



- (51) **International Patent Classification:**
E21B 43/12 (2006.01) *E21B 43/17* (2006.01)
- (21) **International Application Number:**
PCT/US2013/070401
- (22) **International Filing Date:**
15 November 2013 (15.11.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (71) **Applicant:** LANDMARK GRAPHICS CORPORATION [US/US]; 2107 City West Boulevard, Building 2, Houston, Texas 77042 (US).
- (72) **Inventors:** FILIPPOV, Andrey; 1715 Mossy Stone Dr., Houston, Texas 77077 (US). KHORIAKOV, Vitaly; 22 Royal Birch RI NW, Calgary, Alberta T3G 5K2 (CA).
- (74) **Agents:** VINU, Raj et al.; Haynes and Boone, LLP, 2323 Victory Avenue, Suite 700, Dallas, Texas 75219 (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,

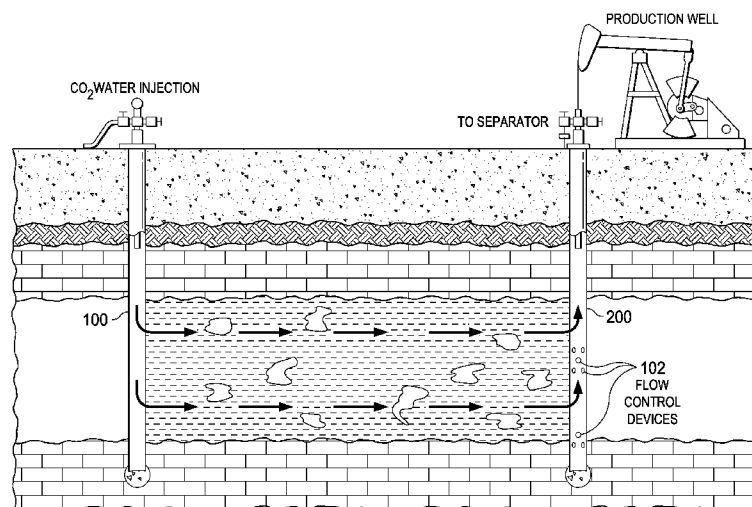
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

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

(54) **Title:** OPTIMIZING FLOW CONTROL DEVICE PROPERTIES ON A PRODUCER WELL IN COUPLED INJECTOR-PRODUCER LIQUID FLOODING SYSTEMS



(57) **Abstract:** The disclosed embodiments include a computer implemented method, apparatus, and computer program product that includes executable instructions that when executed performs operations for method for determining flow control device (FCD) properties for a production well in coupled injector-producer liquid flooding systems that yields a uniform flooding front along the production well.