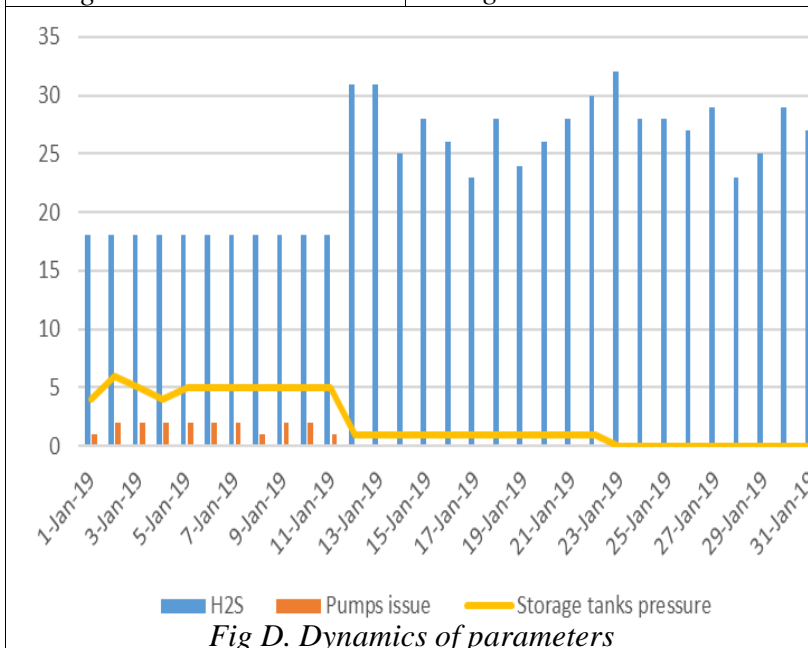
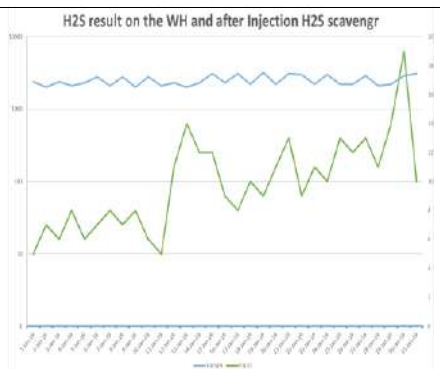
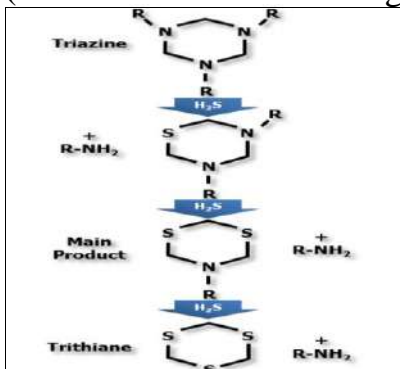


## PREVENTIVE METHOD TO CALCIUM CARBONATE SCALING BY THE ALKALINE SULPHIDE SCAVENGER

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**Introduction:** The alkaline sulphide scavengers most common H<sub>2</sub>S scavenger type over the world the active martial of this kind of H<sub>2</sub>S scavenger is the triazines, and the method (when there is good enough reaction time) - direct-injection into the storage tanks (reaction rate, contact time, and misting size & distribution contribute to the final scavenger performance (Fig A)) [1]. After long period of indirect injection of the alkaline sulphide scavengers, started a scale formed in the piping and pumps discharge [1].**Solution:** We found that 15 – 20 second enough to have the same result of H<sub>2</sub>S scavenger if we injected to the storage tank, so - we come out with an **injection port** designed (Fig B) for achieve spraying H<sub>2</sub>S scavenger into the fluid and **achieve the contact time**. **Results:** With this amazing H<sub>2</sub>S scavenger and long contact time with the oil we reduced the H<sub>2</sub>S in the oil almost up to 90 % after injecting by **port** (Fig C). Below charts (Fig D, E) showing the results after changing H<sub>2</sub>S **injection port** to the downstream of the transfer pumps (H<sub>2</sub>S concentration slightly increased). Pumps and tank issues (calcium carbonate scaling) had been solved (Fig E).



**Fig E. Flame arrester (before and after using the port)**

**Reference:**

1. H.R.Warner Jr (2007) PETROLEUM ENGINEERING. Vol. 6. 629 P.