# *ABSTRACT*

## *DESIGN OF A WEB-BASED CASING DESIGN APPLICATION WITH CONSIDERATIONS FOR BURST, TENSION, COLLAPSE, AND BIAXIAL EFFECT*

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*In practice, the selection of drilling casing often takes a long time when done manually due to trial-and-error methods involving iterations. While many technologies assist in casing selection, most are desktop-based, burdening computer resources and lacking flexibility. Hence, the aims of this reserch is to streamline casing selection calculations, alleviating computer load, and enabling online use on both computers and smartphones.*

*Before creating this program, a literature review was conducted to understand the loads acting on the casing at each drilling trajectory. Following the literature study, the program was designed using JavaScript to manifest as a website. To ensure user-friendliness, interface design was carried out before testing. The final step in product development involved testing for both visual appeal and calculation accuracy. If deemed suitable, the program is considered successful and ready for use. Any shortcomings identified during testing will prompt improvements in both the program and user interface.*

*After several trials, comparing results with manual calculations using Microsoft Excel, the differences of the product and manual calculation is zero (0) percent, it proves effective for designing drilling casings.*

*Keywords: drilling, casing design.*