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JUN 07 2010

Form 3160-3
(April 2004)

HOBBSOCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM-052
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Cimarex Energy Co. of Colorado		7. If Unit or CA Agreement, Name and No. Pending
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		8. Lease Name and Well No. <i><38152></i> Mallon 34 Federal Com No. 18
3b. Phone No. (include area code) <i><162683></i> 432-571-7800		9. API Well No. 30-025- 39763
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 640 FSL & 300 FWL Unit M UNORTHODOX At proposed prod. Zone 330 FSL & 330 FEL Unit P Horizontal Bone Spring test LOCATION		10. Field and Pool, or Exploratory <i><50461></i> Quail Ridge; Bone Spring, South
14. Distance in miles and direction from nearest town or post office*		11. Sec, T, R, M or Blk. and Survey or Area 34-19S-34E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 300'	16. No of acres in lease NM-052 - 1240 acres NM-57285 - 1280 acres	17. Spacing Unit dedicated to this well S2S2 160 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth Pilot Hole 11,250 TVD MD 15421' TVD 10840'	20. BLM/BIA Bond No. on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3665' GR	22. Approximate date work will start* 12.15.09	23. Estimated duration 25-30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Zeno Farris</i>	Name (Printed/Typed) Zeno Farris	Date 01.22.10
Title Manager Operations Administration		
Approved By (Signature) /s/ James Stovall	Name (Printed/Typed) /s/ James Stovall	Date JUN 04 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

* (Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Well becomes orthodox at approximately 10,800' MD

KZ PETROLEUM ENGINEER
Approval Subject to General Requirements
& Special Stipulations Attached

JUN 11 2010

DISTRICT IV
1820 S. St. Francis Dr., Santa Fe, NM 87505

Form C-102
Revised October 12, 2005

Free Lends - 3 Copies

1220 South St. Francis Dr.
Santa Fe, New Mexico 87501

41 JUN 07 2010

MOBBSOCD

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-39763	Pool Code 50461	Pool Name Quail Ridge; Bone Spring, South
Property Code 38188	Property Name MALLON "34" FEDERAL COM	Well Number 18
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3665'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	34	19 S	34 E		640	SOUTH	300	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No. P	Section 34	Township 19 S	Range 34 E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 330	East/West line EAST	County LEA
Dedicated Acres 160	Joint or Infill	Consolidation Code P		Order No. NSL-6135					

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

SURFACE LOCATION Lat - N 32°36'40.43" Long - W 103°33'20.29" NMSPCE- N 586972.6 E 780804.8 (NAD-83) BOTTOM HOLE LOCATION Lat - N 32°36'37.45" Long - W 103°32'25.89" NMSPCE- N 586705.087 E 785459.726 (NAD-83) SHL & P.P. Bone Spring 640 FSL & 300 FWL EOC 629 FSL & 491 FWL BHL 330 FSL & 330 FEL		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 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> Zeno Farris 1/22/2010 Signature Date Zeno Farris Printed Name
		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> SEP 14 2009 NEW MEXICO Signature & Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977 BASIN SURVEYS

Application to Drill
Mallon 34 Federal Com No. 18
 Cimarex Energy Co. of Colorado
 Unit M, Section 34
 T19S-R34E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location: SHL 640 FSL & 300 FWL
BHL 330 FSL & 330 FEL
- 2 Elevation above sea level: 3665' GR
- 3 Geologic name of surface formation: Quaternary Alluvium Deposits
- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
- 5 Proposed drilling depth: MD 15421' TVD 10840'
- 6 Estimated tops of geological markers:

Tansill	3380'	Grayburg	5231'
Yates	3575'	Cherry Canyon	5634'
7 Rivers	3872'	San Andres	6055'
Queen	4579'	Brushy Canyon	6463'
Penrose	4942'	Bone Spring	8239'
- 7 Possible mineral bearing formation:

Bone Spring	Oil
Delaware	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1750'	8.4 - 8.6	30-32	May lose circ	FW gel spud mud
1750' to 5500'	8.4 - 8.6	28-29	May lose circ	FW mud
5500' to 11250'	8.4 - 9.4	28-29	NC	FW and brine, use hi-vis sweeps to keep hole clean
10080' to 15421'	9	28-29	NC	Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Proposed drilling Plan

Set surface and intermediate casing and cement to surface. Drill to TD of 8½" hole (11250'). Set 7" casing from 0' to 10180' and fiberglass tubing from 10180' to 11250.' Cement fiberglass to 5300.' Drill through cement and kick off 6½" lateral @ 10649' and drill to lateral TD @ 15421.' Run PEAK completion assembly, no cement.

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 T19S-R34E, Eddy County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17½"	0' to 1750'	New 13¾"	48# 54.5	STC	P-110
Intermediate	12¾"	0' to 5500'	New 9¾"	40#	LTC	N-80
Production	8¾"	0' to 10180'	New 7"	26#	LTC	P-110
Fiberglass	8¾"	10180' to 11250'	New 2¾"	2.18#		IJ
Lateral Pt. 1	6¾"	10080' to 10949'	New 4½"	11.6#	BTC	P-110
Lateral Pt. 2	6¾"	10949' to 15421'	New 4½"	11.6#	LTC	P-110

J-55 Per Operator
 2/25/10
 CRW

10 Cementing:

Surface

Lead: 900 sx Premium Plus + 1% Pheno-Seal + 1% CaCl₂ (wt 12.5, yld 1.97)

Tail: 200 sx Premium Plus + 2% CaCl₂ (wt 14.8, yld 1.33)

TOC Surface

Intermediate

Lead: 1065 sx Interfill C + 1# Pheno-Seal (wt 14.0, yld 2.46)

Tail: 220 sx Premium Plus + 2% CaCl₂ (wt 14.8, yld 1.33)

TOC Surface

**Production /
Fiberglass**

Lead: 195 sx Interfill H + 0.1% HR-7 + 1# Pheno-Seal (wt 11.9, yld 2.78)

Tail: 385 sx Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 3# Pheno-Seal + 0.35% HR-7 (wt 13.2, yld 1.62)

TOC 5300'

Lateral

No cement needed. Peak completion assembly.

see
COA

Fresh water zones will be protected by setting 13¾" casing at 1750' and cementing to surface. Hydrocarbon zones will be protected by setting 9¾" casing at 5500' and production casing at 10180' with fiberglass to 11250' and cementing to 5300.'

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13¾" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. 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.

BOP unit will be hydraulically operated. BOP will be nipped up and 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 5000 psi BOP system.

The BOP will be tested to 3000 psi by an independent service company.

see
COA

Application to Drill
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Unit M, Section 34
T19S-R34E, Eddy County, NM

- 12 Testing, Logging and Coring Program: *See COA*
- A. Mud logging program: 2 man unit from 1485' to TD
 - B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
 - C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **3000 psi** Estimated BHT **130°**

- 14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **an oil well.**



Cimarex Energy Co.

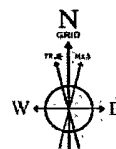
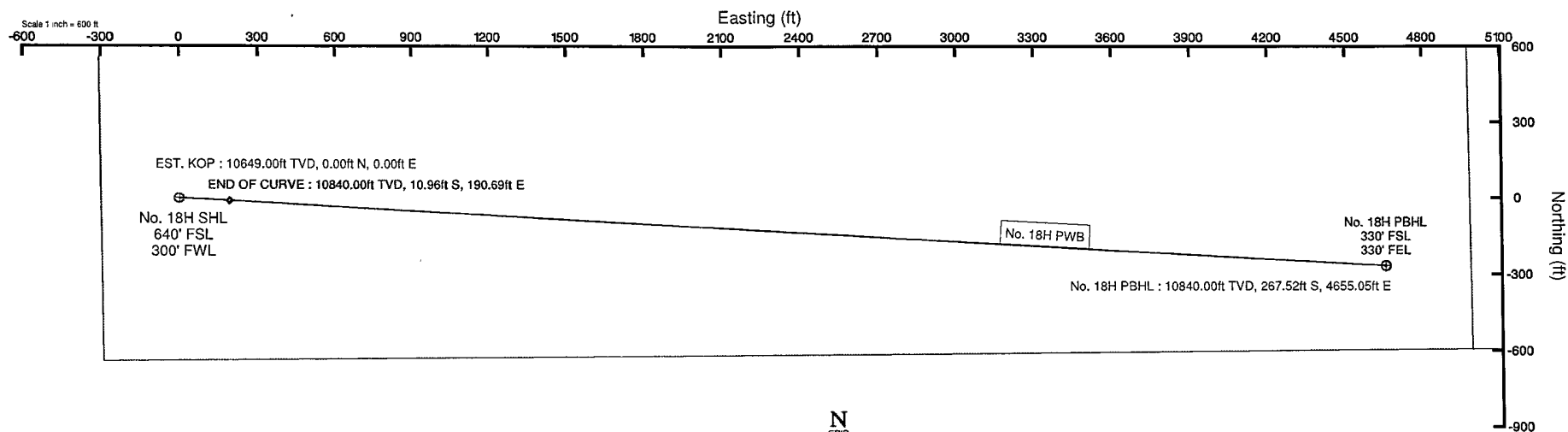
Location: Lea County, NM
Field: (Mallon) Sec 34, T19S, R34E
Facility: Mallon 34 Fed Com No. 18H

Slot: No. 18H SHL
Well: No. 18H
Wellbore: No. 18H PWB

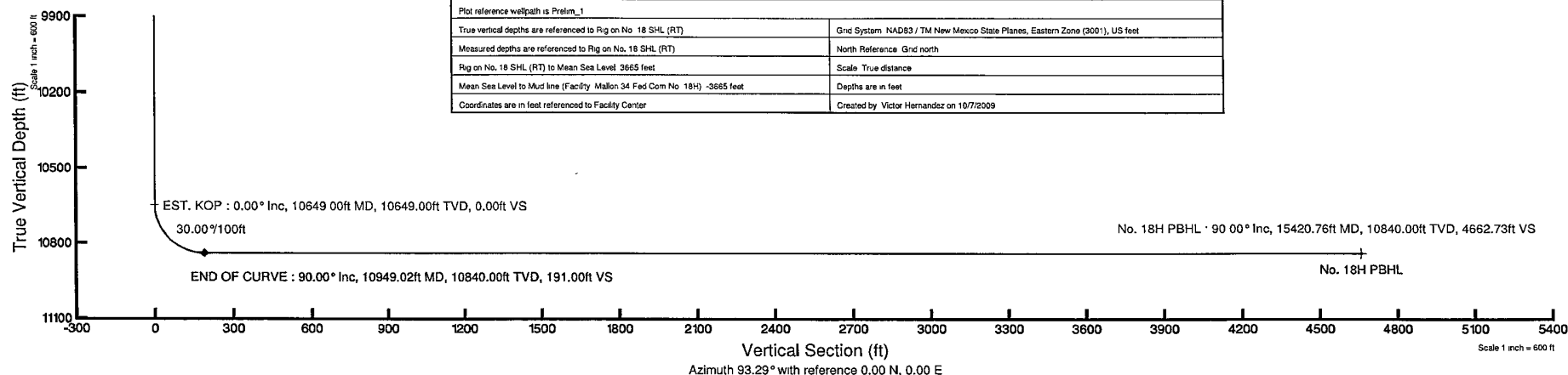


Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	93.289	0.00	0.00	0.00	0.00	0.00
EST. KOP	10649.00	0.000	93.289	10649.00	0.00	0.00	0.00	0.00
END OF CURVE	10949.02	90.000	93.289	10840.00	-10.96	190.69	30.00	191.00
No. 18H PBHL	15420.76	90.000	93.289	10840.00	-267.52	4655.05	0.00	4662.73



BGGM (1945.0 to 2011.0) Dip: 60.61° Field: 49081 nT
Magnetic North is 7.86 degrees East of True North (at 10/7/2009)
Grid North is 0.42 degrees East of True North
To correct azimuth from True to Grid subtract 0.42 degrees
To correct azimuth from Magnetic to Grid add 7.44 degrees
For example: If the Magnetic North Azimuth = 90 degrees, then the Grid North Azimuth = 90 + 7.44 = 97.44



Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No. 18 SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 18 SHL (RT)	North Reference: Grid north
Rig on No. 18 SHL (RT) to Mean Sea Level: 3665 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Mallon 34 Fed Com No. 18H): -3665 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 10/7/2009



Planned Wellpath Report

Prelim_1
Page 1 of 4

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 18H SHL
Area	Lea County, NM	Well	No. 18H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 18H PWB
Facility	Mallon 34 Fed Com No. 18H		

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	0.999975	Report Generated	10/7/2009 at 2:24:56 PM
Convergence at slot	0.42° East	Database/Source file	WA_Midland/No. 18H_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	780804.80	586972.60	32°36'40.432"N	103°33'20.286"W
Facility Reference Pt			780804.80	586972.60	32°36'40.432"N	103°33'20.286"W
Field Reference Pt			780804.80	586972.60	32°36'40.432"N	103°33'20.286"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 18 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 18 SHL (RT) to Mean Sea Level	3665.00ft
Vertical Reference Pt	Rig on No. 18 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 18 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	93.29°



Planned Wellpath Report

Prelim_1

Page 2 of 4



INTEQ

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Facility	Mallon 34 Fed Com No. 18H		

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	93.289	0.00	0.00	0.00	0.00	780804.80	586972.60	32°36'40.432"N	103°33'20.286"W	0.00	Tie On
10649.00	0.000	93.289	10649.00	0.00	0.00	0.00	780804.80	586972.60	32°36'40.432"N	103°33'20.286"W	0.00	EST. KOP
10749.00†	29.998	93.289	10744.49	25.59	-1.47	25.54	780830.34	586971.13	32°36'40.416"N	103°33'19.988"W	30.00	
10849.00†	59.996	93.289	10814.40	95.49	-5.48	95.33	780900.13	586967.12	32°36'40.371"N	103°33'19.172"W	30.00	
10949.00†	89.993	93.289	10840.00	190.98	-10.96	190.66	780995.46	586961.64	32°36'40.310"N	103°33'18.058"W	30.00	
10949.02	90.000	93.289	10840.00	191.00	-10.96	190.69	780995.48	586961.64	32°36'40.310"N	103°33'18.058"W	30.00	END OF CURVE
11049.00†	90.000	93.289	10840.00	290.98	-16.69	290.50	781095.29	586955.91	32°36'40.246"N	103°33'16.892"W	0.00	
11149.00†	90.000	93.289	10840.00	390.98	-22.43	390.33	781195.12	586950.17	32°36'40.182"N	103°33'15.725"W	0.00	
11249.00†	90.000	93.289	10840.00	490.98	-28.17	490.17	781294.96	586944.43	32°36'40.118"N	103°33'14.558"W	0.00	
11349.00†	90.000	93.289	10840.00	590.98	-33.91	590.00	781394.79	586938.69	32°36'40.054"N	103°33'13.392"W	0.00	
11449.00†	90.000	93.289	10840.00	690.98	-39.64	689.84	781494.62	586932.96	32°36'39.990"N	103°33'12.225"W	0.00	
11549.00†	90.000	93.289	10840.00	790.98	-45.38	789.67	781594.45	586927.22	32°36'39.926"N	103°33'11.059"W	0.00	
11649.00†	90.000	93.289	10840.00	890.98	-51.12	889.51	781694.29	586921.48	32°36'39.862"N	103°33'09.892"W	0.00	
11749.00†	90.000	93.289	10840.00	990.98	-56.86	989.35	781794.12	586915.75	32°36'39.798"N	103°33'08.725"W	0.00	
11849.00†	90.000	93.289	10840.00	1090.98	-62.59	1089.18	781893.95	586910.01	32°36'39.734"N	103°33'07.559"W	0.00	
11949.00†	90.000	93.289	10840.00	1190.98	-68.33	1189.02	781993.78	586904.27	32°36'39.670"N	103°33'06.392"W	0.00	
12049.00†	90.000	93.289	10840.00	1290.98	-74.07	1288.85	782093.62	586898.53	32°36'39.606"N	103°33'05.226"W	0.00	
12149.00†	90.000	93.289	10840.00	1390.98	-79.81	1388.69	782193.45	586892.80	32°36'39.542"N	103°33'04.059"W	0.00	
12249.00†	90.000	93.289	10840.00	1490.98	-85.54	1488.52	782293.28	586887.06	32°36'39.478"N	103°33'02.892"W	0.00	
12349.00†	90.000	93.289	10840.00	1590.98	-91.28	1588.36	782393.11	586881.32	32°36'39.414"N	103°33'01.726"W	0.00	
12449.00†	90.000	93.289	10840.00	1690.98	-97.02	1688.19	782492.95	586875.58	32°36'39.350"N	103°33'00.559"W	0.00	
12549.00†	90.000	93.289	10840.00	1790.98	-102.76	1788.03	782592.78	586869.85	32°36'39.286"N	103°32'59.393"W	0.00	
12649.00†	90.000	93.289	10840.00	1890.98	-108.49	1887.86	782692.61	586864.11	32°36'39.222"N	103°32'58.226"W	0.00	
12749.00†	90.000	93.289	10840.00	1990.98	-114.23	1987.70	782792.44	586858.37	32°36'39.158"N	103°32'57.060"W	0.00	
12849.00†	90.000	93.289	10840.00	2090.98	-119.97	2087.53	782892.28	586852.64	32°36'39.094"N	103°32'55.893"W	0.00	
12949.00†	90.000	93.289	10840.00	2190.98	-125.71	2187.37	782992.11	586846.90	32°36'39.030"N	103°32'54.726"W	0.00	
13049.00†	90.000	93.289	10840.00	2290.98	-131.44	2287.20	783091.94	586841.16	32°36'38.966"N	103°32'53.560"W	0.00	
13149.00†	90.000	93.289	10840.00	2390.98	-137.18	2387.04	783191.77	586835.42	32°36'38.901"N	103°32'52.393"W	0.00	
13249.00†	90.000	93.289	10840.00	2490.98	-142.92	2486.87	783291.61	586829.69	32°36'38.837"N	103°32'51.227"W	0.00	
13349.00†	90.000	93.289	10840.00	2590.98	-148.66	2586.71	783391.44	586823.95	32°36'38.773"N	103°32'50.060"W	0.00	



Planned Wellpath Report

Prelim_1
Page 3 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 18H SHL
Area	Lea County, NM	Well	No. 18H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 18H PWB
Facility	Mallon 34 Fed Com No. 18H		

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
13449.00†	90.000	93.289	10840.00	2690.98	-154.39	2686.55	783491.27	586818.21	32°36'38.709"N	103°32'48.893"W	0.00	
13549.00†	90.000	93.289	10840.00	2790.98	-160.13	2786.38	783591.10	586812.47	32°36'38.645"N	103°32'47.727"W	0.00	
13649.00†	90.000	93.289	10840.00	2890.98	-165.87	2886.22	783690.94	586806.74	32°36'38.581"N	103°32'46.560"W	0.00	
13749.00†	90.000	93.289	10840.00	2990.98	-171.60	2986.05	783790.77	586801.00	32°36'38.517"N	103°32'45.394"W	0.00	
13849.00†	90.000	93.289	10840.00	3090.98	-177.34	3085.89	783890.60	586795.26	32°36'38.453"N	103°32'44.227"W	0.00	
13949.00†	90.000	93.289	10840.00	3190.98	-183.08	3185.72	783990.43	586789.53	32°36'38.389"N	103°32'43.060"W	0.00	
14049.00†	90.000	93.289	10840.00	3290.98	-188.82	3285.56	784090.27	586783.79	32°36'38.325"N	103°32'41.894"W	0.00	
14149.00†	90.000	93.289	10840.00	3390.98	-194.55	3385.39	784190.10	586778.05	32°36'38.261"N	103°32'40.727"W	0.00	
14249.00†	90.000	93.289	10840.00	3490.98	-200.29	3485.23	784289.93	586772.31	32°36'38.197"N	103°32'39.561"W	0.00	
14349.00†	90.000	93.289	10840.00	3590.98	-206.03	3585.06	784389.77	586766.58	32°36'38.132"N	103°32'38.394"W	0.00	
14449.00†	90.000	93.289	10840.00	3690.98	-211.77	3684.90	784489.60	586760.84	32°36'38.068"N	103°32'37.228"W	0.00	
14549.00†	90.000	93.289	10840.00	3790.98	-217.50	3784.73	784589.43	586755.10	32°36'38.004"N	103°32'36.061"W	0.00	
14649.00†	90.000	93.289	10840.00	3890.98	-223.24	3884.57	784689.26	586749.36	32°36'37.940"N	103°32'34.894"W	0.00	
14749.00†	90.000	93.289	10840.00	3990.98	-228.98	3984.40	784789.10	586743.63	32°36'37.876"N	103°32'33.728"W	0.00	
14849.00†	90.000	93.289	10840.00	4090.98	-234.72	4084.24	784888.93	586737.89	32°36'37.812"N	103°32'32.561"W	0.00	
14949.00†	90.000	93.289	10840.00	4190.98	-240.45	4184.07	784988.76	586732.15	32°36'37.748"N	103°32'31.395"W	0.00	
15049.00†	90.000	93.289	10840.00	4290.98	-246.19	4283.91	785088.59	586726.42	32°36'37.684"N	103°32'30.228"W	0.00	
15149.00†	90.000	93.289	10840.00	4390.98	-251.93	4383.74	785188.43	586720.68	32°36'37.620"N	103°32'29.061"W	0.00	
15249.00†	90.000	93.289	10840.00	4490.98	-257.67	4483.58	785288.26	586714.94	32°36'37.555"N	103°32'27.895"W	0.00	
15349.00†	90.000	93.289	10840.00	4590.98	-263.40	4583.42	785388.09	586709.20	32°36'37.491"N	103°32'26.728"W	0.00	
15420.76	90.000	93.289	10840.00	4662.73	-267.52	4655.05	785459.73	586705.09	32°36'37.445"N	103°32'25.891"W	0.00	No. 18H PBHL



Planned Wellpath Report

Prelim_1

Page 4 of 4



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 18H SHL
Area	Lea County, NM	Well	No. 18H
Field	(Mallon) Sec 34, T19S, R34E	Wellbore	No. 18H PWB
Facility	Mallon 34 Fed Com No. 18H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 18H PBHL	15420.76	10840.00	-267.52	4655.05	785459.73	586705.09	32°36'37.445"N	103°32'25.891"W	point

SURVEY PROGRAM Ref Wellbore: No. 18H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15420.76	NaviTrak (Standard)		No. 18H PWB

Key Rig 880

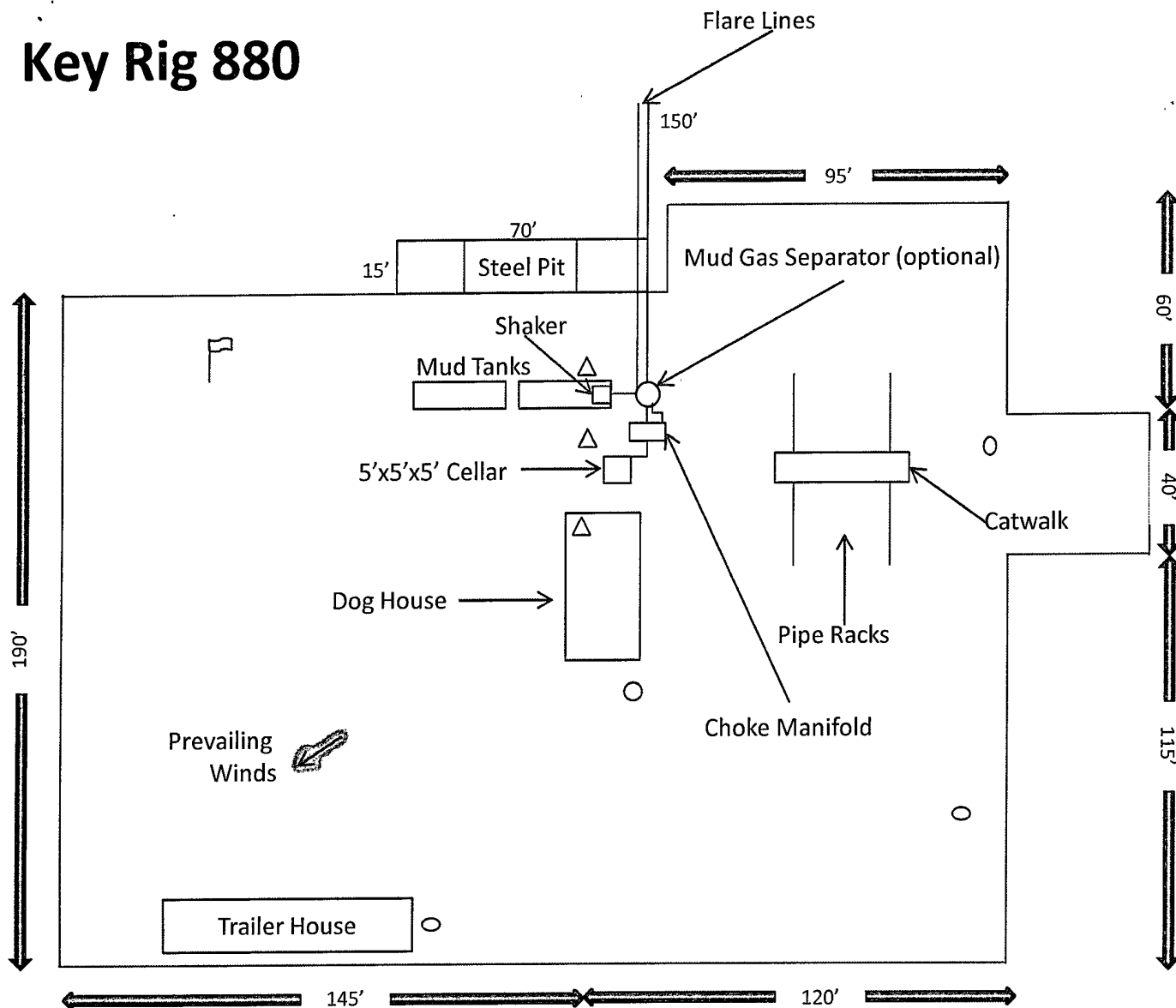


Exhibit D – Rig Diagram
Mallon 34 Federal Com No. 18
 Cimarex Energy Co. of Colorado
 34-19S-34E
 SHL 640 FSL & 300 FWL
 BHL 330 FSL & 330 FEL
 Lea County, NM

SR & A

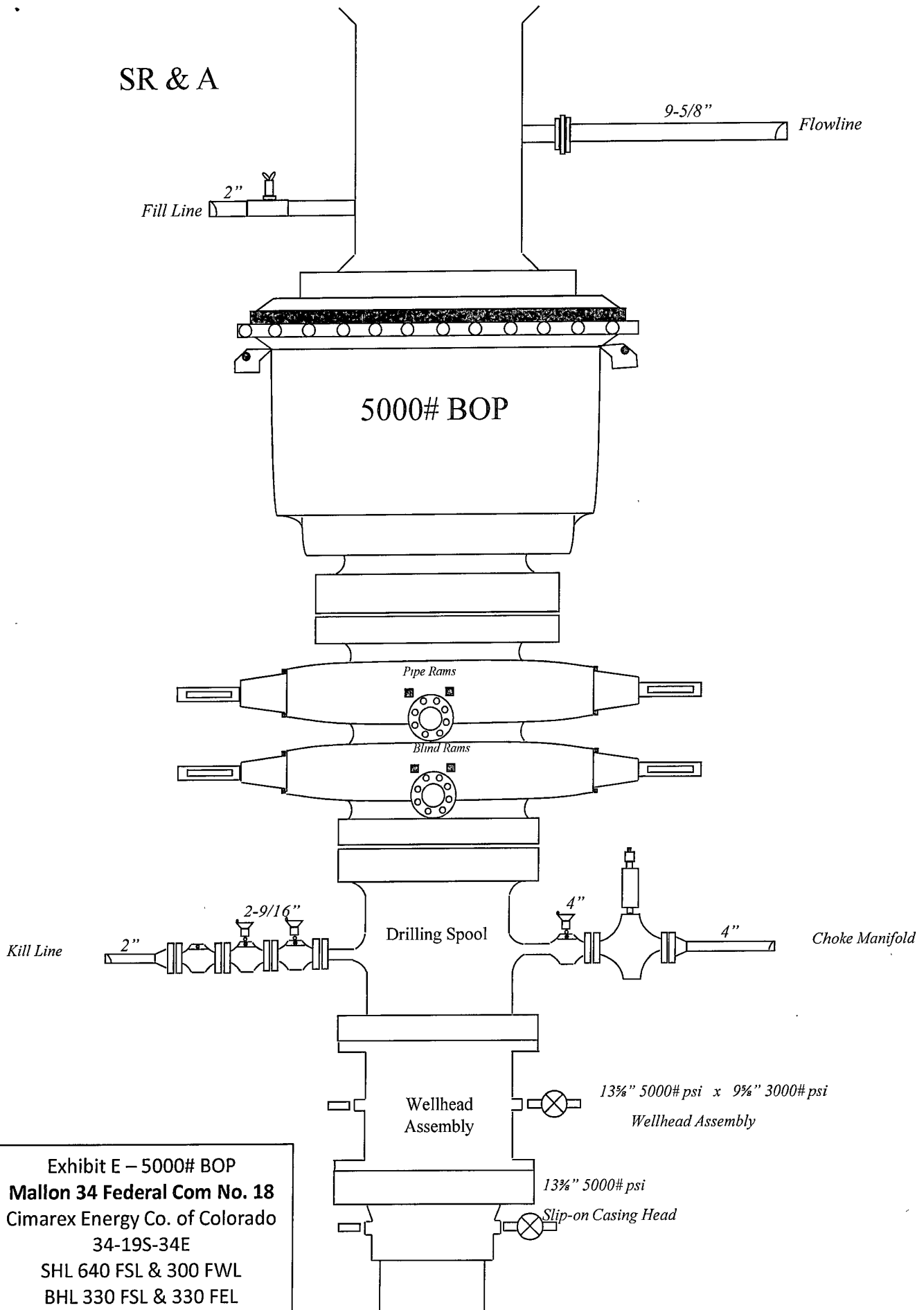


Exhibit E – 5000# BOP
Mallon 34 Federal Com No. 18
 Cimarex Energy Co. of Colorado
 34-19S-34E
 SHL 640 FSL & 300 FWL
 BHL 330 FSL & 330 FEL
 Lea County, NM

Drilling Operations
Choke Manifold
5M Service (tested to 3M)

Exhibit E-1 – Choke Manifold Diagram
Mallon 34 Federal Com No. 18
Cimarex Energy Co. of Colorado
34-19S-34E
SHL 640 FSL & 300 FWL
BHL 330 FSL & 330 FEL
Lea County, NM

