CLAIMS

1. A process for production of propylene comprising:

(a) mixing a residual oil stream which is a combination of a heavy oil residue and a natural gas condensate with a solvent, wherein said natural gas condensate and said heavy oil residue are mixed in a volume ratio of from 5:1 to 50:1, to precipitate at least a fraction of asphaltenes contained in said residual oil stream, to produce a mixture of solvent and deasphalted residual oil, and said fraction of asphaltenes, and;

(b) subjecting said mixture of solvent and deasphalted residual oil to fluidized catalytic cracking with a catalyst, at a weight ratio of catalyst to the mixture of solvent and deasphalted residual oil from 2:1 to 15:1, to produce a propylene containing light olefin fraction, said light olefin fraction comprising C5-C7 hydrocarbons.

2. The process as in claim 1, wherein the mixture of solvent and deasphalted residual oil is not subjected to solvent recovery prior to said fluidized catalytic cracking.

3. The process as in claim 1, comprising subjecting the mixture of solvent and deasphalted residual oil to said fluidized catalytic cracking in a downflow fluid catalytic cracking unit.

4. The process as in claim 3, wherein reaction temperature in the fluid catalytic cracking unit is from 500°C to 650°C.

5. The process as in claim 3, wherein reaction pressure in the fluid catalytic cracking unit is from 1 Kg/cm^2 to 5 Kg/cm^2.

6. The process as in claim 3, wherein contact time between reactants and catalyst in the fluid catalytic cracking unit is from 0.1 seconds to 10 seconds.

7. The process as in claim 1, comprising removing a portion of the C5 and lower components of the mixture of solvent and deasphalted residual oil prior to said fluidized catalytic cracking.

8. The process as in claim 7, comprising recycling a portion of the removed C5 and lower components as a portion of solvent for mixing the residual oil stream with the solvent.

9. The process as in claim 1, wherein said natural gas condensate has a carbon range starting at C5 or above.

10. The process as in claim 1, wherein the residual oil stream is a straight run residue obtained from atmospheric distillation and/or vacuum distillation.

11. The process of claim 1, wherein said natural gas concentrate and said heavy oil residue are mixed in a volume ratio of from 5:1 to 25:1.

12. The process of claim 1, wherein said natural gas concentrate and said heavy oil residue are mixed in a volume ratio of from 5:1 to 15:1.