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AB

SUBSEA COLLECTION OF OIL FROM A WELL BLOWOUT

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1. Introduction

The concept of installing an oil collector immediately above a subsea blowout has been considered for a long time. The most ambitious implementation of such a collecting device at sea was carried at the IXTOC blowout during the Fall of 1979. Figure 1 shows a photograph of the collecting device used at IXTOC. The triangular truss was supported from a platform 200 feet from the well. Oil, gas and water entered the conical collector above the wellhead and was carried by gas-lift up the sloping riser to separation equipment on the platform.

Once a blowout has occurred it is not feasible to seal a collector to the seabed around the blowout for several reasons. Even under the best of circumstances, sealing of the collector in a tight way to the bottom would be extremely difficult. In most conditions, there is a certain amount of debris around the wellhead whose presence would make such sealing impossible. Therefore, plans for emergency response to a blowout would generally be based on having the collector some distance above the seabed.

The major part of this report deals with the results of a laboratory study of subsurface collectors above the bottom. Different collector sizes and shapes were tested. With each collector, various oil flow rates, gas flow rates and riser resistances (which affects the total liquid flow through the riser) were tested. The in-