



CLEAR SOLUTIONS for complex fluids

NEMOH® Nomadic Environmental Media Operated Host Recovers Chemical Cocktail Fluid From Damaged Sub-Sea Bladder



CHALLENGE

- A 1,200 gal. subsea bladder sitting on the seafloor at a -5,760-depth filled with a cocktail of known production chemicals could not be recovered due to mechanical integrity issues



SOLUTION

- The concentrations of various production chemical in the bladder were reconstituted in CETCO Energy Services (CETCO) Research & Development Lab to find a solution to neutralize the cocktail of chemicals in the bladder. A suitable media was found to work successful with sufficient reserves to ensure success



RESULTS

- NEMOH® Nomadic Environmental Media Operated Host unit was dispatched and the contents were successfully treated. A separate operation was performed to salvage the damaged Subsea Bladder

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CHALLENGE

Develop a process to contain and neutralize a cocktail of production chemistry that was transferred over a period of time to a 1,200-gallon subsea bladder. The subsea bladder had encountered mechanical integrity issues upon previous recovery attempt due to dissolved gases coming out of solution causing uncontrolled buoyancy issues. As a result, the subsea bladder had to be returned to seafloor until an alternative means could be developed.

CETCO SOLUTION

The concentrations of various production chemical in the bladder were well known in this application. This cocktail was reconstituted in CETCO's R&D Lab to determine the effectiveness of various adsorbent media to evaluate the effectiveness of the adsorption medias. Since this was a "non-conventional application" a considerable amount of research was performed using existing accredited published isotherm data to address the adsorption effectiveness of carbon-based media for various chemical compounds. This published data along with the extensive empirical data generate in CETCO's In-House R&D Lab testing various adsorption medias to determine the most effective media was provided to the Client to submit to Permitting Authorities to grant permission to proceed with this operation. The Regulating Authorities issues a permit to proceed with operations.

RESULTS

NEMOH® Nomadic Environmental Media Operated Host was successfully deployed, the contents of the bladder was transferred using a pump from ROV to NEMOH®. In less than 2 hours of processing time, all 1,200 gals were treated and discharged subsea. A subsea sample was collected and contained about midway through the operation. The sample was submitted to 3rd Party Lab with satisfactory results. NEMOH® Nomadic Environmental Media Operated Host and the empty sub-sea bladder were both successfully recovered without incident.

