

SITE ACCEPTANCE REPORT

The site acceptance test was carried out from 7th August 2023 to 11th August 2023

As per Performance Guarantee and Demonstration clause, the unit has been tested and 10kg/hr of CO₂ is captured in the Absorption Cycle. The readings of absorption cycle are attached in Annexure C

The rich solvent has been tested and results indicate that 10kg/hr of CO₂ has been absorbed by the solvent. The calculations of absorption are detailed in **Annexure B**

The Desorption process has been carried out and readings are attached in **Annexure C**. The solvent after desorption has been tested and results indicate that the solvent has been regenerated.

From the analysis of solvent has been proved that solvent has regenerated by displacing captured CO₂. Additional testing's were carried out after commissioning of plant and modifications were done in the existing unit which are also attached in the following Annexure.

Table 1.1.: CO₂ absorption

Solvent flow Kg/min	CO ₂ flow in, lpm	CO ₂ loading (pH 10.2)	CO ₂ loading (pH 9.8)	CO ₂ flow in, mol/min	CO ₂ absorbed
4	108	0.16	0.36	4.6	3.92

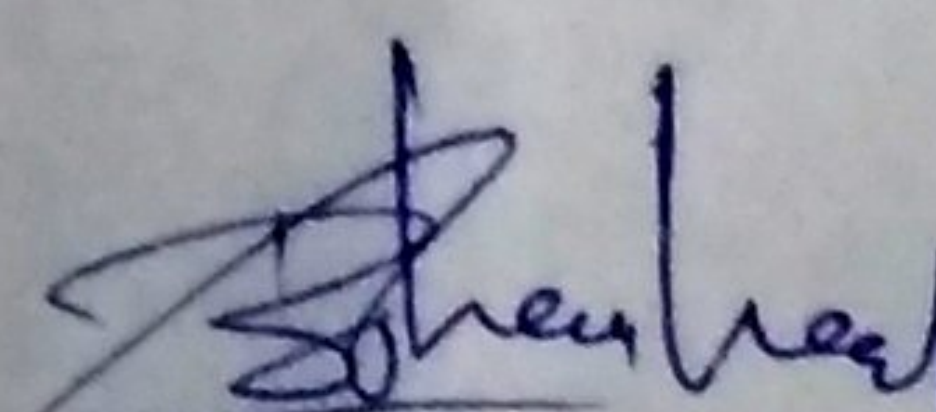
Based on pH values w.r.t to the CO₂ loading values, the CO₂ absorbed is 10.37 kg/h i.e The CO₂ absorption is 85%.

Table 1.2.: CO₂ desorption

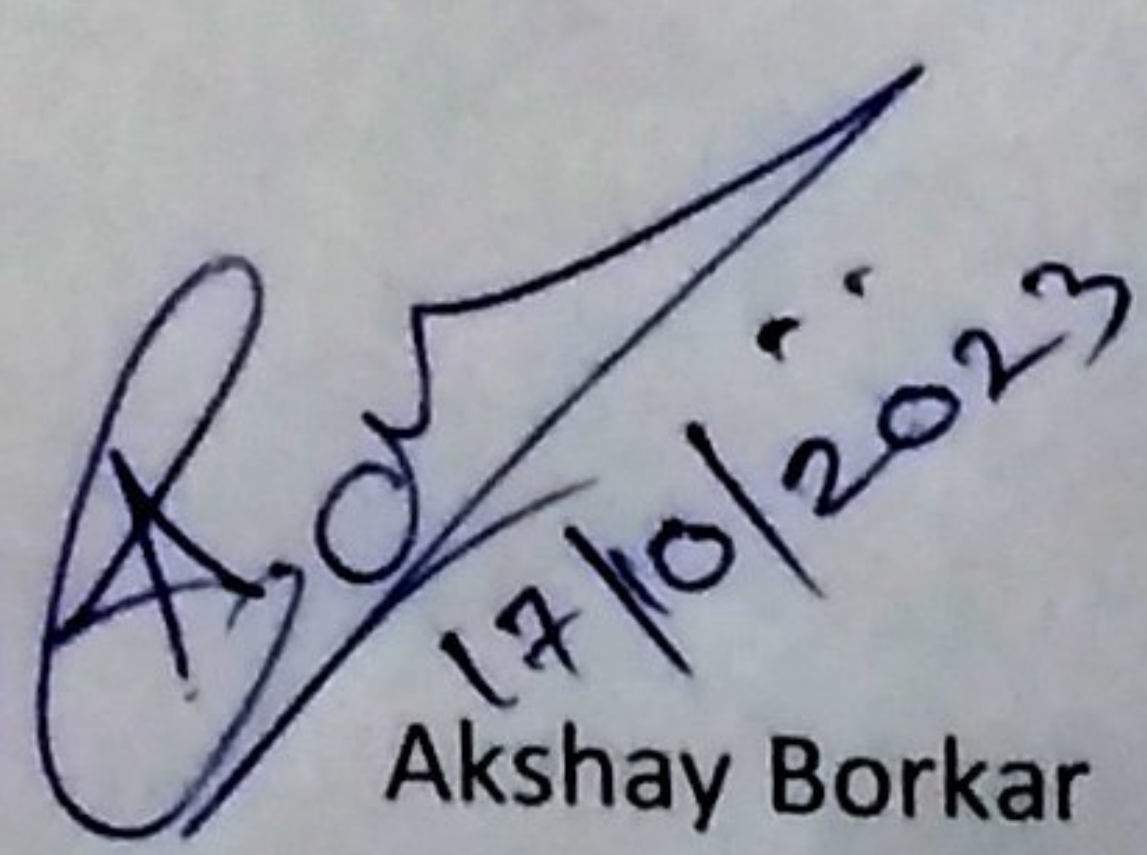
Solvent Temperature, deg C	Solvent pH in	Solvent pH out
108	9.49 (0.4 CO ₂ loading)	10.1 (0.15 CO ₂ loading)

Based on pH values and its respective CO₂ loading values, it is concluded that the CO₂ is desorbed from the solvent.

NOTE: A spare Nitrogen heater (EH03) suitable for the process will be supplied by Trilok Corporation to BPCL R&D.


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17th Oct. 2023




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17/10/2023

