United States Patent [19]

Hanlon et al.

[11] **Patent Number: 4,609,475**

[45] **Date of Patent: Sep. 2, 1986**

[54] **METHOD OF IMPROVING THE PERMEABILITY OF A SUBTERRANEAN FORMATION BY REMOVAL OF POLYMERIC MATERIALS THEREFROM**

[75] Inventors: **David J. Hanlon; J. Michael Wilson; Jimmie D. Weaver,** all of Duncan, Okla.

[73] Assignee: **Halliburton Company,** Duncan, Okla.

[21] Appl. No.: **582,994**

[22] Filed: **Feb. 24, 1984**

[51] **Int. Cl.**[4] **E21B 43/25;** E21B 43/28

[52] **U.S. Cl.** ..... **252/8.55 B;** 252/186.43; 166/307; 166/311; 166/312; 252/8.553; 252/8.551

[58] **Field of Search** ..... 166/305 R, 307, 311-312; 252/8.55 B, 8.55 C, 186.43, 8.55 R; 423/272, 273

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,198,435	4/1940	Hart	166/21
2,217,676	10/1940	Fry	166/21
2,221,353	11/1940	Limerick et al.	252/8.55 B
2,910,436	10/1959	Fatt et al.	252/8.55
2,978,026	4/1961	Bemis	166/44
3,367,417	2/1968	McCabe	166/4
3,482,635	12/1969	Pasini, III	166/305
3,482,636	12/1969	Crowe	166/307
3,528,503	9/1970	Crowe	166/300
3,529,666	9/1970	Crowe	166/300
3,794,523	2/1974	Thompson	134/3
3,819,520	6/1974	Jones et al.	166/307 X
3,858,657	1/1975	Haws	166/305 R
4,234,433	11/1980	Rhudy et al.	252/8.55 D
4,320,102	3/1982	Dalton, Jr. et al.	423/273
4,464,268	8/1984	Schievelbein	252/8.55 B

OTHER PUBLICATIONS

SPE 10624 Stimulation of Water Injection Wells in the Los Angeles Basin Using Sodium Hypochloride and Mineral Acids, David M. Clementz.

New Treating Technique to Remove Bacterial Residues From Water-Injection Wells, C. W. Crowe, pp. 475-478, Journal of Petroleum Technology, May 1968.

Primary Examiner—Joseph L. Schofer
Assistant Examiner—F. M. Teskin
Attorney, Agent, or Firm—Edward F. Sherer

[57] **ABSTRACT**

A composition for and method of removing polymeric material from a porous media such as a subterranean formation. The method comprises contacting the polymeric material with an aqueous composition having a pH of from about 2 to about 10 and comprising an oxidizing agent, a water soluble carboxylic acid, and optionally, a source which is effective in promoting the decomposition of the oxidizing agent.

10 Claims, No Drawings