

The logo for ProTec International features the company name in a bold, yellow, sans-serif font. The text is centered within a dark blue rectangular box. To the left of this box is a vertical blue bar, and above it is a horizontal yellow bar. The entire logo area is set against a white background.

ProTec International

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ENVIRONMENTALLY SAFE CLEANING SOLUTIONS FOR THE OIL INDUSTRY

ProTec International and its partners provide specialized products and services to the oil industry from the oil field to the refinery.

We are at the forefront of introducing new technologies to offer unique solutions to age old problems such as sludge removal from crude oil storage tanks using our revolutionary re-suspension technique which dramatically saves downtime and worker entry into the tanks.

In addition to our unrivaled tank cleaning process we have developed a new product capable of removing both hardness scale and hydrocarbon (coke) from heat exchanger tubes allowing the unit to be cleaned without the need to remove the heat exchanger saving a great deal of time and effort.

In the oil field we can efficiently clean drill cuttings to meet the most stringent environmental specifications utilizing our oil separation technology.

We are constantly improving and developing new products to compete with and out-perform the current market leaders in areas such as oil drag reducers, oil spill control agents, water soluble hydraulic fluids for sub-sea applications, pour point depressants, emulsion breakers, water clarifiers, etc.

ProTec International and its partners can supply not only the product to do the job, but also the expertise, equipment and skilled workforce to apply the product in the most cost effective manner.

Our products which are developed and manufactured in the USA are designed to deliver the best performance and most cost effective solution available today. The name of our company stems from the knowledge that our products and services are developed to be "environmentally friendly" to provide a safer, more attractive alternative to traditional methods and products. For process problems that require a fast and economic answer, we can provide the solution.

SLUDGE REMOVAL SYSTEM (SRS)

We operate a proven unique crude oil sludge removal system that is fast, safe and economical.

Crude Oil residues are a mixture of heavy hydrocarbons / oil / water & sediment, the bulk being oil / hydrocarbon. In the past this material has been thought of as troublesome waste causing a lot of time and money to remove and dispose of.



85-meter diameter tank – Floating Roof

Today attitudes are changing and many refineries and storage companies try to find ways to recover the valuable oil / hydrocarbon to benefit the environment and the coffers of the refinery. However although there have been advances over the years we still rely, in most cases on some form of manual removal or the use of expensive cutter stock to get the sludge out of the tank a process that often takes many months.

Our Way is uniquely different as we use a range of specially developed polymers that act on the sludge in such a way as to break down the paraffin waxes and release the heavy asphaltenes and oil. Unlike cutter stock, the amount of chemical used is small, typically 0.5 to 1 % (based on sludge volume), the treated sludge readily disperses into the crude oil to give an easily pumpable oil (we recommend sludge be blended with 25-30 % oil).



Additional Valves can be cut

Once the waxes are broken down effective inhibitors stop the reforming of long chain hydrocarbon waxes and therefore the sludge once treated remains in suspension.

For more difficult residues such as vacuum residues we can employ surface softening agents and dispersants to enhance the process.



Bespoke Pump specific for Tank Cleaning

This new process was initially developed and used in the USA in 1996, since then demand has grown steadily and has been used at several locations including major oil companies. Our partners introduced this process to the UK in late 1999 and have successfully cleaned tanks using this system with sludge levels greater than 3.5 meters in depth and tanks over 80 meters in diameter, with no worker entry.

With the introduction of this technology to the Oil industry, corporations are presented with the opportunity to save costs and improve their profits.

In terms of speed, the process is unrivaled, we have removed in excess of 1500m³ of sludge in only 4 days including set-up and de-rigging time. The SRS is especially applicable to even larger volumes. For example, approximately 8500m³ was removed in just one week. Furthermore the oil recovered was sent for export, making the process not just economic but profitable.



The Pump discharge hose is led up the access stairway down the roof and onto the tank roof centre

The "key" to the SRS process are the re-suspension / dispersant products used. They are injected into the tank via the water draw or other suitable point. We then establish a recirculation pattern using a portable pump through existing valves on the tank. If necessary, additional entry points can be welded and cut (we normally use either 4" or 6" diameter lines). An alternative mode of operation is to circulate the oil / sludge and chemical via our own special injection nozzles that have been designed to fit floating roof legs. Recirculation is continued for typically 2 - 5 days depending on sludge volume and tank size.

On completion of the treatment, the liquefied oil is simply pumped out to another tank or to process. In most cases to date, the oil pumped out is suitable for processing or blending with other crude oil stock with no further treatment required.

This system provides the following advantages.

- **Very fast** - typically less than 10 days from start to finish.
- **Economic** - recovered oil more valuable than cost of operation.
- **Environmental** - Clean process, oil removed and recovered via pumps and hoses.
- **Safe** - non hazardous chemicals and nil to minimal worker entry.
- **Versatile** - Depth of sludge is no problem. Over 3.5 meters deep removed successfully.
- **Adaptable** - tank sizes from 50- 85 m diameter have been cleaned.

For more information on how this system can be applied to your situation we will be pleased to visit your site for a detailed explanation.