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- (54) **ANALYSIS OF DOWNHOLE OBM-CONTAMINATED FORMATION FLUID**
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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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- (52) U.S. Cl. **250/269.1; 250/255; 250/256**
- (58) Field of Search **250/269.1, 262, 250/261, 256, 255**

(57) **ABSTRACT**

A method and apparatus is provided for determining OBM filtrate fraction in a downhole fluid sample. One embodiment of the method is used when there is significant difference between the coloration of formation fluid and the coloration of OBM filtrate. Another is used when there is little or no difference between the coloration of formation fluid and the coloration of OBM filtrate. Another determines GOR of formation fluid corrected for OBM filtrate contamination. Another determines OD of formation fluid corrected for OBM filtrate contamination. Another determines conditions that would render optical density measurements invalid and sample capture premature. Another predicts the reduction of filtrate fraction for a specific extended pumping time. Another initiates sample capture when computed contamination fraction exhibits stable asymptotic convergence.

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61 Claims, 16 Drawing Sheets

