



HD Q-PAC® eliminates plugging of oil-water separator at Superfund site air stripper

the problem

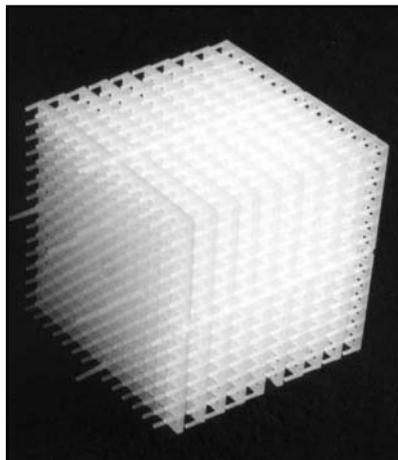
At a Superfund landfill site in West Texas, groundwater contaminated with fuel and industrial oils is pumped from an interceptor trench through an oil-water separator to remove free oil, then to an air stripper for removal of benzene and other hydrocarbons (BTEX).

Dirt and biological growth suspended in the trench water were plugging the corrugated PVC coalescing media in the separator, allowing too much oil to get through. Sludge particles and oil droplets from the plugged oil-water separator absorbed BTEX and carried them through the air stripper, resulting in off-spec effluent and a visible oil sheen on the water surface. The entire treatment system had to be shut down every 2 to 4 days to clean or replace coalescing media in the oil-water separator.



the solution

In June 2002, the system operator (Arcadis Corporation) replaced the 8 ft³ of 19-mm corrugated PVC media in the oil-water separator with HD Q-PAC® from Lantec Products.



HD Q-PAC®

Material:	Polypropylene
Surface Area:	132 ft ² /ft ³
Void Fraction:	87.8%
Smallest Gap:	4×4 mm
Angle of Repose:	90°
Module Size:	12"×12"×12"

This polypropylene media has natural affinity for oil, and provides high surface area in the form of uniformly spaced rods with no narrow joints that tend to trap sludge particles. Round rods pointing downward allow suspended solid particles to fall from the coalescing media into the sludge compartment for periodic collection.

breakthrough results

In 4 months since installation of HD Q-PAC®, the oil-water separator has run within design parameters at 5-10 gpm, removing over 99% of oil droplets 20 microns and larger in size. The clarity of the water has improved dramatically, and the air stripping system has remained in compliance.

The only shutdowns have been for a few minutes at a time to empty out the sludge compartment beneath the coalescing media. The HD Q-PAC® has not been replaced and shows no sign of needing replacement any time soon. HD Q-PAC® has passed independent tests using both EPA Method 413.2 and stricter European Union proposed Standard CEN EN 858-1.

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CEN EN 858-1 Test

Liquid Flux:	12.7 gpm/ft ²
Media Type:	HD Q-PAC®
Media Depth:	24"
Influent Free Oil:	4,250 ppm
Effluent Free Oil:	0.9~1.1 ppm
Free Oil Removal:	99.98%
no droplets >20 μ in size observed in effluent analysis by infrared spectroscopy test performed at Danish Institute of Technology, Copenhagen	

HD Q-PAC removed 99.99% of all the free oil present including all the droplets 20 microns and larger.

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