United States Patent [19]

Blanchard, Jr. et al.

[11] **4,156,545**

[45] **May 29, 1979**

[54] **PROCESS FOR HEATING AND CHEMICALLY TREATING AN AQUEOUS PROCESS FLUID**

[75] Inventors: **William J. Blanchard, Jr.**, New Orleans; **Marion J. Dionne**, Thibodaux; **Edward J. Cairns**, New Orleans, all of La.

[73] Assignee: **Freeport Minerals Company**, New York, N.Y.

[21] Appl. No.: **787,437**

[22] Filed: **Apr. 14, 1977**

[51] **Int. Cl.**[2] **E21C 41/14**

[52] **U.S. Cl.** **299/6**; 166/303; 210/57

[58] **Field of Search** ..... 252/8.55 R; 299/3, 4, 299/6; 210/57

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,041,397	5/1936	Butterworth et al.	210/16
2,113,198	4/1938	Nonhebel et al.	423/242
2,756,035	7/1956	Axelrad et al.	299/6 X
2,756,207	7/1956	Axelrad	210/14
2,756,208	7/1956	Axelrad et al.	210/14
2,947,690	8/1960	Axelrad	210/57
3,918,521	11/1975	Snavely et al.	166/272

Primary Examiner—Herbert B. Guynn

Attorney, Agent, or Firm—Fisher, Christen & Sabol

[57] **ABSTRACT**

An integrated system and process is provided to heat and chemically treat an aqueous process fluid such as the water required for producing sulfur by the Frasch process without undue scaling and corrosion of apparatus when a sulfur-containing fuel such as oil is employed as the energy source.

8 Claims, 1 Drawing Figure