

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

(11)

Publication number:

**0 202 772  
A3**

(12)

## EUROPEAN PATENT APPLICATION

(21)

Application number: 86302916.1

(51)

Int. Cl. 4: **C10G 9/00**, C10G 47/22,  
C10G 55/04, C10G 67/04,  
C10G 55/06

(22)

Date of filing: **18.04.86**

(30)

Priority: **13.05.85 US 732984**  
**13.05.85 US 732983**  
**19.06.85 US 746434**

(71)

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(43)

Date of publication of application:  
**26.11.86 Bulletin 86/48**

(72)

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(84)

Designated Contracting States:  
**AT BE CH DE FR GB IT LI NL**

(88)

Date of deferred publication of the search report:  
**27.07.88 Bulletin 88/30**

(74)

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(54)

**Oil upgrading by thermal processing.**

(57)

A heavy oil such as a crude or petroleum residuum is upgraded to a liquid product suitable for use as a low sulfur fuel or as an FCC feedstock by mild thermal cracking to produce a two-phase reaction mixture comprising a liquid, predominantly paraffinic product and a thermoplastic carbonaceous product which may be separated from the liquid product in a phase separator. The liquid product may be hydrotreated to remove residual heteroatoms, after which it may be used as fuel or as FCC feedstock. The carbonaceous product may be coked or used as such. Some heating of the heavy oil feed for the mild thermal cracking may be done by mixing it with hot hydrogen to achieve the desired temperature. Solvent addition, or use of whole crude as feedstock, aids liquid/liquid separation in the phase separator.

**EP 0 202 772 A3**



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Office

# EUROPEAN SEARCH REPORT

Application Number

EP 86 30 2916

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	US-A-4 379 045 (AUDEH) ---		C 10 G 9/00
A	US-A-3 796 653 (GATSIS) ---		C 10 G 47/22
A	US-A-2 847 353 (D.K. BEAVON) ---		C 10 G 55/04
A	EP-A-0 068 051 (UNIVERSITY OF UTAH) ---		C 10 G 67/04
A	FR-A-2 552 775 (JUSHITSUYU) -----		C 10 G 55/06
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			C 10 G
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31-03-1988	Examiner LO CONTE C.
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P0401)