

Form 3160-3
(March 2012)

HOBBS OCD

NOV 20 2013

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM 081274	
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.	
3a. Address 600 N. Marienfeld, Ste 600 Midland, TX 79701		8. Lease Name and Well No. Thyme APY Federal No. 9	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 41501	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 330' FNL & 2030' FEL At proposed prod. zone 330' FSL & 1650' FEL Horizontal Bone Spring test		10. Field and Pool, or Exploratory Bone Spring	
14. Distance in miles and direction from nearest town or post office* 28 miles WSW of Eunice, NM		11. Sec., T. R. M. or Blk. and Survey or Area 1-23S-32E	
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 479.25	17. Spacing Unit dedicated to this well 159.65	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth MD 14108' TVD 9600' Pilot Hole 10200'	20. BLM/BIA Bond No. on file NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3758' GR	22. Approximate date work will start* 04/30/2013	23. Estimated duration 25-30 days	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature <i>Paula Brunson</i>	Name (Printed/Typed) Paula Brunson	Date 11/02/2012
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Title
Regulatory Analyst

Approved by (Signature) /S/ STEPHEN J. CAFFEY	Name (Printed/Typed)	Date NOV 13 2013
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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.C. 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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

KB
11/22/13

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

Approval Subject to General Requirements
& Special Stipulations Attached

Am
NOV 26 2013

Application to Drill
Thyme APY Federal 9
 Cimarex Energy Co. of Colorado
 Lot 2, Section 1
 T23S-R32E; Lea 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 330 FNL & 2030 FEL
 BHL 330 FSL & 1650 FEL
- 2 Elevation above sea level: 3758 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 14108' TVD 9600' Pilot hole 10200'
- 6 Estimated tops of geological markers:

Groundwater per OSE	515	
Rustler	1220	
T. Salt	1295	
B. Salt	4680	
Bell Canyon	5000	Possible Hydrocarbons
Cherry Canyon	5875	
Brushy Canyon	7150	
Basal Brushy Canyon	8500	
Bone Spring	8600	
Upper Bone Spring Shale	9250	
1st Bone Spring SS	9975	Possible Hydrocarbons
TD Pilot Hole	10200	
- 7 Possible mineral bearing formation:
 Shown above

8 Proposed Mud Circulating System:

See COA

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1270'	8.4 - 8.6	28	NC	FW
1270' to 4980'	10.0	30-32	NC	Brine water
4980' to 14108'	8.4	30-32	NC	FW and brine, 2% KCL in the lateral

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.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

Proposed Drilling Plan

After drilling and setting surface and intermediate casing, drill 7 7/8" or 8 3/4" hole to 10200' and log. Pump 30 bbls MUDPUSHII 12 ppg, followed by 311 sks Type H Cement, + 0.5% Halad-322 + 0.2% HR-601; 15.6 ppg, 1.2 yield from 10200' to 9314'. Set whipstock and kick off 7 7/8" or 8 3/4" lateral @ 9314' and drill to TD @ 14108' MD, 9600' TVD. Run 5 1/2" casing and cement per plan.

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See COA

8 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 1270'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to 3400'	New 9 5/8"	36#	LTC	J-55
Intermediate	12 1/4"	3400' to 4980'	New 9 5/8"	40#	LTC	J-55
Production	7 7/8" or 8 3/4"	0' to 9314'	New 5 1/2"	17#	LTC	P-110
Production	7 7/8" or 8 3/4"	9314' to 14108'	New 5 1/2"	17#	BTC	P-110

9 Cementing:

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	807	1.75	13.5	1412	Class C + Bentonite + Calcium Chloride + LCM
Tail	165	1.34	14.8	221	Class C + LCM

TOC: Surface 85% Excess Centralizers per Onshore Order 2.III.B.1f

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1116	1.88	12.9	2098	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	291	1.34	14.8	390	Class C + retarder + LCM

TOC: Surface 80% Excess

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	564	2.4	11.9	1353	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1352	1.24	14.5	1676	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 4,480' 25% Excess No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.

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

10 Pressure Control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure BOP, tested to 3000 psi on the surface casing and 5000 psi on the intermediate, 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 installed 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.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high on the surface casing and 250 psi low and 5000 psi high on the intermediate. Hydril will be tested to 250 psi low and 2500 psi high on the surface and intermediate casings.

Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

See COA

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Cimarex Energy Co. of Colorado
Lot 2, Section 1
T23S-R32E; Lea County, NM

12 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 4980 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / GR - Inter. Csg to TD
CNL/GR - Surf Csg to Inter. Csg
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

See COA
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 **4320 psi**

Estimated BHT **138°**

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.

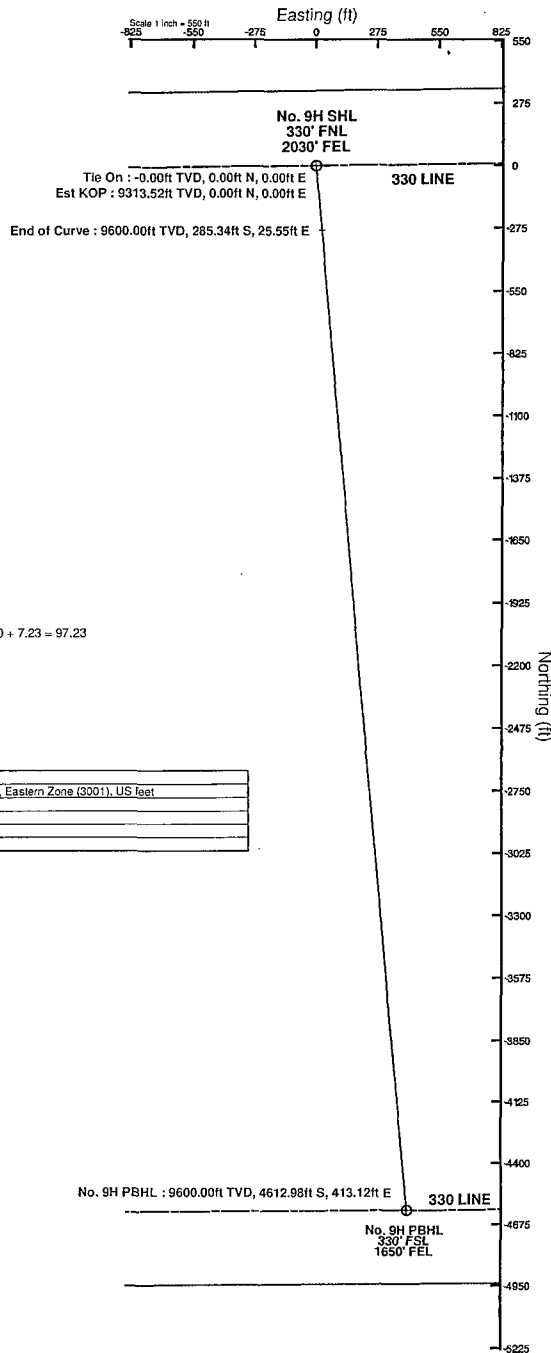
Location: Lea County, NM
Field: (Thyme) Sec. 1, T23S, R32E
Facility: Thyme "APY" Federal

Slot: No. 9H SHL
Well: No. 9H
Wellbore: No. 9H PWB



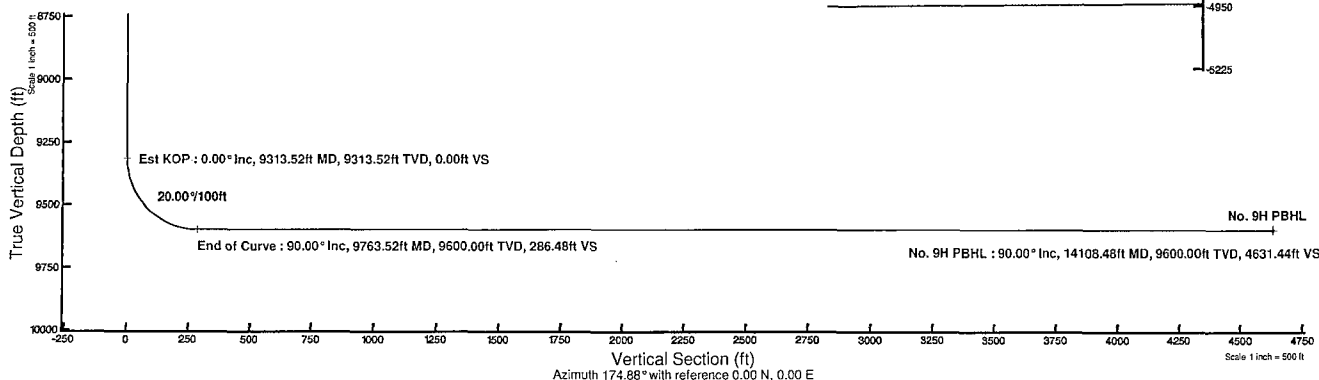
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (%/100ft)	VS (ft)
Tie On	0.00	0.000	174.883	0.00	0.00	0.00	0.00	0.00
Est KOP	9313.52	0.000	174.883	9313.52	0.00	0.00	0.00	0.00
End of Curve	9763.52	90.000	174.883	9600.00	-285.34	25.55	20.00	286.48
No. 9H PBHL	14108.48	90.000	174.883	9600.00	-4612.98	413.12	0.00	4631.44



BGGM (1945.0 to 2012.0) Dip: 60.28° Field: 48660.8 nT
Magnetic North is 7.60 degrees East of True North (at 11/28/2011)
Grid North is 0.38 degrees East of True North
To correct azimuth from True to Grid subtract 0.38 degrees
To correct azimuth from Magnetic to Grid add 7.23 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.23 = 97.23

Plot reference wellpath is Prelim 1	
True vertical depths are referenced to Rig on No. 9H SHL (KB)	Grid System: NAD83 / T.M. New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 9H SHL (KB)	North Reference: Grid north
Rig on No. 9H SHL (KB) to Mean Sea Level: 3758 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No. 9H SHL): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: calphik on 11/29/2011





Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(Thyme) Sec 1, T23S, R32E	Wellbore	No. 9H PWB
Facility	Thyme "APY" Federal		

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	0.999964	Report Generated	11/29/2011 at 2:21:44 PM
Convergence at slot	0.38° East	Database/Source file	WA_Midland/No. 9H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	34.40	2878.51	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W
Facility Reference Pt			756813.30	488171.10	32°20'24.448"N	103°38'08.315"W
Field Reference Pt			756813.30	488171.10	32°20'24.448"N	103°38'08.315"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 9H SHL (KB) to GL	3758.00ft
Horizontal Reference Pt	Slot	Rig on No. 9H SHL (KB) to Mean Sea Level	3758.00ft
Vertical Reference Pt	Rig on No. 9H SHL (KB)	Rig on No. 9H SHL (KB) to Mud Line at Slot (No. 9H SHL)	3758.00ft
MD Reference Pt	Rig on No. 9H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	174.88°



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Facility	Thyme "APY" Federal		

WELLPATH DATA (146 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	174.883	0.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Tie On
100.00†	0.000	174.883	100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
200.00†	0.000	174.883	200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
300.00†	0.000	174.883	300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
400.00†	0.000	174.883	400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
500.00†	0.000	174.883	500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
600.00†	0.000	174.883	600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
700.00†	0.000	174.883	700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
800.00†	0.000	174.883	800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
900.00†	0.000	174.883	900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1000.00†	0.000	174.883	1000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1100.00†	0.000	174.883	1100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1200.00†	0.000	174.883	1200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1300.00†	0.000	174.883	1300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1400.00†	0.000	174.883	1400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1500.00†	0.000	174.883	1500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1600.00†	0.000	174.883	1600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1700.00†	0.000	174.883	1700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1800.00†	0.000	174.883	1800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
1900.00†	0.000	174.883	1900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2000.00†	0.000	174.883	2000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2100.00†	0.000	174.883	2100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2200.00†	0.000	174.883	2200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2300.00†	0.000	174.883	2300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2400.00†	0.000	174.883	2400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2500.00†	0.000	174.883	2500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2600.00†	0.000	174.883	2600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2700.00†	0.000	174.883	2700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2800.00†	0.000	174.883	2800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
2900.00†	0.000	174.883	2900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3000.00†	0.000	174.883	3000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3100.00†	0.000	174.883	3100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3200.00†	0.000	174.883	3200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3300.00†	0.000	174.883	3300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3400.00†	0.000	174.883	3400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3500.00†	0.000	174.883	3500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3600.00†	0.000	174.883	3600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3700.00†	0.000	174.883	3700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3800.00†	0.000	174.883	3800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
3900.00†	0.000	174.883	3900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4000.00†	0.000	174.883	4000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4100.00†	0.000	174.883	4100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4200.00†	0.000	174.883	4200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4300.00†	0.000	174.883	4300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4400.00†	0.000	174.883	4400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(Thyme) Sec 1, T23S, R32E	Wellbore	No. 9H PWB
Facility	Thyme "APY" Federal		

WELLPATH DATA (146 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
4500.00†	0.000	174.883	4500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4600.00†	0.000	174.883	4600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4700.00†	0.000	174.883	4700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4800.00†	0.000	174.883	4800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
4900.00†	0.000	174.883	4900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5000.00†	0.000	174.883	5000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Delaware
5100.00†	0.000	174.883	5100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5200.00†	0.000	174.883	5200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5300.00†	0.000	174.883	5300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5400.00†	0.000	174.883	5400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5500.00†	0.000	174.883	5500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5600.00†	0.000	174.883	5600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5700.00†	0.000	174.883	5700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5800.00†	0.000	174.883	5800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
5900.00†	0.000	174.883	5900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6000.00†	0.000	174.883	6000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6100.00†	0.000	174.883	6100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6200.00†	0.000	174.883	6200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6300.00†	0.000	174.883	6300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6400.00†	0.000	174.883	6400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6500.00†	0.000	174.883	6500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6600.00†	0.000	174.883	6600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6700.00†	0.000	174.883	6700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6800.00†	0.000	174.883	6800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
6900.00†	0.000	174.883	6900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7000.00†	0.000	174.883	7000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7100.00†	0.000	174.883	7100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7200.00†	0.000	174.883	7200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7300.00†	0.000	174.883	7300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7400.00†	0.000	174.883	7400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7500.00†	0.000	174.883	7500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7600.00†	0.000	174.883	7600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7700.00†	0.000	174.883	7700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7800.00†	0.000	174.883	7800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
7900.00†	0.000	174.883	7900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8000.00†	0.000	174.883	8000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8100.00†	0.000	174.883	8100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8200.00†	0.000	174.883	8200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8300.00†	0.000	174.883	8300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8400.00†	0.000	174.883	8400.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8500.00†	0.000	174.883	8500.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Basal Brushy Canyon
8600.00†	0.000	174.883	8600.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Bone Spring
8700.00†	0.000	174.883	8700.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8800.00†	0.000	174.883	8800.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
8900.00†	0.000	174.883	8900.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	



Planned Wellpath Report

Prelim_1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(Thyme) Sec 1, T23S, R32E	Wellbore	No. 9H PWB
Facility	Thyme "APY" Federal		

WELLPATH DATA (146 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
9000.00†	0.000	174.883	9000.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
9100.00†	0.000	174.883	9100.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
9200.00†	0.000	174.883	9200.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
9250.00†	0.000	174.883	9250.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Upper Bone Spring Shale
9300.00†	0.000	174.883	9300.00	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	
9313.52	0.000	174.883	9313.52	0.00	0.00	0.00	759691.70	488205.50	32°20'24.602"N	103°37'34.762"W	0.00	Est KOP
9400.00†	17.296	174.883	9398.69	12.95	-12.90	1.16	759692.86	488192.60	32°20'24.474"N	103°37'34.750"W	20.00	
9500.00†	37.296	174.883	9487.11	58.58	-58.35	5.23	759696.93	488147.16	32°20'24.024"N	103°37'34.706"W	20.00	
9600.00†	57.296	174.883	9554.58	131.69	-131.17	11.75	759703.45	488074.34	32°20'23.303"N	103°37'34.635"W	20.00	
9700.00†	77.296	174.883	9592.99	223.48	-222.59	19.93	759711.63	487982.92	32°20'22.398"N	103°37'34.547"W	20.00	
9763.52	90.000	174.883	9600.00	286.48	-285.34	25.55	759717.25	487920.17	32°20'21.777"N	103°37'34.486"W	20.00	End of Curve
9800.00†	90.000	174.883	9600.00	322.96	-321.67	28.81	759720.51	487883.84	32°20'21.417"N	103°37'34.451"W	0.00	
9900.00†	90.000	174.883	9600.00	422.96	-421.27	37.73	759729.43	487784.24	32°20'20.431"N	103°37'34.355"W	0.00	
10000.00†	90.000	174.883	9600.00	522.96	-520.87	46.65	759738.35	487684.65	32°20'19.445"N	103°37'34.259"W	0.00	
10100.00†	90.000	174.883	9600.00	622.96	-620.47	55.57	759747.26	487585.05	32°20'18.459"N	103°37'34.162"W	0.00	
10200.00†	90.000	174.883	9600.00	722.96	-720.08	64.49	759756.18	487485.45	32°20'17.472"N	103°37'34.066"W	0.00	
10300.00†	90.000	174.883	9600.00	822.96	-819.68	73.41	759765.10	487385.85	32°20'16.486"N	103°37'33.970"W	0.00	
10400.00†	90.000	174.883	9600.00	922.96	-919.28	82.33	759774.02	487286.26	32°20'15.500"N	103°37'33.873"W	0.00	
10500.00†	90.000	174.883	9600.00	1022.96	-1018.88	91.25	759782.94	487186.66	32°20'14.514"N	103°37'33.777"W	0.00	
10600.00†	90.000	174.883	9600.00	1122.96	-1118.48	100.17	759791.86	487087.06	32°20'13.528"N	103°37'33.681"W	0.00	
10700.00†	90.000	174.883	9600.00	1222.96	-1218.08	109.09	759800.78	486987.46	32°20'12.542"N	103°37'33.584"W	0.00	
10800.00†	90.000	174.883	9600.00	1322.96	-1317.68	118.01	759809.70	486887.87	32°20'11.556"N	103°37'33.488"W	0.00	
10900.00†	90.000	174.883	9600.00	1422.96	-1417.29	126.93	759818.62	486788.27	32°20'10.570"N	103°37'33.392"W	0.00	
11000.00†	90.000	174.883	9600.00	1522.96	-1516.89	135.85	759827.54	486688.67	32°20'09.584"N	103°37'33.296"W	0.00	
11100.00†	90.000	174.883	9600.00	1622.96	-1616.49	144.76	759836.46	486589.07	32°20'08.597"N	103°37'33.199"W	0.00	
11200.00†	90.000	174.883	9600.00	1722.96	-1716.09	153.68	759845.38	486489.48	32°20'07.611"N	103°37'33.103"W	0.00	
11300.00†	90.000	174.883	9600.00	1822.96	-1815.69	162.60	759854.30	486389.88	32°20'06.625"N	103°37'33.007"W	0.00	
11400.00†	90.000	174.883	9600.00	1922.96	-1915.29	171.52	759863.22	486290.28	32°20'05.639"N	103°37'32.910"W	0.00	
11500.00†	90.000	174.883	9600.00	2022.96	-2014.89	180.44	759872.14	486190.68	32°20'04.653"N	103°37'32.814"W	0.00	
11600.00†	90.000	174.883	9600.00	2122.96	-2114.50	189.36	759881.06	486091.09	32°20'03.667"N	103°37'32.718"W	0.00	
11700.00†	90.000	174.883	9600.00	2222.96	-2214.10	198.28	759889.98	485991.49	32°20'02.681"N	103°37'32.622"W	0.00	
11800.00†	90.000	174.883	9600.00	2322.96	-2313.70	207.20	759898.90	485891.89	32°20'01.695"N	103°37'32.525"W	0.00	
11900.00†	90.000	174.883	9600.00	2422.96	-2413.30	216.12	759907.82	485792.29	32°20'00.709"N	103°37'32.429"W	0.00	
12000.00†	90.000	174.883	9600.00	2522.96	-2512.90	225.04	759916.73	485692.70	32°19'59.722"N	103°37'32.333"W	0.00	
12100.00†	90.000	174.883	9600.00	2622.96	-2612.50	233.96	759925.65	485593.10	32°19'58.736"N	103°37'32.236"W	0.00	
12200.00†	90.000	174.883	9600.00	2722.96	-2712.10	242.88	759934.57	485493.50	32°19'57.750"N	103°37'32.140"W	0.00	
12300.00†	90.000	174.883	9600.00	2822.96	-2811.71	251.80	759943.49	485393.90	32°19'56.764"N	103°37'32.044"W	0.00	
12400.00†	90.000	174.883	9600.00	2922.96	-2911.31	260.72	759952.41	485294.30	32°19'55.778"N	103°37'31.948"W	0.00	
12500.00†	90.000	174.883	9600.00	3022.96	-3010.91	269.64	759961.33	485194.71	32°19'54.792"N	103°37'31.851"W	0.00	
12600.00†	90.000	174.883	9600.00	3122.96	-3110.51	278.56	759970.25	485095.11	32°19'53.806"N	103°37'31.755"W	0.00	
12700.00†	90.000	174.883	9600.00	3222.96	-3210.11	287.48	759979.17	484995.51	32°19'52.820"N	103°37'31.659"W	0.00	
12800.00†	90.000	174.883	9600.00	3322.96	-3309.71	296.40	759988.09	484895.91	32°19'51.833"N	103°37'31.562"W	0.00	
12900.00†	90.000	174.883	9600.00	3422.96	-3409.31	305.32	759997.01	484796.32	32°19'50.847"N	103°37'31.466"W	0.00	
13000.00†	90.000	174.883	9600.00	3522.96	-3508.91	314.24	760005.93	484696.72	32°19'49.861"N	103°37'31.370"W	0.00	
13100.00†	90.000	174.883	9600.00	3622.96	-3608.52	323.16	760014.85	484597.12	32°19'48.875"N	103°37'31.274"W	0.00	



Planned Wellpath Report

Prelim_1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(Thyme) Sec 1, T23S, R32E	Wellbore	No. 9H PWB
Facility	Thyme "APY" Federal		

WELLPATH DATA (146 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
13200.00†	90.000	174.883	9600.00	3722.96	-3708.12	332.08	760023.77	484497.52	32°19'47.889"N	103°37'31.177"W	0.00	
13300.00†	90.000	174.883	9600.00	3822.96	-3807.72	341.00	760032.69	484397.93	32°19'46.903"N	103°37'31.081"W	0.00	
13400.00†	90.000	174.883	9600.00	3922.96	-3907.32	349.92	760041.61	484298.33	32°19'45.917"N	103°37'30.985"W	0.00	
13500.00†	90.000	174.883	9600.00	4022.96	-4006.92	358.84	760050.53	484198.73	32°19'44.931"N	103°37'30.888"W	0.00	
13600.00†	90.000	174.883	9600.00	4122.96	-4106.52	367.76	760059.45	484099.13	32°19'43.945"N	103°37'30.792"W	0.00	
13700.00†	90.000	174.883	9600.00	4222.96	-4206.12	376.68	760068.37	483999.54	32°19'42.958"N	103°37'30.696"W	0.00	
13800.00†	90.000	174.883	9600.00	4322.96	-4305.73	385.60	760077.29	483899.94	32°19'41.972"N	103°37'30.600"W	0.00	
13900.00†	90.000	174.883	9600.00	4422.96	-4405.33	394.52	760086.20	483800.34	32°19'40.986"N	103°37'30.503"W	0.00	
14000.00†	90.000	174.883	9600.00	4522.96	-4504.93	403.44	760095.12	483700.74	32°19'40.000"N	103°37'30.407"W	0.00	
14100.00†	90.000	174.883	9600.00	4622.96	-4604.53	412.36	760104.04	483601.15	32°19'39.014"N	103°37'30.311"W	0.00	
14108.48	90.000	174.883	9600.00†	4631.44	-4612.98	413.12	760104.80	483592.70	32°19'38.930"N	103°37'30.303"W	0.00	No. 9H PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No. 9H PWB Ref Wellpath: Prelim_1

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]
12.25in Open Hole	0.00	4500.00	4500.00	0.00	4500.00	0.00	0.00	0.00	0.00
9.625in Casing	0.00	4500.00	4500.00	0.00	4500.00	0.00	0.00	0.00	0.00
8.75in Open Hole	4500.00	14108.48	9608.48	4500.00	9600.00	0.00	0.00	-4612.98	413.12
5.5in Casing	0.00	14108.48	14108.48	0.00	9600.00	0.00	0.00	-4612.98	413.12

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No. 9H PBHL	14108.48	9600.00	-4612.98	413.12	760104.80	483592.70	32°19'38.930"N	103°37'30.303"W	point

SURVEY PROGRAM - Ref Wellbore: No. 9H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
3758.00	14108.48	NaviTrak (Standard)		No. 9H PWB

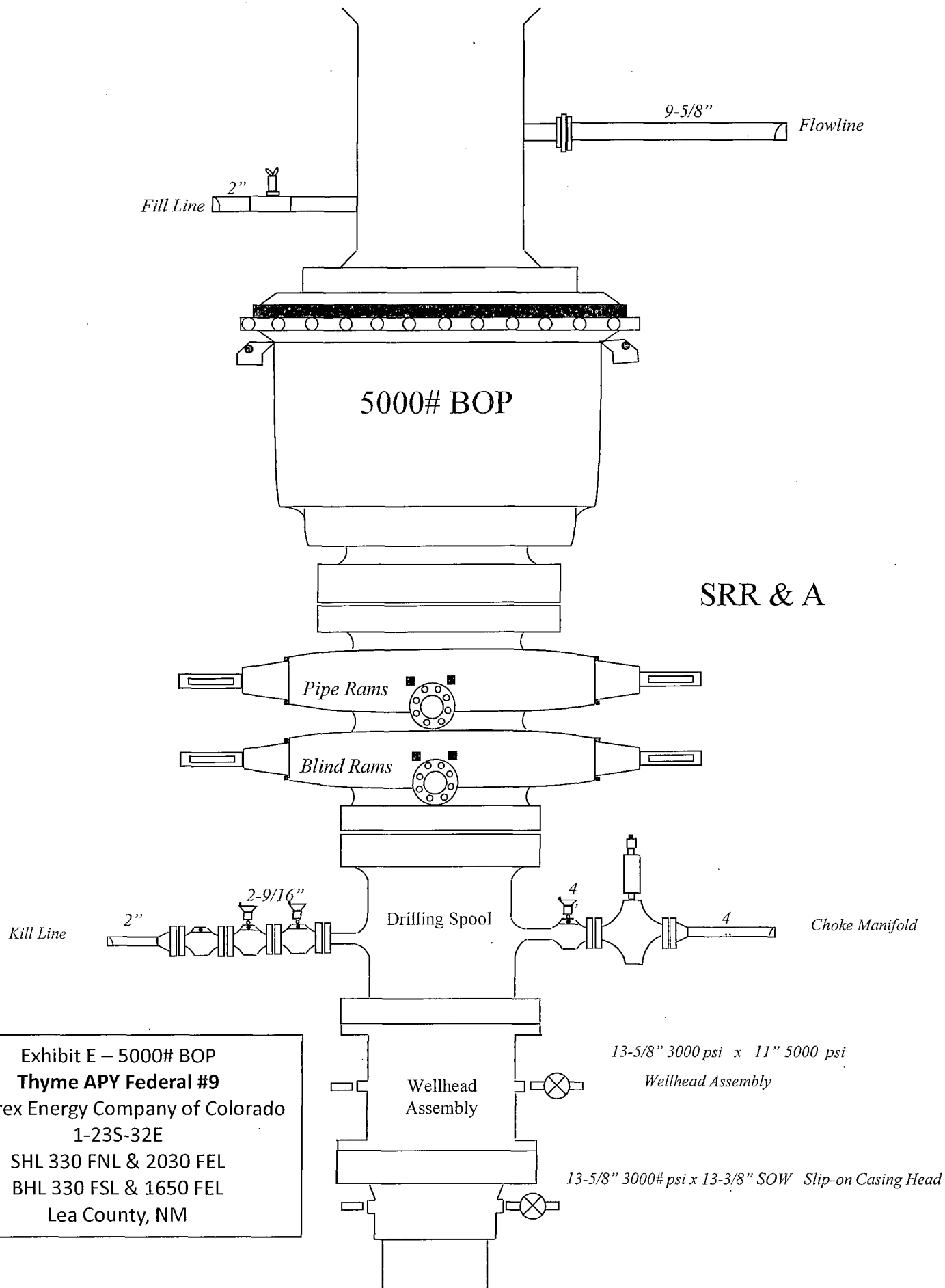
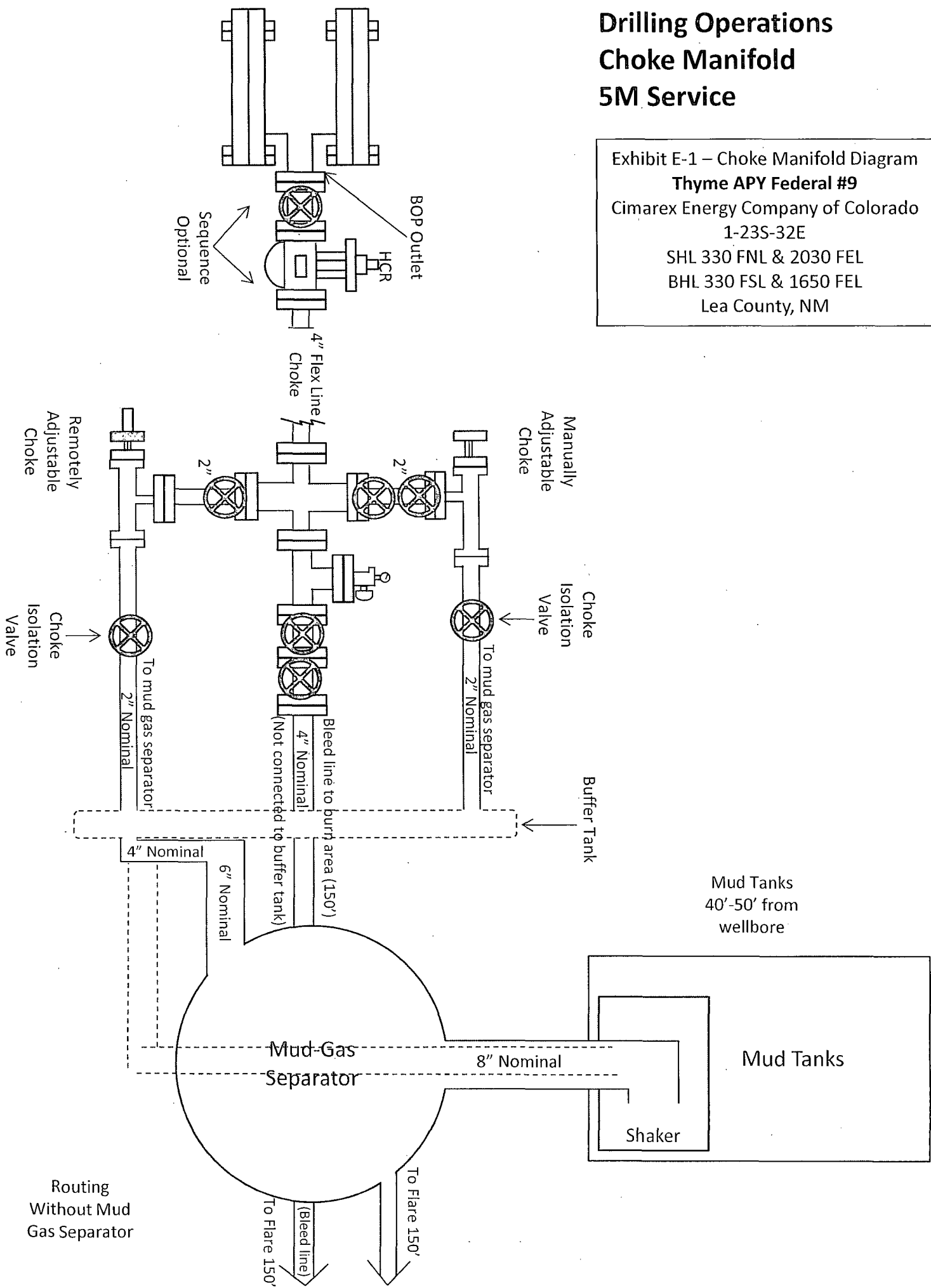
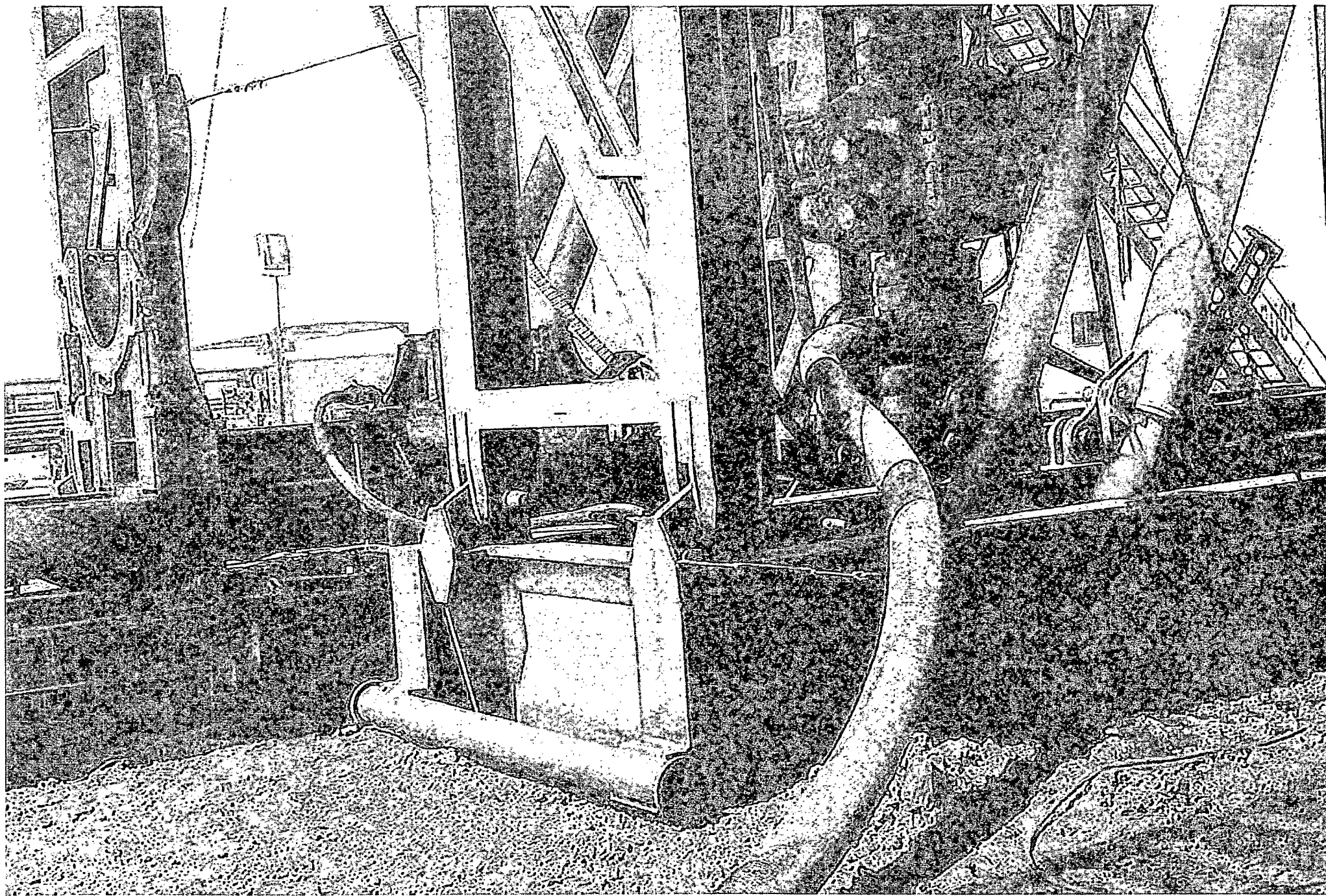


Exhibit E – 5000# BOP
Thyme APY Federal #9
 Cimarex Energy Company of Colorado
 1-23S-32E
 SHL 330 FNL & 2030 FEL
 BHL 330 FSL & 1650 FEL
 Lea County, NM

Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 – Choke Manifold Diagram
Thyme APY Federal #9
Cimarex Energy Company of Colorado
1-23S-32E
SHL 330 FNL & 2030 FEL
BHL 330 FSL & 1650 FEL
Lea County, NM







Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer:		PO	
DEM		ODYD-271	
SPECIFICATIONS			
Sales Order		Dated:	
79793		3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards. Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041			
Comments:			
Approved:		Date:	
<i>David Garcia</i>		3/8/2011	



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer: Oderco Inc		P.O. Number: odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI	
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: <i>Ch. James Smith</i>	Approved: <i>Kevin J. [Signature]</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

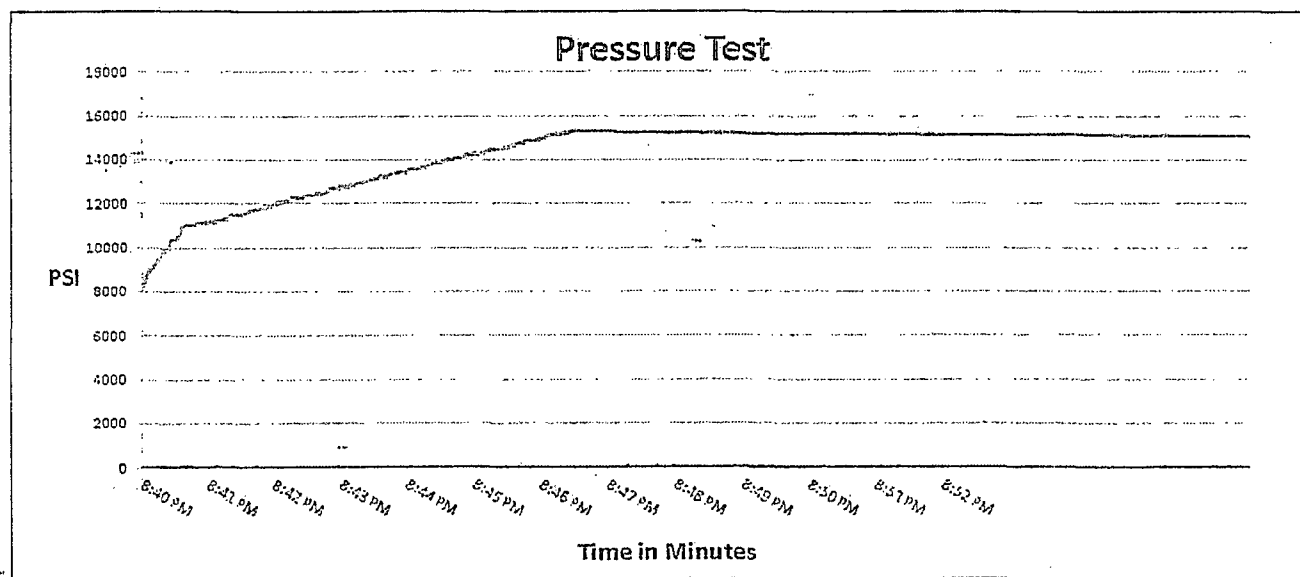
Pick Ticket #: 94260

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
C & K	45'
<u>I.D.</u>	<u>O.D.</u>
4"	6.09"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
41/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
6.30"	6.25"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
5544	79793



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

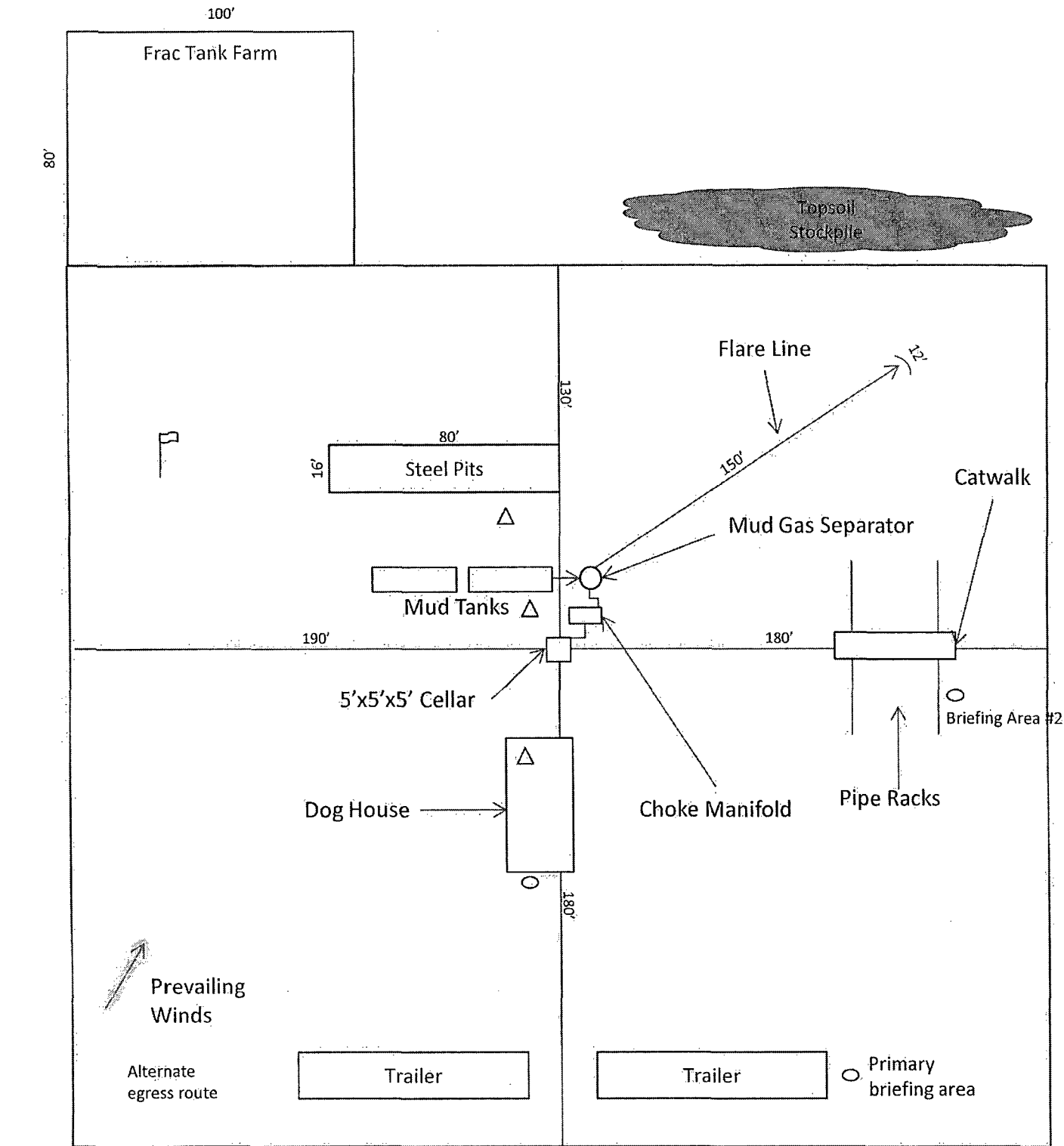
Actual Burst Pressure

Peak Pressure
15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Zac Mcconnell

Approved By: Kim Thomas



Access Road

Exhibit D – Rig Diagram
Thyme APY Federal #9
 Cimarex Energy Company of Colorado
 1-23S-32E
 SHL 330 FNL & 2030 FEL
 BHL 330 FSL & 1650 FEL
 Lea County, NM



Wind Direction Indicators
 (wind sock or streamers)



• H2S Monitors
 (alarms at bell nipple and shale shaker)



Briefing Areas