

# CASE STUDY

## Spill Extent Evaluation for Mixed Oil Spill



TMK Consulting Engineers invited RemScan to examine a potentially hazardous site where a hopper had been linked to a waste oil storage tank by a pipe suspected of leaking mixed hydrocarbons onto the soil below.

RemScan Spill Response Mode was used to provide timely measurements of Total Petroleum Hydrocarbon (TPH) concentration in the soil.

Sampling locations were chosen based on the area's former use. As the hopper is situated at the top of a slope, leaking oil would run downhill. Samples were therefore collected directly beneath the hopper outlet, along the pipe's route, and directly downhill from the hopper outlet. A sample was also obtained from the face of the retaining wall at the bottom of the slope.

Each soil sample was split in two for measurement by both RemScan and analytical laboratory. RemScan's Portable Drying Unit (PDU) was used to dry the samples in less than 20 minutes.

Table 1 shows a comparison between laboratory GC measurements and RemScan predictions.

Table 1: Laboratory Measurement Compared to RemScan Prediction

Sample Name	Laboratory Measured TPH (mg/kg)	RemScan Predictions TPH (mg/kg)
Baseline	0	0
Wall	5,730	7,100
Test 1	180	599
Test 2	570	847
Test 3	4,040	8,861
Test 4	4,900	18,747
Test 5	16,300	19,441

With a project cut-off of 1,000 mg/kg TPH between contaminated and clean soil, RemScan did not provide any false positive or negatives relative to the laboratory. Hence, any decisions made with RemScan measurements are the same as would have been made with laboratory analysis.

RemScan measurements confirmed the remediation team's assessment of both the presence and the extent of the spill. They were also used to confirm the presence of TPH on the wooden retaining wall at the base of the site, indicating run-off due to historic rainwater flow.

RemScan Spill Response Mode provided reliable measurements of soil TPH concentration in the field in just a few hours. RemScan confirmed the extent of the spill across the site and provided actionable results within a matter of hours.

By using RemScan, the site works were completed within 3 hours.

