



(51) International Patent Classification:
G01V 1/00 (2006.01)

(21) International Application Number:
PCT/US2013/072332

(22) International Filing Date:
27 November 2013 (27.11.2013)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **LANDMARK GRAPHICS CORPORATION** [US/US]; 2107 City West Blvd., Bldg. 2, Houston, Texas 77042 (US).

(72) Inventors: **NGUYEN, Nam X.**; 21414 Grand Hollow Ln, Katy, Texas 77450 (US). **HEINRICHS, Eugene C.**; 303 Hamptons Terrace N.W., Calgary, Alberta T3A 5S2 (CA). **CHAN, Jocelyn**; 367 Tuscany Estates Rise N.W., Calgary, Alberta T3L 0C6 (CA).

(74) Agents: **NGUYEN, Daniel G.** et al.; Locke Lord LLP, 600 Travis, Suite 2800, Houston, Texas 77002-3095 (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).

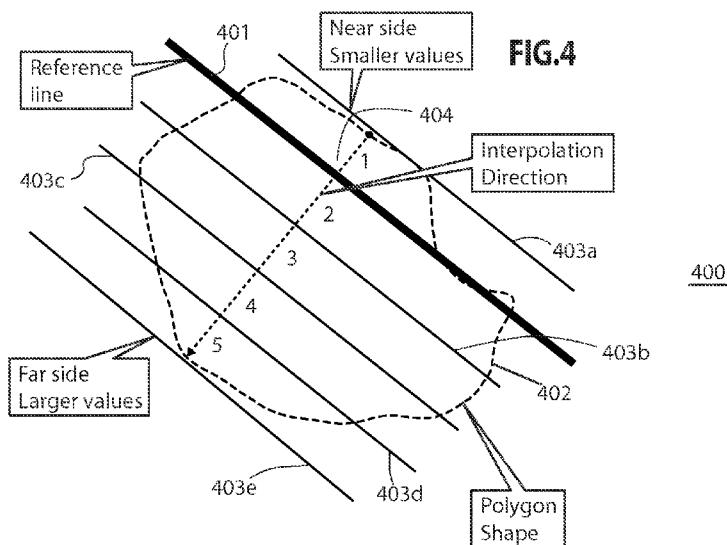
Declarations under Rule 4.17:

— of inventorship (*Rule 4.17(iv)*)

Published:

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

(54) Title: METHOD AND SYSTEM FOR GRADIATIONAL SEISMIC VOLUME CLASSIFICATION



(57) Abstract: Embodiments of the invention provide a method for classifying seismic attributes, including generating data points by cross plotting seismic attributes from a first data volume and a second data volume, encompassing at least one of the generated data points within a polygon, generating a reference line, determining an interpolation direction relative to the reference line, and assigning an attribute value to the at least one generated data point encompassed within the polygon wherein the assigned attribute value is interpolated based on the combination of its position to the reference line along the interpolation direction and the shape of the polygon.