

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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

FEB 16 2009

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 5215 N. O'Connor Blvd., Ste 1500 Irving, TX 75039		² OGRID Number 162683
		³ API Number 30-015-31791
⁴ Property Code 21733	⁵ Property Name State 14 Com	⁶ Well No. 002
⁹ Proposed Pool 1 Turkey Track; Bone Spring (60660)		¹⁰ Proposed Pool 2

⁷ Surface Location									
UL or lot no. E	Section 14	Township 19S	Range 29E	Lot Idn	Feet from the 2040	North/South line North	Feet from the 560	East/West line West	County Eddy ☒

⁸ Proposed Bottom Hole Location If Different From Surface									
UL or lot no. M	Section 14	Township 19S	Range 29E	Lot Idn	Feet from the 330	North/South line South	Feet from the 660	East/West line West	County Eddy

Additional Well Information				
¹¹ Work Type Code A	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3318' GR
¹⁶ Multiple N	¹⁷ Proposed Depth 10650' (lateral MD)	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"	13½"	48#	186'	400	Surface
12¼"	9½"	40#	3017'	1150	Surface
8¾"	5½"	17#	10830'	1640	2420'
6⅞"	3½"	9.3#	11762'	No cmt, PEAK	

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.

Well currently TA. CIBP @ 11654' w/ 25 sx cmt above Atoka 11210-230' – Morrow perms 11342-508' w/ CIBP @ 11645' w/ 35' cmt – CIBP @ 11645' w/ 35' cmt – Morrow 11660'-800 – RBP @ 11830' – Morrow 11846-858' – Pkr stuck in hole w/ cmt @ 11921' – Morrow 12007-052.'

Cimarex proposes the following operations to recomplete horizontally in the Bone Spring:

- Kill well. NU 5K BOP. Set CIBP @ 7927' w/ 2 sx sand.
- Mill window from 7905' to 7920.' Kick off 6⅞" hole at 7915.' Land curve @ 8142' MD and drill to TD of 10650' MD and 8000' TVD.
- Run 3½" 9.3# P-110 EUE 8rd liner from RSB packer at 7805' to TD of 11650' MD. Liner will be PEAK completion assembly with no cement. Fracture treat in several stages as needed through iso-ports (separated by iso-packers).

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 NMOC guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Printed name: Natalie Krueger
Title: Regulatory Analyst
E-mail Address: nkrueger@cimarex.com
Date: February 13, 2009 Phone: 469-420-2723

OIL CONSERVATION DIVISION

Approved by:

Title

Approval Date:

4/28/2009 Expiration Date:

Conditions of Approval Attached ☐

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-31791	¹ Pool Code 60660	¹ Pool Name Turkey Track; Bone Spring
⁴ Property Code 21733	³ Property Name State 14 Com	⁴ Well Number 002
¹ GRID No. 162683	¹ Operator Name CIMAREX ENERGY CO. OF COLORADO	¹ Elevation 3318' GL

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	19S	29E		2040	North	560	West	Eddy

¹¹ 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	14	19S	29E		330	South	660	West	Eddy

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
120			

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.

16	¹⁷ OPERATOR CERTIFICATION <i>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.</i> <u>Zeno Farris</u> 2/13/2009 Signature Date Zeno Farris Printed Name
	¹⁸ SURVEYOR CERTIFICATION <i>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.</i> Date of Survey Signature and Seal of Professional Surveyor:
	Certificate Number



Cimarex Energy Co.

Location: Eddy County, NM
Field: (State) Sec 14, T19S, R29E
Facility: State 14 Com No. 2H

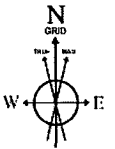
Slot: No. 2H SHL
Well: No. 2H
Wellbore: No. 2H PWB



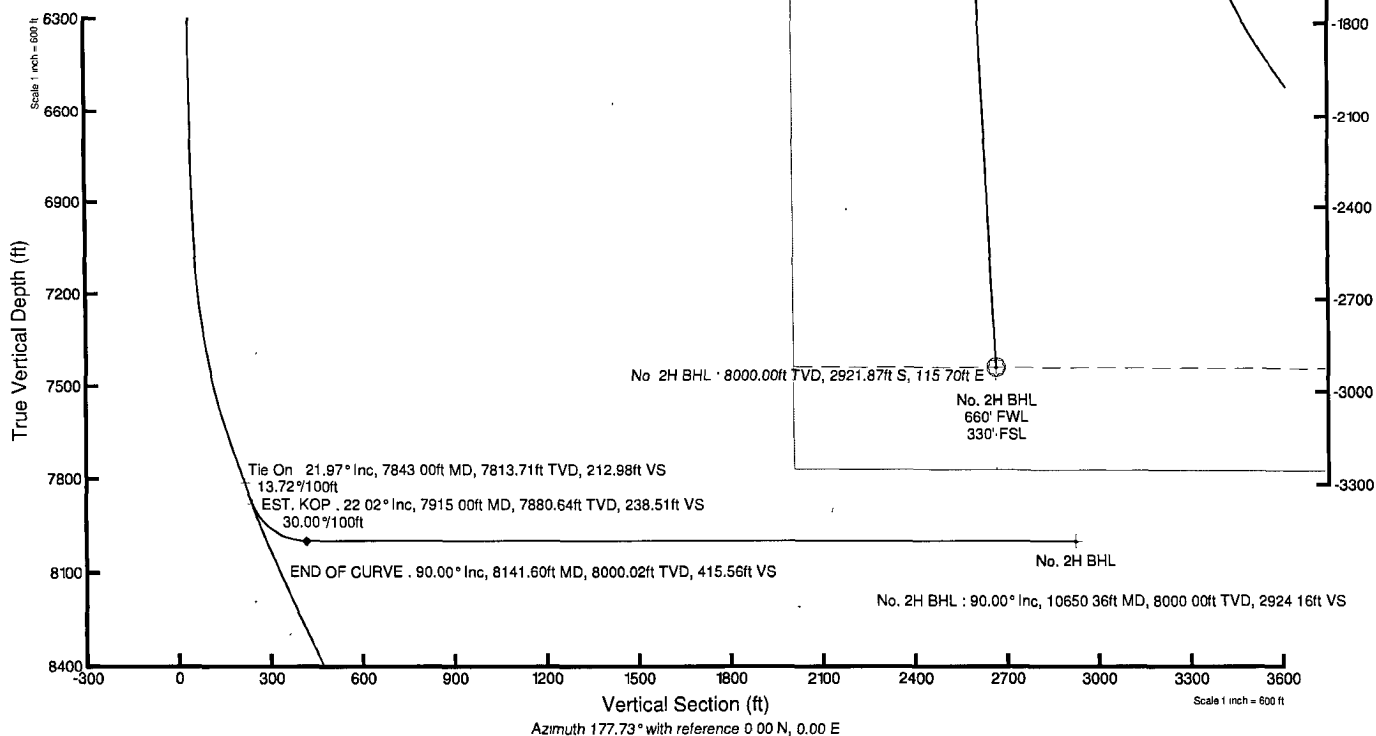
INTEQ

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (%/100ft)	VS (ft)
Tie On	7843.00	21.969	150.513	7813.71	-214.25	-28.02	0.00	212.98
EST. KOP	7915.00	22.020	177.089	7880.64	-239.52	-20.69	13.72	238.51
END OF CURVE	8141.60	90.000	177.089	8000.02	-416.35	-11.70	30.00	415.56
No. 2H BHL	10650.36	90.000	177.089	8000.00	-2921.87	115.70	0.00	2924.16


BGGM (1945 to 2010) Dip: 60.58° Field: 49108.9 nT
Magnetic North is 8.15 degrees East of True North (at 21/3/2009)
Grid North is 0.15 degrees East of True North
To correct azimuth from True to Grid subtract 0.15 degrees
To correct azimuth from Magnetic to Grid add 8.03 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 8.03 = 98.03

Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No. 2H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Elevation Zone (2001), US feet
Measured depths are referenced to Rig on No. 2H SHL (RT)	North Reference: Grid north
Rig on No. 2H SHL (RT) to Mean Sea Level: 3335 feet	Scale: True distance
Mean Sea Level to Mud line (Facility State 14 Com No. 2H): 3318 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 21/3/2009





Planned Wellpath Report

Plan #1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(State) Sec 14, T19S, R29E	Wellbore	No. 2H PWB
Facility	State 14 Com No. 2H	Sidetrack from	No. 2 AWB at 10000.00 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	0.999918	Report Generated	2/13/2009 at 9:52:30 AM
Convergence at slot	0.15° East	Database/Source file	WA_Midland/No. 2H_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	627834.57	604811.25	32°39'44.488"N	104°03'08.139"W
Facility Reference Pt			627834.57	604811.25	32°39'44.488"N	104°03'08.139"W
Field Reference Pt			629917.13	605248.99	32°39'48.764"N	104°02'43.764"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 2H SHL (RT) to Facility Vertical Datum	17.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 2H SHL (RT) to Mean Sea Level	3335.00ft
Vertical Reference Pt	Rig on No. 2H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 2H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	177.73°



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(State) Sec 14, T19S, R29E	Wellbore	No. 2H PWB
Facility	State 14 Com No. 2H	Sidetrack from	No. 2 AWB at 10000.00 MD

WELLPATH DATA (82 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	244.219	0.00	0.00	0.00	0.00	0.00	
200.00	0.150	244.219	200.00	0.10	-0.11	-0.24	0.07	
400.00	0.275	307.013	400.00	-0.09	0.06	-0.85	0.12	
600.00	0.396	293.851	600.00	-0.70	0.63	-1.87	0.07	
800.00	0.602	245.514	799.99	-0.61	0.47	-3.46	0.22	
1000.00	0.888	196.793	999.97	1.25	-1.45	-4.86	0.33	
1200.00	1.056	190.744	1199.94	4.51	-4.74	-5.65	0.10	
1400.00	1.054	238.864	1399.91	7.20	-7.50	-7.57	0.43	
1600.00	1.050	276.029	1599.88	7.82	-8.26	-10.97	0.34	
1800.00	1.102	275.352	1799.85	7.30	-7.89	-14.71	0.03	
2000.00	1.091	278.576	1999.81	6.69	-7.43	-18.50	0.03	
2200.00	0.994	291.403	2199.78	5.63	-6.51	-22.00	0.13	
2400.00	0.947	291.771	2399.75	4.26	-5.26	-25.15	0.02	
2600.00	0.980	281.122	2599.72	3.19	-4.32	-28.36	0.09	
2800.00	1.002	253.138	2799.69	3.24	-4.50	-31.72	0.24	
3000.00	1.011	187.770	2999.67	5.42	-6.75	-33.63	0.54	
3200.00	1.076	105.894	3199.64	7.74	-9.01	-32.06	0.68	
3400.00	1.184	72.158	3399.61	7.77	-8.90	-28.29	0.33	
3600.00	1.273	109.666	3599.56	8.04	-9.01	-24.23	0.40	
3800.00	1.393	168.296	3799.52	11.27	-12.14	-21.64	0.65	
4000.00	1.615	207.832	3999.45	16.11	-17.01	-22.47	0.52	
4200.00	1.881	236.057	4199.37	20.27	-21.34	-26.51	0.45	
4400.00	2.126	258.338	4399.25	22.60	-23.92	-32.86	0.41	
4600.00	2.379	269.137	4599.09	23.10	-24.73	-40.64	0.25	
4800.00	2.616	265.051	4798.90	23.22	-25.19	-49.34	0.15	
5000.00	2.816	249.666	4998.68	24.95	-27.29	-58.50	0.38	
5200.00	3.127	249.502	5198.41	28.18	-30.91	-68.21	0.16	
5400.00	3.568	275.033	5398.08	29.10	-32.27	-79.52	0.77	
5600.00	3.718	293.844	5597.68	25.45	-29.10	-91.65	0.60	
5800.00	3.173	268.656	5797.33	22.51	-26.61	-103.12	0.80	



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(State) Sec 14, T19S, R29E	Wellbore	No. 2H PWB
Facility	State 14 Com No. 2H	Sidetrack from	No. 2 AWB at 10000.00 MD

WELLPATH DATA (82 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
6000.00	2.209	211.506	5997.14	25.63	-30.03	-110.67	1.35	
6200.00	1.531	195.909	6197.04	31.37	-35.88	-113.41	0.42	
6400.00	1.387	233.921	6396.98	35.25	-39.88	-116.10	0.48	
6600.00	1.466	232.820	6596.91	38.07	-42.85	-120.10	0.04	
6800.00	1.494	181.061	6796.85	42.13	-47.00	-122.18	0.65	
6900.00	1.542	164.498	6896.82	44.74	-49.60	-121.85	0.44	
6969.00	1.941	182.276	6965.79	46.81	-51.67	-121.65	0.97	
7030.00	2.914	179.338	7026.73	49.39	-54.25	-121.67	1.61	
7091.00	4.313	161.913	7087.61	53.15	-57.98	-120.94	2.89	
7155.00	5.856	152.494	7151.36	58.42	-63.16	-118.69	2.73	
7218.00	7.500	149.044	7213.93	64.93	-69.54	-115.09	2.68	
7281.00	9.325	146.987	7276.25	72.93	-77.35	-110.19	2.94	
7345.00	11.169	145.763	7339.23	82.64	-86.82	-103.88	2.90	
7408.00	12.781	145.600	7400.85	93.72	-97.62	-96.51	2.56	
7469.00	14.294	146.681	7460.16	105.89	-109.48	-88.56	2.51	
7532.00	16.031	148.319	7520.96	120.13	-123.38	-79.72	2.84	
7594.00	17.919	149.644	7580.26	136.00	-138.90	-70.40	3.11	
7657.00	19.494	150.481	7639.93	153.90	-156.41	-60.32	2.54	
7718.00	20.556	150.969	7697.24	172.51	-174.63	-50.11	1.76	
7781.00	21.306	150.988	7756.08	192.61	-194.31	-39.19	1.19	
7843.00	21.969	150.513	7813.71	212.98	-214.25	-28.02	0.00	Tie On
7915.00	22.020	177.089	7880.64	238.51	-239.52	-20.69	13.72	EST. KOP
7943.00†	30.420	177.089	7905.74	250.87	-251.86	-20.06	30.00	
8043.00†	60.420	177.089	7975.13	321.28	-322.19	-16.48	30.00	
8141.60	90.000	177.089	8000.02	415.56	-416.35	-11.70	30.00	END OF CURVE
8143.00†	90.000	177.089	8000.02	416.96	-417.74	-11.62	0.00	
8243.00†	90.000	177.089	8000.02	516.95	-517.61	-6.55	0.00	
8343.00†	90.000	177.089	8000.02	616.94	-617.49	-1.47	0.00	
8443.00†	90.000	177.089	8000.02	716.94	-717.36	3.61	0.00	
8543.00†	90.000	177.089	8000.02	816.93	-817.23	8.69	0.00	



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(State) Sec 14, T19S, R29E	Wellbore	No. 2H PWB
Facility	State 14 Com No. 2H	Sidetrack from	No. 2 AWB at 10000.00 MD

WELLPATH DATA (82 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8643.00†	90.000	177.089	8000.01	916.93	-917.10	13.77	0.00	
8743.00†	90.000	177.089	8000.01	1016.92	-1016.97	18.84	0.00	
8843.00†	90.000	177.089	8000.01	1116.91	-1116.84	23.92	0.00	
8943.00†	90.000	177.089	8000.01	1216.91	-1216.71	29.00	0.00	
9043.00†	90.000	177.089	8000.01	1316.90	-1316.58	34.08	0.00	
9143.00†	90.000	177.089	8000.01	1416.89	-1416.45	39.16	0.00	
9243.00†	90.000	177.089	8000.01	1516.89	-1516.32	44.23	0.00	
9343.00†	90.000	177.089	8000.01	1616.88	-1616.20	49.31	0.00	
9443.00†	90.000	177.089	8000.01	1716.87	-1716.07	54.39	0.00	
9543.00†	90.000	177.089	8000.01	1816.87	-1815.94	59.47	0.00	
9643.00†	90.000	177.089	8000.01	1916.86	-1915.81	64.55	0.00	
9743.00†	90.000	177.089	8000.01	2016.86	-2015.68	69.62	0.00	
9843.00†	90.000	177.089	8000.01	2116.85	-2115.55	74.70	0.00	
9943.00†	90.000	177.089	8000.01	2216.84	-2215.42	79.78	0.00	
10043.00†	90.000	177.089	8000.00	2316.84	-2315.29	84.86	0.00	
10143.00†	90.000	177.089	8000.00	2416.83	-2415.16	89.94	0.00	
10243.00†	90.000	177.089	8000.00	2516.82	-2515.03	95.01	0.00	
10343.00†	90.000	177.089	8000.00	2616.82	-2614.91	100.09	0.00	
10443.00†	90.000	177.089	8000.00	2716.81	-2714.78	105.17	0.00	
10543.00†	90.000	177.089	8000.00	2816.81	-2814.65	110.25	0.00	
10643.00†	90.000	177.089	8000.00	2916.80	-2914.52	115.33	0.00	
10650.36	90.000	177.089	8000.00 [†]	2924.16	-2921.87	115.70	0.00	No. 2H BHL



Planned Wellpath Report

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 2H SHL
Area	Eddy County, NM	Well	No. 2H
Field	(State) Sec 14, T19S, R29E	Wellbore	No. 2H PWB
Facility	State 14 Com No. 2H	Sidetrack from	No. 2 AWB at 10000.00 MD

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 2H BHL	10650.36	8000.00	-2921.87	115.70	627950.26	601889.62	32°39'15.574"N	104°03'06.877"W	point

SURVEY PROGRAM Ref Wellbore: No. 2H PWB Ref Wellpath: Plan #1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7843.00	Unknown Tool (Standard)		No. 2 AWB
7843.00	10650.36	NaviTrak (Standard)		No. 2H PWB