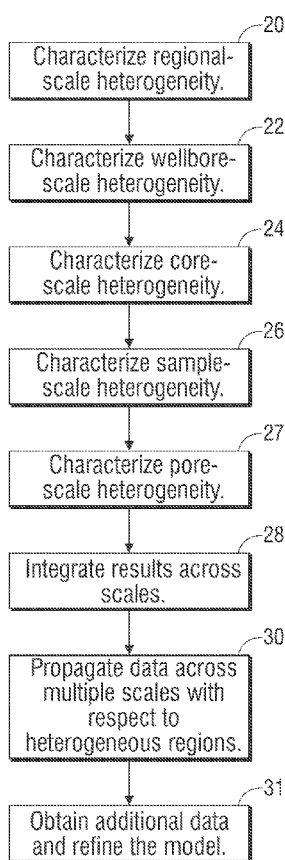




- (51) International Patent Classification:
G01V 1/40 (2006.01) *E21B 47/00* (2012.01)
G01V 1/48 (2006.01) *G06F 19/00* (2011.01)
- (21) International Application Number:
PCT/US2012/041846
- (22) International Filing Date:
11 June 2012 (11.06.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
13/158,270 10 June 2011 (10.06.2011) US
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[Continued on next page]

(54) Title: METHOD FOR COST EFFECTIVE SAMPLING AND CHARACTERIZATION OF HETEROGENEOUS UNCONVENTIONAL HYDROCARBON REGIONS



(57) Abstract: A methodology improves sampling and characterization of heterogeneous, unconventional hydrocarbon-bearing regions. The methodology is designed to integrate consistently across measurements and scales. Additionally, the methodology involves characterizing various scales, such as regional-scale heterogeneity, wellbore-scale heterogeneity, core-scale heterogeneity, sample-scale, and pore-scale heterogeneity. The results are integrated across the multiple scales based on results obtained from the characterization of the scales. The methodology further comprises determining data propagation across the multiple scales in a hydrocarbon-bearing region.

FIG. 1



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- (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, 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, 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).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

- (88) **Date of publication of the international search report:**

7 March 2013

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/041846**A. CLASSIFICATION OF SUBJECT MATTER*****G01V 1/40(2006.01)i, G01V 1/48(2006.01)i, E21B 47/00(2006.01)i, G06F 19/00(2011.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G01V 1/40; G06F 19/00; G06G 7/48; E21B 25/00; G01V 9/00; G01V 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: heterogeneity, scale, wellbore, sample

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0260883 A1 (SUAREZ-RIVERA ROBERTO et al.) 22 October 2009 See paragraphs 21-27, claim 1 and fig. 1.	1-20
A	US 2009-0319243 A1 (SUAREZ-RIVERA ROBERTO et al.) 24 December 2009 See abstract and claim 1.	1-20
A	US 2008-0162098 A1 (SUAREZ-RIVERA ROBERTO et al.) 03 July 2008 See abstract and claims 1, 4, 5, 8.	1-20
A	US 2008-0156975 A1 (KIESCHNICK JOHN A.) 03 July 2008 See paragraphs 0049-0052, claim 1 and fig. 5.	1-20

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search

28 DECEMBER 2012 (28.12.2012)

Date of mailing of the international search report

02 JANUARY 2013 (02.01.2013)

Name and mailing address of the ISA/KR

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Facsimile No. 82-42-472-7140

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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