

ABSTRACT**SYSTEMS AND METHODS OF PRODUCING A CRUDE PRODUCT**

Contact of a crude feed with one or more catalysts produces a total product that includes a crude product. The crude feed has a residue content of at least 0.2 grams of residue per gram of crude feed. The crude product is a liquid mixture at 25 °C and 0.101 MPa. One or more properties of the crude product may be changed by at least 10 % relative to the respective properties of the crude feed. In some embodiments, gas is produced during contact with one or more catalysts and the crude feed.