

# MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

3 MWP

TODD #23 FEDERAL #5  
EDDY COUNTY, NEW MEXICO  
EXHIBIT #1

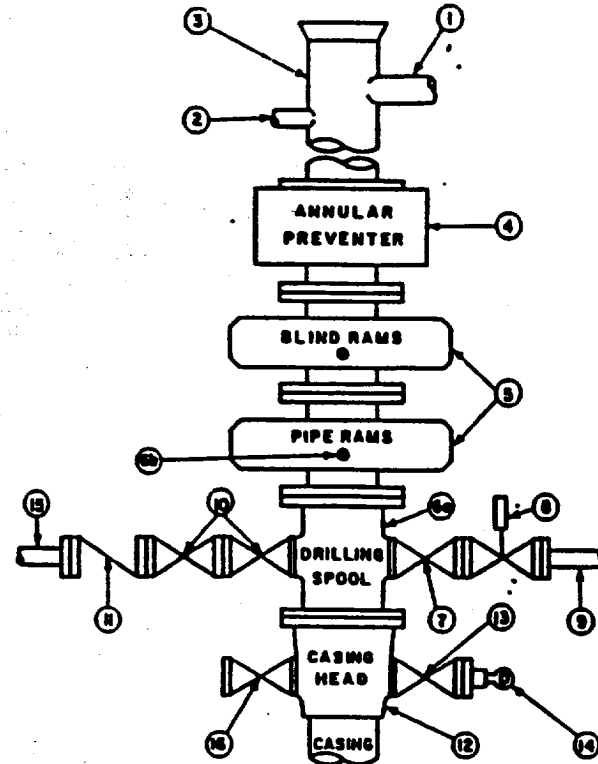
## STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/>	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate <input type="checkbox"/> Plug <input type="checkbox"/>	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate <input type="checkbox"/> Plug <input type="checkbox"/>	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

## OPTIONAL

16	Flanged valve	1-13/16"	
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CONFIGURATION A



## CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

## MEC TO FURNISH:

1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

## GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable chokes, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.

7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

61-100-10000-10000

[illegible]

1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is responsible for the investigation. The investigator must identify the problem and the scope of the investigation. The investigator must also identify the objectives of the investigation and the methods to be used. The investigator must also identify the resources available for the investigation.

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2. The second step is the collection of data. This is done by the investigator who is responsible for the investigation. The investigator must collect data from the sources that are available to him.

3. The third step is the analysis of the data. This is done by the investigator who is responsible for the investigation. The investigator must analyze the data and determine the cause of the problem.

4. The fourth step is the development of a solution. This is done by the investigator who is responsible for the investigation. The investigator must develop a solution to the problem and implement it.

5. The fifth step is the evaluation of the solution. This is done by the investigator who is responsible for the investigation. The investigator must evaluate the solution and determine if it is effective.

6. The sixth step is the documentation of the investigation. This is done by the investigator who is responsible for the investigation. The investigator must document the investigation and the results of the investigation.

7. The seventh step is the communication of the results. This is done by the investigator who is responsible for the investigation. The investigator must communicate the results of the investigation to the appropriate parties.

8. The eighth step is the follow-up. This is done by the investigator who is responsible for the investigation. The investigator must follow-up on the investigation and determine if the problem has been resolved.

9. The ninth step is the evaluation of the process. This is done by the investigator who is responsible for the investigation. The investigator must evaluate the process and determine if it is effective.

10. The tenth step is the conclusion. This is done by the investigator who is responsible for the investigation. The investigator must conclude the investigation and determine the final results.

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