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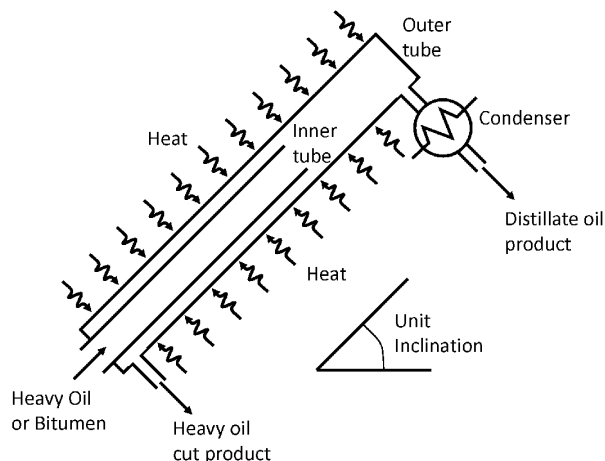
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(54) Title: PROCESS TO TREAT HEAVY OIL OR BITUMEN OR MIXTURES OF DILUTANTS AND HEAVY OIL OR BITUMEN

FIG. 1



(57) Abstract: A heavy oil or bitumen or mixtures of heavy oil and bitumen or mixtures of a dilutant and heavy oil or bitumen is treated to separate components of the feed oil and induce reactions that crack the heavy oil or bitumen into light components. A heated inclined dual tube unit arrangement where feed oil enters the arrangement through the inner tube and which opens partway up the outer tube. Vaporized oil continues to flow up within the outer tube whereas the liquid oil product flows down the annular space between the inner and outer tubes. The vaporized oil is condensed beyond the dual tube arrangement to yield liquid oil products. Heat exchange can be done between the products and the inlet feed oil to improve the energy efficiency of the unit.

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