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 MOBIL OIL CORP *US 4413-153-A
 22.10.82-US-436158 (01.11.83) C07c-01/04
 Fuel and petrochemical prodn. from wet natural gas - by zeolite
 conversion of dehydrogenated heavier components

H(1-F)

140

Step (b) is pref. effected by steam reforming using a Ni-contg. catalyst. Step (c) may be effected converting the synthesis gas to methanol and converting this to gasoline using a ZSM-5 catalyst. Step (d) may be effected by thermal cracking or catalytic dehydrogenation. Methane alone may be recycled from (e) to (b).

Step (f) may be effected at 350-600°F and 100-3000 psig with a WHSV of 0.1-5 to produce olefinic gasoline and a 330°F+ distillate. The distillate may be catalytically hydrogenated at 550-700°F and 100-500psig, with an LHSV of 0.5-5 and an H₂ rate of 1000-5000 scf /bbl, to obtain a 330-500°F, jet fuel fraction, a 500-650°F diesel fuel fraction and a 650°F+ lubricating oil fraction. (8pp367APSDwgNo 0/0).

C83-112690 Prod'n. of synthetic fuels and petrochemicals from wet natural gas is effected by
 (a) separating the wet gas into a C₃+ paraffin fraction (I) and a dry gas fraction (II) comprising methane and ethane;
 (b) converting (II) to synthesis gas;
 (c) converting the synthesis gas to gasoline;
 (d) converting (I) to a C₃+ olefin fraction (III) and a 1-2C hydrocarbon fraction (IV);
 (e) recycling (IV) to step (b); and
 (f) converting (III) to a wide range of transportation fuels and lubricating oils by contact with a zeolite having a SiO₂/Al₂O₃ molar ratio of at least 12 and a constraint index of 1-12 (esp. ZSM-5).

ADVANTAGES

The process increases the range of prods. obtainable from wet natural gas.

DETAILS

US4413153-A