

CASE:

Approx. 50% Savings with Chemical Cleaning

An effective and innovative solution which had never been tried before!

What are you to do with 130 m³ of dirty "Tower Packing Rings" equivalent of just about an 8 x 30 fts. basket container.

Ocean Team came up with an innovative solution, never tried before; but had to be tested as time was short.

During oil extraction, part of the oil may come up by itself caused by pressure that exists in the reservoir. If the pressure is not maintained, the gas that is dissolved in the oil will release and flow faster towards the production well than oil with more viscosity. This will result in limited yield. Therefore, pressure in the reservoir is usually maintained by injecting water or gas.

The water used for this is derived from drilling and consists of sea water. Before the sea water is led back into the substratum, it must be filtered for oxygen and bacteria. This may create toxic gases, which in turn may contribute to a reduction of production.

A sea water filtration is performed by leading the water through an 150 m³ size container, where approximately 130 m³ of "Tower Packing Rings" and chemicals contribute to filter oxygen and harmful bacteria out of the water. Normally this filtration is performed quickly and efficiently.

In this case though, the efficiency was so low that it was necessary to perform a decontamination of the "Tower Packing Rings". Also a decontamination and renovation of the interior of the container after drained was necessary, in order to once again achieve the desired efficiency.

Solution Proposal 1: Mechanical Cleaning

Decontamination of the rings could be performed mechanically with steam cleaning. It would be a very time consuming and difficult decontamination.



▲ *"Tower Packing Rings" before undergoing their chemical cleaning. It is clear to see how dirty the rings are, as well as the number of nooks and crannies, where oxygen bubbles and other issues may form, meaning filtering is reduced.*

It would also require enough space on the production platform to accommodate 130 m³ of "Tower Packing Rings" when all had been removed from the container, and at the same time the ability to comply with the security measures, required on a production platform.

Solution Proposal 2:

Purchase of new Tower Packing Ring

Another solution would have been to purchase new rings. The customer accordingly queried the "Tower Packing Ring" manufacturer for delivery time and a price of new rings.

Delivery time will be 12 - 14 weeks, which pushed the customer's deadline. This solution would also entail costs for the disposal of the old rings.

The customer chose to look for an alternative solution, and therefore approached Ocean Team.

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The Ocean Team solution: Chemical Cleaning - An innovative solution and a 50% cost savings for the customer.

Ocean Team has previously constructed many chemical cleaning solutions - but never one like this! Because, how is it possible to decontaminate 130m³ of "Tower Packing Rings" equivalent of approximately 8 x 30 ft. basket container. Ocean Team came up with the innovative solution, never before tried, yet had to be tested as time was short.

The solution was to rent two cement mixer trucks. All tower packing rings and chemicals were poured into mixer, which then served as a giant washing machine. When the rings were decontaminated, they were poured out of the cement mixer on a chute. Here three garden sprinklers rinsed the rings clean of chemicals. It was a success and the rings were 100% decontaminated and could be reused.

All in all, since the procurement of new "Tower Packing Rings" as well as the disposal of the old rings was not necessary, the customer saved 50% by using this chemical decontamination process on land - and the deadline was observed.



▲ The cement mixer was used as a "washing machine".



▲ "Tower Packing Rings" being chemically cleaned inside the cement mixer.



▲ "Tower Packing Ring"
Before and after chemical cleaning.



▲ The chemically cleaned "Tower Packing Rings" are rinsed from chemicals by three garden sprinklers.