



Manual Lock Failure on BOP

The following safety awareness alert is provided as part of MR Group's efforts to raise the awareness of industry personnel regarding the hazards and risks associated with oil and gas drilling rigs and operations. We thank our Clients and field teams for sharing the information.

What was discovered

During an annual pressure test conducted on a ram BOP in accordance with API Standard 53, an issue was noted on the manual locks on one of the ram preventers. The ram was not able to fully open after the manual lock was disengaged.

The procedure in API Standard 53 5th edition 2023 for initial pressure testing of surface BOPs states the following:

For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.



Upon further inspection of the manual locking system, it was noted that the locking shaft was damaged as can be seen in the picture on the left.

Possible cause of the damage to the locking shaft

The ram BOP was hydraulically opened while the locking shaft had not been fully disengaged. The high degree of force

generated when opening the ram BOP provided by the BOP hydraulic control system caused the locking shaft to bend. This resulted in the ram BOP on the bonnet being unable to fully open.

Conclusion and Findings

Pressure testing should be carried out in accordance with with API Standard 53, 5th edition 2023. After the initial pressure testing is completed, the manual locks are to be fully disengaged to ensure no damage occurs to the manual locking system.