

# What you need to know about Tracerco's scan and tracer technologies for a desalter

Prolong operating runtime of downstream equipment, by keeping your desalter operating efficiently with good phase separation.

## What type of services does Tracerco provide for desalters and what does it reveal?

A Tracerco PhaseFinder™ scan of a desalter measures interface levels through the vessel wall between liquid and solids, or between two different types of liquids. A PhaseFinder™ scan of desalter vessels will yield a lot of information about where the various layers of material are located, and the quality of interface between oil and water.

A tracer study can be used to measure the oil and water phase residence times through a desalter vessel, and detect the presence of oil carry-under or water carry-over. visualise fluid flow through the reservoir, and enhance their understanding of reservoir connectivity. Smart interwell tracers provide direct measurement of remaining oil in the reservoir, allowing a better understanding of EOR program effectiveness.

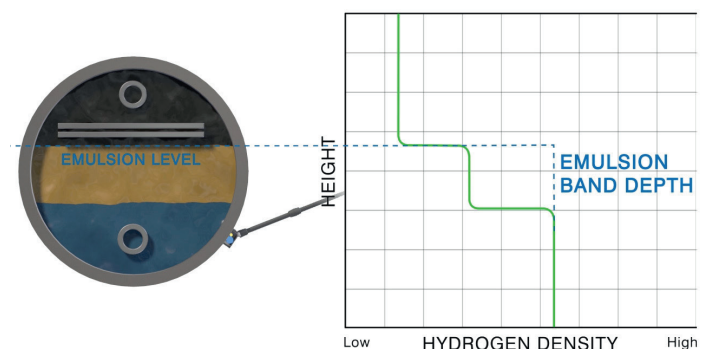
## What preparation is needed to the desalter before Tracerco's services are performed?

PhaseFinder™ is generally performed without any preparation to the vessel, but in some cases, a small 25cm (10in) strip of insulation may need to be removed. A Tracerco crew will need access to the vessel, or above the section to be surveyed, either by ladders to the platform, scaffolding or a crane basket. Our PhaseFinder™ equipment is very lightweight and portable. Tracer studies performed on desalters require a suitable injection point on the water or oil inlets, into which a pulse of oil or water phase tracer can be injected.

Sensitive detectors are placed at predetermined locations on the inlets and the oil and water outlets. Good drawings, especially showing the orientation of internals is needed prior to performing the scans so the proper scanline orientation can be used and appropriate injection points can be determined for the tracer studies.

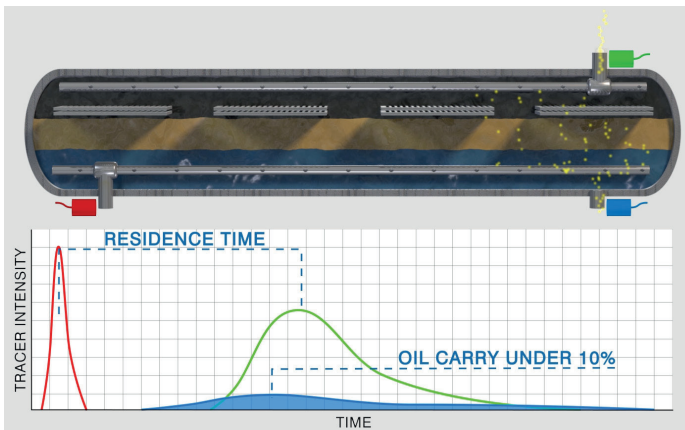
## How is PhaseFinder™ performed and are there any limitations?

The PhaseFinder™ uses an emitted signal and detector located in one non-intrusive instrument. Different molecules and phases respond in a different manner, enabling Tracerco to accurately detect the position of individual phases from outside a vessel. One limitation of the PhaseFinder™ system, is that the signal can only penetrate 10 -15cm (4 - 6in) through material. Practically speaking, if a vessel wall and its insulation are thicker than 15cm (6in), then the system cannot be used. In some cases, insulation can be removed to allow the technology to detect the necessary signals.



## How is a desalter tracer study performed?

The basic principle of a tracer investigation is to inject an organic or aqueous tracer material, and then follow it through the system. The technology requires a number of sensitive detectors to be located on the water and oil inlet and outlets of the vessel. As the tracer is injected into the process, the tracer material flows past a detector and registers as a response versus time. Analysis of each detector response provides information on flow distribution and timing, allowing flow dynamics within the vessel to be determined.



## How safe are these procedures and what about radiation protection?

When conducting tracer studies, we segregate a small area around the injection point, but do not need to restrict access to the equipment being tested. Our procedures ensure we comply with regulatory requirements to protect all plant personnel. Our crew members are always willing to explain these procedures with everyone, to ensure we do not block access to critical areas. There is no danger to plant personnel working around process equipment.

## What information will a desalter study provide?

After a desalter study has been completed, the lead crew member will leave a preliminary report with the customer before leaving the plant site. A formal report will be provided soon afterwards. A Tracerco desalter study provides a quick, non-intrusive diagnosis of production issues in real time, eliminating the guesswork when trying to resolve process issues. Benefits of a study include:

- Measurement of liquid interface and any existing intermediate layers, such as an emulsion, allowing customers to measure its extent.
- Calculation of oil carry-under and residence times to determine if solids or mud build-up have occurred, decreasing the residence time needed.

Our innovative work gives customers the insights they need to help solve their problems. To learn more, read our case studies at [tracerco.com/downloads/case-studies](https://www.tracerco.com/downloads/case-studies)