

Title (en)  
METHOD FOR REMOVING BOREHOLE RUGOSITY NOISE FROM WELL LOG DATA

Title (de)  
VERFAHREN ZUM UNTERDRUCKEN VON BOHRLOCHRAUHEITSGERAUSCH VON BOHRLOCHDATEN.

Title (fr)  
PROCEDE PERMETTANT D'ELIMINER LE BRUIT DE RUGOSITE D'UN Puits DE FORAGE DANS DES DONNEES DE DIAGRAPHIE DE Puits

Publication  
**EP 0991958 A1 20000412 (EN)**

Application  
**EP 96902668 A 19960116**

Priority  
US 9600449 W 19960116

Abstract (en)  
[origin: WO9726559A1] A method for removing sinusoidal noise without affecting the response of the formation means that the actual formation responses of the logging tools are recovered, and the logs can be used quantitatively. Removal of sinusoidal noise from a log is accomplished in three steps. First, the log is reduced to a zero-mean, stationary series. Second, the wavenumber of the sinusoidal noise is identified by its peak in the Fourier amplitude spectrum (18). And third, the noise is removed by applying a zero-phase notch filter (46). In order to preserve the quantitative data integrity, the low wavenumber trend is kept. Preserving the quantitative data integrity is accomplished by approximating the log with a least-squares cubic spline which retains the overall log character, ignoring the sinusoidal noise. A zero mean stationary series is formed by subtracting the least-squares cubic spline from the data. The remaining steps, Fourier analysis and filtering are performed on the difference series. Recombining the filtered series with the spline restores the log data without the sinusoidal noise.

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