

PatBase - Search results 04 March 2017

Search query (2): PN=(FR2981659 OR US2013026074 OR US2988501 OR US4732664 OR GB1152948 OR CA2579528 OR EP2272938 OR WO2005104749 OR US20130026074 OR US2695264)

Results: 8

15-263099

Search history

Search PN=(FR2981659 OR US2013026074 OR US2988501 OR US4732664 OR GB1152948 OR CA2579528 OR EP2272938 OR WO2005104749 OR
1: US20130026074) (Results 7)

Search PN=(FR2981659 OR US2013026074 OR US2988501 OR US4732664 OR GB1152948 OR CA2579528 OR EP2272938 OR WO2005104749 OR
2: US20130026074 OR US2695264) (Results 8)

Title: VISBREAKING OF HEAVY HYDROCARBONACEOUS MATERIALS

Abstract: Source: GB700137A Heavy hydrocarbon residues are heated in a vis-breaking zone to 780 DEG -950 DEG F. at 100-1,500 p.s.i.g., the product is passed to a separating zone maintained at a temperature and pressure below that of the vis-breaking zone, and the separated tar is maintained in a collecting zone at 450 DEG -650 DEG F. and 50-300 p.s.i.g. for 20-300 seconds. Virgin crude distillation residuum or desalted residue are fed through a preheating and vis-breaking coil in a furnace 9. The product after being quenched by product tar in line 11 to 500 DEG -800 DEG F. is flashed via valve 14 into a tower 15 where it is stripped by steam fed via lines 17. Heavy tar falls into the tar pot 21 from which (1) part is withdrawn via line 23 under control of a level control 27, (2) part is circulated from the bottom to the middle of the tar pot via a cooler 33, and (3) part is passed to line 11 to serve as quenching medium.

Classifications:

International (ipc 8-9): A01K47/00 B22F9/30 B25B15/06 B41L3/08 C04B33/04 C10G9/00 C22B5/20 F16G11/12 F21V11/18 F23Q2/42 H01J29/87 (Advanced/Invention); A01K47/00 B22F9/16 B25B15/00 B41L3/00 C04B33/02 C10G9/00 C22B5/00 F16G11/00 F21V11/00 F23Q2/00 H01J29/87 (Core/Invention)

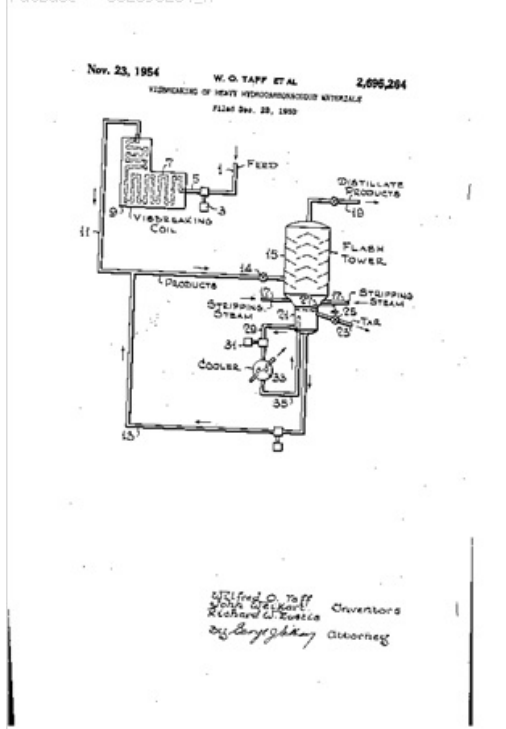
International (ipc 1-7): C10G9/00 C10M5/00

CPC: C10M5/00 C10M2201/14 C10M2203/10 C10M2205/18 C10M2215/04 C10M2215/065 C10M2215/26 C10M2229/02 C10M2229/04 C10M2229/041 C10M2229/043 C10M2229/044 C10M2229/05 C10N2220/02 C10N2240/02 C10N2250/10 C10N2250/121 C10N2270/00 C10G9/00 C22B5/20 B22F9/305 B25B15/06 A01K47/00 H01J29/87 F16G11/12 F23Q2/42 B41L3/08 F21V11/18 F21S48/142 F21S48/1789 F21W2101/02

European: 23B5B6B2 A01K47/00 B22F9/30C B25B15/06 B41L3/08 C10G9/00 C10M5/00 C22B5/20 F16G11/12 F21V11/18 F23Q2/42 H01J29/87 R21W101/02

US: 106/271 106/287.17 106/287.3 159/4.4 196/131 208/100 208/106 208/15 208/88 508/136

PatBase - US2695264_A

**Family:**

Publication number	Publication date	Application number	Application date
BE500983 A	00000000		00000000
DE878833 A	19530608	DE1951ST03078	19510218
FR1030736 A	19530616		19501228
FR1048640 A	19531223		19511019
FR61142 E	19550323		00000000
FR61143 E	19550323		00000000
FR61144 E	19550323		00000000
FR61145 E	19550323		00000000
FR61146 E	19550323		00000000
FR61190 E	19550324		00000000
FR61912 E	19550531		00000000
FR62110 E	19550610		00000000
GB700137 A	19531125	GB19510022815	19511001
GB703249 A	19540203	GB19500012853	19500523
NL76177 C	00000000		00000000
US2677661 A	19540504	US19500145595	19500221
US2695264 A	19541123	US19500203112	19501228

Priority:

US19500145595 19500221 US19500203112 19501228

Probable Assignee: STANDARD OIL DEV CO

Assignee(s): (std): BASF AG ; STANDARD OIL DEV CO ; LAMPES SA

Assignee(s): STANDARD OIL DEVELOPMENT CO ; BADISCHE ANILIN AND SODA FABRIK ; COMPAGNIE DES LAMPES ; DES LAMPES COMP ; STANDARD OIL DEVELOPMENT COMPANY

Inventor(s): (std): EUSTIS RICHARD W ; GUIBOUD HENRI LUCIEN ROGER ; GUILLAUMIN GABRIEL ; JOHN WEIKART ; LEGER AUGUSTE GABRIEL ; MAILLEBUAU JEAN RENE MICHEL ; ROBERT GASTON MAURICE ; ROSEMARY O HALLORAN ; SAULAIS ERNEST RENE ; TAFF WILFRED O

Inventor(s): WEIKART JOHN ; O HALLORAN ROSEMARY

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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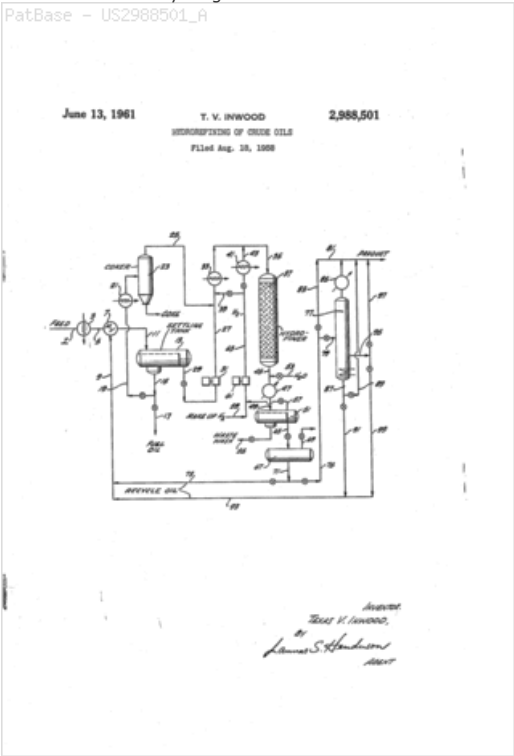
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FR1030736 A	19530616	LSGT	+	granted / extensions (spc, cpc, pte)
FR1048640 A	19531223	LSGT	+	granted / extensions (spc, cpc, pte)
GB700137 A	19531125	LSGT	+	granted / extensions (spc, cpc, pte)
GB703249 A	19540203	LSGT	+	granted / extensions (spc, cpc, pte)
NL76177 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)
US2677661 A	19540504	LSGT	+	granted / extensions (spc, cpc, pte)
US2695264 A	19541123	LSGT	+	granted / extensions (spc, cpc, pte)

Title: HYDROREFINING OF CRUDE OILS

Abstract: Source: US2988501A (Claim 1) 1. In a process wherein a relatively hydrogen-lean crude oil feedstock is subjected to catalytic hydrotreating at elevated temperatures with consumption of hydrogen to produce a relatively hydrogen-lean refined liquid product, the improved method for reducing the deposition of solid carbonaceous matter in the hydrotreating zone, which comprises blending said feedstock with a recycled portion of said refined liquid product, said recycled portion boiling predominantly above about 350 degrees F., then subjecting the resulting blend to settling conditions at a temperature in excess of 100 degrees F. for a sufficient length of time to effect a liquid-liquid phase separation and separating therefrom a minor, heavy asphalt-rich liquid phase and a major asphalt-lean liquid phase, heating said asphalt-lean phase to a hydrotreating temperature, and subjecting the heated oil to catalytic hydrotreating at a temperature between about 600 degrees and 900 degrees F. in the presence of added hydrogen.

Classifications:
International (IPC 8-9): C10G67/04 (Advanced/Invention); C10G67/00 (Core/Invention)
International (IPC 1-7): C10B55/00 C10G23/02
CPC: C10G67/0463
European: C10G67/04F2
US: 208/211 208/216R 208/251H 208/254H 208/39



Family:

Publication number	Publication date	Application number	Application date
US2988501 A	19610613	US19580755579	19580818

Priority:

US19580755579 19580818

Probable Assignee: UNION OIL CO

Assignee(s): (std): UNION OIL CO

Assignee(s): UNION OIL CO OF CALIFORNIA ; UNION OIL COMPANY OF CALIFORNIA

Inventor(s): (std): INWOOD TEXAS V

Legal status (INPADOC)

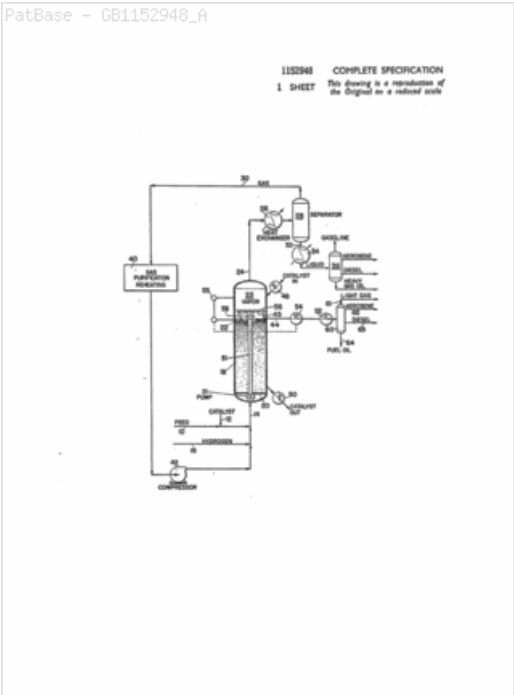
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Patent	Date recorded	Event group	Code	Event	Details
US2988501 A	19610613	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: Hydrogenation of Heavy Petroleum Oils

Abstract: Source: GB1152948A 1,152,948. Hydrocracking oils. HYDROCARBON RESEARCH Inc. 14 Oct., 1966, No. 46108/66. Heading C5E. A process of hydrogenating a petroleum oil composed of at least 30 percent of a fraction boiling above 975° F. comprises flowing said oil in liquid phase with a hydrogen-rich gas upwardly through a contact zone containing a bed of particulate hydrogenation catalyst having a narrow size range between 3 and 270 mesh at a hydrogen pressure, temperature and space velocity such that the conversion of the fraction boiling above 975° F. to a fraction boiling below 975° F. is not less than 60 percent with at least 20 percent boiling below 650° F., maintaining a hydrogen rich gas velocity at from 1 to 20 standard cubic feet per pound of hydrocarbon charge, withdrawing two separate reaction effluent streams from the upper part of the contact zone, one of the streams being substantially vapour-free liquid and the second stream being substantially liquid free vapour, re-cycling a a portion of the vapour-free liquid stream into the contact zone together with the fresh liquid feed such that the upflow liquid velocity through the bed of catalyst is main tained in the range from 1 to 80 gallons per minute per square ft. of horizontal cross-section of the zone, depending upon the particle size and density of the catalyst and the viscosity and density of the liquid to establish at least a 10 percent expansion of the volume of the bed, based upon the settled volume of the bed, and accomplish random motion of the particles without carry over of particles from the zone, and fractionating the liquid effluent stream before it is cold. The process is applicable to residua which may contain over 5 percent by weight of asphaltenes. The preferred embodiment comprises an apparatus in which liquid is recycled by means of a pipe passing downwards through the bed of catalyst. In specific examples, West Texas sour vacuum bottoms and mid-Continent vacuum bottoms are hydrocracked.

Classifications:
International (IPC 8-9): B01J8/22 (Advanced/Invention)
International (IPC 1-7): C10G23/10
CPC: B01J8/22 C10G47/24 C10G47/26
European: 23B5F15 B01J8/22 C10G47/24 C10G47/26



Family:

Publication number	Publication date	Application number	Application date
GB1152948 A	19690521	GB19660046108	19661014

Priority:

GB19660046108 19661014

Probable Assignee: HYDROCARBON RESEARCH INC
Assignee(s): (std): HYDROCARBON RESEARCH INC
Inventor(s): (std): ALPERT SEYMOUR BERNARD ; WOLK RONALD HOWARD
Inventor(s): RONALD HOWARD WOLK ; SEYMOUR BERNARD ALPERT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB1152948 A	19690521	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1152948 A	19691001	LSGT	+PS	PATENT SEALED	

Title: Process for solid separation from hydroprocessing liquid product

Abstract: Source: US4732664A A process for separating finely divided solid particles from a hydroprocessing liquid product which comprises treating a heavy hydrocarbon feed having an asphaltene content of at least 1 weight percent so as to obtain an unstable product characterized by heavy molecular weight molecules which promote the agglomeration of said finely divided solid particles and thereafter feeding said unstable product to a precipitating zone provided with a centrifugal decanter for precipitating the agglomerated solid particles and said heavy molecular weight molecules in said precipitating zone wherein at least 80 weight percent of the finely divided solid particles is recovered.

Classifications:

International (IPC 8-9): C10G21/00 C10G31/06 C10G31/10

C10G67/02 (Advanced/Invention);

C10G21/00 C10G31/00 (Core/Invention)

International (IPC 1-7): B03B5/28 B03D3/02 C10G29/02 C10G29/06

C10G29/16 C10G31/06 C10G31/10 C10G67/02

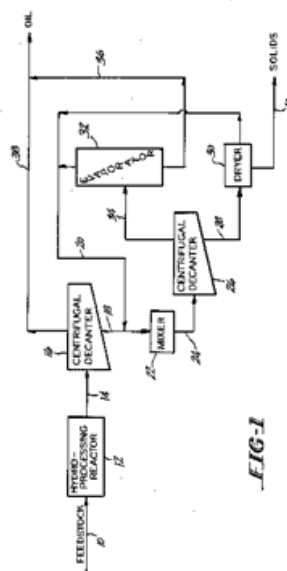
CPC: C10G21/003 C10G31/06 C10G31/10

European: C10G21/00A C10G31/06 C10G31/10

US: 208/112 208/162 208/177 208/212 208/96 208/97 210/730 210/738

PatBase - US4732664_A

U.S. Patent Mar. 22, 1988 Sheet 1 of 2 4,732,664



Family:

Publication number	Publication date	Application number	Application date
CA1257214 A1	19890711	CA19850495359	19851114
DE3541465 A1	19860807	DE19853541465	19851123
DE3541465 C2	19881229	DE19853541465	19851123
US4732664 A	19880322	US19840674874	19841126

Priority:

CA19850495359 19851114 US19840674874 19841126

Probable Assignee: INTEVEP SA

Assignee(s): (std): INTEVEP SA

Assignee(s): INTEVEP SA APARTADO 76343 ; MARTINI RODOLFO B SOLARI ; LOPEZ JOSE GUITIAN ; MARZIN ROGER ; KRASUK JULIO H ; GOLDING JOSE V RODRIGUEZ ; INTEVEP APARTADO 76343 SA ; INTEVEP S A ; INTEVEP S A CARACAS VE

Inventor(s): (std): GUITIAN LOPEZ JOSE ; KRASUK JULIO H ; MARZIN ROGER ; RODRIGUEZ GOLDING JOSE V ; SOLARI MARTINI RODOLFO B ; MARTINI RODOLFO B SOLARI ; LOPEZ JOSE GUITIAN ; GOLDING JOSE V RODRIGUEZ

Inventor(s): B SOLARI MARTINI RODOLFO ; SOLARI MARTINI RODOLFO B LOS TEQUES VE ; V RODRIGUEZ GOLDING JOSE ; RODRIGUEZ GOLDING JOSE V CARACAS VE ; KRASUK JULIO H LOS TEQUES VE ; GUITIAN LOPEZ JOSE SAN ANTONIO DE LOS ALTOS VE ; H KRASUK JULIO

Agent(s): OGILVY RENAULT LLP SENCRL SRL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA1257214 A1	19890711	LSPB	+	published / reissued	
CA1257214 A1	20060711	LSLE	-MKEX	EXPIRY	
DE3541465 A1	19860807	LSPB	+	published / reissued	
DE3541465 A1	19860807	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	

DE3541465 A1	19881229	LSGT	+D2	GRANT AFTER EXAMINATION	
DE3541465 A1	19890622	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3541465 C2	19881229	LSGT	+	granted / extensions (spc, cpc, pte)	
US4732664 A	19880322	LSGT	+	granted / extensions (spc, cpc, pte)	
US4732664 A	19841126	LSAS	AS	ASSIGNMENT	OWNER NAME : INTEVEP, S.A. APARTADO 76343,CARACAS 1070A,VENEZUE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:SOLARI MARTINI, RODOLFO B.; MARZIN, ROGER; GUITIAN LOPEZ,JOSE; AND OTHERS; REEL/FRAME:004338/0911 EFFECTIVE DATE : 19841113
US4732664 A	19841126	LSAS	AS	ASSIGNMENT	OWNER NAME : INTEVEP, S.A.,VENEZUELA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SOLARI MARTINI, RODOLFO B.; MARZIN, ROGER; GUITIAN LOPEZ, JOSE; AND OTHERS; REEL/FRAME:004338/0911 EFFECTIVE DATE : 19841113
US4732664 A	19910329	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4732664 A	19950824	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4732664 A	19990902	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

Title: HYDROPROCESSING METHOD AND SYSTEM FOR UPGRADING HEAVY OIL USING A COLLOIDAL OR MOLECULAR CATALYST

Abstract: Source: US2005241993A Methods and systems for hydroprocessing heavy oil feedstocks to form an upgraded material involve the use of a colloidal or molecular catalyst dispersed within a heavy oil feedstock, a hydrocracking reactor, and a hot separator. The colloidal or molecular catalyst promotes hydrocracking and other hydroprocessing reactions within the hydrocracking reactor. The catalyst is preferentially associated with asphaltenes within the heavy oil feedstock, which promotes upgrading reactions involving the asphaltenes rather than formation of coke precursors and sediment. The colloidal or molecular catalyst overcomes problems associated with porous supported catalysts in upgrading heavy oil feedstocks, particularly the inability of such catalysts to effectively process asphaltene molecules. The result is one or more of reduced equipment fouling, increased conversion level, and more efficient use of the supported catalyst if used in combination with the colloidal or molecular catalyst.

Classifications:

International (IPC 8-9): B01F13/00 B01F15/02 B01F15/04 B01F3/14 B01F5/06 B01J19/00 B01J27/047 B01J27/051 B01J35/00 B01J37/00 B01J37/02 B01J37/04 B01J37/08 B01J37/20 B01J38/00 B01J8/00 C10C1/00 C10G11/00 C10G45/00 C10G45/04 C10G47/00 C10G47/02 C10G47/06 C10G47/24 C10G47/26 C10G49/04 C10G65/02 C10G65/10 C10G65/12 (Advanced/Invention); B01J38/68 (Advanced/Non-invention)

International (IPC 1-7): B01F3/14 B01J27/047 B01J27/051 C10G47/02 C10G47/24 C10G47/26 C10G65/02 C10G65/10

CPC: C10G47/26 C10G2300/1033 C10G2300/107 C10G2300/1077 C10G2300/802 C10G47/00 B01F3/088 B01F2003/105 B01J8/0015 B01J27/047 B01J27/051 B01J35/0013 B01J37/02 B01J37/086 B01J38/00 B01J38/68 B01J2208/00752 C10G45/00 C10G49/04 C10G65/02 C10G65/12

European: B01F3/08P B01J27/047 B01J27/051 B01J35/00C B01J37/02 B01J37/08B4 B01J38/00 B01J8/00F C10G45/00 C10G47/00 C10G47/26 C10G49/04 C10G65/02 C10G65/12 L01F3/10B L01J208/00F2 L01J38/68

US: 208/108 366/141 366/141P 366/190 366/190S 366/336 366/336S 366/342 366/342S 422/187 422/224 422/224S 422/225 422/225S

PatBase - US2005241993_AA

Patent Application Publication Nov. 3, 2005 Sheet 1 of 26 US 2005/0241993 A1

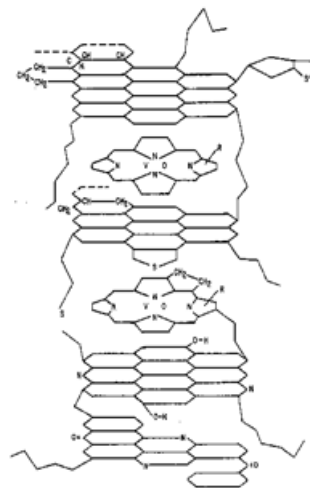


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
BRPI0510304 A	20071002	BR2005PI10304	20050428
CA2564342 AA	20061026	CA20052564342	20050428
CA2564342 C	20130924	CA20052564342	20050428
CA2646492 AA	20080912	CA20072646492	20070312
CN101405370 A	20090408	CN200780009232	20070312
CN1950484 A	20070418	CN200580013891	20050428
DE602005047313 D1	20151001	DE200560047313T	20050428
DE602005049494 D1	20160714	DE200560049494T	20050428
EP1753844 A2	20070221	EP20050739913	20050428
EP1753844 A4	20101215	EP20050739913	20050428
EP1753844 B1	20160608	EP20050739913	20050428
EP1999233 A2	20081210	EP20070758375	20070312
EP1999233 A4	20110413	EP20070758375	20070312
EP2272938 A1	20110112	EP20100174815	20050428
EP2272938 B1	20150819	EP20100174815	20050428
EP2272938 B9	20151230	EP20100174815	20050428
EP2735601 A1	20140528	EP20140155923	20070312
EP2813562 A1	20141217	EP20140171297	20050428
ES2583505 T3	20160921	ES20050739913T	20050428
IN05922DN2006 A	20070713	IN2006DN05922	20061011
IN07704DN2008 A	20081024	IN2008DN07704	20080912
IN258912 B	20140221	IN2006DN05922	20061011
JP2007535603 T2	20071206	JP20070510923T	20050428
JP2009541499 T2	20091126	JP20090500576T	20070312
JP5318409 B2	20131016	JP20070510923T	20050428
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KR101227271 B1	20130128	KR20067022515	20050428
KR101515850 B1	20150429	KR20087024672	20070312
KR20070026489 A	20070308	KR20067022515	20050428
KR20080113228 A	20081229	KR20087024672	20081009
MX2008011734 A1	20090423	MX20080011734	20070312
MX276630 B	20100615	MX2006PA12581	20050428
MXPA06012581 A1	20070410	MX2006PA12581	20050428
PL1753844 T3	20161230	PL20050739913T	20050428
RU2006141838 A	20080610	RU20060141838	20050428
RU2008140315 A	20100420	RU20080140315	20070312
RU2385346 C2	20100327	RU20060141838	20050428
RU2426589 C2	20110820	RU20080140315	20070312

TH114606 A	20120629	TH20071000455	20070201
TW200734443 A	20070916	TW20070108263	20070309
TWI360571 B	20120321	TW20070108263	20070309
US2005241993 AA	20051103	US20050117262	20050428
US2006201854 AA	20060914	US20060374369	20060313
US2009310435 AA	20091217	US20090547278	20090825
US7578928 BB	20090825	US20050117262	20050428
WO05104749 A2	20051110	WO2005US14411	20050428
WO05104749 A3	20060105	WO2005US14411	20050428
WO07106783 A2	20070920	WO2007US63819	20070312
WO07106783 A3	20071122	WO2007US63819	20070312

Priority:

EP20050739913	20050428	EP20070758375	20070312	US20040566345	20040428
US20050117262	20050428	US20040566345P	20040428	EP20100174815	20050428
US20060374369	20060313	WO2005US14411	20050428	WO2007US63819	20070312
US20090547278	20090825				

Probable Assignee: HEADWATERS HEAVY OIL LLC A UTAH CORP

Assignee(s): (std): LOTT ROGER K ; KHEDUOTERS KHEHVI OJL LLS ; KHEH DUOTERS KHEHVI OJL EHLEHLSI ; HEADWATERS HEAVY OIL LLC

Assignee(s): HEADWATERS HEAVY OIL LLC A UTAH CORP ; HEADWATERS HEAVY OIL LLC SOUTH JORDAN ; DEUTSCHE BANK NEW YORK BRANCH ADMINISTRATIVE AGENT AG AS ; LEE LAP KEUNG ; HEADWATERS INC GRANTOR AS ; HEADWATERS RESOURCES INC A UTAH CORP ; HEADWATERS TECHNOLOGY INNOVATION GROUP INC A UTAH CORP ; TAPCO INT A MICHIGAN CORP ; WILMINGTON TRUST FSB COLLATERAL AGENT AS

Inventor(s): (std): KEUNG LOTT ROGER K LEE LAP ; LEE LAP KEUNG ; LI LAP KEUNG ; LOTT RODZHER K ; LOTT ROGER K

Inventor(s): LOTT ROGER K EDMONTON ; ROGER K LOTT ; LOTT ROGER ; LI LAP-KEUNG ; LEE LAP KEUNG WEST WINDSOR ; LAP KEUNG LEE

Agent(s): CASSAN MACLEAN; SMART AND BIGGAR; ADAM HOLGER; ADAM HOLGER ET AL; LEHMANN MARIA ISABEL; WORKMAN NYDEGGER, (F/K/A WORKMAN NYDEGGER AND SEELEY); WORKMAN NYDEGGER F K A WORKMAN NYDEGGER AND SEELEY; WORKMAN NYDEGGER,1000 EAGLE GATE TOWER; WORKMAN NYDEGGER 1000 EAGLE GATE TOWER; WORKMAN NYDEGGER

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BRPI0510304 A	20071002	LSPB	+	published / reissued	
BRPI0510304 A	20141230	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0510304 A	20150616	LSRV	B09B	DECISION: REFUSAL	DESCRIPTION : INDEFIRO O PEDIDO DE ACORDO COM O(S) ARTIGO(S) 80 E 13 DA LPI.
BRPI0510304 A	20160419	LSRV	B09B	DECISION: REFUSAL	DESCRIPTION : MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL.
CA2564342 AA	20061026	LSPB	+	published / reissued	
CA2564342 AA	20061026	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2564342 AA	20100304	LSES	+EEER	EXAMINATION REQUEST	
CA2564342 C	20130924	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2646492 AA	20080912	LSPB	+	published / reissued	
CA2646492 AA	20080912	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2646492 AA	20120215	LSES	+EEER	EXAMINATION REQUEST	
CA2646492 AA	20120301	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20120215
CN101405370 A	20090408	LSPB	+	published / reissued	
CN101405370 A	20090408	LSPB	+C06	PUBLICATION	

CN101405370 A	20091209	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN1950484 A	20070418	LSPB	+	published / reissued	
CN1950484 A	20070418	LSPB	+C06	PUBLICATION	
CN1950484 A	20100210	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP1753844 A2	20070221	LSPB	+	published / reissued	
EP1753844 A2	20070221	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20061121
EP1753844 A2	20101110	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C10G 47/02 20060101AFI20061214BHEP
EP1753844 A2	20101110	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C10G 47/06 20060101ALI20101007BHEP
EP1753844 A2	20101215	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20101112
EP1753844 A2	20140917	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140818
EP1753844 A2	20160210	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20160115
EP1753844 A2	20160608	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1753844 A2	20160615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1753844 A2	20160629	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1753844 A2	20160714	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005049494 COUNTRY OF REF DOCUMENT : DE
EP1753844 A2	20160715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 805243 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160715
EP1753844 A2	20160921	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2583505 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20160921
EP1753844 A2	20161010	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP1753844 A2	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED

					TIME-LIMIT LAPSED DATE : 20160608
EP1753844 A2	20161115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 805243 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160608
EP1753844 A2	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160909
EP1753844 A2	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160608
EP1753844 A2	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160608
EP1753844 A2	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160608
EP1753844 A2	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160608
EP1753844 A2	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161008
EP1753844 A2	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160608
EP1753844 B1	20160608	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1999233 A2	20081210	LSPB	+	published / reissued	
EP1999233 A2	20081210	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080911
EP1999233 A2	20110413	LSSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20110315
EP1999233 A2	20120829	LSSES	+17Q	FIRST EXAMINATION	EFFECTIVE DATE : 20120730

EP2272938 A1	20110112	LSPB	+	REPORT published / reissued	
EP2272938 A1	20110413	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110224
EP2272938 A1	20110511	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20110406
EP2272938 A1	20140514	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20140415
EP2272938 A1	20150708	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150611
EP2272938 A1	20150819	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2272938 A1	20150828	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2272938 A1	20150909	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2272938 A1	20150915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 743831 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150915
EP2272938 A1	20151001	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005047313 COUNTRY OF REF DOCUMENT : DE
EP2272938 A1	20160115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 743831 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150819
EP2272938 A1	20160125	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2272938 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151120
EP2272938 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED

					TIME-LIMIT LAPSED DATE : 20151221
EP2272938 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151219
EP2272938 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160429	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : BG PAYMENT DATE : 20160323 YEAR OF FEE PAYMENT : 12
EP2272938 A1	20160520	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602005047313 COUNTRY OF REF DOCUMENT : DE
EP2272938 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20160308 YEAR OF FEE PAYMENT : 12

EP2272938 A1	20160727	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20160520
EP2272938 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20160411 YEAR OF FEE PAYMENT : 12
EP2272938 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2272938 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160418 YEAR OF FEE PAYMENT : 12
EP2272938 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : SK PAYMENT DATE : 20160405 YEAR OF FEE PAYMENT : 12
EP2272938 A1	20161101	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602005047313 COUNTRY OF REF DOCUMENT : DE
EP2272938 A1	20161130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2272938 A1	20161228	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160428
EP2272938 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150819
EP2272938 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160428
EP2272938 A1	20170125	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2272938 A1	20170127	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20161230
EP2272938 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161101
EP2272938 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2272938 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF

EP2272938 A1	20170131	LSLE	-PG25	INFORM. FROM NAT. OFFICE TO EPO	DUE FEES LAPSED DATE : 20160428
EP2272938 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160502
EP2272938 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2272938 B1	20150819	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2735601 A1	20140528	LSPB	+	published / reissued	
EP2735601 A1	20140528	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140220
EP2735601 A1	20150107	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTION)	EFFECTIVE DATE : 20140927
EP2813562 A1	20141217	LSPB	+	published / reissued	
EP2813562 A1	20141217	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140605
EP2813562 A1	20150729	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTION)	EFFECTIVE DATE : 20150617
ES2583505 T3	20160921	LSGT	+	granted / extensions (spc, cpc, pte)	
IN05922DN2006 A	20070713	LSPB	+	published / reissued	
IN07704DN2008 A	20081024	LSPB	+	published / reissued	
IN258912 B	20140221	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2007535603 T2	20071206	LSPB	+	published / reissued	
JP2007535603 T2	20070829	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070828
JP2007535603 T2	20070829	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070828
JP2007535603 T2	20100602	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100601
JP2007535603 T2	20100902	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100901
JP2007535603 T2	20110322	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110318
JP2007535603 T2	20110706	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110705
JP2007535603 T2	20110706	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110705
JP2007535603 T2	20110812	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20110727
JP2007535603 T2	20110812	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20110727

JP2007535603 T2	20110817	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20110816
JP2007535603 T2	20110817	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20110816
JP2007535603 T2	20111031	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20111028
JP2007535603 T2	20130503	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130502
JP2007535603 T2	20130718	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130710
JP2007535603 T2	20130719	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP2009541499 T2	20091126	LSPB	+	published / reissued	
JP5318409 B2	20131016	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5318409 B2	20070829	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070828
JP5318409 B2	20070829	LSSE	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070828
JP5318409 B2	20100602	LSSE	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100601
JP5318409 B2	20100902	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100901
JP5318409 B2	20110322	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110318
JP5318409 B2	20110706	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110705
JP5318409 B2	20110812	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20110727
JP5318409 B2	20110817	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20110816
JP5318409 B2	20111031	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20111028
JP5318409 B2	20130503	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130502
JP5318409 B2	20130718	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130710
JP5318409 B2	20130719	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP5318409 B2	20160705	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP5437789 B2	20140312	LSGT	+	granted /	

JP5437789 B2	20100305	LSSES	+A621	extensions (spc, cpc, pte) WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100304
JP5437789 B2	20121022	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121019
JP5437789 B2	20130122	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130121
JP5437789 B2	20130805	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130802
JP5437789 B2	20131018	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131017
JP5437789 B2	20131105	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5437789 B2	20131113	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20131112
JP5437789 B2	20131219	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20131212
JP5437789 B2	20131220	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP5437789 B2	20161206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
KR101227271 B1	20130128	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101227271 B1	20100407	LSSES	A201	REQUEST FOR EXAMINATION	
KR101227271 B1	20111031	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101227271 B1	20120314	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101227271 B1	20121031	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101227271 B1	20130122	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101227271 B1	20151217	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 4
KR101227271 B1	20161220	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161220 YEAR OF FEE PAYMENT : 5
KR101515850 B1	20150429	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20070026489 A	20070308	LSPB	+	published / reissued	
KR20080113228 A	20081229	LSPB	+	published / reissued	
KR20080113228 A	20120306	LSSES	A201	REQUEST FOR EXAMINATION	
KR20080113228 A	20140127	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080113228 A	20140924	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20080113228 A	20150129	LSGT	+E701	DECISION TO	

KR20080113228 A	20150422	LSGT	+GRNT	GRANT OR REGISTRATION OF PATENT RIGHT WRITTEN DECISION TO GRANT	
MX2008011734 A1	20090423	LSPB	+	published / reissued	
MX2008011734 A1	20100831	LSRE	HH	CORRECTION OR CHANGE IN GENERAL	
MX2008011734 A1	20160622	LSGT	+FG	GRANT OR REGISTRATION	
MX276630 B	20100615	LSGT	+	granted / extensions (spc, cpc, pte)	
MX276630 B	20100615	LSGT	+FG	GRANT OR REGISTRATION	
MXPA06012581 A1	20070410	LSPB	+	published / reissued	
PL1753844 T3	20161230	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2006141838 A	20080610	LSPB	+	published / reissued	
RU2008140315 A	20100420	LSPB	+	published / reissued	
RU2385346 C2	20100327	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2426589 C2	20110820	LSGT	+	granted / extensions (spc, cpc, pte)	
TH114606 A	20120629	LSPB	+	published / reissued	
TW200734443 A	20070916	LSPB	+	published / reissued	
TWI360571 B	20120321	LSGT	+	granted / extensions (spc, cpc, pte)	
US2005241993 AA	20051103	LSPB	+	published / reissued	
US2006201854 AA	20060914	LSPB	+	published / reissued	
US2006201854 AA	20060526	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS HEAVY OIL, LLC, UTAH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LOTT, ROGER K.; REEL/FRAME:017682/0783 EFFECTIVE DATE : 20060209
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US- ASSIGNMENT DATABASE UPDATED:20100204; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US- ASSIGNMENT DATABASE UPDATED:20100209; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027

US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100218; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100223; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100302; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100304; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100304; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESO DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; AND OTHERS; REEL/FRAME:023699/0452

EFFECTIVE DATE : 20091027

US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100330; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; AND OTHERS; REEL/FRAME:023699/0452 EFFECTIVE DATE : 20091027
US2006201854 AA	20091120	LSAS	AS	ASSIGNMENT	OWNER NAME : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, AUTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA AND OTHERS; US-ASSIGNMENT DATABASE UPDATED:20100518; REEL/FRAME:23699/452 EFFECTIVE DATE : 20091027
US2006201854 AA	20150326	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS TECHNOLOGY INNOVATION GROUP, INC., A UT DESCRIPTION : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324

US2006201854 AA	20150326	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION, UTAH DESCRIPTION : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US2006201854 AA	20150326	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS INCORPORATED, AS GRANTOR, UTAH DESCRIPTION : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US2006201854 AA	20150326	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS RESOURCES, INC., A UTAH CORPORATION, UT DESCRIPTION : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US2006201854 AA	20150326	LSAS	AS	ASSIGNMENT	OWNER NAME : TAPCO INTERNATIONAL CORPORATION, A MICHIGAN CORP DESCRIPTION : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US2006201854 AA	20150327	LSAS	AS	ASSIGNMENT	OWNER NAME : DEUTSCHE BANK AG NEW YORK BRANCH, AS ADMINISTRATIV DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, AS GRANTOR; TAPCO INTERNATIONAL CORPORATION, AMICHIGAN CORPORATION; HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION; AND OTHERS; REEL/FRAME:035327/0462 EFFECTIVE DATE : 20150324
US2009310435 AA	20091217	LSPB	+	published / reissued	
US2009310435 AA	20090909	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS HEAVY OIL, LLC, UTAH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LOTT, ROGER K.; REEL/FRAME:023205/0067 EFFECTIVE DATE : 20060209
US2009310435 AA	20090909	LSAS	AS	ASSIGNMENT	OWNER NAME : HEADWATERS HEAVY OIL, LLC,UTAH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LOTT, ROGER K.; REEL/FRAME:23205/67 EFFECTIVE DATE : 20060209
US2009310435 AA	20150327	LSAS	AS	ASSIGNMENT	OWNER NAME : DEUTSCHE BANK AG NEW YORK BRANCH, AS ADMINISTRATIV DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, AS GRANTOR; TAPCO INTERNATIONAL CORPORATION, AMICHIGAN CORPORATION; HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION; AND OTHERS; REEL/FRAME:035327/0462 EFFECTIVE DATE : 20150324
US7578928 BB	20090825	LSGT	+	granted / extensions (spc, cpc, pte)	
US7578928 BB	20050513	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HEADWATERS HEAVY OIL, LLC, UTAH

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LOTT, ROGER K.; LEE, LAP-KEUNG; REEL/FRAME:016011/0885; SIGNING DATES FROM 20050419 TO 20050420
US7578928 BB	20091120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WILMINGTON TRUST FSB, AS COLLATERAL AGENT,MINNESOT OLDPARTY : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; AND OTHERS; REEL/FRAME:023699/0452 EFFECTIVE DATE : 20091027
US7578928 BB	20091120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WILMINGTON TRUST FSB, AS COLLATERAL AGENT, MINNESO OLDPARTY : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, A DELAWARE CORPORATION; HEADWATERS CTL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; HEADWATERS HEAVY OIL, LLC, A UTAH LIMITED LIABILITY COMPANY, USA; AND OTHERS; REEL/FRAME:023699/0452 EFFECTIVE DATE : 20091027
US7578928 BB	20100518	LSRE	CC	CERTIFICATE OF CORRECTION	
US7578928 BB	20101214	LSRE	CC	CERTIFICATE OF CORRECTION	
US7578928 BB	20130204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7578928 BB	20150326	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HEADWATERS TECHNOLOGY INNOVATION GROUP, INC., A UT OLDPARTY : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US7578928 BB	20150326	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HEADWATERS INCORPORATED, AS GRANTOR, UTAH OLDPARTY : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US7578928 BB	20150326	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION, UTA OLDPARTY : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US7578928 BB	20150326	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TAPCO INTERNATIONAL CORPORATION, A MICHIGAN CORPOR OLDPARTY : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US7578928 BB	20150326	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HEADWATERS

					RESOURCES, INC., A UTAH CORPORATION, UT OLDPARTY : PATENT RELEASE (REEL:23699/FRAME:0452); ASSIGNOR:WILMINGTON TRUST, NATIONAL ASSOCIATION, AS COLLATERAL AGENT; REEL/FRAME:035306/0558 EFFECTIVE DATE : 20150324
US7578928 BB	20150327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, AS ADMINISTRATIV OLDPARTY : SECURITY AGREEMENT; ASSIGNORS:HEADWATERS INCORPORATED, AS GRANTOR; TAPCO INTERNATIONAL CORPORATION, A MICHIGAN CORPORATION; HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION; AND OTHERS; REEL/FRAME:035327/0462 EFFECTIVE DATE : 20150324
US7578928 BB	20170217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
WO05104749 A2	20051110	LSPB	+	published / reissued	
WO05104749 A3	20061026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2564342 COUNTRY OF REF DOCUMENT : CA
WO05104749 A3	20061027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2006/012581 COUNTRY OF REF DOCUMENT : MX
WO05104749 A3	20061027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020067022515 COUNTRY OF REF DOCUMENT : KR
WO05104749 A3	20061030	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007510923 COUNTRY OF REF DOCUMENT : JP
WO05104749 A3	20061030	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580013891.3 COUNTRY OF REF DOCUMENT : CN
WO05104749 A3	20061031	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05104749 A3	20061031	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE
WO05104749 A3	20061121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005739913 COUNTRY OF REF DOCUMENT : EP
WO05104749 A3	20061128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006141838 COUNTRY OF REF DOCUMENT : RU
WO05104749 A3	20070221	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005739913 COUNTRY OF REF DOCUMENT : EP
WO05104749 A3	20070308	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020067022515 COUNTRY OF REF DOCUMENT : KR
WO05104749 A3	20071002	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0510304 COUNTRY OF REF DOCUMENT : BR
WO07106783 A2	20070920	LSPB	+	published / reissued	
WO07106783 A3	20080912	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2646492 COUNTRY OF REF DOCUMENT : CA

WO07106783 A3	20080916	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07106783 A3	20080916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200780009232.1 COUNTRY OF REF DOCUMENT : CN
WO07106783 A3	20080916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009500576 COUNTRY OF REF DOCUMENT : JP
WO07106783 A3	20081013	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008140315 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A

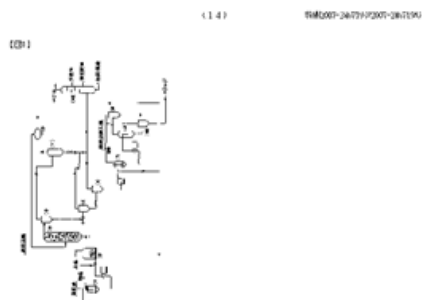
Title: METHOD FOR HYDROCRACKING PETROLEUM-BASED HEAVY OIL

Abstract: Source: JP2007246719A PROBLEM TO BE SOLVED: To provide a method for hydrocracking a petroleum-based heavy oil, by which TI (toluene insolubles) can selectively be removed without causing a blocking trouble in the lower portion of a sedimentation type solid-liquid separator (sedimentation tank) and without needing the enlargement of the sedimentation tank, when the TI is selectively removed, by a sedimentation type solid-liquid method, from a liquid phase fluid obtained from a reaction product produced by hydrocracking a petroleum-based heavy oil containing heavy metal components in the presence of an ion-based catalyst in a suspension bed reactor. SOLUTION: This method for hydrocracking the petroleum-based heavy oil is characterized by using a solvent mixture obtained by mixing a light solvent for solid-liquid separation with a light solvent obtained by the hydrocracking method, controlling a mixing ratio of the solvent to the liquid phase fluid (liquid phase fluid of TI selective removal target) to 2 to 5, and controlling the temperature condition of the sedimentation type solid-liquid separator to 130 to 250 degrees centigrade

Classifications:

International (IPC 8-9): C10G47/02 C10G47/26 (Advanced/Invention); C10G47/00 (Core/Invention)

PatBase - JP2007246719_A2



Family:

Publication number	Publication date	Application number	Application date
BRPI0700828 A	20071113	BR2007PI00828	20070316
BRPI0700828 B1	20161004	BR2007PI00828	20070316
CA2579528 AA	20070916	CA20072579528	20070226
CA2579528 C	20100615	CA20072579528	20070226
JP2007246719 A2	20070927	JP20060073013	20060316
JP4813933 B2	20111109	JP20060073013	20060316

Priority:

CA20072579528 20070226 JP20060073013 20060316

Probable Assignee: KOBE STEEL LTD

Assignee(s): (std): KOBE STEEL LTD

Assignee(s): OKUI TOSHIKI ; TADA NAOJI ; TAMURA MASAOKI ; KABUSHIKI KAISHA KOBE SEIKO SHO ; KABUSHIKI KAISHA KOBE SEIKO SHO KOBE STEEL LTD ; KOBE SEIKO SHO KOBE STEEL LTD KK

Inventor(s): (std): OKUI TOSHIKI ; TADA NAOJI ; TAMURA MASAOKI

Inventor(s): TOSHIKI OKUI ; NAOJI TADA ; MASAOKI TAMURA

Agent(s): RICHES MCKENZIE AND HERBERT LLP

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
BRPI0700828 A	20071113	LSPB	+	published / reissued	
BRPI0700828 A	20160830	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0700828 A	20161004	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	DESCRIPTION : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 16/03/2007, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0700828 B1	20161004	LSGT	+	granted / extensions (spc, cpc, pte)	

CA2579528 AA	20070916	LSPB	+	published / reissued	
CA2579528 AA	20070226	LSES	+EEER	EXAMINATION REQUEST	
CA2579528 C	20100615	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2007246719 A2	20070927	LSPB	+	published / reissued	
JP4813933 B2	20111109	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4813933 B2	20080927	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080926
JP4813933 B2	20110406	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20110405
JP4813933 B2	20110615	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110614
JP4813933 B2	20110804	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110803
JP4813933 B2	20110817	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4813933 B2	20110824	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110823
JP4813933 B2	20110825	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4813933 B2	20110901	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20110825
JP4813933 B2	20110902	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4813933 B2	20110905	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20140902 YEAR OF FEE PAYMENT : 3

Title: PROCESS FOR STABILIZATION OF HEAVY HYDROCARBONS

Abstract: Source: US2013026074A A process for stabilization of heavy hydrocarbons to reduce sludge formation in storage tanks and/or transportation lines and to enhance the hydrocarbon yield includes mixing a paraffinic or heavy naphtha solvent having carbon numbers in the range 10 to 20 with the feedstock to solvent-flocculate a relatively small, predetermined portion of asphaltenes present in the feedstock, separating and flashing the sediment to recover a light hydrocarbon fraction, flashing the heavy hydrocarbon/solvent phase and recycling the solvent to stabilize the heavy hydrocarbons without significantly affecting the yield of valuable products.

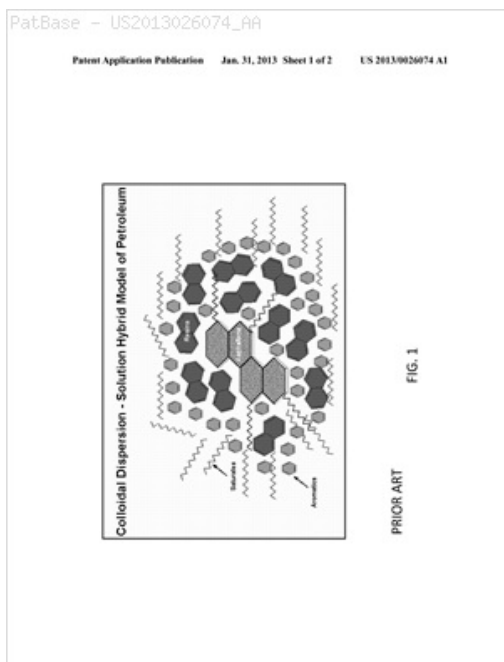
Classifications:

International (IPC 8-9): B01D21/01 C10C3/08 C10G1/00
C10G21/00 C10G21/14 C10G21/28 C10G31/00

C10G31/06 (Advanced/Invention)

CPC: C10G21/14 C10G2300/107 C10G2300/1077 C10G2300/206
C10G2300/4075 C10G2300/44 C10G21/003 C10G1/002 C10G21/28
C10G31/06

US: 208/309



Family:

Publication number	Publication date	Application number	Application date
CN103827267 A	20140528	CN201280046760	20120719
EP2737021 A2	20140604	EP20120738380	20120719
JP2014524483 T2	20140922	JP20140522887T	20120719
JP6073882 B2	20170201	JP20140522887T	20120719
KR20140064802 A	20140528	KR20147005135	20120719
US2013026074 AA	20130131	US20120553236	20120719
US9493710 BB	20161115	US20120553236	20120719
WO13019418 A2	20130207	WO2012US47328	20120719
WO13019418 A3	20131010	WO2012US47328	20120719

Priority:

US20110513457P 20110729 US20120553236 20120719 WO2012US47328 20120719

Probable Assignee: SAUDI ARABIAN OIL CO

Assignee(s): (std): AL HAJJI ADNAN ; KOSEOGLU OMER REFA ; SAUDI ARABIAN OIL CO

Assignee(s): SAUDI ARABIAN OIL COMPANY

Inventor(s): (std): KOSEOGLU OMER REFA ; AL HAJJI ADNAN

Agent(s): GERVASI GEMMA; MORIZUMI KEN ICHI; TANAKA MITSUO; YAMADA TAKUJI; ABELMAN FRAYNE AND SCHWAB; SPATH THOMAS E

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN103827267 A	20140528	LSPB	+	published / reissued	
CN103827267 A	20140528	LSPB	+C06	PUBLICATION	
EP2737021 A2	20140604	LSPB	+	published / reissued	
EP2737021 A2	20140604	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140226
JP2014524483 T2	20140922	LSPB	+	published / reissued	
JP2014524483 T2	20150706	LSRE	A521	WRITTEN	TEXT : JAPANESE INTERMEDIATE

				AMENDMENT	CODE: A523 EFFECTIVE DATE : 20150706
JP2014524483 T2	20150706	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150706
JP2014524483 T2	20160426	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160426
JP2014524483 T2	20160726	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160726
JP2014524483 T2	20161130	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014524483 T2	20161206	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20161206
JP2014524483 T2	20170112	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20170105
JP2014524483 T2	20170113	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6073882 COUNTRY OF REF DOCUMENT : JP
JP6073882 B2	20170201	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20140064802 A	20140528	LSPB	+	published / reissued	
US2013026074 AA	20130131	LSPB	+	published / reissued	
US2013026074 AA	20121016	LSAS	AS	ASSIGNMENT	OWNER NAME : SAUDI ARABIAN OIL COMPANY, SAUDI ARABIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KOSEOGLU, OMER REFA; AL-HAJJI, ADNAN; REEL/FRAME:029136/0182 EFFECTIVE DATE : 20120924
US9493710 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
WO13019418 A2	20130207	LSPB	+	published / reissued	
WO13019418 A3	20140128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014522887 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
WO13019418 A3	20140226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20147005135 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A

Title: PROCESS FOR CONVERSION OF PETROLEUM FEED COMPRISING AN EBULLATED BED HYDROCONVERSION STEP IN A FIXED BED HYDROTREATMENT STEP FOR THE PRODUCTION OF LOW SULPHUR CONTENT FUEL

Abstract: Source: US2014299515A Process for conversion of petroleum feed for production of low sulphur content fuel comprising the following steps: a step of ebullated bed hydroconversion of the feed in the presence of a supported catalyst, a separation step allowing a residual fraction to be obtained, a step of fixed bed hydrotreatment of the residual fraction using an upstream system of permutable reactors.

Classifications:

International (IPC 8-9): C10C3/02 C10G1/00 C10G45/02 C10G65/04 C10G65/12 C10G69/04 C10G69/08 (Advanced/Invention)

CPC: C10G65/12 C10G2300/107 C10G2300/1077 C10G2300/202

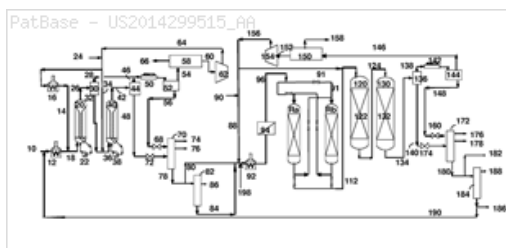
C10G2300/205 C10G2300/301 C10G2300/4006 C10G2300/4012

C10G2300/4018 C10G2300/701 C10G2400/02 C10G2400/04

C10G2400/08 C10G69/04 C10G69/08 C10G1/002 C10C3/023

C10G65/04

US: 208/390 208/44 208/66 208/97



Family:

Publication number	Publication date	Application number	Application date
FR2981659 A1	20130426	FR20110003218	20111020
FR2981659 B1	20131101	FR20110003218	20111020
US2014299515 AA	20141009	US20120352363	20120928
WO13057389 A1	20130425	WO2012FR00385	20120928

Priority:

FR20110003218 20111020 WO2012FR00385 20120928

Probable Assignee: IFP ENERGIES NOUVELLES

Assignee(s): (std): IFP ENERGIES NOUVELLES ; MAJCHER JEROME ; WEISS WILFRIED

Inventor(s): (std): MAJCHER JEROME ; WEISS WILFRIED

Inventor(s): WILFRIED WEISS ; JEROME MAJCHER

Agent(s): IFP ENERGIES NOUVELLES; NGUYEN JEAN PAUL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR2981659 A1	20130426	LSPB	+	published / reissued	
FR2981659 A1	20151022	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 5
FR2981659 B1	20131101	LSGT	+	granted / extensions (spc, cpc, pte)	
US2014299515 AA	20141009	LSPB	+	published / reissued	
US2014299515 AA	20140527	LSAS	AS	ASSIGNMENT	OWNER NAME : IFP ENERGIES NOUVELLES, FRANCE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WEISS, WILFRIED; MAJCHER, JEROME; REEL/FRAME:032967/0901 EFFECTIVE DATE : 20140522
WO13057389 A1	20130425	LSPB	+	published / reissued	
WO13057389 A1	20140417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14352363 COUNTRY OF REF DOCUMENT : US
WO13057389 A1	20140422	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13057389 A1	20141126	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12775740 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1