

(43) International Publication Date
3 May 2012 (03.05.2012)

PCT

(10) International Publication Number
WO 2012/058013 A2

(51) International Patent Classification:

C10M 141/12 (2006.01) *C10N 40/25* (2006.01)
C10M 169/06 (2006.01)

(21) International Application Number:

PCT/US2011/056197

(22) International Filing Date:

13 October 2011 (13.10.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/925,799 29 October 2010 (29.10.2010) US

(71) Applicant (for all designated States except US):

CHEVRON ORONITE COMPANY LLC [US/US];
6001 Bollinger Canyon Road, San Ramon, California
94583 (US).

(72) Inventor; and

(71) Applicant : **TOBIAS, Melanie, F.** [US/US]; 6001
Bollinger Canyon Road, San Ramon, California 94583
(US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **VON STADEN, Jon,
F.** [US/US]; 6001 Bollinger Canyon Road, San Ramon,
California 94583 (US).(74) Agents: **VIRASSAMMY, Carlton** et al.; Chevron Cor-
poration, Law Department, Post Office Box 6006, San
Ramon, California 94583-0806 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA,
ZM, ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT,
LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS,
SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: NATURAL GAS ENGINE LUBRICATING OIL COMPOSITIONS

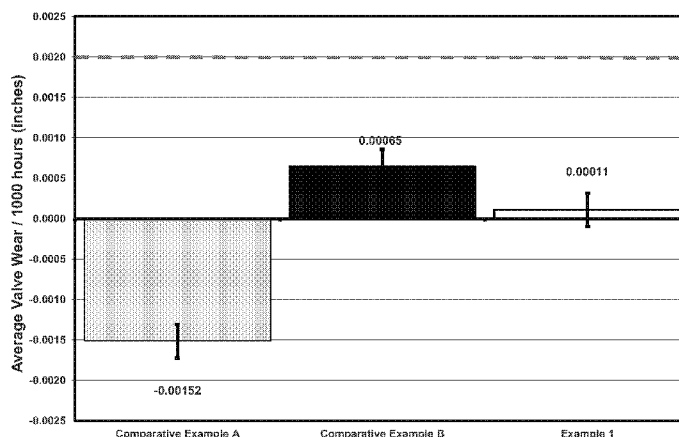


FIG. 1

(57) **Abstract:** A natural gas engine lubricating oil composition is disclosed which comprises (a) a major amount of an oil of lubricating viscosity, (b) one or more phosphorus-containing anti-wear additives, (c) one or more oil soluble overbased alkaline earth metal-containing detergents; and (d) one or more oil soluble neutral alkali metal-containing detergents, wherein the natural gas engine lubricating oil composition contains no more than about 0.03 weight percent of phosphorus, based on the total weight of the natural gas engine lubricating oil composition.