

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C10G 7/00, 31/11	A1	(11) International Publication Number: WO 99/27035 (43) International Publication Date: 3 June 1999 (03.06.99)
<p>(21) International Application Number: PCT/EP98/07543</p> <p>(22) International Filing Date: 20 November 1998 (20.11.98)</p> <p>(30) Priority Data: 97203654.5 21 November 1997 (21.11.97) EP</p> <p>(71) Applicant: SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL).</p> <p>(72) Inventors: COSSEE, Robert, Paul, Henri; Badhuisweg 3, NL-1031 CM Amsterdam (NL). PEK, Johan, Jan, Barend; Badhuisweg 3, NL-1031 CM Amsterdam (NL).</p>	<p>(81) Designated States: AU, BR, CA, CN, ID, JP, KR, SG, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>	

(54) Title: ATMOSPHERIC DISTILLATION OF HYDROCARBONS-CONTAINING LIQUID STREAMS

(57) Abstract

A method of distilling a crude oil and a contaminated liquid stream in an atmospheric distillation column (2) comprising the steps of (a) heating (13, 15) the crude oil at atmospheric pressure and introducing the heated crude oil into the inlet section (10) of the column (2); (b) removing from bottom a residue (19), removing from the top an overhead (20) and removing from the rectification section (7) at least one side stream (26, 28); (c) cooling (13) one of the side streams (28) and introducing the cooled side stream (29) into the rectification section (7) and partly condensing (21) the overhead (20) and introducing the condensed fraction (24) into the upper end of the distillation column (2); (d) supplying the contaminated liquid stream (40) to a membrane unit (3) provided with a suitable membrane (33), and removing a permeate (37) and a retentate (36); and (e) introducing the permeate (37) into the rectification section (7) and adding the retentate (36) to the crude oil (11) upstream of the furnace (1).

