SYSTEMS AND METHODS FOR MONITORING HYDRATE INHIBITOR CONCENTRATION IN AQUEOUS SOLUTIONS

ABSTRACT

A system includes a processor and a memory, accessible by the processor, the memory storing instructions that, when executed by the processor, cause the processor to receive, from a density sensor with an integrated temperature probe, first data indicative of a density of an aqueous liquid flowing through a line, and second data indicative of a temperature of the aqueous liquid flowing through the line, receive, from an electromagnetic sensor, third data indicative of a dielectric property of the aqueous liquid flowing through the line, apply an interpretation model to the first data, the second data and the third data to determine a concentration of hydrate inhibitor of the aqueous liquid flowing through the line based on the density, the temperature and the dielectric property of the aqueous liquid flowing through the line, and generate an indication of the concentration of hydrate inhibitor of the aqueous liquid flowing through the line.

Fig. 1