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(54) Title: SYSTEM TO PROVIDE A SUPPLY OF CONTROLLED SALINITY WATER FOR ENHANCED OIL RECOVERY

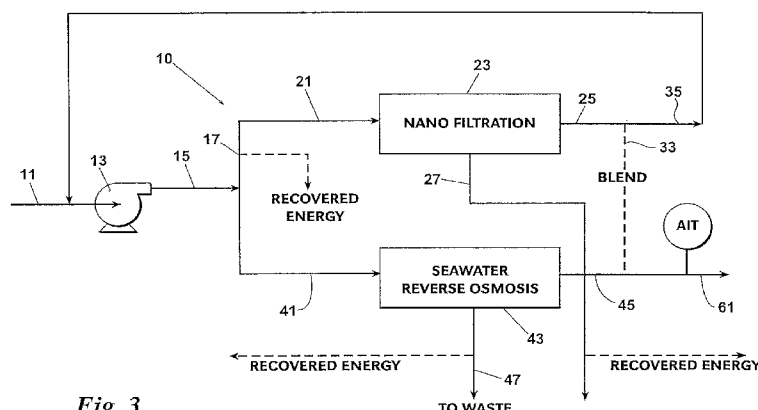


Fig. 3

(57) Abstract: A method for providing controlled salinity water for enhanced oil recovery begins by raising the pressure of, and then splitting, a treated seawater feed (11) into two supply streams (21) (41) which are then processed in parallel. One supply stream is passed thorough a nanofiltration membrane system (23) while the other is passed through a reverse osmosis membrane system (43). The permeate streams are then combined for an overall recovery factor in a range of 50% to 65%. The pressure of the first supply stream (21) is preferably reduced prior to treatment, and the nanofiltration membrane system (23) may be housed in a pressure vessel rated for use with a reverse osmosis membrane system (43). Energy can be recovered from the nanofiltration reject stream (27) or the reverse osmosis reject (47) and used to reduce the feed pumping power or provide an inter-stage pressure boost. The single seawater feed allows for a simplified pumping and piping arrangement.