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SEP 07 2010

HOBBSOCD

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NM-052

6. If Indian, Allotee or Tribe Name

1a Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No

1b. Type of Well. ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8 Lease Name and Well No (29028)
Mallon 34 Federal No. 20 H

2. Name of Operator
Cimarex Energy Co. of Colorado (162683)

9. API Well No.
30-025- 39895

3a. Address
600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. *(include area code)*
432-571-7800

10 Field and Pool, or Exploratory (50461)
Quail Ridge; Bone Spring, South

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At Surface 730 FNL & 330 FWL Unit D

At proposed prod Zone 330 FNL & 330 FEL Unit A *Horizontal Bone Spring test*

11. Sec., T. R M. or Blk. and Survey or Area
34-19S-34E

14 Distance in miles and direction from nearest town or post office*

12 County or Parish
Lea

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any)	16 No of acres in lease	17. Spacing Unit dedicated to this well
330'	NM-052 - 1240 acres	N2N2 160 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	**19. Proposed Depth**	**20. BLM/BIA Bond No on File**
N/A	Pilot 11250' MD 15397' TVD 10840'	NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc)	**22. Approximate date work will start***	**23 Estimated duration**
3699' GR	06.01.10	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
2. A Drilling Plan
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)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
5. Operator Certification
6. Such other site specific information and/or plans as may be required by the authorized officer

25 Signature	Name *(Printed/Typed)*	Date
Zeno Farris	Zeno Farris	03.29.10

Title
Manager Operations Administration

Approved By *(Signature)* /s/ Don Peterson	Name (Printed/Typed)	Date SEP - 2 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

APPROVAL FOR TWO YEARS

Conditions of approval, if any, are attached

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

KZ 09/14/10

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

SEP 07 2010
HOBBSOCD

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

OIL CONSERVATION DIVISION

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

API Number	Pool Code	Pool Name
30-025-39895	50461	Quail Ridge; Bone Spring, South

Property Code	Property Name	Well Number
29028	MALLON "34" FEDERAL	20

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3697'

Surface Location

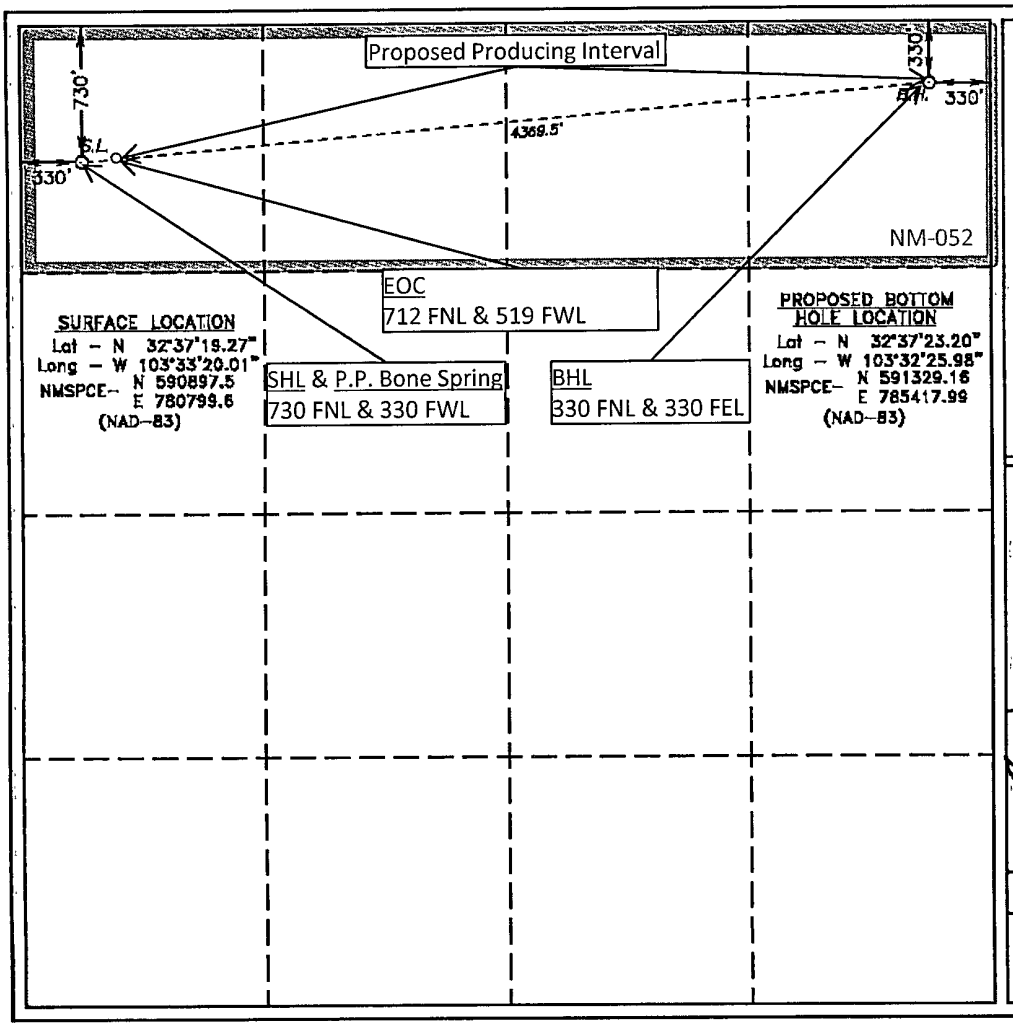
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	34	19 S	34 E		730	NORTH	330	WEST	LEA

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
A	34	19 S	34 E		330	NORTH	330	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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.

Zeno Farris 3/29/2010

Signature Date

Zeno Farris

Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

OCTOBER 5, 2005

Date Surveyed

Signature & Seal of Professional Surveyor

W.O. 21011

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

Application to Drill
Mallon 34 Federal No. 20
Cimarex Energy Co. of Colorado
Unit D, 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 730 FNL & 330 FWL
BHL 330 FNL & 330 FEL

2 Elevation above sea level: 3699' GR

3 Geologic name of surface formation: Quaternery 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 15397' 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
10490' to 15397'	9	28-29	NC	Brine

See COA

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 8¾" hole (11250'). Set 7" casing from 0' to 10590' and fiberglass tubing from 10590' to 11250.' Cement fiberglass to 5300.' Drill through cement and kick off 6⅛" lateral @ 10650' and drill to lateral TD @ 15397.' Run PEAK completion liner, no cement. Request a 100' tieback for lateral casing string in order to be able to set the pump as deep as possible.

See COA

RKH
Per Operator
5/7/10

9 Casing & Cementing Program:

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
Surface	17½"	0'	to	1750'	New	13⅜"	~~54.48~~#	STC	~~H-40~~ J55
Intermediate	12¼"	0'	to	5500'	New	9⅝"	40#	LTC	N-80
Production	8¾"	0'	to	10590'	New	7"	26#	LTC	P-110
Fiberglass	8¾"	10590'	to	11250'	New	2⅞"	2.18#		IJ
Lateral Pt. 1	6⅛"	10490'	to	10949'	New	4½"	11.6#	BTC	P-110
Lateral Pt. 2	6⅛"	10949'	to	15397'	New	4½"	11.6#	LTC	P-110

10 Cementing:

Surface Lead: 900 sx Premium Plus + 1% Pheno-Seal + 1% $CaCl_2$ (wt 12.5, yld 1.97)
Tail: 200 sx Premium Plus + 2% $CaCl_2$ (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% $CaCl_2$ (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' — See COA

Lateral No cement needed. Peak completion assembly.

Fresh water zones will be protected by setting 13⅜" casing at 1750' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 5500' and production casing at 10590' with fiberglass to 11250' and cementing to 5300.'

Collapse Factor	*Burst Factor*	*Tension Factor*
1.125	1.125	1.6

11 Pressure control Equipment:

See COA

Exhibit "E". A 13⅝" 5000 PSI working pressure BOP tested to 3000 psi 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 as needed. 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 nippled 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 tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.

See COA

12 Testing, Logging and Coring Program:

A. Mud logging program: 2 man unit from 1485' to TD
B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR – See COA
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 H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S 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 potentialed as **an oil well.**

Cimarex Energy Co.

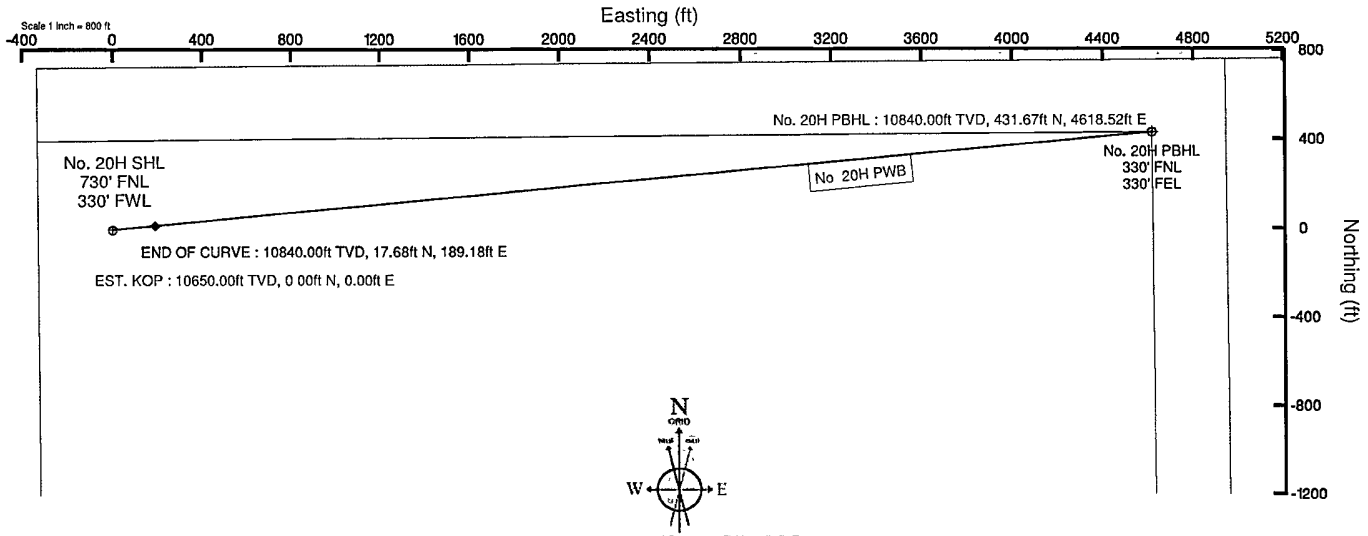
Location: Lea County, NM
Field: (Mallon) Sec 34, T19S, R34E
Facility: Mallon 34 Fed No. 20H

Slot: No. 20H SHL
Well: No. 20H
Wellbore: No. 20H PWB

BAKER HUGHES INTEQ

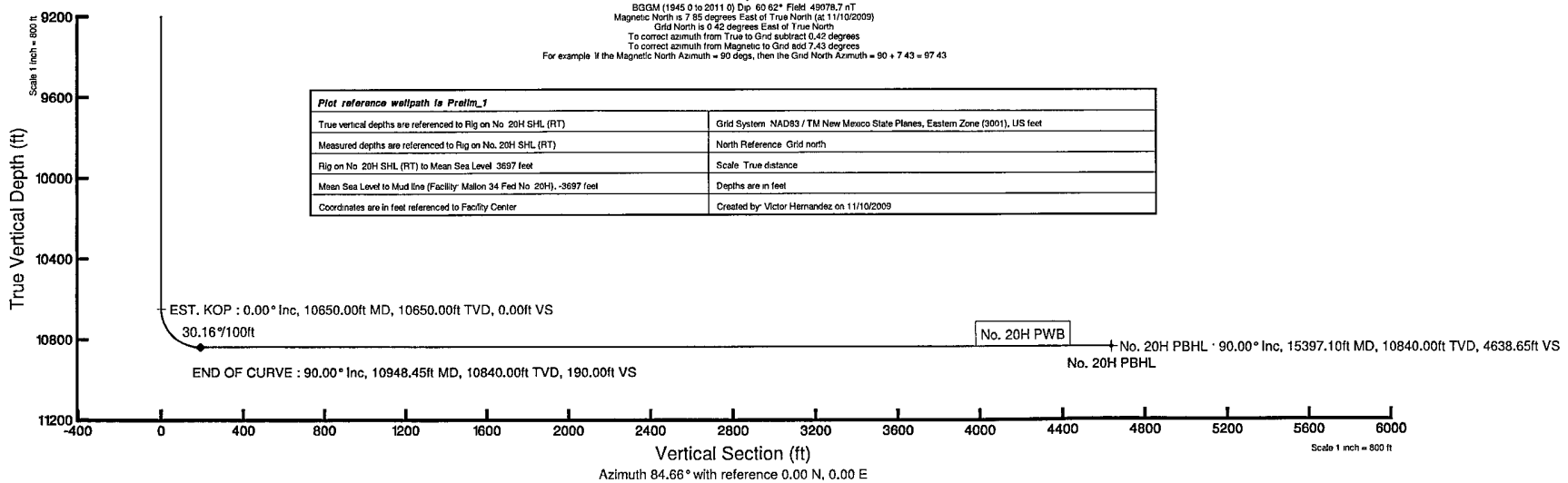
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	84.660	0.00	0.00	0.00	0.00	0.00
EST. KOP	10650.00	0.000	84.660	10650.00	0.00	0.00	0.00	0.00
END OF CURVE	10948.45	90.000	84.660	10840.00	17.68	189.18	30.16	190.00
No. 20H PBHL	15397.10	90.000	84.660	10840.00	431.67	4618.52	0.00	4638.65



BGGM (1945 0 to 2011 0) Dip 60 62° Field 49078.7 nT
Magnetic North is 7 85 degrees East of True North (at 11/10/2009)
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 7.43 degrees
For example If the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 43 = 97 43

Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No 20H SHL (RT)	Grid System NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 20H SHL (RT)	North Reference Grid north
Rig on No 20H SHL (RT) to Mean Sea Level 3697 feet	Scale True distance
Mean Sea Level to Mud line (Facility Mallon 34 Fed No 20H), -3697 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by Victor Hernandez on 11/10/2009



Azimuth 84.66° with reference 0.00 N, 0.00 E

Planned Wellpath Report

Prelim_1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 20H SHL**
Area	**Lea County, NM**	Well	**No. 20H**
Field	**(Mallon) Sec 34, T19S, R34E**	Wellbore	**No. 20H PWB**
Facility	**Mallon 34 Fed No. 20H**		

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	**11/10/2009** at **5:33:18 PM**
Convergence at slot	**0.42° East**	Database/Source file	**WA_Midland/No._20H_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**	780799.60	590897.50	32°37'19.268"N	103°33'20.011"W
Facility Reference Pt			**780799.60**	**590897.50**	32°37'19.268"N	103°33'20.011"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. 20H SHL (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Facility Center**	Rig on No. 20H SHL (RT) to Mean Sea Level	**3697.00ft**
Vertical Reference Pt	**Rig on No. 20H SHL (RT)**	Facility Vertical Datum to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**Rig on No. 20H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**84.66°**

Planned Wellpath Report

Prelim_1

CIMAREX

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 20H SHL**
Area	**Lea County, NM**	Well	**No. 20H**
Field	**(Mallon) Sec 34, T19S, R34E**	Wellbore	**No. 20H PWB**
Facility	**Mallon 34 Fed No. 20H**		

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]	DLS [°/100ft]	Comments
0.00	0.000	84.660	0.00	0.00	0.00	0.00	780799.60	590897.50	0.00	Tie On
10650.00	0.000	84.660	10650.00	0.00	0.00	0.00	780799.60	590897.50	0.00	EST. KOP
10750.00†	30.156	84.660	10745.45	25.71	2.39	25.60	780825.20	590899.89	30.16	
10850.00†	60.311	84.660	10815.06	95.90	8.92	95.48	780895.08	590906.42	30.16	
10948.45	90.000	84.660	10840.00	190.00	17.68	189.18	780988.77	590915.18	30.16	END OF CURVE
10950.00†	90.000	84.660	10840.00	191.55	17.83	190.72	780990.31	590915.33	0.00	
11050.00†	90.000	84.660	10840.00	291.55	27.13	290.28	781089.88	590924.63	0.00	
11150.00†	90.000	84.660	10840.00	391.55	36.44	389.85	781189.44	590933.94	0.00	
11250.00†	90.000	84.660	10840.00	491.55	45.74	489.42	781289.00	590943.24	0.00	
11350.00†	90.000	84.660	10840.00	591.55	55.05	588.98	781388.57	590952.55	0.00	
11450.00†	90.000	84.660	10840.00	691.55	64.36	688.55	781488.13	590961.85	0.00	
11550.00†	90.000	84.660	10840.00	791.55	73.66	788.11	781587.69	590971.16	0.00	
11650.00†	90.000	84.660	10840.00	891.55	82.97	887.68	781687.26	590980.47	0.00	
11750.00†	90.000	84.660	10840.00	991.55	92.27	987.25	781786.82	590989.77	0.00	
11850.00†	90.000	84.660	10840.00	1091.55	101.58	1086.81	781886.38	590999.08	0.00	
11950.00†	90.000	84.660	10840.00	1191.55	110.89	1186.38	781985.95	591008.38	0.00	
12050.00†	90.000	84.660	10840.00	1291.55	120.19	1285.94	782085.51	591017.69	0.00	
12150.00†	90.000	84.660	10840.00	1391.55	129.50	1385.51	782185.07	591026.99	0.00	
12250.00†	90.000	84.660	10840.00	1491.55	138.80	1485.08	782284.64	591036.30	0.00	
12350.00†	90.000	84.660	10840.00	1591.55	148.11	1584.64	782384.20	591045.61	0.00	
12450.00†	90.000	84.660	10840.00	1691.55	157.42	1684.21	782483.76	591054.91	0.00	
12550.00†	90.000	84.660	10840.00	1791.55	166.72	1783.77	782583.33	591064.22	0.00	
12650.00†	90.000	84.660	10840.00	1891.55	176.03	1883.34	782682.89	591073.52	0.00	
12750.00†	90.000	84.660	10840.00	1991.55	185.33	1982.91	782782.45	591082.83	0.00	
12850.00†	90.000	84.660	10840.00	2091.55	194.64	2082.47	782882.02	591092.13	0.00	
12950.00†	90.000	84.660	10840.00	2191.55	203.95	2182.04	782981.58	591101.44	0.00	
13050.00†	90.000	84.660	10840.00	2291.55	213.25	2281.60	783081.14	591110.75	0.00	
13150.00†	90.000	84.660	10840.00	2391.55	222.56	2381.17	783180.71	591120.05	0.00	
13250.00†	90.000	84.660	10840.00	2491.55	231.86	2480.74	783280.27	591129.36	0.00	
13350.00†	90.000	84.660	10840.00	2591.55	241.17	2580.30	783379.83	591138.66	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 20H SHL**
Area	**Lea County, NM**	Well	**No. 20H**
Field	**(Mallon) Sec 34, T19S, R34E**	Wellbore	**No. 20H PWB**
Facility	**Mallon 34 Fed No. 20H**		

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]	DLS [°/100ft]	Comments
13450.00†	90.000	84.660	10840.00	2691.55	250.48	2679.87	783479.40	591147.97	0.00	
13550.00†	90.000	84.660	10840.00	2791.55	259.78	2779.43	783578.96	591157.27	0.00	
13650.00†	90.000	84.660	10840.00	2891.55	269.09	2879.00	783678.52	591166.58	0.00	
13750.00†	90.000	84.660	10840.00	2991.55	278.39	2978.57	783778.09	591175.89	0.00	
13850.00†	90.000	84.660	10840.00	3091.55	287.70	3078.13	783877.65	591185.19	0.00	
13950.00†	90.000	84.660	10840.00	3191.55	297.01	3177.70	783977.21	591194.50	0.00	
14050.00†	90.000	84.660	10840.00	3291.55	306.31	3277.27	784076.78	591203.80	0.00	
14150.00†	90.000	84.660	10840.00	3391.55	315.62	3376.83	784176.34	591213.11	0.00	
14250.00†	90.000	84.660	10840.00	3491.55	324.92	3476.40	784275.90	591222.41	0.00	
14350.00†	90.000	84.660	10840.00	3591.55	334.23	3575.96	784375.47	591231.72	0.00	
14450.00†	90.000	84.660	10840.00	3691.55	343.54	3675.53	784475.03	591241.03	0.00	
14550.00†	90.000	84.660	10840.00	3791.55	352.84	3775.10	784574.59	591250.33	0.00	
14650.00†	90.000	84.660	10840.00	3891.55	362.15	3874.66	784674.16	591259.64	0.00	
14750.00†	90.000	84.660	10840.00	3991.55	371.45	3974.23	784773.72	591268.94	0.00	
14850.00†	90.000	84.660	10840.00	4091.55	380.76	4073.79	784873.28	591278.25	0.00	
14950.00†	90.000	84.660	10840.00	4191.55	390.07	4173.36	784972.85	591287.55	0.00	
15050.00†	90.000	84.660	10840.00	4291.55	399.37	4272.93	785072.41	591296.86	0.00	
15150.00†	90.000	84.660	10840.00	4391.55	408.68	4372.49	785171.97	591306.17	0.00	
15250.00†	90.000	84.660	10840.00	4491.55	417.98	4472.06	785271.54	591315.47	0.00	
15350.00†	90.000	84.660	10840.00	4591.55	427.29	4571.62	785371.10	591324.78	0.00	
15397.10	90.000	84.660	10840.00[1]	4638.65	431.67	4618.52	785417.99	591329.16	0.00	No. 20H PBHL

Planned Wellpath Report

Prelim_1

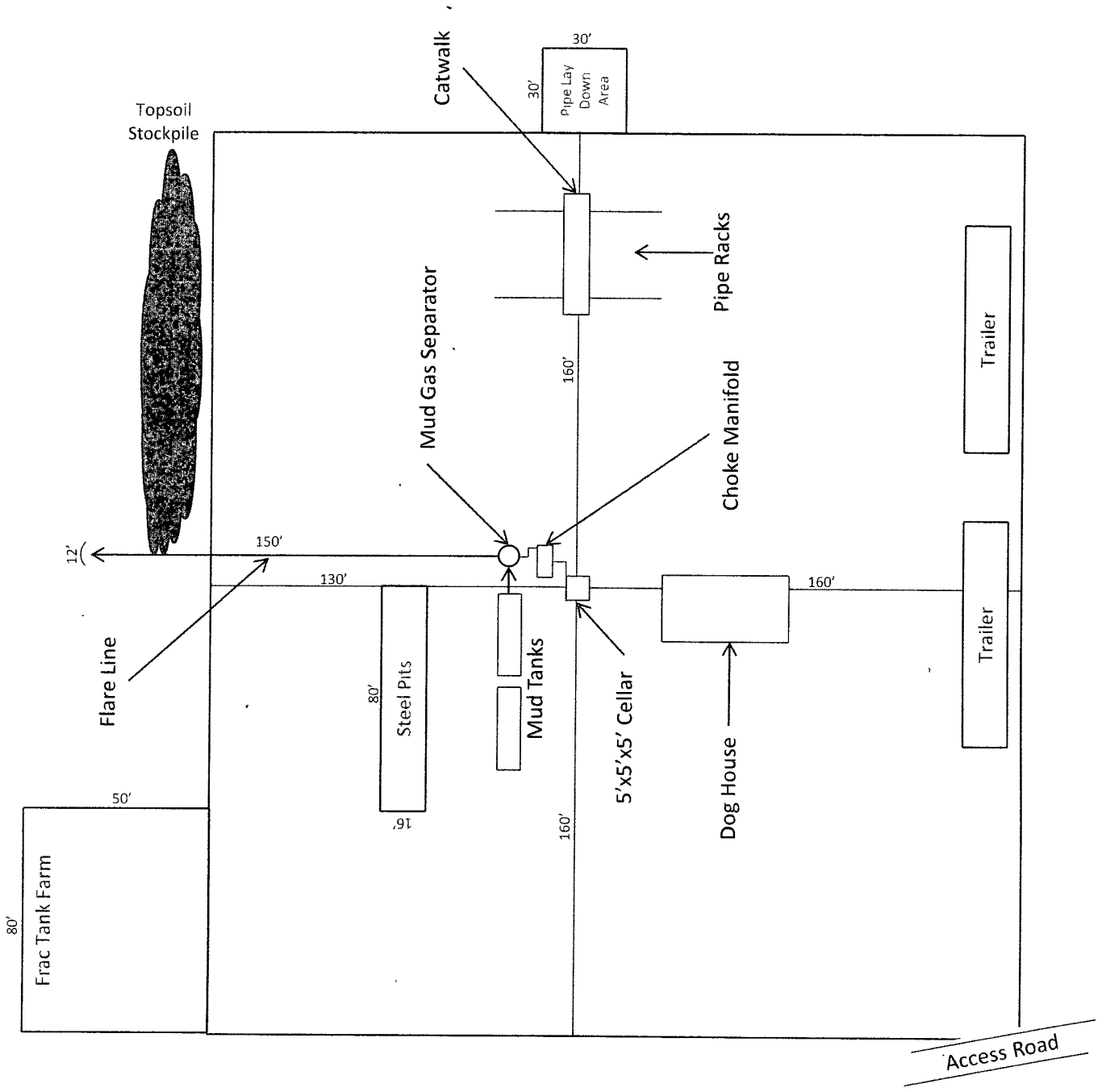
REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 20H SHL**
Area	**Lea County, NM**	Well	**No. 20H**
Field	**(Mallon) Sec 34, T19S, R34E**	Wellbore	**No. 20H PWB**
Facility	**Mallon 34 Fed No. 20H**		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 20H PBHL	15397.10	10840.00	431.67	4618.52	**785417.99**	**591329.16**	32°37'23.201"N	103°32'25.976"W	point

SURVEY PROGRAM Ref Wellbore: No. 20H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15397.10	NaviTrak (Standard)		No. 20H PWB



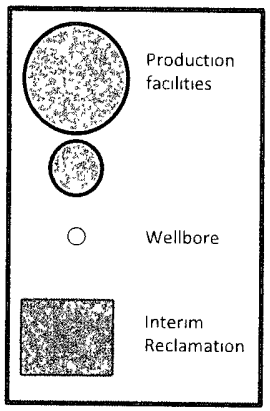
1"=50'

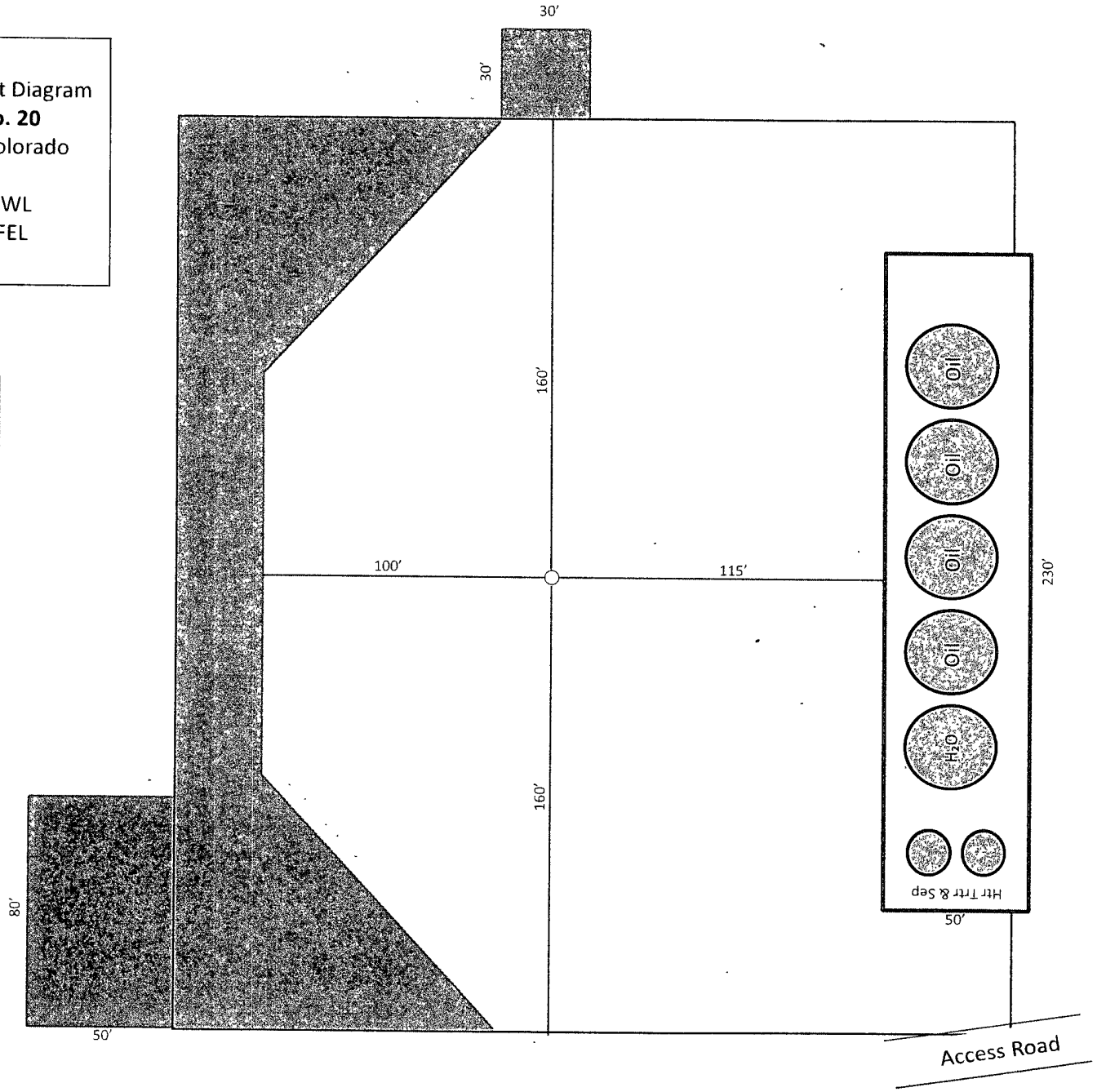
N

Exhibit D – Rig Diagram
Mallon 34 Federal No. 20
Cimarex Energy Co. of Colorado
34-19S-34E
SHL 730 FNL & 330 FWL
BHL 330 FNL & 330 FEL
Lea County, NM

Exhibit D-1
Production Facilities Layout Diagram
Mallon 34 Federal No. 20
Cimarex Energy Co. of Colorado
34-19S-34E
SHL 730 FNL & 330 FWL
BHL 330 FNL & 330 FEL
Lea County, NM

1"=50'





SR & A

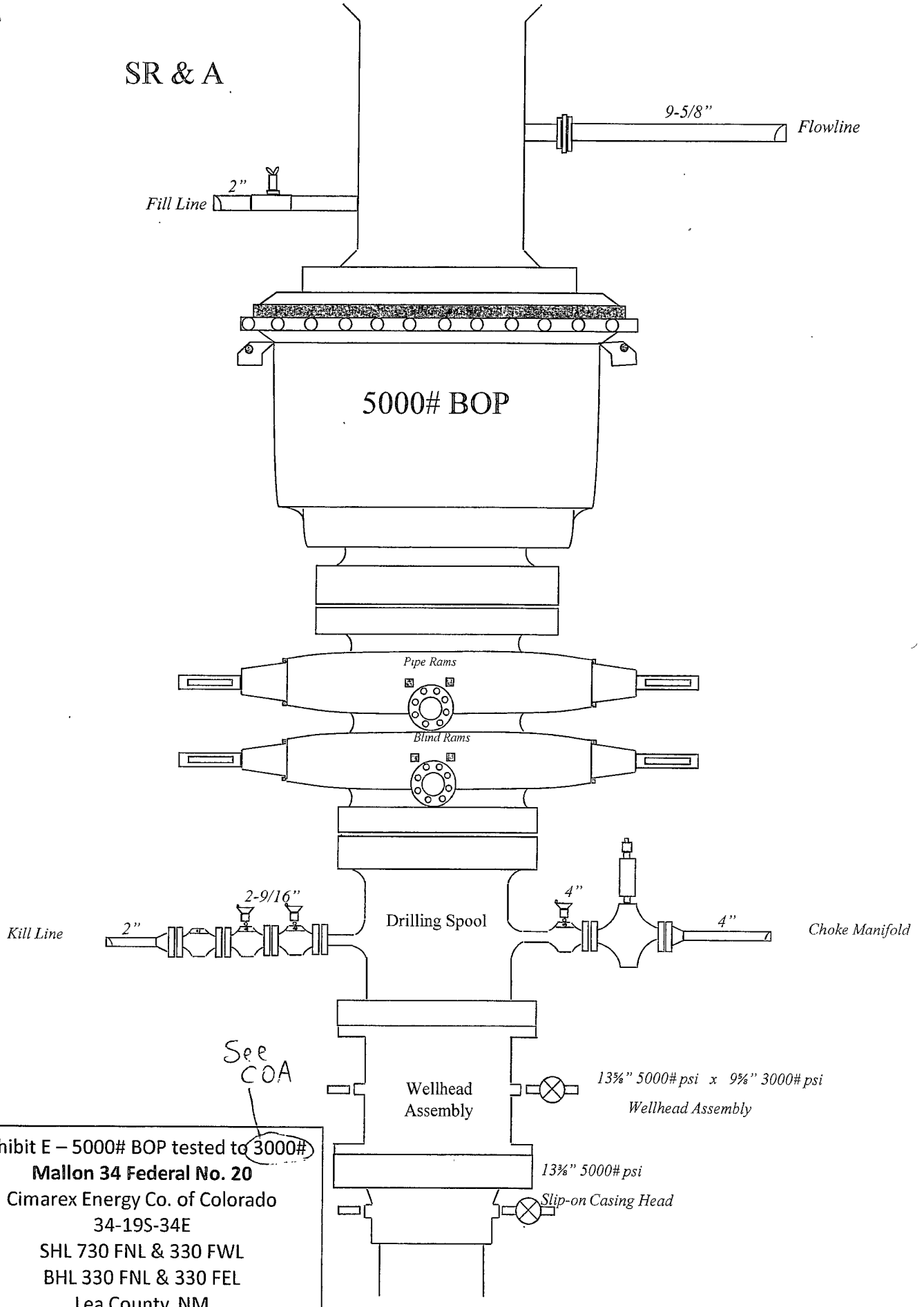


Exhibit E – 5000# BOP tested to 3000#
Mallon 34 Federal No. 20
Cimarex Energy Co. of Colorado
34-19S-34E
SHL 730 FNL & 330 FWL
BHL 330 FNL & 330 FEL
Lea County, NM

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

See COA

Exhibit E-1 – Choke Manifold Diagram
Mallon 34 Federal No. 20
Cimarex Energy Co. of Colorado
34-19S-34E
SHL 730 FNL & 330 FWL
BHL 330 FNL & 330 FEL
Lea County, NM