BOP Shear Ram Performance Test Protocol

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ERRATA 1, OCTOBER 2018

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Errata 1

Section 8: Equation (2) shall be displayed as follows:

$$P_{SHR} = \left[(Pc \cdot Ac) - (Po \cdot Ao) \right] / Ac \qquad (2)$$

Figure 4 shall be replaced with the following:

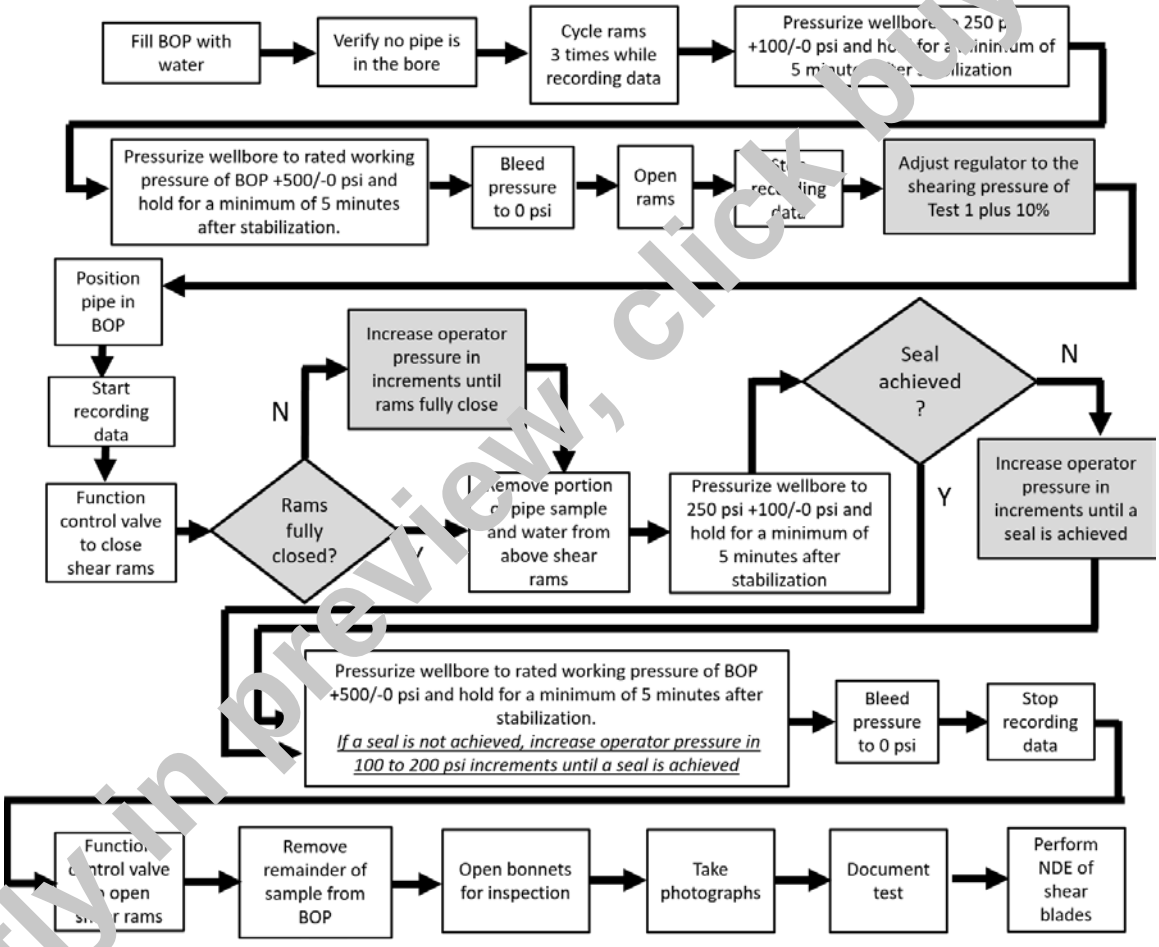
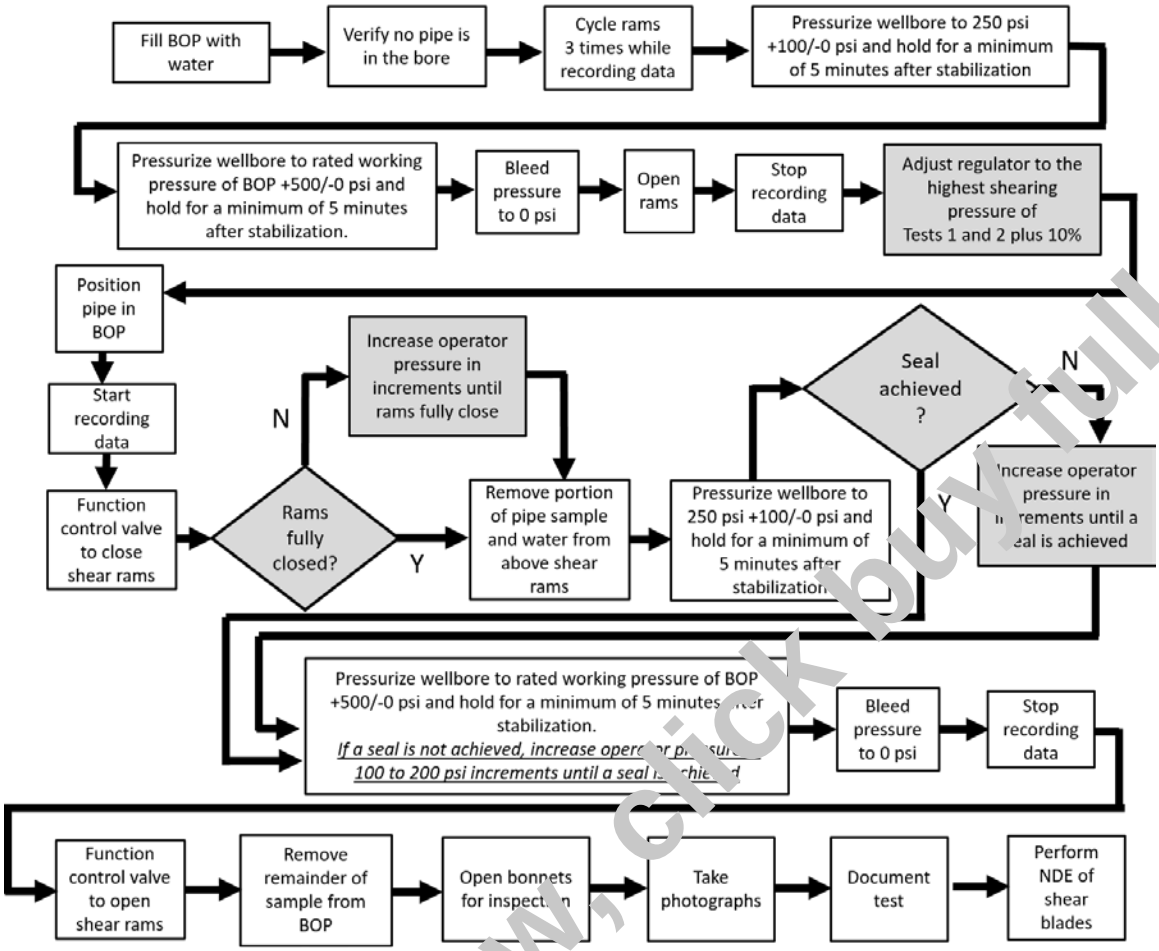


Figure 5 shall be replaced with the following:



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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

Contents

BOP Shear Ram Performance Test Protocol

1 Scope

This document outlines the standardized test protocol, including data and reporting requirements, for performing sealing and nonsealing blowout preventer (BOP) shear ram performance tests. This protocol determines the parameters that can support field system performance and confidence in successful shearing and sealing.

This document is not intended to be used for qualifying BOP shear rams or as a factory acceptance test (FAT) procedure.

Qualification and FAT of BOP shear rams is per API 16A.

2 Normative References

The following referenced documents are essential when considering the examples outlined in this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Spec 16A, *Specification for Drill-through Equipment*, 2017

API Spec 16D, *Specification for Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment*

ASTM A370[1], *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*

ASTM E165, *Standard Practice for Liquid Penetrant Examination for General Industry*

ASTM E709, *Standard Guide for Magnetic Particle Testing*

ASTM A388, *Standard Practice for Ultrasonic Examination of Steel Forgings*

3 Definitions and Nomenclature

3.1 Definitions

For the purposes of this document, the following definitions shall apply.

3.1.1
blind shear ram
Closing and sealing component in a ram blowout preventer that first shears the tubular in the wellbore and then seals off the bore or acts as a blind ram if there is no tubular in the wellbore.

3.1.2
closing ratio
Area of the operator piston exposed to the closing operating pressure, divided by the cross-sectional area of the piston shaft exposed to the wellbore pressure.

3.1.3
non-sealing shear ram
Closing component in a ram blowout preventer that is capable of shearing or cutting certain tubulars, but does not seal.

[1] ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania, 19428-2959, www.astm.org.