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Patent Claim 1 - A detector system for detecting underground anomalies.....

Patent Claim 18 - The detector system of Claim 1, wherein the underground anomalies comprise at least one of hydrocarbon, hydrocarbon bearing formations, **faults, voids, or disturbances underground.**

A passive receiver system for detecting currently existing hydrocarbons in place, as well as faults, voids, or disturbances directly below each point of measurement.

C. Dave Copeland - 512.917.7260

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(54) **SYSTEM AND METHOD FOR DETECTING UNDERGROUND ANOMALIES**

(71) Applicant: **COPELAND RESOURCES, INC.,**
Austin, TX (US)

(72) Inventor: **Charles David Copeland,** Austin, TX
(US)

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CPC **G01V 7/04** (2013.01); **G01F 23/68** (2013.01); **G01F 23/72** (2013.01); **G01V 7/08** (2013.01); **G05D 23/015** (2013.01)

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CPC **G01F 23/68; G01F 23/72; G01V 7/08; G01V 7/04**
See application file for complete search history.

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Primary Examiner — Paul M. West

(74) *Attorney, Agent, or Firm* — Hulsey P.C.

(57) **ABSTRACT**

Disclosed is a detector system for detecting underground anomalies comprising a detector device which includes a fluid chamber which is sealed; a float including a target, positioned within the fluid chamber; and a shielded phase shift proximity sensor configured to detect a distance between the target and proximity sensor, wherein a presence of an underground anomaly is determined based on the detected distance.

18 Claims, 13 Drawing Sheets
(4 of 13 Drawing Sheet(s) Filed in Color)