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(54) **METHOD AND APPARATUS FOR ESTIMATING LOAD BEARING CAPACITY OF PILES**

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This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(30) **Foreign Application Priority Data**

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(52) **U.S. Cl.** **73/84**

(58) **Field of Search** 73/12.01, 12.06, 73/12.09, 12.13, 78, 81, 82, 84

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(57) **ABSTRACT**

A method for estimating the load bearing capacity of a pile using an Impact Load formula including obtaining the values of the weight of an impact mass, the stroke height of the impact mass, the length of the pile, the cross sectional area of the pile, and the Young’s modulus of the pile. A preferred derived formula is

$$P = \sqrt{\frac{2hAEW}{L_e}} \quad \text{Formula II}$$

wherein

R=soil-resistance load or end-load bearing;

W=the weight of hammer;

h=the height of hammer stroke;

L_e=the length of pile;

A=the cross sectional area of pile;

E=the Young’s modulus of pile.

A computational tool for applying this method in the form of a portable or virtual calculator is disclosed. An apparatus set-up for on-line in situ testing of piles employing the method comprising a portable computer, data acquisition module and transducers is also disclosed.

15 Claims, 4 Drawing Sheets