

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 November 2006 (09.11.2006)

PCT

(10) International Publication Number
WO 2006/118910 A3

(51) International Patent Classification:
C10M 159/06 (2006.01)

(21) International Application Number:
PCT/US2006/015854

(22) International Filing Date: 25 April 2006 (25.04.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/118,838 29 April 2005 (29.04.2005) US

(71) Applicant (for all designated States except US):
CHEVRON U.S.A. INC. [US/US]; 6001 Bollinger
Canyon Road-3rd Floor, San Ramon, CA 94583 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ROSENBAUM, John, M.** [US/US]; 99 Windjammer Court, Richmond, CA 94804 (US). **SMRCKA, Nancy, K.** [US/US]; 524 Grandview Court, Richmond, CA 94801 (US).

(74) Agents: **ABERNATHY, Susan, M.** et al.; CHEVRON CORPORATION, Law Department, Post Office Box 6006, San Ramon, CA 94583-0806 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
5 April 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MEDIUM-SPEED DIESEL ENGINE OIL

(57) Abstract: A lubricating oil having a CCS viscosity at -150C less than 7000 cP, good shear stability, and a TBN between 8 and 20 comprising: a) a lubricating base oil made from a waxy feed, b) an engine oil additive package formulated to protect silver bearings, and c) less than 2.0 wt% viscosity index improver. Also a process to make a lubricating oil having a CCS viscosity at -15°C less than 7000 cP, good shear stability, and a TBN between 8 and 20. Additionally, a lubricating oil having low CCS viscosity comprising specified amounts of lubricating base oil made from a waxy feed, engine oil additive package formulated to protect silver bearings, up to 55 wt% bright stock with a VI greater than 120, and no viscosity index improver or conventional pour point depressant additives. Also, a method for operating a railroad engine using the lubricating oil of this invention.



WO 2006/118910 A3