

Second Laureate Research & Development

- **Research Work Title:** Crude oil disposal reinjection units
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Abstract:

Crude oil usually contains dissolved salty water in extraction process and over the time, as the volume of gas and crude oil decreases, the amount of salty water increases.

Desalting systems are designed to eliminate or reduce dissolved salty water to 8 P.T.B. (8 pound in 1000 barrel)

Desalting units have the following advantages:

- Reducing corrosion.
- Preventing obstruction in equipments.
- Protecting catalyst.
- Improving crude oil quality.
- Using the maximum capacity of units and increasing the efficiency of refineries.

Separated salty water enters the wastewater treatment system to isolate oil particles and then injected into dead-wells.

Crude oil disposal reinjection units contains the following equipment:

- Hydrocyclone, used for isolating oil particles from salty water. (from 1000 ppm to 100 ppm)
- Nutshell Filters, used for completing the isolation of oil particle to 25 ppm and extracting solid particle bigger than 100 μ .
- Storage Tanks.
- Main Pumps.
- Booster Pumps.

Crude oil Disposal Reinjection Units by KSTC, support maximum capacity of 10,000 BPD with the injection pressure of 1600 PSig.

All Hydraulic data in this system are saved and can be sent to the data centre wirelessly. Shorter time of overhaul compared to the similar system, compact design of unit with no cavitation, Local explosion proof Control Panel are other advantages of this unit.

