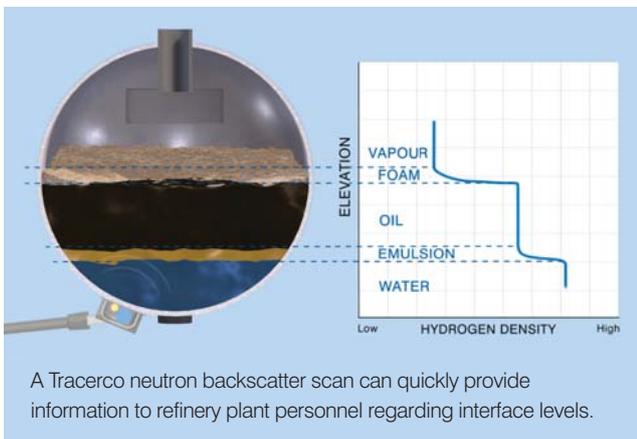


# Separator - Interface/Emulsion Detection

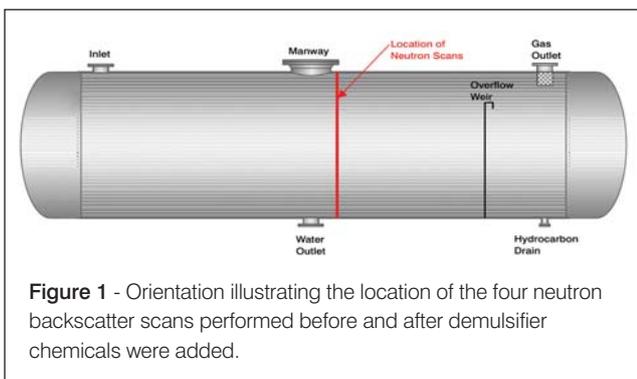
**Tracerco's specialist scanning technology is an excellent means of measuring interface levels, whether between vapour and liquids, liquid and solids, or between two different types of liquids.**

A scan of vessels yields a lot of information about where various phases are located. In cases where more defined results are needed Tru-Scan™ or tracers are potential alternate methods.



## Project Field Test

A Tracerco customer requested scans of their refinery separator to determine the effectiveness of two different demulsifier chemicals. There were four scans performed on the separator, two baseline scans and two scans after the different demulsifier chemicals were added (Figure 1).



The scanning system was held against the side of the separator while digital “counts” were recorded or noted. In this case Tracerco expected very low counts in the vapour phase, very high counts in the water phase, and intermediate counts in the hydrocarbon phase.

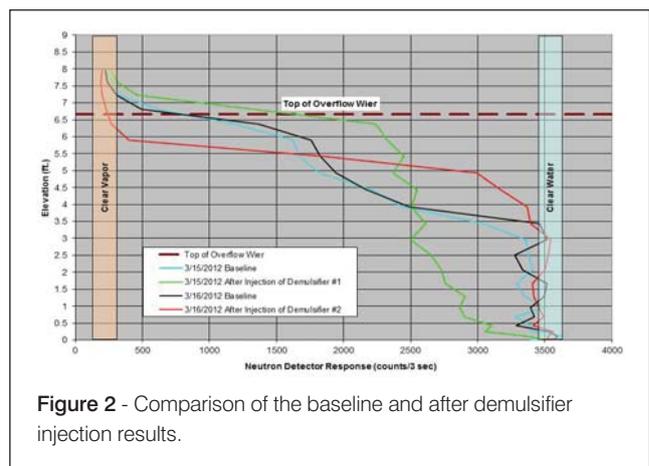
## Project Analysis

The scan results are illustrated in Figure 2. The first baseline scan (light blue curve) showed that there was approximately 1m of clear water at the bottom of the separator. A gradual reduction in response was observed from the 1m elevation up to the top of the weir which would be caused by emulsion or foam. The second survey (green curve) performed, after demulsifier #1 was added, showed a severe emulsion had been created, with evidence of less than 15cm of clear water in the bottom.

The third scan (black curve) was a baseline scan performed the next day which showed that the conditions inside the separator had returned to the baseline conditions of the first scan. After demulsifier #2 was added, a fourth survey (orange curve) was taken and the results showed that the emulsion that was on top of the water level had been removed.

## Customer Conclusion

Test results showed our customer that the first demulsifier used created a severe emulsion while the second chemical added appeared to remove the emulsion.



# Tanks and Spheres - Sludge and Product Level

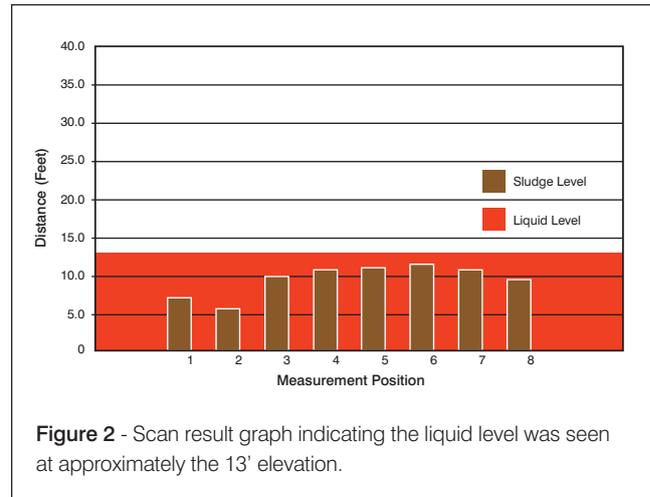
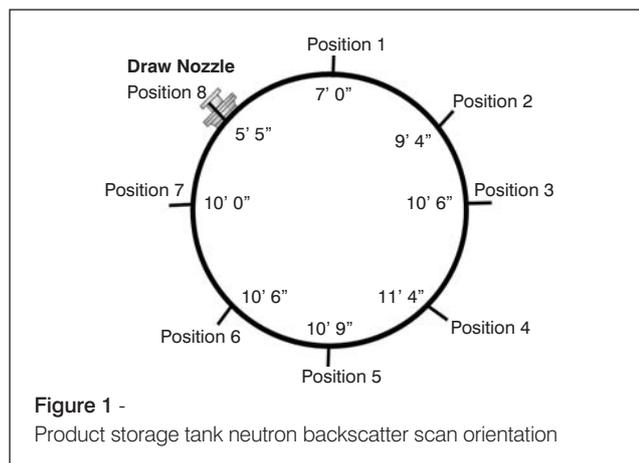
**Storage tanks need to be routinely monitored to determine sediment, water, hydrocarbon, and/or emulsion levels.**

The Tracerco specialist scanning technique can quickly provide information to plant personnel regarding the contents within a tank.

Routine scans of tanks and spheres can determine sludge and product levels and if there are any plugging issues in vent lines. Results from the scans are available onsite, allowing operators optimal time to schedule shutdowns and preparation of the storage facility for startup.

## Project Field Test

A refinery requested a scan of their product storage tank using a Tracerco scan to determine the presence of solids within the tank. Figure 1 illustrates the scan positions used for the tank measurements.



## Project Analysis

Scan results indicated that the liquid level in the tank was measured at approximately the 4m elevation from the base of the tank. (Figure 2) Considerable amounts of solids deposits were found within the tank at different elevations. Scan counts slightly decreased approximately 30 to 60cm below the liquid level indicating solids in suspension.

## Customer Conclusion

Measurements from the scans for liquid and sludge were compared to samples (solids and liquids) taken at the time of a previous scan. The ratios observed between the current scan and the samples were comparable indicating the deposits identified were more likely solids in suspension rather than a static solids layer.

### For further information:

If you would like to obtain additional information on Tracerco's Process Diagnostics™ technology please contact a technical advisor in your area to schedule an onsite presentation or visit our website at [www.tracerco.com](http://www.tracerco.com).

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