ATTACHMENT NO. 2
(See Section 4)
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CHECK LIST AND DRAWINGS (ATTACHED)
MINIMUM BLOWOUT PREVENTER EQUIPMENT REQUIREMENTS
(ATTACHMENT NO. 2 TO BID SHEET AND WELL SPECIFICATIONS)
2000 PSI WORKING PRESSURE
TO BE INSTALLED AFTER SETTING 8-5/8 INCH CASING

Contractor or Pzl. to furnish items checked (X). See attached drawing.

No.	Item	Min. Size *	Type	Press. Rating	Furnished By	
					Contr.	Pzl.
1.	Flow Line	8"	Welded	125	X	
2.	Fill Up Line	2"	Thd or Wld	125	X	
3.	Bell Nipple	8"	Welded	125	X	
4.	Rotating Head					
5.	Hydraulically Operated Gate Valve					
6.	Blooie Line					
7.	Bag Preventer manually					
8.	~~Hydraulically~~ Operated Ram Preventer (Dbl Gate)	8"	Flanged	3000	X	
9.	Drilling Spool with ____ in. and ____ in. Side Outlets	8"	Flanged	2000	X	
10.	Preventer Side Outlets, ____ in. and ____ in. Use as alternate to No. 9 above.	8"	Thd or Flg	2000	X	
11.	Gate Valve	2-1/16.	Thd or Flg	2000	X	
12.	Hydraulically Operated Gate Valve					
13.	Line to Choke Manifold	2"	Thd or Flg	2000	X	
14.	Gate Valve	2-1/16	Thd or Flg	2000	X	
15.	Hydraulically Operated Gate Valve					
16.	Check Valve					
17.	Drilling Spool with ____ in. and ____ in. side outlets					
18.	Preventer Side Outlets ____ in. and ____ in. Use as alternate to No. 17 above.					
19.	Gate Valve	2"	Threaded	2000		X
20.	Hydraulically Operated Gate Valve					
21.	Relief Line					
22.	Wear Flange or Bushing	N/A				
23.	Kill Line to accessible location approx. ____ ft. from rig.					
24.	Gate Valve					
25.	Kill Line to rig pump manifold	2"	Thd or Flg	2000	X	
26.	____ Way Cross, ____ in. x ____ in. x ____ in. x ____ in.					
27.	Tee, in. x in. x in.					
28.	Half Union					
29.	Casing Spool					
30.	Gate Valve					
31.	Casing Spool					
32.	Gate Valve					
33.	Pressure Gauge					
34.	Casing Head	8"	Flg x Thd	2000		X
35.	Gate Valve					
36.	Gate Valve					

*Line sizes to be inside diameter.
Valves, spools and preventer sizes to be bore dimension.

1. All connections on the BOP stack shall be flanged or bolted ring clamp of comparable rating.
2. All flanges to be API 6B or 6BX and ring gaskets shall be API RX or BX.
3. All drilling spools are to be forged steel construction. Spools constructed from pipe are not acceptable.
4. The fill-up line shall not be connected to any side outlet below the uppermost preventer.
5. Replacement parts for the BOP equipment shall be obtained from the original manufacturer.
6. BOP stock shall be properly braced to rig substructure by turnbuckled lines or rods.
7. Connections on the kill line, choke lines and choke manifold:
   - [XX] May be threaded, welded, flanged or bolted ring clamp.
   - [ ] Shall be either flanged or bolted ring clamp of comparable rating.
8. All gate valves must be equipped with hand wheels.
9. Choke and kill lines are to be seamless steel pipe having a minimum working pressure that is based on 80% of the API minimum internal yield pressure rating of that pipe.
10. The kill line shall not be used as a fill-up line.
11. All choke lines must be as straight as possible with no abrupt bends or turns.
12. All choke lines are to be securely anchored.
13. Steel hose (chicksans) are not to be used in any part of the choke manifold.
14. The accumulator unit and master set of controls shall be located at ground level, a minimum of 50 ft. from the well bore. The remote set of controls is to be located near the drillers position on the rig floor.
15. All hydraulic lines between the accumulator and any hydraulically operated device shall be of seamless steel pipe and swing joints. Rubber hoses are not permitted. Short lengths of high pressure hose are permitted in lines connecting the remote station to the valve actuating cylinders on the master control unit.
16. Housing and heating should be provided for accumulator, blowout preventers and choke manifold where conditions warrant.
17. All drill string blowout prevention equipment must be maintained in good operating condition and stored in an orderly condition on the rig floor.
18. Operating wrenches for the drill string BOP equipment are to be kept in full view near the driller's position.
19. Contractor to make no connection to casing head side outlets except by orders of Pzl.
20. Keep on rig: (a) One spare set of pipe rams, complete with packing rubbers for each size of drill pipe in use.
    (b) Replacement parts for all manual adjustable chokes along with the necessary tools for changing parts.
21. When a rotating head is in use on the BOP stack, dresser sleeve connections in the flowline are not permitted.
22. Hand wheels and extensions (outside the substructure) shall be installed for operating the locking screws on all ram preventers and hydraulically operated gate valves on the choke and kill lines. If the installation of these extensions create a safety hazard or for some unavoidable reason cannot be properly installed, a hand crank or wrench should be readily available to operate the locking screws.
23. When a wear bushing is required, only the lock-in type shall be used.
24. Water lines and valves shall be connected and ready for use on all internal combustion engine exhausts.
25. The cellar is to be kept jetted and the preventer stack and choke manifold washed down at all times.
26. All valves are to be lubricated at regular intervals.
27. All valves are to be clearly identified as being open or closed.
28. Proper alignment of the rig with the center line of the BOP stack and casing shall be maintained at all times.
29. All flange bolts on the stack, kill line and choke manifold should be tightened at least once each week.

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