ISTD/ I-17-05
POGGIO (ITALY)

Context

The site was located near to Poggio San Lorenzo (ITALY), alongside a house and a restaurant. By the past, the location was once occupied by a petrol station which spilled diverse contaminants in the ground. The project was made on a 128m² heating zone with 19 gas burners (V5) and 19 secondary heating tubes with a reburn system.

The legislation in Italy imposes a concentration of hydrocarbons below 100 mg/kg. However, the targeted concentration of the contaminants at the end of the treatment is below

50 mg/kg.

Conclusion

Initially planned to take 6 weeks, we heated the ground for 3 months. However, according to the results below, we took some samples, even if the temperatures didn't reach 220°C at each measurement points:
- The temperatures measured at the outlet of the burners were stable (450°C-500°C)
- The CO concentrations in the vapour emissions were very low and stable for weeks at the end of the process
- The soil pressure was negative
- Excepted restarting some of the burners, we hadn't some real maintenance operations

For those reasons, it has been decided to turn off the process.

The main issue encountered was the management of the ground water level. It had consequences for the soil temperatures, and as such for the duration of the project. Indeed, the presence of water close to the working area impacted on the growth of temperatures, especially at 8m depth.

The results of the sampling analysis are all below the detection limits of the laboratory (< 50 ppm), even with up to 8% of remaining humidity at some points of sampling. The treatment reached the target of 50 ppm required by the client.

Key words

Contaminants
TPH

Max. concentration
3170 mg/kg DM

Volume
1024 m³

Tonnage
1946 Tons

Nb of heating tubes
38

Temperature Target
220°C

Heating duration
90 days

Treatment targets
<50 mg/kg

Location
Poggio San Lorenzo - Italy

Client
SIRAI

Date
2017