

Title (en)  
SYSTEMS AND METHODS FOR PRODUCING A CRUDE PRODUCT

Title (de)  
SYSTEME UND VERFAHREN ZUR HERSTELLUNG EINES ROHERZEUGNISSES

Title (fr)  
SYSTÈMES ET PROCÉDÉS DE PRODUCTION D'UN PRODUIT BRUT

Publication  
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Application  
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- US 23343908 A 20080918
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- US 23332708 A 20080918

Abstract (en)  
[origin: WO2010033480A2] Systems and methods for hydroprocessing a heavy oil feedstock with reduced heavy oil deposits, the system employs a plurality of contacting zones and separation zones zone under hydrocracking conditions to convert at least a portion of the heavy oil feedstock to lower boiling hydrocarbons, forming upgraded products, wherein water and / or steam being optionally injected into first contacting zone in an amount of 1 to 25 weight % on the weight of the heavy oil feedstock. In one embodiment, the first contacting zone is operated at a temperature of at least 10°F. lower than a next contacting zone. The contacting zones operate under hydrocracking conditions, employing a slurry catalyst for upgrading the heavy oil feedstock, forming upgraded products of lower boiling hydrocarbons. In the separation zones, upgraded products are removed overhead and optionally, further treated in an in-line hydrotreater. At least a portion of the non-volatile fractions recovered from at least one of the separation zones is recycled back to the first contacting zone in the system, in an amount ranging between 3 to 50 wt. % of the heavy oil feedstock. In one embodiment, at least some of the heavy oil feedstock is supplied to at least a contacting zone other than the first contacting zone and / or at least some of the fresh slurry catalyst is supplied to at least a contacting zone other than the first contacting zone. In one embodiment, at least a portion of the non-volatile fractions recovered from at least one of the separation zones is sent to the interstage solvent deasphalting unit, for separating unconverted heavy oil feedstock into deasphalted oil and asphaltenes. The deasphalted oil stream is sent to one of the contacting zones for further upgrade.

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