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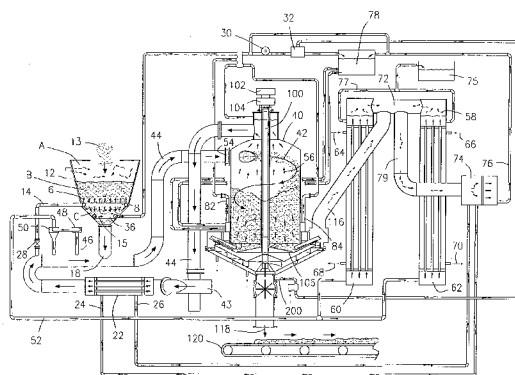
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(54) Title: HANDLING AND EXTRACTING HYDROCARBONS FROM TAR SANDS



(57) **Abstract:** A method and system for handling tar sands and extracting bitumen or oil from the tar sands. The method includes the steps of depositing tar sands (13) in a hopper assembly (12) having a conical bottom. An organic solvent mixture is sprayed on the tar sands through a series of jets (6) near the walls of the hopper (12). The oil or bitumen in the tar sands is dissolved by the organic solvent mixture. Sand from the tar sands is allowed to separate and fall toward the bottom of the hopper assembly (18). The sands and liquid in a slurry of fluid are transported from the hopper assembly to a rinse chamber (40). The slurry of fluid is delivered into the top of the rinse chamber tangentially to cause cyclonic action (42) of the slurry in the rinsing chamber. Solvent introduced at the bottom of the rinse chamber and the solvent mixture is drawn from the top of the rinse chamber. Thereafter, the solvent and hydrocarbon, liquid mixture is pumped to a separator (60, 62) in order to separate the oil and bitumen from the solvent. Finally, the clean solvent is returned (78) to be reused by introduction into the rinse chamber in order to form a closed loop process.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B01D G10G C10G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	CA 1 188 645 A1 (DUO EX CORP) 11 June 1985 (1985-06-11) page 9, line 25 - page 23, line 28; figures 1-5	1-4,8-13
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E	US 2007/205141 A1 (FREEMAN MICHAEL A [US] ET AL) 6 September 2007 (2007-09-06) the whole document	1
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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