

CASE STUDY

BRUGES SHELL SERVICE STATION REMEDIATION PROJECT, BELGIUM



RSK Benelux won Shell's Q4 2014 Cost Savings Award after saving more than \$200,000 on a service station site near Bruges, Belgium, by using a risk-based approach to convince the regulatory authorities that soil remediation was unnecessary on the site.

RSK, appointed to the Shell Global Environmental Services Strategy (GESS) contract in 2010, was tasked with reviewing the remedial action plan and monitoring contamination in anticipation of the remediation of contaminated soil and groundwater at the service station.

Following partial remediation during the service station's renovation in 1997, the need for further remediation was identified in 2002 owing to the potential risks from residual pollution. Consequently, in 2006, a remediation action plan was written by the then GESS consultant and approved by the authorities. Excavation and follow-up by pump and treat were selected as the most appropriate remediation methods, but the remediation was postponed until the end of the environmental permit and the potential renovation of the service station in 2017. In anticipation of this work, the contamination levels in the groundwater were monitored.

After evaluating all the existing data and the two monitoring events, RSK decided to expand on the original monitoring schedule. Additional fieldwork took place to update the contamination status and perform a risk assessment. This fieldwork included updating soil concentrations, installing a new monitoring well and monitoring the natural attenuation parameters. As a special measure, a soil gas measurement well was placed in the forecourt area to strengthen the risk assessment.

Project manager, Koen Van Melckebeke, explained, "Normally, we do not drill the forecourt area but in this instance we thought it a valuable measure. The contaminant concentration data for under the forecourt were already 15 years old but had played a decisive role in previous risk assessments. We felt it was important to update them. Our finishing of the well paid special attention to ensuring the forecourt remained liquid tight."

Throughout the investigation, RSK informed the authorities of the project status and intermediate results. Using all the additional measurements, we showed that the soil concentrations no longer exceeded the limit values for remediation. We also undertook a detailed quantitative risk assessment that proved to the authorities that the residual pollution did not pose any risk and, ultimately, that it was unnecessary to remediate the residual contamination in the groundwater.

RSK successfully convinced the authorities of this and was able to close the project early at the end of 2014. This risk-based and cost-efficient way without remediation saved Shell more than \$200,000 and earned RSK the Q4 2014 Cost Savings Award.



RSK BENELUX'S RISK-BASED
APPROACH SAVED SHELL \$200,000.



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