



(51) International Patent Classification:

C04B 7/26 (2006.01) C04B 103/10 (2006.01)
C04B 7/32 (2006.01) C04B 103/20 (2006.01)
C04B 28/02 (2006.01) C04B 103/30 (2006.01)
C04B 24/18 (2006.01) C04B 103/00 (2006.01)
C04B 14/28 (2006.01)

(21) International Application Number:

PCT/US2024/034794

(22) International Filing Date:

20 June 2024 (20.06.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/510,592 27 June 2023 (27.06.2023) US

(71) Applicant: GRAYMONT WESTERN CANADA INC.

[CA/CA]; 200-10991 Shellbridge Way, Richmond, British
Columbia V6X 3C6 (CA).

(72) Inventors: MCFARLANE, Lucas; c/o Graymont West-
ern Canada Inc., 200-10991 Shellbridge Way, Richmond,
British Columbia V6X 3C6 (CA). ROMANIUK, Nikolas
Andrei; c/o Graymont Western Canada Inc., 200-10991
Shellbridge Way, Richmond, British Columbia V6X 3C6
(CA). HARIHARAN, Narain; c/o Graymont Western
Canada Inc., 200-10991 Shellbridge Way, Richmond,
British Columbia V6X 3C6 (CA).

(74) Agent: KUMAR, Vijay S. et al.; Perkins Coie LLP, PO Box
1247, Seattle, Washington 98111-1247 (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, MU, 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,

(54) Title: CEMENTITIOUS PRODUCTS INCLUDING ADMIXTURES, AND ASSOCIATED SYSTEMS AND METHODS

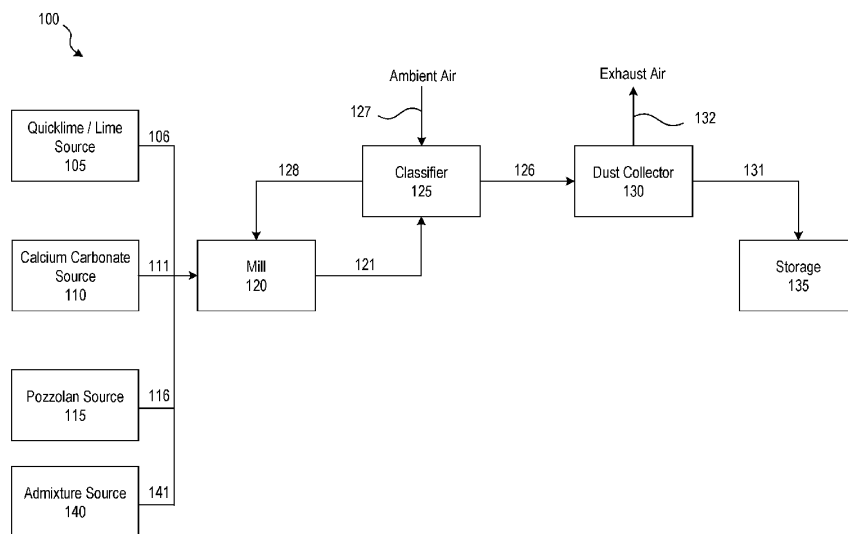


FIG. 1

(57) Abstract: A lime-based cement extender composition and associated systems and methods are disclosed herein. A lime-based binder or cement extender includes lime particles comprising calcium hydroxide and/or calcium oxide, pozzolan particles including silicon dioxide and/or aluminum dioxide; and an admixture. The admixture is configured to promote reactions between the lime particles and the pozzolan particles. When the composition is mixed with cement to form a cement blend, calcium aluminum sulfate forms within 28 days of blending. Additionally or alternatively, the cement blend can have a Strength Activity Index (SAI) of at least 90%.

[Continued on next page]

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, SC, 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, 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).

Published:

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