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C2Po1C-04: Cryogenic purification of low purity helium with temperature swing adsorption and membrane separation

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Ability Engineering Technology (AET) has developed a system capable of receiving helium at very low concentrations (less than 10% by volume) and effectively separating out undesirable gases to yield high purity helium (5.0 –6.0 grade) at high recovery rates (greater than 90%). This is accomplished with membrane separation and a subsequent cryogenic adsorption process. The operational advantages of utilizing this method for helium recovery will be discussed. The results of field testing this equipment and its implementation for scientific and industrial use cases will also be discussed.

Author: Mr WILSON, Cody (Ability Engineering Technology)

Co-authors: Mr RAMPERSAUD, Chris (Ability Engineering Technology); Mr MAURISAK, Michael (Ability Engineering Technology); Mr MORGAN, Michael (Ability Engineering Technology)

Presenter: Mr WILSON, Cody (Ability Engineering Technology)

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