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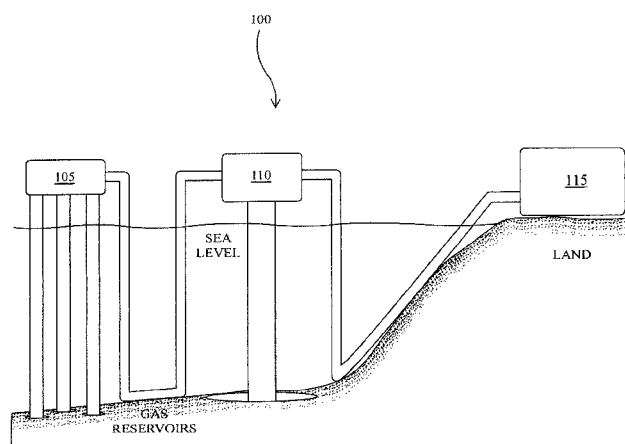


FIG. 1

(57) Abstract: A system and process for removal of CO₂ from natural hydrocarbon gas and liquid stream. The system comprising a first separation unit installed at a wellhead in communication to a gas reservoir or multiple gas reservoirs, and located at an offshore location; a second separation unit installed at a central processing platform and located at a remote offshore location; a computerized controller unit linked to the said first and second separation units; and an Onshore Facilities located on shore. The first separation unit is configured to process hydrocarbon: gas and liquid to lower the CO₂ content and contaminants prior to feeding the hydrocarbon gas and liquid with targeted CO₂ content and contaminant and with controlled pressure, temperature and flow rate to the second separation unit to be further processed to further remove CO₂ content and contaminants by the second separation unit.

