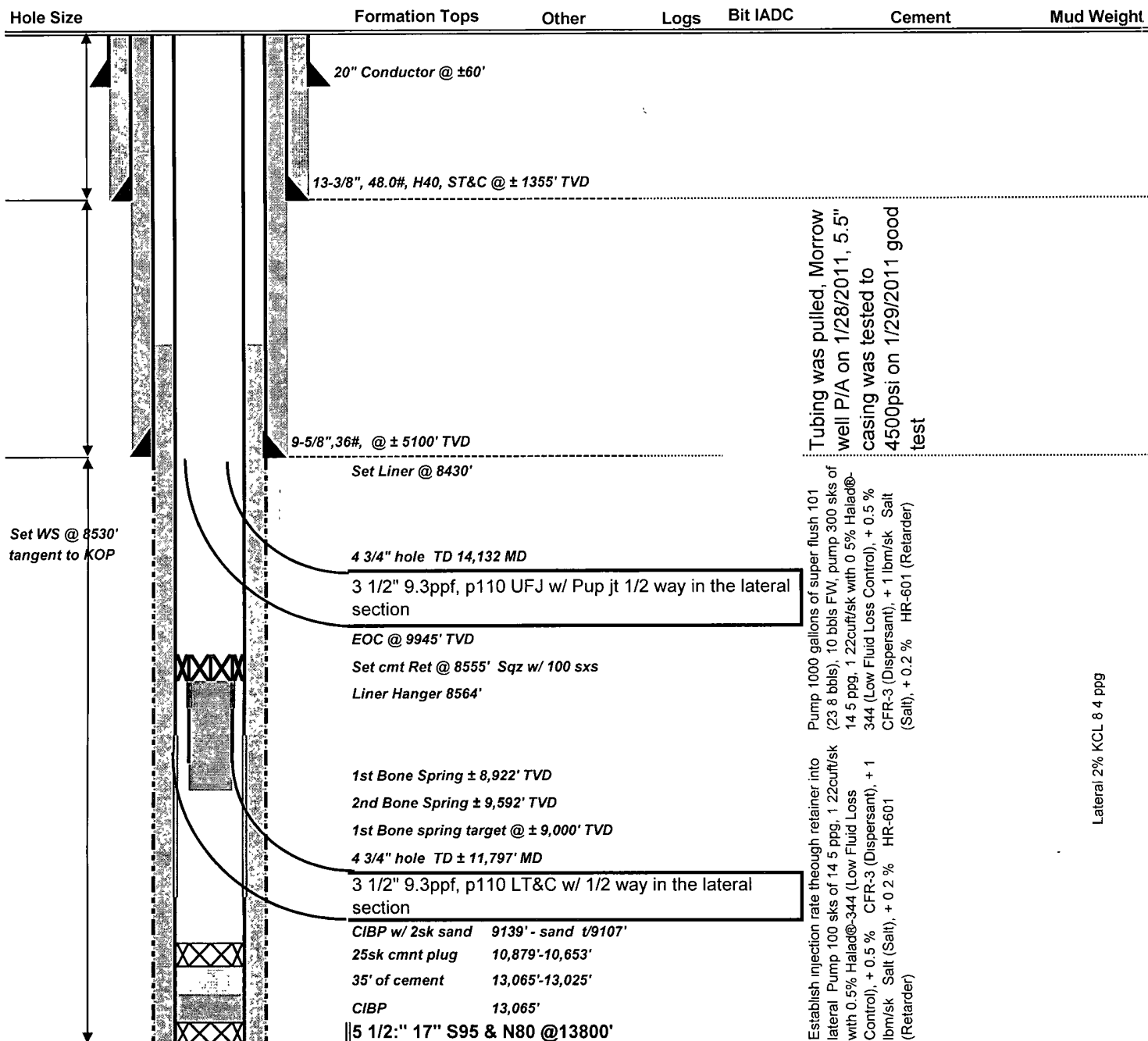
8/16/2011

AUG 17 2011

Well: State HH #1
Location: sec 36 , 19S- 32E
County, State Lea County, NM
Surface Locatio 1980 FNL, 660 FEL
Bottomhole Loc 330 FSL, 660 FEL

Lse Serial #:
Field: Lusk
Objective: 1st Bone Spring

RECEIVED

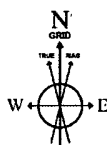
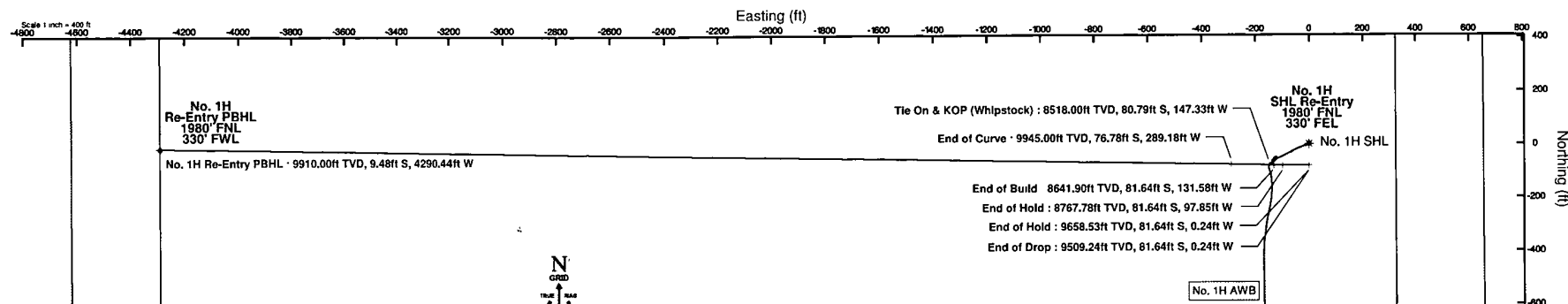




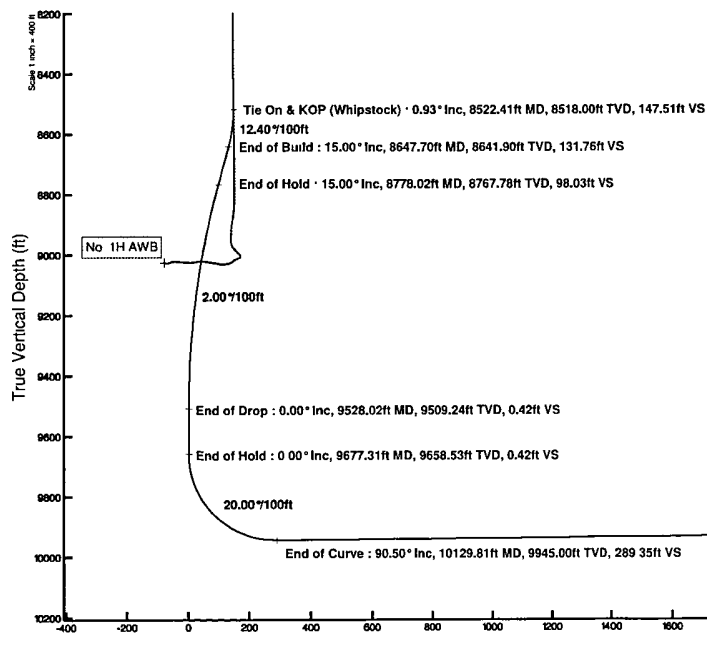
Cimarex Energy Co.

Location: Lea County, NM
Field: (State HH) Sec 36, T19S, R32E
Facility: State HH No. 1H

Slot: No. 1H Re-Entry
Well: No. 1H RE
Wellbore: No. 1H RE PWB



BGGM (1945 0 to 2012.0) Dip 60.54° Field 48862.6 nT
Magnetic North is 7.72 degrees East of True North (at 7/12/2011)
Grid North is 0.35 degrees East of True North
To correct azimuth from True to Grid subtract 0.33 degrees
To correct azimuth from Magnetic to Grid add 7.39 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.39 = 97.39



Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On & KOP (Whipstock)	8522.41	0.932	213.654	8518.00	-80.79	-147.33	0.00	147.51
End of Build	8647.70	15.000	90.000	8641.90	-81.64	-131.58	12.40	131.76
End of Hold	8778.02	15.000	90.000	8767.78	-81.64	-97.85	0.00	98.03
End of Drop	9528.02	0.000	270.964	9509.24	-81.64	-0.24	2.00	0.42
End of Hold	9677.31	0.000	270.964	9658.53	-81.64	-0.24	0.00	0.42
End of Curve	10129.81	90.501	270.964	9945.00	-76.78	-289.18	20.00	289.35
No. 1H Re-Entry PBHL	14131.79	90.501	270.964	9910.00	-9.48	-4290.44	0.00	4290.45

Plot reference wellpath is Prelim 3	
True vertical depths are referenced to Rig on No. 1H 2nd RE (RT)	Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H 2nd RE (RT)	North Reference Grid north
Rig on No. 1H 2nd RE (RT) to Mean Sea Level 3600 feet	Scales True distance
Mean Sea Level to Mud line (At Slot No. 1H Re-Entry) -3582 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by calphnik on 8/9/2011



Planned Wellpath Report

Prelim_3
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Calhphik
Scale	0.999951	Report Generated	8/9/2011 at 2:27:06 PM
Convergence at slot	0.33° East	Database/Source file	WA_Midland/No._1H_RE_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	1.00	732254.50	589323.90	32°37'06.856"N	103°42'47.716"W
Facility Reference Pt			732253.50	589323.90	32°37'06.856"N	103°42'47.727"W
Field Reference Pt			730941.22	588045.42	32°36'54.281"N	103°43'03.157"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 1H 2nd RE (RT) to GL	18.00ft
Horizontal Reference Pt	Slot	Rig on No. 1H 2nd RE (RT) to Mean Sea Level	3600.00ft
Vertical Reference Pt	Rig on No. 1H 2nd RE (RT)	Rig on No. 1H 2nd RE (RT) to Mud Line at Slot (No. 1H Re-Entry)	18.00ft
MD Reference Pt	Rig on No. 1H 2nd RE (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.87°



Planned Wellpath Report

Prelim_3
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	248.870	0.00	0.00	0.00	0.00	732254.50	589323.90	32°37'06.856"N	103°42'47.716"W	0.00	
18.00	0.000	248.870	18.00	0.00	0.00	0.00	732254.50	589323.90	32°37'06.856"N	103°42'47.716"W	0.00	
100.00	0.540	248.870	100.00	0.36	-0.14	-0.36	732254.14	589323.76	32°37'06.855"N	103°42'47.720"W	0.66	
200.00	0.570	252.340	199.99	1.27	-0.46	-1.27	732253.23	589323.44	32°37'06.852"N	103°42'47.731"W	0.05	
300.00	0.790	243.260	299.99	2.37	-0.92	-2.36	732252.14	589322.98	32°37'06.847"N	103°42'47.743"W	0.24	
400.00	1.090	243.700	399.97	3.84	-1.65	-3.83	732250.67	589322.25	32°37'06.840"N	103°42'47.761"W	0.30	
500.00	1.620	245.920	499.95	5.98	-2.65	-5.98	732248.53	589321.25	32°37'06.830"N	103°42'47.786"W	0.53	
600.00	2.230	245.640	599.89	9.05	-4.03	-9.04	732245.46	589319.87	32°37'06.817"N	103°42'47.822"W	0.61	
700.00	2.780	244.910	699.79	13.02	-5.86	-13.01	732241.49	589318.04	32°37'06.799"N	103°42'47.868"W	0.55	
800.00	3.320	245.460	799.65	17.85	-8.09	-17.84	732236.66	589315.81	32°37'06.777"N	103°42'47.925"W	0.54	
900.00	3.580	248.660	899.47	23.40	-10.43	-23.38	732231.12	589313.47	32°37'06.754"N	103°42'47.990"W	0.32	
1000.00	3.690	248.440	999.27	29.31	-12.75	-29.28	732225.22	589311.15	32°37'06.732"N	103°42'48.059"W	0.11	
1100.00	3.810	247.050	1099.05	35.37	-15.23	-35.33	732219.17	589308.67	32°37'06.708"N	103°42'48.130"W	0.15	
1200.00	4.040	245.350	1198.82	41.63	-17.99	-41.59	732212.91	589305.91	32°37'06.681"N	103°42'48.203"W	0.26	
1300.00	4.340	244.970	1298.55	48.27	-21.06	-48.22	732206.28	589302.84	32°37'06.651"N	103°42'48.281"W	0.30	
1400.00	3.800	242.830	1398.30	54.65	-24.18	-54.60	732199.90	589299.73	32°37'06.620"N	103°42'48.356"W	0.56	
1500.00	3.550	242.090	1498.09	60.34	-27.14	-60.28	732194.22	589296.76	32°37'06.591"N	103°42'48.422"W	0.25	
1600.00	3.470	242.370	1597.91	65.77	-29.99	-65.70	732188.80	589293.91	32°37'06.563"N	103°42'48.486"W	0.08	
1700.00	3.520	242.950	1697.72	71.19	-32.79	-71.12	732183.39	589291.11	32°37'06.536"N	103°42'48.549"W	0.06	
1800.00	3.390	242.180	1797.54	76.54	-35.57	-76.46	732178.04	589288.34	32°37'06.509"N	103°42'48.612"W	0.14	
1900.00	3.070	241.590	1897.38	81.52	-38.22	-81.44	732173.07	589285.68	32°37'06.483"N	103°42'48.670"W	0.32	
2000.00	3.250	242.740	1997.23	86.40	-40.79	-86.31	732168.19	589283.11	32°37'06.458"N	103°42'48.728"W	0.19	
2100.00	3.220	240.830	2097.07	91.38	-43.46	-91.28	732163.22	589280.44	32°37'06.432"N	103°42'48.786"W	0.11	
2200.00	3.030	243.720	2196.92	96.21	-46.00	-96.10	732158.40	589277.90	32°37'06.407"N	103°42'48.842"W	0.25	
2300.00	2.540	244.880	2296.80	100.59	-48.11	-100.48	732154.02	589275.79	32°37'06.386"N	103°42'48.894"W	0.49	
2400.00	2.430	248.130	2396.71	104.56	-49.84	-104.45	732150.05	589274.06	32°37'06.369"N	103°42'48.940"W	0.18	
2500.00	2.040	249.450	2496.63	108.20	-51.25	-108.09	732146.42	589272.65	32°37'06.355"N	103°42'48.983"W	0.39	
2600.00	1.940	248.170	2596.57	111.44	-52.51	-111.33	732143.18	589271.39	32°37'06.343"N	103°42'49.021"W	0.11	
2700.00	1.610	250.030	2696.52	114.34	-53.62	-114.22	732140.29	589270.28	32°37'06.332"N	103°42'49.055"W	0.33	
2800.00	1.590	247.430	2796.48	116.94	-54.63	-116.82	732137.69	589269.27	32°37'06.323"N	103°42'49.085"W	0.08	
2900.00	1.380	254.100	2896.45	119.38	-55.49	-119.26	732135.25	589268.41	32°37'06.314"N	103°42'49.114"W	0.27	
3000.00	1.300	255.830	2996.42	121.64	-56.10	-121.52	732132.99	589267.80	32°37'06.308"N	103°42'49.140"W	0.09	
3100.00	1.270	262.050	3096.40	123.84	-56.53	-123.71	732130.79	589267.37	32°37'06.304"N	103°42'49.166"W	0.14	
3200.00	1.330	262.520	3196.37	126.09	-56.84	-125.96	732128.54	589267.07	32°37'06.301"N	103°42'49.192"W	0.06	
3300.00	1.270	261.360	3296.35	128.33	-57.15	-128.21	732126.30	589266.75	32°37'06.298"N	103°42'49.218"W	0.07	
3400.00	1.340	261.980	3396.32	130.59	-57.48	-130.46	732124.05	589266.42	32°37'06.295"N	103°42'49.245"W	0.07	
3500.00	1.460	227.180	3496.29	132.68	-58.51	-132.55	732121.95	589265.39	32°37'06.285"N	103°42'49.269"W	0.85	
3600.00	1.540	206.050	3596.26	134.21	-60.59	-134.08	732120.43	589263.32	32°37'06.265"N	103°42'49.287"W	0.56	
3700.00	1.470	209.050	3696.22	135.43	-62.91	-135.29	732119.22	589260.99	32°37'06.242"N	103°42'49.302"W	0.11	
3800.00	1.210	238.200	3796.20	136.95	-64.59	-136.81	732117.70	589259.31	32°37'06.225"N	103°42'49.320"W	0.72	
3900.00	0.660	265.090	3896.18	138.43	-65.20	-138.28	732116.22	589258.71	32°37'06.219"N	103°42'49.337"W	0.69	
4000.00	1.200	39.370	3996.18	138.33	-64.44	-138.19	732116.31	589259.47	32°37'06.227"N	103°42'49.336"W	1.73	
4100.00	1.070	50.090	4096.16	136.95	-63.03	-136.81	732117.70	589260.87	32°37'06.241"N	103°42'49.319"W	0.25	
4200.00	1.330	37.020	4196.14	135.53	-61.50	-135.40	732119.11	589262.40	32°37'06.256"N	103°42'49.303"W	0.38	
4300.00	1.880	31.080	4296.10	133.98	-59.17	-133.85	732120.66	589264.73	32°37'06.279"N	103°42'49.285"W	0.57	



Planned Wellpath Report

Prelim_3
Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00	1.830	31.740	4396.04	132.29	-56.41	-132.16	732122.34	589267.49	32°37'06.306"N	103°42'49.265"W	0.05	
4500.00	1.910	52.810	4495.99	130.12	-54.04	-130.00	732124.51	589269.86	32°37'06.329"N	103°42'49.239"W	0.69	
4600.00	1.700	52.610	4595.94	127.61	-52.14	-127.49	732127.02	589271.77	32°37'06.348"N	103°42'49.210"W	0.21	
4700.00	1.490	54.690	4695.90	125.36	-50.48	-125.25	732129.25	589273.42	32°37'06.364"N	103°42'49.183"W	0.22	
4800.00	0.650	40.410	4795.89	123.93	-49.30	-123.82	732130.68	589274.60	32°37'06.376"N	103°42'49.167"W	0.87	
4900.00	0.250	72.250	4895.88	123.35	-48.80	-123.25	732131.26	589275.10	32°37'06.381"N	103°42'49.160"W	0.46	
5000.00	0.390	144.560	4995.88	122.95	-49.01	-122.84	732131.66	589274.89	32°37'06.378"N	103°42'49.155"W	0.39	
5100.00	0.390	144.580	5095.88	122.56	-49.57	-122.45	732132.06	589274.34	32°37'06.373"N	103°42'49.151"W	0.00	
5200.00	0.460	142.620	5195.88	122.12	-50.16	-122.01	732132.50	589273.74	32°37'06.367"N	103°42'49.145"W	0.07	
5300.00	0.410	143.900	5295.87	121.66	-50.77	-121.55	732132.95	589273.13	32°37'06.361"N	103°42'49.140"W	0.05	
5400.00	0.370	155.110	5395.87	121.32	-51.35	-121.21	732133.30	589272.55	32°37'06.355"N	103°42'49.136"W	0.09	
5500.00	0.330	170.480	5495.87	121.14	-51.93	-121.02	732133.48	589271.97	32°37'06.350"N	103°42'49.134"W	0.10	
5600.00	0.370	181.750	5595.87	121.10	-52.54	-120.98	732133.52	589271.37	32°37'06.343"N	103°42'49.134"W	0.08	
5700.00	0.450	195.440	5695.86	121.22	-53.24	-121.10	732133.41	589270.66	32°37'06.337"N	103°42'49.135"W	0.13	
5800.00	0.510	194.610	5795.86	121.43	-54.05	-121.32	732133.19	589269.86	32°37'06.329"N	103°42'49.138"W	0.06	
5900.00	0.520	200.330	5895.86	121.71	-54.90	-121.59	732132.92	589269.00	32°37'06.320"N	103°42'49.141"W	0.05	
6000.00	0.570	210.720	5995.85	122.12	-55.76	-122.00	732132.51	589268.15	32°37'06.312"N	103°42'49.146"W	0.11	
6100.00	0.750	209.190	6095.85	122.70	-56.76	-122.57	732131.94	589267.15	32°37'06.302"N	103°42'49.153"W	0.18	
6200.00	0.840	209.670	6195.84	123.38	-57.96	-123.25	732131.25	589265.94	32°37'06.290"N	103°42'49.161"W	0.09	
6300.00	0.820	204.560	6295.83	124.04	-59.25	-123.91	732130.59	589264.65	32°37'06.277"N	103°42'49.168"W	0.08	
6400.00	0.840	213.380	6395.82	124.75	-60.51	-124.61	732129.89	589263.39	32°37'06.265"N	103°42'49.177"W	0.13	
6500.00	0.840	218.090	6495.80	125.60	-61.70	-125.47	732129.04	589262.20	32°37'06.253"N	103°42'49.187"W	0.07	
6600.00	0.890	222.450	6595.79	126.58	-62.85	-126.45	732128.06	589261.05	32°37'06.242"N	103°42'49.198"W	0.08	
6700.00	0.880	226.150	6695.78	127.66	-63.96	-127.52	732126.98	589259.95	32°37'06.231"N	103°42'49.211"W	0.06	
6800.00	0.830	231.270	6795.77	128.79	-64.94	-128.64	732125.86	589258.96	32°37'06.221"N	103°42'49.224"W	0.09	
6900.00	0.940	232.810	6895.76	130.01	-65.89	-129.86	732124.65	589258.01	32°37'06.212"N	103°42'49.238"W	0.11	
7000.00	0.830	231.510	6995.75	131.23	-66.84	-131.08	732123.43	589257.06	32°37'06.203"N	103°42'49.253"W	0.11	
7100.00	0.890	236.930	7095.73	132.45	-67.71	-132.30	732122.21	589256.19	32°37'06.194"N	103°42'49.267"W	0.10	
7200.00	0.830	233.470	7195.72	133.68	-68.57	-133.53	732120.98	589255.34	32°37'06.186"N	103°42'49.281"W	0.08	
7300.00	0.840	237.060	7295.71	134.88	-69.40	-134.73	732119.78	589254.51	32°37'06.177"N	103°42'49.296"W	0.05	
7400.00	0.940	231.850	7395.70	136.14	-70.30	-135.99	732118.52	589253.60	32°37'06.169"N	103°42'49.310"W	0.13	
7500.00	0.870	239.260	7495.69	137.44	-71.20	-137.29	732117.22	589252.71	32°37'06.160"N	103°42'49.326"W	0.14	
7600.00	0.760	242.950	7595.68	138.69	-71.89	-138.53	732115.98	589252.02	32°37'06.153"N	103°42'49.340"W	0.12	
7700.00	0.890	239.640	7695.67	139.95	-72.58	-139.79	732114.72	589251.32	32°37'06.146"N	103°42'49.355"W	0.14	
7800.00	0.680	237.000	7795.66	141.12	-73.30	-140.96	732113.55	589250.61	32°37'06.139"N	103°42'49.369"W	0.21	
7900.00	0.580	232.350	7895.65	142.02	-73.93	-141.86	732112.65	589249.97	32°37'06.133"N	103°42'49.379"W	0.11	
8000.00	0.610	226.470	7995.65	142.81	-74.61	-142.64	732111.86	589249.30	32°37'06.126"N	103°42'49.388"W	0.07	
8100.00	0.840	221.120	8095.64	143.68	-75.52	-143.51	732111.00	589248.38	32°37'06.117"N	103°42'49.399"W	0.24	
8200.00	0.820	224.930	8195.63	144.67	-76.58	-144.50	732110.01	589247.32	32°37'06.107"N	103°42'49.410"W	0.06	
8300.00	0.890	213.440	8295.62	145.60	-77.74	-145.43	732109.08	589246.17	32°37'06.096"N	103°42'49.421"W	0.18	
8400.00	0.930	209.380	8395.60	146.43	-79.09	-146.26	732108.25	589244.81	32°37'06.082"N	103°42'49.431"W	0.08	
8500.00	0.950	214.250	8495.59	147.30	-80.49	-147.12	732107.38	589243.42	32°37'06.068"N	103°42'49.441"W	0.08	
8522.41	0.932	213.654	8518.00	147.51	-80.79	-147.33	732107.18	589243.11	32°37'06.065"N	103°42'49.444"W	0.00	Tie On & KOP (Whipstock)
8622.41†	11.870	90.770	8617.31	137.64	-81.61	-137.46	732117.05	589242.29	32°37'06.057"N	103°42'49.328"W	12.40	
8647.70	15.000	90.000	8641.90	131.76	-81.64	-131.58	732122.92	589242.26	32°37'06.056"N	103°42'49.260"W	12.40	End of Build



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8722.41†	15.000	90.000	8714.07	112.43	-81.64	-112.25	732142.26	589242.26	32°37'06.055"N	103°42'49.034"W	0.00	
8778.02	15.000	90.000	8767.78	98.03	-81.64	-97.85	732156.65	589242.26	32°37'06.054"N	103°42'48.865"W	0.00	End of Hold
8822.41†	14.112	90.000	8810.75	86.88	-81.64	-86.70	732167.81	589242.26	32°37'06.054"N	103°42'48.735"W	2.00	
8922.41†	12.112	90.000	8908.14	64.19	-81.64	-64.01	732190.49	589242.26	32°37'06.052"N	103°42'48.470"W	2.00	
9022.41†	10.112	90.000	9006.26	44.92	-81.64	-44.74	732209.76	589242.26	32°37'06.051"N	103°42'48.244"W	2.00	
9122.41†	8.112	90.000	9104.99	29.08	-81.64	-28.90	732225.60	589242.26	32°37'06.050"N	103°42'48.059"W	2.00	
9222.41†	6.112	90.000	9204.22	16.70	-81.64	-16.52	732237.98	589242.26	32°37'06.049"N	103°42'47.914"W	2.00	
9322.41†	4.112	90.000	9303.82	7.79	-81.64	-7.61	732246.89	589242.26	32°37'06.049"N	103°42'47.810"W	2.00	
9422.41†	2.112	90.000	9403.66	2.37	-81.64	-2.18	732252.32	589242.26	32°37'06.049"N	103°42'47.747"W	2.00	
9522.41†	0.112	90.000	9503.64	0.42	-81.64	-0.24	732254.26	589242.26	32°37'06.049"N	103°42'47.724"W	2.00	
9528.02	0.000	270.964	9509.24	0.42	-81.64	-0.24	732254.26	589242.26	32°37'06.049"N	103°42'47.724"W	2.00	End of Drop
9622.41†	0.000	270.964	9603.64	0.42	-81.64	-0.24	732254.26	589242.26	32°37'06.049"N	103°42'47.724"W	0.00	
9677.31	0.000	270.964	9658.53	0.42	-81.64	-0.24	732254.26	589242.26	32°37'06.049"N	103°42'47.724"W	0.00	End of Hold
9722.41†	9.021	270.964	9703.45	3.96	-81.58	-3.78	732250.72	589242.32	32°37'06.049"N	103°42'47.765"W	20.00	
9822.41†	29.021	270.964	9797.51	36.38	-81.04	-36.20	732218.30	589242.86	32°37'06.057"N	103°42'48.144"W	20.00	
9922.41†	49.021	270.964	9874.81	99.01	-79.99	-98.84	732155.67	589243.92	32°37'06.071"N	103°42'48.877"W	20.00	
10022.41†	69.021	270.964	9926.02	184.30	-78.55	-184.12	732070.38	589245.35	32°37'06.090"N	103°42'49.874"W	20.00	
10122.41†	89.021	270.964	9944.97	281.95	-76.91	-281.78	731972.73	589247.00	32°37'06.112"N	103°42'51.015"W	20.00	
10129.81	90.501	270.964	9945.00	289.35	-76.78	-289.18	731965.33	589247.12	32°37'06.113"N	103°42'51.102"W	20.00	End of Curve
10222.41†	90.501	270.964	9944.19	381.93	-75.23	-381.76	731872.75	589248.68	32°37'06.134"N	103°42'52.184"W	0.00	
10322.41†	90.501	270.964	9943.32	481.91	-73.55	-481.75	731772.78	589250.36	32°37'06.156"N	103°42'53.353"W	0.00	
10422.41†	90.501	270.964	9942.44	581.89	-71.86	-581.73	731672.80	589252.04	32°37'06.179"N	103°42'54.522"W	0.00	
10522.41†	90.501	270.964	9941.57	681.86	-70.18	-681.71	731572.82	589253.72	32°37'06.201"N	103°42'55.690"W	0.00	
10622.41†	90.501	270.964	9940.69	781.84	-68.50	-781.69	731472.85	589255.40	32°37'06.224"N	103°42'56.859"W	0.00	
10722.41†	90.501	270.964	9939.82	881.82	-66.82	-881.68	731372.87	589257.09	32°37'06.246"N	103°42'58.028"W	0.00	
10822.41†	90.501	270.964	9938.94	981.80	-65.14	-981.66	731272.89	589258.77	32°37'06.268"N	103°42'59.197"W	0.00	
10922.41†	90.501	270.964	9938.07	1081.78	-63.45	-1081.64	731172.92	589260.45	32°37'06.291"N	103°43'00.366"W	0.00	
11022.41†	90.501	270.964	9937.20	1181.75	-61.77	-1181.62	731072.94	589262.13	32°37'06.313"N	103°43'01.534"W	0.00	
11122.41†	90.501	270.964	9936.32	1281.73	-60.09	-1281.60	730972.96	589263.81	32°37'06.336"N	103°43'02.703"W	0.00	
11222.41†	90.501	270.964	9935.45	1381.71	-58.41	-1381.59	730872.99	589265.49	32°37'06.358"N	103°43'03.872"W	0.00	
11322.41†	90.501	270.964	9934.57	1481.69	-56.73	-1481.57	730773.01	589267.18	32°37'06.380"N	103°43'05.041"W	0.00	
11422.41†	90.501	270.964	9933.70	1581.67	-55.05	-1581.55	730673.03	589268.86	32°37'06.403"N	103°43'06.210"W	0.00	
11522.41†	90.501	270.964	9932.82	1681.65	-53.36	-1681.53	730573.05	589270.54	32°37'06.425"N	103°43'07.378"W	0.00	
11622.41†	90.501	270.964	9931.95	1781.62	-51.68	-1781.51	730473.08	589272.22	32°37'06.447"N	103°43'08.547"W	0.00	
11722.41†	90.501	270.964	9931.07	1881.60	-50.00	-1881.50	730373.10	589273.90	32°37'06.470"N	103°43'09.716"W	0.00	
11822.41†	90.501	270.964	9930.20	1981.58	-48.32	-1981.48	730273.12	589275.58	32°37'06.492"N	103°43'10.885"W	0.00	
11922.41†	90.501	270.964	9929.32	2081.56	-46.64	-2081.46	730173.15	589277.27	32°37'06.514"N	103°43'12.054"W	0.00	
12022.41†	90.501	270.964	9928.45	2181.54	-44.96	-2181.44	730073.17	589278.95	32°37'06.537"N	103°43'13.222"W	0.00	
12122.41†	90.501	270.964	9927.57	2281.51	-43.27	-2281.42	729973.19	589280.63	32°37'06.559"N	103°43'14.391"W	0.00	
12222.41†	90.501	270.964	9926.70	2381.49	-41.59	-2381.41	729873.22	589282.31	32°37'06.581"N	103°43'15.560"W	0.00	
12322.41†	90.501	270.964	9925.83	2481.47	-39.91	-2481.39	729773.24	589283.99	32°37'06.604"N	103°43'16.729"W	0.00	
12422.41†	90.501	270.964	9924.95	2581.45	-38.23	-2581.37	729673.26	589285.67	32°37'06.626"N	103°43'17.898"W	0.00	
12522.41†	90.501	270.964	9924.08	2681.43	-36.55	-2681.35	729573.29	589287.36	32°37'06.648"N	103°43'19.066"W	0.00	
12622.41†	90.501	270.964	9923.20	2781.40	-34.86	-2781.33	729473.31	589289.04	32°37'06.671"N	103°43'20.235"W	0.00	
12722.41†	90.501	270.964	9922.33	2881.38	-33.18	-2881.32	729373.33	589290.72	32°37'06.693"N	103°43'21.404"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12822.41†	90.501	270.964	9921.45	2981.36	-31.50	-2981.30	729273.35	589292.40	32°37'06.715"N	103°43'22.573"W	0.00	
12922.41†	90.501	270.964	9920.58	3081.34	-29.82	-3081.28	729173.38	589294.08	32°37'06.738"N	103°43'23.742"W	0.00	
13022.41†	90.501	270.964	9919.70	3181.32	-28.14	-3181.26	729073.40	589295.76	32°37'06.760"N	103°43'24.911"W	0.00	
13122.41†	90.501	270.964	9918.83	3281.29	-26.46	-3281.24	728973.42	589297.45	32°37'06.782"N	103°43'26.079"W	0.00	
13222.41†	90.501	270.964	9917.95	3381.27	-24.77	-3381.23	728873.45	589299.13	32°37'06.805"N	103°43'27.248"W	0.00	
13322.41†	90.501	270.964	9917.08	3481.25	-23.09	-3481.21	728773.47	589300.81	32°37'06.827"N	103°43'28.417"W	0.00	
13422.41†	90.501	270.964	9916.20	3581.23	-21.41	-3581.19	728673.49	589302.49	32°37'06.849"N	103°43'29.586"W	0.00	
13522.41†	90.501	270.964	9915.33	3681.21	-19.73	-3681.17	728573.52	589304.17	32°37'06.872"N	103°43'30.755"W	0.00	
13622.41†	90.501	270.964	9914.46	3781.18	-18.05	-3781.15	728473.54	589305.85	32°37'06.894"N	103°43'31.923"W	0.00	
13722.41†	90.501	270.964	9913.58	3881.16	-16.37	-3881.14	728373.56	589307.54	32°37'06.916"N	103°43'33.092"W	0.00	
13822.41†	90.501	270.964	9912.71	3981.14	-14.68	-3981.12	728273.59	589309.22	32°37'06.938"N	103°43'34.261"W	0.00	
13922.41†	90.501	270.964	9911.83	4081.12	-13.00	-4081.10	728173.61	589310.90	32°37'06.961"N	103°43'35.430"W	0.00	
14022.41†	90.501	270.964	9910.96	4181.10	-11.32	-4181.08	728073.63	589312.58	32°37'06.983"N	103°43'36.599"W	0.00	
14122.41†	90.501	270.964	9910.08	4281.07	-9.64	-4281.06	727973.65	589314.26	32°37'07.005"N	103°43'37.767"W	0.00	
14131.79	90.501	270.964	9910.00 ¹	4290.45	-9.48	-4290.44	727964.28	589314.42	32°37'07.007"N	103°43'37.877"W	0.00	No. 1H Re-Entry PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No. 1H RE PWB Ref Wellpath: Prelim_3

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	18.00	1368.00	1350.00	18.00	1366.37	0.00	0.00	-23.20	-52.66
13.375in Casing Surface	18.00	1368.00	1350.00	18.00	1366.37	0.00	0.00	-23.20	-52.66
12.25in Open Hole	1368.00	5118.00	3750.00	1366.37	5113.88	-23.20	-52.66	-49.67	-122.38
9.625in Casing Intermediate	18.00	5118.00	5100.00	18.00	5113.88	0.00	0.00	-49.67	-122.38
7.875in Open Hole	5118.00	8518.00	3400.00	5113.88	8513.59	-49.67	-122.38	-80.73	-147.29
3.5in Casing Production	18.00	8518.00	8500.00	18.00	8513.59	0.00	0.00	-80.73	-147.29
7.875in Open Hole	8518.00	14131.79	5613.79	8513.59	NA	-80.73	-147.29	NA	NA
3.5in Casing Production	8518.00	14131.79	5613.79	8513.59	NA	-80.73	-147.29	NA	NA



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1H Re-Entry
Area	Lea County, NM	Well	No. 1H RE
Field	(State HH) Sec 36, T19S, R32E	Wellbore	No. 1H RE PWB
Facility	State HH No. 1H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No 1H RE BHL (Revised)	14131.79	9910.00	-9.48	-4290.44	727964.28	589314.42	32°37'07.007"N	103°43'37.877"W	point
No. 1H RE PBHL		9910.00	-2952.84	102.01	732356.50	586371.21	32°36'37.634"N	103°42'46.725"W	point

SURVEY PROGRAM - Ref Wellbore: No. 1H RE PWB Ref Wellpath: Prelim_3

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	8522.41	Generic gyro - northseeking (Standard)		No. 1H RE
8522.41	14131.79	NaviTrak (Standard)		No. 1H RE PWB

BOP/Choke Program
State HH No. 1 (2BSS RC)
Cimarex Energy Co. of Colorado
36-19S-32E
SHL 1980 FNL & 660 FEL
BHL 1980 FNL & 330 FWL
Lea County, NM

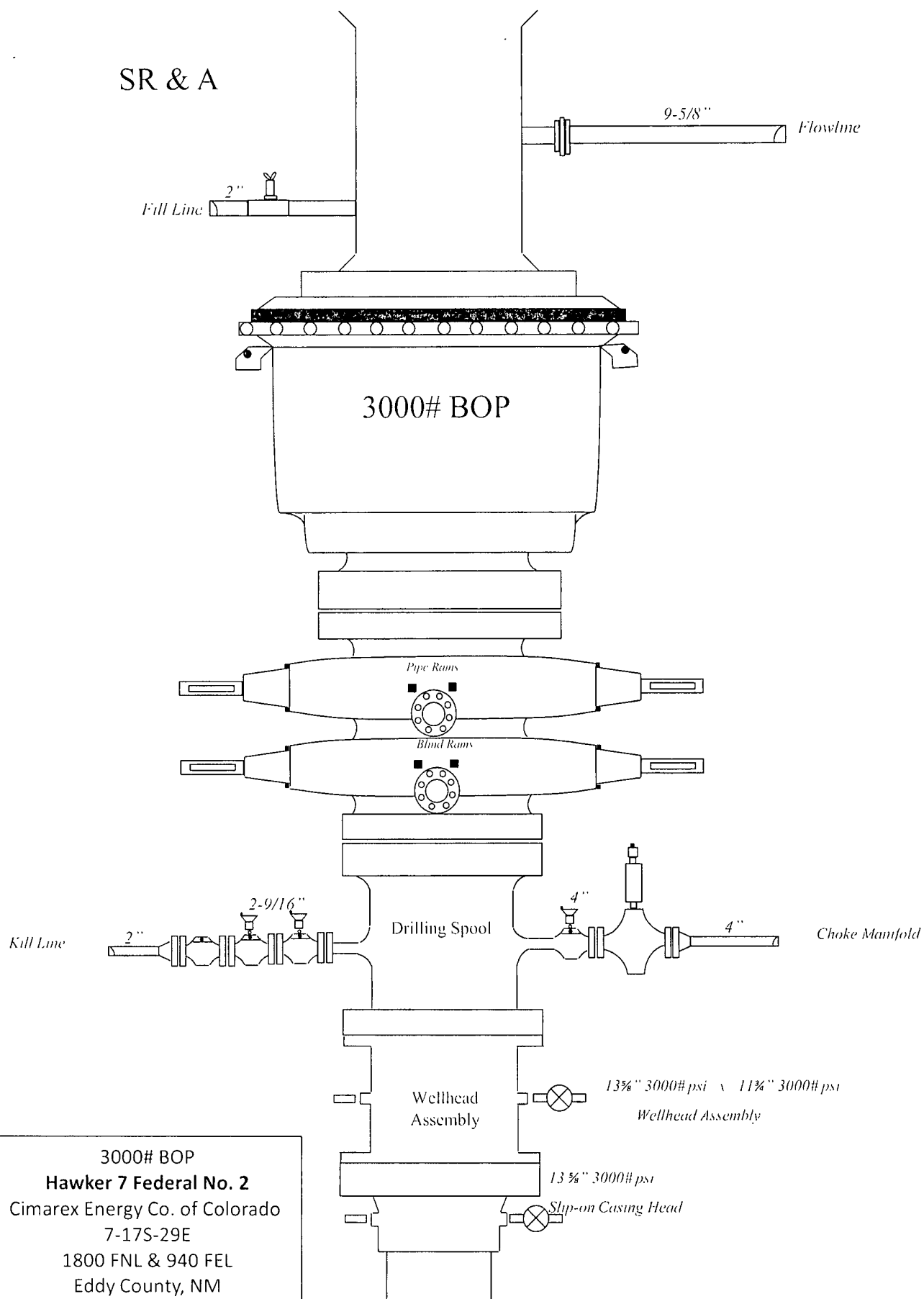
11 Pressure control Equipment:

Exhibit "E-1" - A 13½" 3000 PSI working pressure B.O P consisting of a one set of blind rams and one set of pipe rams and a 3000 psi annular-type preventor. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. Below intermediate casing shoe, BOP will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 3000 psi BOP system.

Test BOP equipment and choke manifold to 250 psi low and 3000 psi high and annular BOP to 250 psi low and 1500 psi high by an independent service company.

SR & A



Drilling Operations
Choke Manifold
3M Service

Choke Manifold Diagram
State HH No. 1 (2BSS RC)
Cimarex Energy Co. of Colorado
36-19S-32E
SHL 1980 FNL & 660 FEL
BHL 1980 FNL & 330 FWL
Lea County, NM

