(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 December 2013 (05.12.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/181078 A1

(51) International Patent Classification:
G01N 33/28 (2006.01)

(21) International Application Number:
PCT/US2013/042568

(22) International Filing Date:
24 May 2013 (24.05.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/653,124 30 May 2012 (30.05.2012) US

(71) Applicant: **EXXONMOBIL RESEARCH AND ENGINEERING COMPANY** [US/US]; 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).

(72) Inventors: **SUNDARAM, Anatha**; 3 Windsor Court, Annandale, NJ 08801 (US). **CHANGE, Liang, J.**; 1287 Gatesmeadow Way, Reston, VA 20194 (US). **BHATTACHARYYA, Dillip**; 3303 Don Mills Road, Suite 1006, Toronto, ON M2J 4T6 (CA). **NAYSMITH, Mathew**; 5420 Thibault Wynd Nw, Edmonton, AB T6R 3J1 (CA). **JOE, David, A.**; 420 Rooney Crescent, Edmonton, AB T6R 1B8 (CA). **MEDCALF, Keith**; 1805 820 5th Avenue Sw, Calgary, AB T2P ON4 (CA). **SCHULTZ, David, S.**; 11727 Ledura Court, Apt. T-1, Reston, VA 20191 (US).

(74) Agents: **WEISBERG, David, M.** et al.; Exxonmobil Research And Engineering Company, 1545 Route 22 East, P.o. Box 900, Annandale, NJ 08801-0900 (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, BN, 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, PA, 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, 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).

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR CREATING A MODEL OF COMPOSITION FOR A COMPOSITE FORMED BY COMBINING A PLURALITY OF HYDROCARBON STREAMS

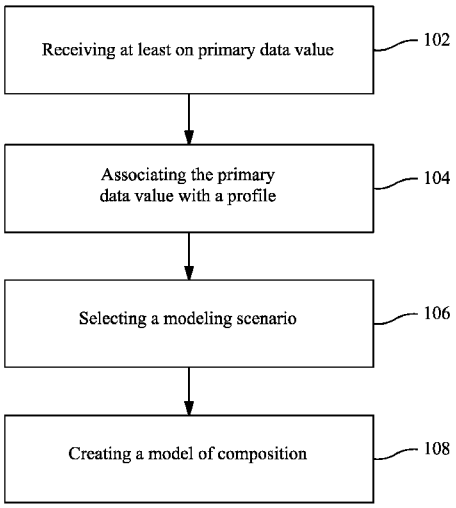


FIG. 1

(57) Abstract: Systems and methods for creating a model of composition for a current composite created by combining a plurality of hydrocarbon streams. The method comprises receiving at least one primary data value related to the current composite, associating the at least one primary data value with a profile of the current composite, selecting a modeling scenario for the current composite using a hierarchy of modeling scenarios, and creating a model of composition for the current composite using at least one processor, The modeling scenario is selected based at least in part on a collection of primary data values associated with the profile of the current composite. The model of composition is created based at least in part on the modeling scenario and the collection of primary data values associated with the profile of the current composite. Systems of creating the model of composition are also disclosed.

WO 2013/181078 A1

Published:

— *with international search report (Art. 21(3))*