

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 June 2023 (01.06.2023)



(10) International Publication Number
WO 2023/096727 A1

(51) International Patent Classification:

C09K 8/502 (2006.01) E21B 21/00 (2006.01)
C09K 8/26 (2006.01) E21B 33/138 (2006.01)

(21) International Application Number:

PCT/US2022/048535

(22) International Filing Date:

01 November 2022 (01.11.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17/536,554 29 November 2021 (29.11.2021) US

(71) Applicant: **BAKER HUGHES OILFIELD OPERATIONS LLC** [US/US]; 17021 Aldine Westfield, Houston, Texas 77073 (US).

(72) Inventors: **SANGARU, Shiv Shankar**; 17021 Aldine Westfield, Houston, Texas 77073 (US). **SARMAH, Pranjal**; 17021 Aldine Westfield, Houston, Texas 77073 (US).

(74) Agent: **SPEARS, Steven** et al.; Baker Hughes Oilfield Operations LLC, 2001 Rankin Road, Houston, Texas 77073-5114 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, 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,

(54) Title: COMPOSITION AND METHOD FOR CONTROLLING LOST CIRCULATION

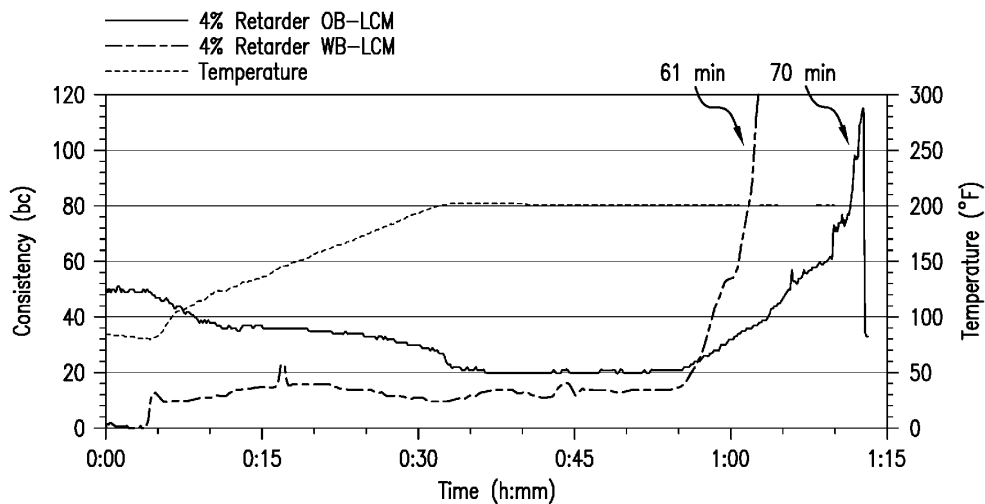


FIG. 1

(57) Abstract: A method of controlling lost circulation includes introducing into a wellbore a lost circulation fluid comprising: an external oil phase, an internal aqueous phase, an emulsifier, a wetting agent, a magnesia sealant, and a retarder; contacting the lost circulation fluid with a lost circulation zone; and forming a plug adjacent the lost circulation zone by reacting the magnesia sealant with water at a wellbore temperature, thereby reducing fluid loss into the lost circulation zone.

[Continued on next page]

LV, MC, ME, 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).

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:

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