# Report

## Furhter soil investigation Ringdijk 390 in Ridderkerk

projectnummer 465250.100
Final revisie 01
6 januari 2021

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# Report

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final revision 01
6 January 2021

[redacted]

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## Opdrachtgever

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# Inhoudsopgave

Blz.



## Appendices

# 1 Introduction

On behalf of Panattoni Dutch Development Coöperatie U.A., Antea Group carried out a more detailed soil survey at the site Ringdijk 390 in Ridderkerk in the period from September to December 2020.

### Reason and goal

Reasons for the more detailed soil survey were the results of surveys carried out previously (in 2019 and 2020) and the contemplated redevelopment of the site. There are plans in place to remove the current buildings and develop logistics facilities on the site.

The goal of the survey is to record the size of the contaminations being present, and to determine to what extent remedial action will have to be undertaken with a view to the intended redevelopment.

### Investigation strategy and quality

The survey was carried out with NTA 5755 as a guideline. For the execution of the more detailed soil survey, the NTA provides that a conceptual model aimed at filling knowledge gaps is to be drawn up.
Surveys carried out previously show that the site contains various contaminations (see Section 2). The following contaminations are concerned:

- Contamination of the topsoil with immobile parameters;
- Contamination of the subsoil with mobile parameters;
- Contamination of the groundwater with mobile parameters.

The table below provides the conceptual model for each contamination. This has been taken into account in designing the survey.

| Contamination | Conceptual model |
|---|---|
| Contamination of the topsoil with immobile parameters | Contaminations with heavy metals, PCB and mineral oil have been identified. The contaminations are related to the admixtures that were found and also to the business activities. Some strong contaminations (above the intervention value) were identified in composite samples. The exploratory survey also showed that no significant contaminations were identified in the central and northern sections of the site underneath the buildings with a sealed concrete paving. As far as is known, no earth was moved as a result of which the immobile contaminations might have spread. The contaminants were not found in the groundwater. The starting point is that the strong contaminations may occur heterogeneously within the contour. The survey is aimed at delineating the strong contaminations in the topsoil by drilling adjacent boreholes down to at least 0.5m BGL and analysing these for normative components. This is combined with verifying 'old' composite samples by resampling the old boring locations. Where necessary, a second ring of boreholes will be drilled. |
| Contamination of the subsoil with mobile parameters | In the previous surveys, strong contaminations with mineral oil in the subsoil were measured at various locations. The quality of the groundwater was not established at the time. These contaminations can potentially spread. The aim of the survey is to first establish whether there is any groundwater contamination. If yes, the surrounding groundwater will also be sampled for normative components. Inside one of the locations there is a basement. Given the nature of the contamination to be investigated (oil), this basement is considered to be a physical boundary. In positioning the monitoring tubes, the field observations and the expected groundwater flow in the phreatic package (west-southwesterly) are taken into account. |
| Contamination of the groundwater with mobile parameters | In the previous survey, strong contaminations with mineral oil and various VOCLs were found in the groundwater. The contamination with mineral oil is not expected to spread to the deeper groundwater to any significant extent. An NAPL layer (floating layer) has also been found at the site. With this contamination, the adjacent groundwater is examined by placing phreatic monitoring tubes. In positioning the monitoring tubes, the field observations and the expected groundwater flow in the phreatic package (west-southwesterly) are taken into account.<br>The VOCL contaminants are known to be able to spread to the deeper groundwater ('sink layers'). During the 1995 survey, pure product was found in the southern section of the site near an old collection pit (concentrations > 200,000µg/l). Vertically, this contamination has not been completely delineated in more detailed surveys. A remediation was also carried out |

| | |
|---|---|
| | on site. However, the execution and results of that remediation have not been recorded. The expected groundwater flow is west-southwesterly for the shallow phreatic water and west-northwesterly for the deeper phreatic water. In positioning the monitoring tubes, spreading in southern and northwestern direction and in a vertical direction to the deeper groundwater has been taken into account. Investigations were also carried out at the potential source location. |

Table 1: Conceptual model per contamination

Based on the above starting points in the conceptual model, the design of the more detailed survey has been worked out.

For the survey's quality aspects, methods used and reliability/guarantees, please refer to Appendix 1.

This report is not suitable as a certificate of quality for determining the suitability of possible future applications of any released soil.

This report gives an account of the activities performed and describes the results of the survey.

# 2 Preliminary investigation

## 2.1 Introduction

In 2020, an extensive preliminary investigation was carried out prior to the purchase of the site. The results are included in the report 'Phase I environmental site assessment' Ringdijk 390 in Ridderkerk (Antea Group, ref. 462424, dated 12 June 2020). Following on the preliminary investigation, Antea Group carried out an exploratory soil survey (ref. 460838, dated 17 June 2020).

Both reports are an addition to the exploratory survey carried out by Haskoning on the site in 2019 (report with reference BG8479IBRP1910181025, 2019).

## 2.2 Site details

The survey site is located at Ringdijk 390 in Ridderkerk and is cadastrally known as Municipality of Ridderkerk, section B, numbers 2389 and 2569. The site has an area of approximately 57,800m² and is partly built-up, partly paved with Stelcon, clinkers and/or asphalt, and is partly used as green space. A small part of the Veerweg road also belongs to the site under review. The buildings were used as storage space, industrial units/production halls, and office space.

The site is located on the Donkersloot business park northeast of the town of Ridderkerk. On the west side flows the river Noord near the influx of the river Lek.

The site has been in use for business activities since around 1930. From around 1940 Holec BV, later Brush, was established on the site. The activities were discontinued around December 2019. The activities consisted of manufacturing machines and products for the metal and steel industries. In the past, the site was raised with various materials.

Figure 1 is an aerial photo showing the location of the survey site.


*Figure 1: Aerial photo of the site (source: Cyclomedia, 2019)*

## 2.3 Previous surveys

From 1989 to 2020, various surveys were carried out on the site. Also, a remediation was carried at the former buildings Y17 and Y18. Little information is known about the remediation: the exact activities performed (presumably excavation of soil, and groundwater remediation for about 10 years) and the result of the remediation are not known. However, results from various influent and effluent samples show that around 2018 no increased levels of VOCL or mineral oil were measured in the extracted groundwater.

For a detailed description of the surveys and activities carried out on the site, please refer to the reports mentioned in paragraph 2.1. The survey results are also included in drawings 465250.100-S2 to -S10. The most relevant results of the previous surveys are summarised below. For the locations, please refer to Figure 2.

In the central and (north)eastern sections of the site, there is a heterogeneously contaminated layer of fill. This concerns, roughly, the buildings Y40, Y7, Y6, Y2, Y3, Y1, Y5, Y39 and Y9. This layer contains various admixtures and is strongly contaminated (above the intervention value) with heavy metals, mineral oil, PCBs (polychlorobiphenyls) and/or asbestos. In general, no significantly increased levels of these substances have been measured in the subsoil. However, strong contaminations with heavy metals, volatile aromatics (BTEX; building Y17), volatile halogenated hydrocarbons (VOCL; buildings Y17 and Y5) and/or mineral oil (buildings Y7B, Y1 and Y34) have been locally measured in the subsoil.

At buildings Y17 and Y18 (washing area with oil-water separator (OBAS) and collection pit), strong groundwater contaminations with various VOCLs, volatile aromatics and mineral oil were measured in the past. The levels measured reflected pure product (total VOCL > 200,000µg/l). During a detailed survey in 2000 (carried out by Oranjewoud), the VOCL contamination was not delineated to a depth of 6m BGL. Following on the detailed survey, the remediation mentioned earlier presumably started. Based on the known data, the collection/settlement pit and the OBAS are located at the plot boundary.

Strong VOCL contaminations were also measured during previous surveys: roughly, in the vicinity of buildings Y6, Y38 and Y39 (tetra- or pervinyl chloride (PER); 1995 and 2020 surveys), building Y5 (vinyl chloride (vc); 2020 survey), building Y9 (PER, 2020 survey) and building Y34 (cis-1,2-dichloroethene (cis), 2020 survey).

At building Y34 (former above-ground fuel tank), an NAPL layer of mineral oil on the groundwater was demonstrated in 1995, 2007 and 2020. The subsoil here was strongly contaminated with mineral oil.

Based on the previous surveys, a more detailed survey was carried out into the following contaminations/aspects:

- Further mapping of contaminations with heavy metals, asbestos, mineral oil (not mobile) and PCBs in the topsoil;
- Further mapping of the size and volume of contaminations with mineral oil and VOCL in the subsoil and groundwater;
- Possibilities of biological VOCL degradation (for remediation approach);

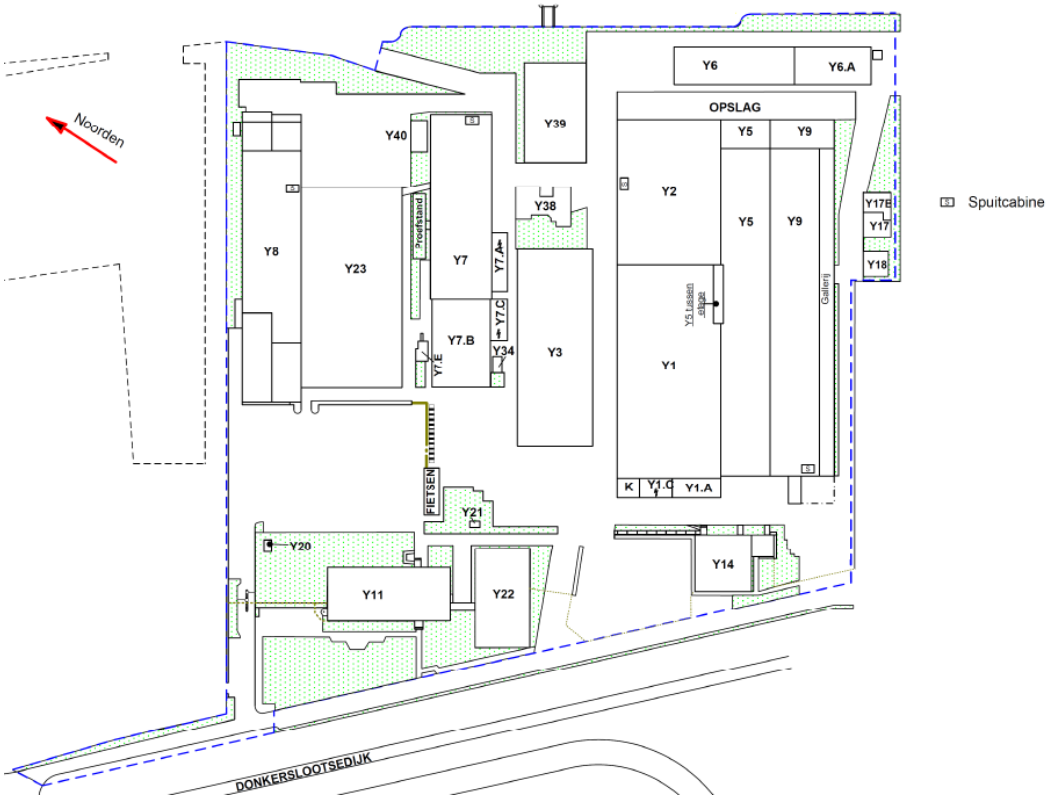


Figure 2: Overview of former on-site buildings

## 2.4 Soil structure and geohydrology

The regional soil structure is shown in table 2.1 below.

Table 2.1: soil structure

| Global depth (m) | Geohydrological unit | Lithostratigraphic unit | Lithological composition |
|---|---|---|---|
| 0-12 | coating | Westland formation | clay and peat with silt-containing fine and coarse sands |
| 12-37 | first aquifers | Formation of Sterksel Kreftenheye and Kedichem | moderately coarse to coarse gravel-containing sands with clay layers |

As a result of the location outside the dike, the phreatic groundwater level depends strongly by the water level in the Noord, Nieuwe Maas and the Lek. It can be assumed that at high water levels in the river a horizontal flow of water from the river takes place towards the location. The flow rate depends on the density of the clay covering of the dike. This situation is reversed at low river levels. As a result, the resulting flow of the phreatic groundwater in the horizontal direction will be limited.
The influence of the Noord and Nieuwe Maas with ebb and flow on groundwater flow is rather large (in April 2020, in a relatively dry season in NW Europe, the water level on-site was recorded between NAP -0.5 and 1.2 m). In winter there will be a much higher water level. It is expected there will always be an infiltrating effect from the Noord to the surrounding area.
The groundwater can be found from a depth of approximately 1.4 m bgl and flows in a south-western direction towards the lower lying polders/agricultural lands.

The groundwater flow direction in the first aquifer is oriented west northwest due to a drinking water abstraction west of the site.

The geohydrological information comes from the Groundwater Map of the Netherlands, from the TNO Groundwater Survey Service, Gorinchem, 38 West, July 1979.

# 3 Fieldwork

## 3.1 Fieldwork performed

The fieldwork was carried out in the period from September to November 2020 by R. Kantier and P. Aarts of Antea Group, [redacted] and C. Brussee of Brussee Milieukundig Veldwerkbureau and V. Hoogendoorn and M. Meijer of Ground Research.

The fieldwork was carried out in accordance with BRL SIKB 2000. The fieldwork carried out is included in Table 3.1.

Table 3.1: Overview of fieldwork activities

| Site section/Component | Goal | Drillings | Monitoring tubes (filter depth, metres BGL) |
|---|---|---|---|
| Heavy metal contamination, topsoil | Delineating heavy metal contamination | 516 to 545, 547 to 551 | - |
| PCB contamination at buildings Y9 and Y40 | Verifying and delineating volume of strong contamination | 530, 530a, 531, 532, 541, 542, 551 (building Y9), 520 to 524 (building Y40) | - |
| Asbestos contamination underneath buildings Y1, Y2, Y5 and Y9 | Further investigating asbestos underneath building Y1 (clinker-paved) | Holes 536 to 540 | - |
| Strong subsoil contamination with oil, bfoto3 location, building Y7 | Determining whether on-site groundwater is contaminated with oil and, if yes, determining the scope | 505 | 504, 506, 507, 508, 509 |
| Strong soil and groundwater contamination with oil at building Y34 (NAPL layer) | Determining the size and volume | 512, 514 | 510, 511, 513 |
| Groundwater contaminations with VOCL, areas Y6, Y34, Y38, Y39 and Y5, Y9, Y17, Y18 | Determining size and volume, investigating potential source location | - | 515 (2-3), 1002 to 1020 (2-3, 5-6 and 9-10) |
| Strong subsoil contamination with oil, borehole a5, buildings Y17/Y18 | Determining whether on-site groundwater is contaminated with oil and, if yes, determining the scope | 500 | 501, 502, 503 (1.9-2.9) |
| Investigation into biological degradation | Determining the natural conditions for VOCL degradation | - | Sampling existing monitoring tubes 9 (5-6), a4 (2-3), 19 (2-3), 154 (0.8-2.8), 41 (1.8-2.8) |

During the placement of deep monitoring tubes (number 1001), an oil cooled electric cable was pierced. As a result the cable had to be replaced and a remediation was carried out. During the remediation work (in accordance with the proper authorities DCMR, case ID 9999192511) performed the filters of monitoring tube 1001 (filter depths of 2-3, 5-6 and 9-10m BGL) and monitoring tube 1002 (filter depth 5-6m BGL) were removed from the site.

The bore material was sensorily assessed in the field whereby, for safety reasons, no active odour observations were made. When inspecting the site within the survey area and performing the borings, attention was also given to the presence of asbestos-suspect materials in the extracted and excavated materials.

Thereupon, the soil layers were described and sampled, and the (composite) samples to be analysed were selected.

The positions of the borings, holes and observation tubes are indicated on drawing no. 465250.100-S1.

## 3.2 Fieldwork results

The profile descriptions of the borings made, along with the corresponding field observations, are included in Appendix 2.

The profile descriptions show that the soil consists alternately of sand and clay from ground level or the underside of the pavement down to about 10m BGL.

During various drillings, traces of strong admixtures were found or a foundation layer was encountered. No asbestos-suspect materials were found.

Locally, fuel-related observations (odour or oil-water reaction (observation of a floating oil layer on water when a small amount of soil is placed in clean water) were made at the site sections suspected of presence of oil. A chemical odour was detected in one bore. The relevant field observations are included in Table 3.2.

Table 3.2: Field observations

| Drilling | Drilling depth (m BGL) | Range (m BGL) | Soil type | Observations or particulars |
|---|---|---|---|---|
| 1016_N | 10.00 | 0.00 - 1.50 | Sand | |
| | | 1.50 - 2.00 | Clay | strong diesel odour, slight oil-water reaction |
| | | 8.00 - 10.00 | | Drawn 3 times down to 10.5m but no samples, possibly too soft. Also, no tube resistance. |
| 1018 | 10.00 | 0.15 - 0.50 | Sand | |
| | | 0.50 - 1.00 | Sludge | |
| | | 1.00 - 2.00 | Sludge | strong chemical odour |
| 1020 | 10.00 | 0.00 - 0.10 | Asphalt | |
| | | 0.10 - 0.40 | | rubble-only |
| 506 | 2.70 | 0.10 - 0.30 | Sand | |
| | | 0.30 - 1.30 | Clay | chunks of rubble, lightly gravelly |
| | | 1.30 - 2.20 | Clay | slightly woody |
| | | 2.20 - 2.70 | Clay | |
| 547 | 0.50 | 0.00 - 0.50 | Sand | slightly rubbly, slightly gravelly, slightly woody |
| 507 | 2.70 | 0.05 - 0.40 | Sand | |
| | | 0.40 - 1.40 | Clay | moderately rubbly |
| 548 | 0.60 | 0.08 - 0.20 | Sand | |
| | | 0.20 - 0.40 | Sand | strongly granulated |
| 550 | 0.50 | 0.00 - 0.50 | Sand | moderately gravelly, slightly rubbly, traces of coaldust |
| 508 | 2.70 | 0.00 - 0.12 | | concrete-only |
| | | 0.70 - 1.20 | Clay | moderately rubbly |
| 509 | 2.70 | 0.05 - 1.20 | Sand | slightly gravelly |
| | | 1.20 - 2.00 | Clay | slight oil-water reaction, oil-water reaction layered |
| | | 2.00 - 2.30 | Clay | no oil-water reaction |
| 542 | 0.31 | 0.08 - 0.30 | Sand | |
| | | 0.30 - 0.31 | | Discontinued |
| 551 | 1.10 | 0.08 - 0.60 | Sand | slightly gravelly |
| | | 0.60 - 1.10 | Clay | |
| 525a | 1.01 | 0.00 - 0.12 | | concrete-only |
| | | 0.12 - 0.25 | Sand | |
| | | 0.25 - 0.70 | Sand | moderately gravelly, strongly rubbly, slightly bricky, strongly slaggy |
| | | 0.70 - 1.00 | Sand | |
| | | 1.00 - 1.01 | | Discontinued on concrete |
| a113 | 0.65 | 0.00 - 0.15 | asphalt | |
| | | 0.15 - 0.65 | | Rubble |
| 515 | 2.60 | 0.00 - 1.30 | Clay | |
| | | 1.30 - 1.50 | Clay | slight oil-water reaction |
| | | 1.50 - 2.00 | Clay | slight oil-water reaction |
| | | 2.00 - 2.60 | Clay | no oil-water reaction |
| 516 | 0.60 | 0.00 - 0.10 | | gravel-only, on anti-root membrane |
| Grit 1 | 0.01 | 0.00 - 0.01 | | Grit on floor, indoor |
| Grit 2 | 0.01 | 0.00 - 0.01 | | Grit on floor, indoor |
| 520 | 0.70 | 0.12 - 0.20 | Sand | |

| Drilling | Drilling depth (m BGL) | Range (m BGL) | Soil type | Observations or particulars |
|---|---|---|---|---|
| | | 0.20 - 0.45 | | granulate-only |
| 521 | 0.70 | 0.12 - 0.15 | Sand | |
| | | 0.15 - 0.40 | | granulate-only |
| 522 | 0.70 | 0.12 - 0.15 | Sand | |
| | | 0.15 - 0.45 | | granulate-only |
| | | 0.45 - 0.70 | Sand | |
| 523 | 0.60 | 0.00 - 0.10 | | gravel-only |
| 524 | 0.50 | 0.00 - 0.30 | Clay | strongly gravelly |
| | | 0.30 - 0.50 | Clay | slightly gravelly |
| 503 | 1.50 | 0.00 - 0.50 | Sand | |
| | | 0.50 - 1.50 | Sand | discontinued on concrete |
| 525 | 0.70 | 0.00 - 0.12 | | concrete-only, Concrete edge demolished |
| | | 0.12 - 0.20 | | Cement-only foundation |
| | | 0.20 - 0.70 | Sand | strongly slaggy, strongly gravelly |
| 504 | 2.20 | 0.00 - 1.50 | Sand | strong oil-water reaction, PID=0 |
| | | 1.50 - 2.20 | Sand | strong oil-water reaction, PID=0 |
| 527 | 0.50 | 0.00 - 0.35 | Clay | |
| | | 0.35 - 0.50 | Sand | slightly rubbly |
| 528 | 0.50 | 0.00 - 0.50 | Sand | slightly rubbly, slightly bricky, slightly gravelly |
| 529 | 0.50 | 0.00 - 0.50 | Sand | slightly rubbly, slightly bricky |
| 532 | 0.58 | 0.08 - 0.58 | Sand | slightly gravelly |
| 528a | 1.75 | 0.00 - 1.00 | Sand | slightly rubbly, slightly bricky, slightly gravelly |
| | | 1.00 - 1.25 | Clay | slightly rubbly, slightly bricky, slightly gravelly |
| 534 | 0.50 | 0.00 - 0.50 | Sand | strongly slaggy |
| 535 | 0.60 | 0.09 - 0.30 | Sand | slightly bricky, slightly rubbly, slightly slaggy |
| 536 | 0.70 | 0.12 - 0.20 | Gravel | |
| | | 0.20 - 0.45 | | traces of rubble, granulate-only, strongly slaggy Lava/slags Demolition hammer. rubble 85% wv 45>20 |
| 537 | 0.60 | 0.08 - 0.15 | Sand | |
| | | 0.15 - 0.40 | | granulate-only, slightly lavalithic, Demolition hammer. rubble 90% wv 40>20 |
| 538 | 0.60 | 0.12 - 0.20 | Sand | |
| | | 0.20 - 0.45 | | Concrete cement-only, demolition hammer slightly rubbly 5% |
| 539 | 0.60 | 0.12 - 0.25 | Sand | |
| | | 0.25 - 0.45 | | concrete cement-only, demolition hammer slightly rubbly 5% |
| 540 | 0.60 | 0.12 - 0.14 | Sand | |
| | | 0.14 - 0.45 | | Concrete cement-only, demolition hammer slightly rubbly 5% |
| 1015 | 2.00 | 0.00 - 0.70 | Sand | strongly rubbly, moderately ferruginous |
| 505 | 1.80 | 0.00 - 0.12 | | concrete-only |
| | | 1.10 - 1.30 | Clay | moderate oil-water reaction |
| | | 1.30 - 1.80 | Clay | no oil-water reaction |
| 512 | 1.70 | 0.05 - 0.70 | Clay | no oil-water reaction |
| | | 0.70 - 1.70 | Clay | slight oil-water reaction |
| 514 | 1.41 | 1.40 - 1.41 | | Discontinued on concrete? |

## Groundwater data

The groundwater data collected in the field are shown in Table 3.3.

Table 3.3: Field data - groundwater

| Monitoring tube (filter, m BGL) | Groundwater level (m BGL) | Aerated? | pH (-) | EC (µS/cm) | Turbidity (NTU) | Odour |
|---|---|---|---|---|---|---|
| 1002-3 (9.00-10.00) | 1.71 | no | 6.50 | 2,500 | 621 | - |
| 1002-1 (2.00-3.00) | 1.85 | no | 7.10 | 1,050 | 27 | - |
| 1003-3 (9.00-10.00) | 2.76 | no | 6.90 | 1,940 | 247 | - |
| 1003-2 (5.00-6.00) | 2.58 | yes | 7.00 | 1,310 | 229 | - |
| 1003-1 (2.00-3.00) | 1.38 | yes | 7.30 | 970 | 207 | - |
| 1004-3 (9.00-10.00) | 3.25 | no | 6.80 | 1,450 | 126 | - |
| 1004-2 (5.00-6.00) | 3.08 | yes | 7.00 | 1,510 | 1,000 | - |
| 1004-1 (2.00-3.00) | 1.26 | no | 7.30 | 940 | 22 | - |
| 1005-3 (9.00-10.00) | 3.34 | no | 7.00 | 1,230 | 180 | - |

| Monitoring tube (filter, m BGL) | Groundwater level (m BGL) | Aerated? | pH (-) | EC (µS/cm) | Turbidity (NTU) | Odour |
|---|---|---|---|---|---|---|
| 1005-2 (5.00-6.00) | 3.05 | yes | 7.10 | 1,510 | 1,000 | - |
| 1005-1 (2.00-3.00) | 1.19 | no | 7.30 | 820 | 881 | - |
| 1006-3 (9.00-10.00) | 3.07 | no | 7.10 | 800 | 35 | - |
| 1006-2 (5.00-6.00) | 3.29 | yes | 7.00 | 1,000 | 653 | - |
| 1006-1 (2.00-3.00) | 1.03 | yes | 7.20 | 810 | 130 | - |
| 1007-1 (2.00-3.00) | 1.31 | no | 7.20 | 910 | 67 | - |
| 1007-2 (5.00-6.00) | 3.49 | yes | 7.20 | 1,610 | 212 | - |
| 1007-3 (9.00-10.00) | 3.89 | no | 7.10 | 1,090 | 12 | - |
| 1008-1 (2.00-3.00) | 1.22 | yes | 7.10 | 920 | 25 | - |
| 1008-2 (5.00-6.00) | 3.80 | yes | 7.10 | 1,390 | 55 | - |
| 1008-3 (9.00-10.00) | 4.04 | no | 6.90 | 1,430 | 24 | - |
| 1009-1 (2.00-3.00) | 1.30 | yes | 7.30 | 124 | 526 | - |
| 1009-2 (5.00-6.00) | 3.72 | no | 7.00 | 1,330 | 49 | - |
| 1009-3 (9.00-10.00) | 4.02 | no | 6.90 | 1,860 | 42 | - |
| 1010-1 (2.00-3.00) | 0.71 | no | 7.40 | 610 | 34 | - |
| 1010-2 (5.00-6.00) | 2.72 | yes | 7.30 | 920 | 691 | - |
| 1010-3 (9.00-10.00) | 3.70 | no | 6.80 | 2,140 | 52 | - |
| 1011-1 (2.00-3.00) | 0.73 | no | 7.20 | 390 | 113 | - |
| 1011-2 (5.00-6.00) | 2.69 | yes | 6.90 | 880 | 1,000 | - |
| 1011-3 (9.00-10.00) | 3.73 | no | 6.60 | 2,140 | 14 | - |
| 1012-2 (5.00-6.00) | 3.29 | yes | 6.80 | 1,380 | 1,000 | - |
| 1012-1 (2.00-3.00) | 1.06 | yes | 7.40 | 890 | 890 | - |
| 1012-3 (9.00-10.00) | 3.34 | yes | 7.00 | 2,350 | 1,000 | - |
| 1013-1 (2.00-3.00) | 1.02 | yes | 7.70 | 880 | 64 | - |
| 1013-2 (5.00-6.00) | 3.37 | yes | - | - | - | - |
| 1013-3 (9.00-10.00) | 3.60 | yes | 7.10 | 1,690 | 1,000 | - |
| 1014-1 (2.00-3.00) | 1.58 | yes | 7.20 | 670 | 120 | |
| 1014-2 (5.00-6.00) | 3.36 | no | 6.90 | 1,030 | 618 | - |
| 1014-3 (9.00-10.00) | 3.54 | no | 6.90 | 1,220 | 463 | - |
| 1015-1 (2.00-3.00) | 2.15 | yes | 7.50 | 670 | 404 | - |
| 1015-2 (5.00-6.00) | 3.40 | yes | 7.10 | 930 | 297 | - |
| 1015-3 (9.00-10.00) | 3.60 | no | 7.00 | 1,070 | 362 | - |
| 1016(6m) | 2.40 | no | 7.06 | 892 | 60 | - |
| 1016(10m) | 3.50 | no | 6.74 | 1,335 | 16 | - |
| 1017(3m) | 1.12 | no | 7.31 | 560 | 210 | - |
| 1017(6m) | 3.33 | no | 6.85 | 1,473 | 95 | - |
| 1017(10m) | 3.48 | no | 6.81 | 1,592 | 30 | - |
| 1019(3m) | 1.10 | no | 6.96 | 2,695 | 21 | - |
| 1019(6m) | 3.78 | no | 6.99 | 1,292 | 27 | - |
| 1019(10m) | 4.13 | no | 6.56 | 1,704 | 123 | - |
| 1018(3m) | 0.82 | no | 7.39 | 699 | 136 | - |
| 1018(6m) | 1.91 | no | 7.16 | 903 | 114 | - |
| 1018(10m) | 3.88 | no | 6.63 | 2,040 | 155 | - |
| 1020(10m) | 4.06 | no | 6.73 | 1,764 | 226 | - |
| 1020(6m) | 3.89 | no | 6.58 | 1,917 | 37 | - |
| 1020(3m) | 1.19 | no | 7.03 | 1,171 | 188 | - |
| 41 (1.8-2.8) | 1.17 | no | 6.98 | 698 | 9 | - |
| 97 (1.8-2.8) | 0.90 | no | 7.05 | 676 | 16 | - |
| 501 (1.90-2.90) | 1.10 | no | 6.81 | 722 | 9 | - |
| 502 (1.90-2.90) | 0.96 | no | 6.95 | 691 | 9 | - |
| 503 (0.00-0.00) | 1.12 | no | 6.93 | 708 | 31 | - |
| 504 (1.20-2.20) | 1.25 | no | 7.32 | 554 | 9 | - |
| 506 (1.70-2.70) | 1.21 | no | 7.26 | 656 | 39 | - |
| 508 (1.70-2.70) | 0.97 | no | 7.58 | 422 | 8 | - |
| 507 (1.70-2.70) | 1.00 | no | 7.34 | 570 | 29 | - |
| 509 (1.70-2.70) | 1.15 | no | 7.21 | 783 | 41 | - |
| 510 (1.70-2.70) | 1.12 | no | 7.68 | 659 | 34 | - |
| 511 (1.50-2.50) | 1.02 | no | 7.31 | 779 | 42 | - |
| 513 (1.50-2.50) | 1.00 | no | 7.54 | 511 | 9 | - |
| 515 (1.60-2.60) | 1.02 | no | 7.41 | 899 | 11 | - |

**Explanatory notes**
- : no data known
Aerated: during sampling mixture of sampling water and air occurred.

Groundwater readings show that the groundwater level in the shallow monitoring tubes (filter depths down to approx. 3m BGL) ranges from 0.7 to 1.6m BGL. In monitoring tubes with deeper filters (down to 10 m BGL), the groundwater level ranges between 2.6 and 4.0m BGL. It should be noted that the difference in ground water levels in monitoring tubes with filter depths of 5-6 and 9-10m BGL is no more than 0.4m BGL.

The acidity (pH) and electrical conductivity (EC) levels do not deviate from those found in a natural situation.

In many monitoring tubes the turbidity is increased (> 10). This applies to monitoring tubes placed both by machine and by hand and to filter depths of down to 3, 6 and 10m BGL. There is no obvious reason for this. Increased turbidity may cause increased levels of, in particular, poorly soluble organic parameters. The analysis results show that in a large number of samples from a monitoring tube with increased turbidity, no increased VOCL levels were measured. Based on this, it can be stated that the effect of the increased turbidity on these analyses is nil and therefore does not significantly affect the measured concentrations or the conclusions of this report. The deviation is therefore considered not to be critical with regard to the conclusions of the report, so no further investigations into the cause of the increased turbidity have been carried out.

# 4 Laboratory analyses

## 4.1 Analyses carried out

The following table provides an overview of the analyses carried out.

Table 4.1: Overview of analyses carried out

| Sample name | Range (m BGL) | Sample composition (measuring point + range in m BGL) | Laboratory analysis |
|---|---|---|---|
| **Soil** | | | |
| 500-2 | 0.60-1.00 | 500 (0.60-1.00) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 501-2 | 0.60-1.10 | 501 (0.60-1.10) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 502-2 | 0.60-1.00 | 502 (0.60-1.00) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 503-2 | 0.50-1.00 | 503 (0.50-1.00) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 504-6 | 0.60-0.80 | 504 (0.60-0.80) | BTEXN + Mineral oil GC<br>Organic matter (calcination residue) |
| 515-4 | 1.30-1.50 | 515 (1.30-1.50) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 515-6 | 2.00-2.50 | 515 (2.00-2.50) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 505-3 | 1.10-1.30 | 505 (1.10-1.30) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 505-4 | 1.30-1.80 | 505 (1.30-1.80) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 506-3 | 0.80-1.30 | 506 (0.80-1.30) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 507-3 | 0.90-1.40 | 507 (0.90-1.40) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 508-3 | 0.70-1.20 | 508 (0.70-1.20) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 509-3 | 1.20-1.70 | 509 (1.20-1.70) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 510-4 | 1.20-1.70 | 510 (1.20-1.70) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 511-4 | 1.00-1.50 | 511 (1.00-1.50) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 513-3 | 1.10-1.60 | 513 (1.10-1.60) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 516-1 | 0.10-0.60 | 516 (0.10-0.60) | Standard soil package incl. LUOS [(1)] |
| 518-1 | 0.08-0.58 | 518 (0.08-0.58) | Standard soil package incl. LUOS [(1)] |
| 519-1 | 0.08-0.58 | 519 (0.08-0.58) | Organic matter (calcination residue),<br>PCB (7) |
| 520-2 | 0.20-0.45 | 520 (0.20-0.45) | Organic matter (calcination residue),<br>PCB (7) |
| 521-1 | 0.15-0.40 | 521 (0.15-0.40) | Organic matter (calcination residue),<br>PCB (7) |
| 522-1 | 0.15-0.45 | 522 (0.15-0.45) | Organic matter (calcination residue),<br>PCB (7) |
| 523-1 | 0.10-0.60 | 523 (0.10-0.60) | Organic matter (calcination residue),<br>PCB (7) |
| 525-2 | 0.20-0.70 | 525 (0.20-0.70) | Standard soil package incl. LUOS [(1)] |
| 526-2 | 0.20-0.50 | 526 (0.20-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 527-1 | 0.00-0.35 | 527 (0.00-0.35) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 528-1 | 0.00-0.50 | 528 (0.00-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 529-1 | 0.00-0.50 | 529 (0.00-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu) |

| Sample name | Range (m BGL) | Sample composition (measuring point + range in m BGL) | Laboratory analysis |
|---|---|---|---|
| 531-1 | 0.12-0.62 | 531 (0.12-0.62) | Organic matter (calcination residue), PCB (7) |
| 532-1 | 0.08-0.58 | 532 (0.08-0.58) | Organic matter (calcination residue), PCB (7) |
| 533-1 | 0.00-0.50 | 533 (0.00-0.50) | Argillaceous material + Organic matter, Zinc (Zn) |
| 534-1 | 0.00-0.50 | 534 (0.00-0.50) | Argillaceous material + Organic matter, Zinc (Zn) |
| 535-1 | 0.09-0.30 | 535 (0.09-0.30) | Standard soil package incl. LUOS [(1)] |
| MM01 | 0.15-0.45 | 536 (0.20-0.45)<br>537 (0.15-0.40)<br>538 (0.20-0.45) | Standard soil package incl. LUOS [(1)] |
| MM02 | 0.40-0.70 | 536 (0.45-0.70)<br>537 (0.40-0.60)<br>538 (0.45-0.60) | Standard soil package incl. LUOS [(1)] |
| MM03 | 0.08-0.60 | 530 (0.08-0.30)<br>530 (0.30-0.60) | Organic matter (calcination residue)<br>PCB (7) |
| MM04 | 0.00-0.50 | 524 (0.00-0.30)<br>524 (0.30-0.50) | Standard soil package incl. LUOS [(1)] |
| MM05 | 0.12-0.65 | 517 (0.12-0.35)<br>517 (0.35-0.65) | Standard soil package incl. LUOS [(1)] |
| AMM01 | 0.14-0.45 | AMM2 (0.14-0.45)<br>AMM1 (0.15-0.45) | Asbestos Rubble NEN5898 2016 |
| 1016_N-4 | 1.50-2.00 | 1016_N (1.50-2.00) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 1016_N-16 | 7.50-8.00 | 1016_N (7.50-8.00) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue) |
| 1017-19 | 9.00-9.50 | 1017 (9.00-9.50) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue) |
| 1018-3 | 1.00-1.50 | 1018 (1.00-1.50) | VOCL (11) + vinyl chloride<br>Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 509-5 | 2.00-2.30 | 509 (2.00-2.30) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 535-2 | 0.30-0.60 | 535 (0.30-0.60) | 9 metals (standard package, new)<br>Argillaceous material + Organic matter |
| 525a-3 | 0.70-1.00 | 525a (0.70-1.00) | Argillaceous material + Organic matter,<br>Copper (Cu)<br>Zinc (Zn) |
| 528a-2 | 0.50-1.00 | 528a (0.50-1.00) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 528a-3 | 1.00-1.25 | 528a (1.00-1.25) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 530a-3 | 0.60-1.10 | 530a (0.60-1.10) | Organic matter (calcination residue),<br>PCB (7) |
| 541-1 | 0.00-0.50 | 541 (0.00-0.50) | Organic matter (calcination residue),<br>PCB (7) |
| 542-1 | 0.08-0.30 | 542 (0.08-0.30) | Organic matter (calcination residue),<br>PCB (7) |
| 543-2 | 0.30-0.65 | 543 (0.30-0.65) | Argillaceous material + Organic matter,<br>Copper (Cu)<br>Zinc (Zn) |
| 544-1 | 0.00-0.50 | 544 (0.00-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu)<br>Zinc (Zn) |
| 545 | 0.08-0.60 | 545 (0.08-0.20)<br>545 (0.20-0.60) | Argillaceous material + Organic matter,<br>Copper (Cu)<br>Zinc (Zn) |
| 547-1 | 0.00-0.50 | 547 (0.00-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu)<br>Zinc (Zn) |
| 548-2 | 0.20-0.40 | 548 (0.20-0.40) | Argillaceous material + Organic matter,<br>Copper (Cu) |
| 550-1 | 0.00-0.50 | 550 (0.00-0.50) | Argillaceous material + Organic matter,<br>Copper (Cu) |

| Sample name | Range (m BGL) | Sample composition (measuring point + range in m BGL) | Laboratory analysis |
|---|---|---|---|
| 551-1 | 0.08-0.58 | 551 (0.08-0.58) | Standard soil package incl. LUOS [(1)] |
| Grit 1-1 | 0.00-0.01 | Grit 1 (0.00-0.01) | Organic matter (calcination residue)<br>Mineral oil (C10-C40) |
| 549 | 0.00-0.50 | 549 (0.00-0.15)<br>549 (0.15-0.50) | Argillaceous material + Organic matter, Copper (Cu)<br>Zinc (Zn) |
| 528a-4 | 1.25-1.75 | 528a (1.25-1.75) | Argillaceous material + Organic matter, Copper (Cu) |
| **Groundwater** | | | |
| 009-1-2 | 5.00-6.00 | 009 (5.00-6.00) | Iron Package, Manganese (Mn), Nitrate, Nitrite, Chloride, Sulphide Free, Sulphate Total (measured as S), VOCL (11), Methane, Ethane and Ethylene, DOC |
| 019-1-2 | 2.00-3.00 | 019 (2.00-3.00) | Iron Package, Manganese (Mn), Nitrate, Nitrite, Chloride, Sulphide Free, Sulphate Total (measured as S), VOCL (11), Methane, Ethane and Ethylene, DOC |
| 041a-1-2 | 1.80-2.80 | 041a (1.80-2.80) | Iron Package, Manganese (Mn), Nitrate, Nitrite, Chloride, Sulphide Free, Sulphate Total (measured as S), VOCL (11), Methane, Ethane and Ethylene, DOC |
| 154-1-2 | 0.80-2.80 | 154 (0.80-2.80) | Iron Package, Manganese (Mn), Nitrate, Nitrite, Chloride, Sulphide Free, Sulphate Total (measured as S), VOCL (11), Methane, Ethane and Ethylene, DOC |
| a4-1-2 | 2.00-3.00 | a4 (2.00-3.00) | Iron Package, Manganese (Mn), Nitrate, Nitrite, Chloride, Sulphide Free, Sulphate Total (measured as S), VOCL (11), Methane, Ethane and Ethylene, DOC |
| 1002-3-1-1 | 9.00-10.00 | 1002-3 (9.00-10.00) | VOCL (11) |
| 1002-1-1-1 | 2.00-3.00 | 1002-1 (2.00-3.00) | VOCL (11) |
| 1003-3-1-1 | 9.00-10.00 | 1003-3 (9.00-10.00) | VOCL (11) |
| 1003-2-1-1 | 5.00-6.00 | 1003-2 (5.00-6.00) | VOCL (11) |
| 1003-1-1-1 | 2.00-3.00 | 1003-1 (2.00-3.00) | VOCL (11) |
| 1004-3-1-1 | 9.00-10.00 | 1004-3 (9.00-10.00) | VOCL (11) |
| 1004-2-1-1 | 5.00-6.00 | 1004-2 (5.00-6.00) | VOCL (11) |
| 1004-1-1-1 | 2.00-3.00 | 1004-1 (2.00-3.00) | VOCL (11) |
| 1005-3-1-1 | 9.00-10.00 | 1005-3 (9.00-10.00) | VOCL (11) |
| 1005-2-1-1 | 5.00-6.00 | 1005-2 (5.00-6.00) | VOCL (11) |
| 1005-1-1-1 | 2.00-3.00 | 1005-1 (2.00-3.00) | VOCL (11) |
| 1006-3-1-1 | 9.00-10.00 | 1006-3 (9.00-10.00) | VOCL (11) |
| 1006-2-1-1 | 5.00-6.00 | 1006-2 (5.00-6.00) | VOCL (11) |
| 1006-1-1-1 | 2.00-3.00 | 1006-1 (2.00-3.00) | VOCL (11) |
| 1007-1-1-1 | 2.00-3.00 | 1007-1 (2.00-3.00) | VOCL (11) |
| 1007-2-1-1 | 5.00-6.00 | 1007-2 (5.00-6.00) | VOCL (11) |
| 1007-3-1-1 | 9.00-10.00 | 1007-3 (9.00-10.00) | VOCL (11) |
| 1008-1-1-1 | 2.00-3.00 | 1008-1 (2.00-3.00) | VOCL (11) |
| 1008-2-1-1 | 5.00-6.00 | 1008-2 (5.00-6.00) | VOCL (11) |
| 1008-3-1-1 | 9.00-10.00 | 1008-3 (9.00-10.00) | VOCL (11) |
| 1009-1-1-1 | 2.00-3.00 | 1009-1 (2.00-3.00) | VOCL (11) |
| 1009-2-1-1 | 5.00-6.00 | 1009-2 (5.00-6.00) | VOCL (11) |
| 1009-3-1-1 | 9.00-10.00 | 1009-3 (9.00-10.00) | VOCL (11) |
| 1010-1-1-1 | 2.00-3.00 | 1010-1 (2.00-3.00) | VOCL (11) |
| 1010-2-1-1 | 5.00-6.00 | 1010-2 (5.00-6.00) | VOCL (11) |
| 1010-3-1-1 | 9.00-10.00 | 1010-3 (9.00-10.00) | VOCL (11) |
| 1011-1-1-1 | 2.00-3.00 | 1011-1 (2.00-3.00) | VOCL (11) |
| 1011-2-1-1 | 5.00-6.00 | 1011-2 (5.00-6.00) | VOCL (11) |
| 1011-3-1-1 | 9.00-10.00 | 1011-3 (9.00-10.00) | VOCL (11) |
| 1012-1-1-1 | 5.00-6.00 | 1012-2 (5.00-6.00) | VOCL (11) |
| 1012-1-1-2 | 2.00-3.00 | 1012-1 (2.00-3.00) | VOCL (11) |
| 1012-3-1-1 | 9.00-10.00 | 1012-3 (9.00-10.00) | VOCL (11) |
| 1013-1-1-1 | 2.00-3.00 | 1013-1 (2.00-3.00) | VOCL (11) |
| 1013-2-1-1 | 5.00-6.00 | 1013-2 (5.00-6.00) | VOCL (11) |
| 1013-3-1-1 | 9.00-10.00 | 1013-3 (9.00-10.00) | VOCL (11) |

| Sample name | Range (m BGL) | Sample composition (measuring point + range in m BGL) | Laboratory analysis |
|---|---|---|---|
| 1014-1-1-1 | 2.00-3.00 | 1014-1 (2.00-3.00) | VOCL (11) |
| 1014-2-1-1 | 5.00-6.00 | 1014-2 (5.00-6.00) | VOCL (11) |
| 1014-3-1-1 | 9.00-10.00 | 1014-3 (9.00-10.00) | VOCL (11) |
| 1015-1-1-1 | 2.00-3.00 | 1015-1 (2.00-3.00) | VOCL (11) |
| 1015-2-1-1 | 5.00-6.00 | 1015-2 (5.00-6.00) | VOCL (11) |
| 1015-3-1-1 | 9.00-10.00 | 1015-3 (9.00-10.00) | VOCL (11) |
| 41-1-3 | 0.00-0.00 | 42 (0.00-0.00) | Mineral oil (C10-C40) |
| 501-1-1 | 1.90-2.90 | 501 (1.90-2.90) | Mineral oil (C10-C40) |
| OBAS-1-1 | 0.00-0.00 | OBAS (0.00-0.00) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 502-1-1 | 1.90-2.90 | 502 (1.90-2.90) | Mineral oil (C10-C40) |
| 503-1-1 | 0.00-0.00 | 503 (0.00-0.00) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 97-1-1 | 0.00-0.00 | 97 (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 504-1-1 | 1.20-2.20 | 504 (1.20-2.20) | Mineral oil (C10-C40) |
| 506-1-1 | 1.70-2.70 | 506 (1.70-2.70) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 508-1-1 | 1.70-2.70 | 508 (1.70-2.70) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 507-1-1 | 1.70-2.70 | 507 (1.70-2.70) | VOCL (11) + Vinyl chloride |
| 509-1-1 | 1.70-2.70 | 509 (1.70-2.70) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 510-1-1 | 1.70-2.70 | 510 (1.70-2.70) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 511-1-1 | 1.50-2.50 | 511 (1.50-2.50) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 513-1-1 | 1.50-2.50 | 513 (1.50-2.50) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 515-1-1 | 1.60-2.60 | 515 (1.60-2.60) | VOCL (11) + Vinyl chloride<br>Mineral oil (C10-C40) |
| 1020-3-1-1 | 9.00-10.00 | 1020(10m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1020-2-1-1 | 5.00-6.00 | 1020(6m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1020-1-1-1 | 2.00-3.00 | 1020(3m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1018-1-1-1 | 2.00-3.00 | 1018(3m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1018-2-1-1 | 5.00-6.00 | 1018(6m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1018-3-1-1 | 9.00-10.00 | 1018(10m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1019-3-1-1 | 9.00-10.00 | 1019(10m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1019-2-1-1 | 5.00-6.00 | 1019(6m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1019-3-1-1 | 9.00-10.00 | 1019(3m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1017-1-1-1 | 2.00-3.00 | 1017(3m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1017-3-1-1 | 9.00-10.00 | 1017(10m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1017-2-1-1 | 5.00-6.00 | 1017(6m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1016-3-1-1 | 9.00-10.00 | 1016(10m) (0.00-0.00) | VOCL (11) + Vinyl chloride |
| 1016-2-1-1 | 5.00-6.00 | 1016(6m) (0.00-0.00) | VOCL (11) + Vinyl chloride |

**Explanatory notes**
1: For the composition of the standard package, see the appendix 'Explanatory notes on soil surveys'.

## 4.2 Soil Protection Act (Wbb) reference framework

The tested analysis results of the examined ground and groundwater samples are shown in appendices 3, 4 and 5. The analysis certificates are added in appendix 8. The results are tested against the current background, target and intervention values from the Soil Quality Act and the Circular Soil Remediation . BOTOVA validated software has been used for this. The background / target and intervention values are included in Appendix 6. An explanation of the testing framework is included in Appendix 7. A sample can meet the background value, while a substance within the sample exceeds the background value (Soil Quality Act, Art. 4.2. 2).

In the text, the term 'increased' will be used at levels higher than the background or target values and lower than the intervention values. The term 'strongly increased' is used at levels higher than or equal to the intervention values. An index is also included with the tested values. This index is calculated as follows: Index = (GSSD - AW) / (I - AW).

A negative value for the index means that the standardized measurement value (= GSSD) is lower than the background value (= AW). With an index above 1, the standardized measured value is above the intervention value (= I). An index between 0 and 0.5 means that the standardized measured value is (far) below the intervention value. An index between 0.5 and 1 means that the standardized measurement value is (close) to the intervention value.

## 4.3 Analysis Results - Soil

The following table represents the parameters exceeding the relevant background or intervention values.

The table also includes the indicative referencing to the Dutch Soil Quality Decree (BBK).

Table 4.2: Analysis Results - Soil

| **Sample** (m BGL) | **Drilling** (m BGL) | **Observation** | **Exceedances** | | | **Conclusion sample(**)** |
|---|---|---|---|---|---|---|
| | | | **> AW** (i <= 0.5) slight | **> AW & <= I** (0.5 < i <= 1) moderate | **> I** (i > 1) strong | |
| *Mapping of oil contamination in borehole a5, buildings Y17/Y18* | | | | | | |
| 500-2 (0.60-1.00) | 500 (0.60-1.00) | PID 0 | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 501-2 (0.60-1.10) | 501 (0.60-1.10) | PID 0 | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 502-2 (0.60-1.00) | 502 (0.60-1.00) | PID 0 | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 503-2 (0.50-1.00) | 503 (0.50-1.00) | PID 0 discontinued on concrete | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 515-4 (1.30-1.50) | 515 (1.30-1.50) | slight oil-water reaction | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 515-6 (2.00-2.50) | 515 (2.00-2.50) | - | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 1016_N-4 (1.50-2.00) | 1016_N (1.50-2.00) | slight oil-water reaction, strong diesel odour, diameter=100 | - | Mineral oil | - | Wbb: Exceeding background value, BBK: Not applicable > Industry |
| *Mapping of oil contamination at location 'bfoto3', building Y7* | | | | | | |
| 504-6 (0.60-0.80) | 504 (0.60-0.80) | strong oil-water reaction, PID=0 | - | - | Mineral oil | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 505-3 (1.10-1.30) | 505 (1.10-1.30) | moderate oil-water reaction | - | - | Mineral oil | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 505-4 (1.30-1.80) | 505 (1.30-1.80) | - | Mineral oil | - | - | Wbb: Exceeding background value, BBK: Not applicable > Industry |
| 506-3 (0.80-1.30) | 506 (0.80-1.30) | chunks of rubble | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 507-3 (0.90-1.40) | 507 (0.90-1.40) | moderately rubbly | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 508-3 (0.70-1.20) | 508 (0.70-1.20) | moderately rubbly | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 509-3 (1.20-1.70) | 509 (1.20-1.70) | slight oil-water reaction, oil-water reaction layered | - | - | Mineral oil | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 509-5 (2.00-2.30) | 509 (2.00-2.30) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| Grit 2-1 (0.00-0.01) | Grit 2 (0.00-0.01) | Grit on floor, Y7 | - | - | Mineral oil | |
| *Mapping of oil contamination at building Y34 ('NAPL layer')* | | | | | | |

| Sample (m BGL) | Drilling (m BGL) | Observation | Exceedances | | | Conclusion sample(**) |
|---|---|---|---|---|---|---|
| | | | > AW (i <= 0.5) slight | > AW & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| 510-4 (1.20-1.70) | 510 (1.20-1.70) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 511-4 (1.00-1.50) | 511 (1.00-1.50) | - | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 513-3 (1.10-1.60) | 513 (1.10-1.60) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| *Mapping of heavy metals (immobile contaminants)* | | | | | | |
| 516-1 (0.10-0.60) | 516 (0.10-0.60) | - | Mineral oil, zinc, mercury, lead, PAH | - | - | Wbb: Exceeding background value, BBK: Not applicable > Industry |
| 518-1 (0.08-0.58) | 518 (0.08-0.58) | - | PCB, cobalt, cadmium, mercury | zinc | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 525-2 (0.20-0.70) | 525 (0.20-0.70) | strongly slaggy | PCB, cobalt, zinc, mercury, molybdenum, lead | cadmium | nickel, copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 526-2 (0.20-0.50) | 526 (0.20-0.50) | - | copper | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 527-1 (0.00-0.35) | 527 (0.00-0.35) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 528-1 (0.00-0.50) | 528 (0.00-0.50) | slightly rubbly and bricky | - | - | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 529-1 (0.00-0.50) | 529 (0.00-0.50) | slightly rubbly and bricky | - | copper | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 533-1 (0.00-0.50) | 533 (0.00-0.50) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 534-1 (0.00-0.50) | 534 (0.00-0.50) | strongly slaggy | zinc | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 535-1 (0.09-0.30) | 535 (0.09-0.30) | slightly bricky, rubbly and slaggy | PCB, Mineral oil, cobalt, zinc, molybdenum, cadmium, mercury, lead, PAH | - | nickel, copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| MM01 (0.15-0.45) | 536 (0.20-0.45), 537 (0.15-0.40), 538 (0.20-0.45) | Traces of rubble/slightly rubbly, granulate-only, strongly slaggy, Lava/slags. Concrete cement-only | PCB, Mineral oil, cobalt, copper, zinc, molybdenum, PAH | nickel | - | Wbb: Exceeding background value, BBK: quality class Industry |
| MM02 (0.40-0.70) | 536 (0.45-0.70), 537 (0.40-0.60), 538 (0.45-0.60) | - | Mineral oil, zinc, cadmium, PAH | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| MM04 (0.00-0.50) | 524 (0.00-0.30), 524 (0.30-0.50) | - | PCB, nickel, copper, zinc, cadmium, lead | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| MM05 (0.12-0.65) | 517 (0.12-0.35), 517 (0.35-0.65) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 535-2 (0.30-0.60) | 535 (0.30-0.60) | - | cobalt, zinc, molybdenum | nickel, copper | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 525a-3 (0.70-1.00) | 525a (0.70-1.00) | - | zinc | - | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 528a-2 (0.50-1.00) | 528a (0.50-1.00) | slightly rubbly and bricky | - | - | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 528a-3 (1.00-1.25) | 528a (1.00-1.25) | slightly rubbly and bricky | - | - | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |

| Sample (m BGL) | Drilling (m BGL) | Observation | Exceedances | | | Conclusion sample(**) |
|---|---|---|---|---|---|---|
| | | | > AW (i <= 0.5) slight | > AW & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| 528a-4 (1.25-1.75) | 528a (1.25-1.75) | - | copper | - | | Wbb: Exceeding background value, BBK: quality class Industry |
| 543-2 (0.30-0.65) | 543 (0.30-0.65) | - | zinc | copper | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 544-1 (0.00-0.50) | 544 (0.00-0.50) | - | copper, zinc | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 545 (0.08-0.60) | 545 (0.08-0.20), 545 (0.20-0.60) | - | zinc | copper | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 547-1 (0.00-0.50) | 547 (0.00-0.50) | slightly rubbly and slightly woody | zinc | copper | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 548-2 (0.20-0.40) | 548 (0.20-0.40) | strongly granulated | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 549 (0.00-0.50) | 549 (0.00-0.15), 549 (0.15-0.50) | - | copper, zinc | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 550-1 (0.00-0.50) | 550 (0.00-0.50) | slightly rubbly, traces of coaldust | - | - | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 551-1 (0.08-0.58) | 551 (0.08-0.58) | - | PCB, cobalt, nickel, zinc, cadmium, mercury, lead | Mineral oil | copper | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| *Verification and mapping of PCB contamination of topsoil at building Y40* | | | | | | |
| 519-1 (0.08-0.58) | 519 (0.08-0.58) | - | PCB | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 520-2 (0.20-0.45) | 520 (0.20-0.45) | granulate-only | - | PCB | - | Wbb: Exceeding background value, BBK: Not applicable > Industry |
| 521-1 (0.15-0.40) | 521 (0.15-0.40) | granulate-only | PCB | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 522-1 (0.15-0.45) | 522 (0.15-0.45) | granulate-only | PCB | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 523-1 (0.10-0.60) | 523 (0.10-0.60) | - | PCB | - | - | Wbb: Exceeding background value, BBK: Quality class Residential |
| *Verification and mapping of PCB contamination of topsoil at building Y9* | | | | | | |
| MM03 (0.08-0.60) | 530 (0.08-0.30), 530 (0.30-0.60) | - | - | - | PCB | Wbb: Exceeding intervention value, BBK: Not applicable > Intervention Value |
| 531-1 (0.12-0.62) | 531 (0.12-0.62) | - | PCB | - | - | Wbb: Exceeding background value, BBK: Quality class Residential |
| 532-1 (0.08-0.58) | 532 (0.08-0.58) | - | PCB | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 530a-3 (0.60-1.10) | 530a (0.60-1.10) | - | PCB | - | - | Wbb: Exceeding background value, BBK: Quality class Residential |
| 541-1 (0.00-0.50) | 541 (0.00-0.50) | - | PCB | - | - | Wbb: Exceeding background value, BBK: quality class Industry |
| 542-1 (0.08-0.30) | 542 (0.08-0.30) | - | PCB | - | - | Wbb: Exceeding background value, BBK: Quality class Residential |
| *Asbestos survey at building Y2 (clinker pavement)* | | | | | | |
| AMM01 (0.14-0.45) | 536 to 540 | Traces of rubble/slightly rubbly, granulate-only, strongly slaggy, Lava/slags. Concrete cement-only | - | - | - | Wbb: Not referenced, BBK: Not referenced |
| *Survey of VOCL contamination at potential source location, building Y17* | | | | | | |
| 1016_N-16 (7.50-8.00) | 1016_N (7.50-8.00) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |

| Sample (m BGL) | Drilling (m BGL) | Observation | Exceedances | | | Conclusion sample(**) |
|---|---|---|---|---|---|---|
| | | | > AW (i <= 0.5) slight | > AW & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| 1017-19 (9.00-9.50) | 1017 (9.00-9.50) | - | - | - | - | Wbb: Complies with background value, BBK: Complies with background value |
| 1018-3 (1.00-1.50) | 1018 (1.00-1.50) | strong chemical odour | Mineral oil | - | - | Wbb: Exceeding background value, BBK: quality class Industry |

**Explanatory notes**

- : No observation/no exceedance
AW, I, i : AW = background value ("*achtergrondwaarde*"), I = intervention value, i = index, see annex 'Explanatory notes on soil surveys' for explanations of AW, I and index
* : No index to be determined due to lack of background or intervention value
** : Whilst a sample can comply with the background value, a substance within the sample may exceed the background value (Dutch Soil Quality Regulation, art. 4.2.2)

Below, the analysis results are discussed per component/site section.

*Mapping of oil contamination in borehole a5, buildings Y17/Y18*

Some fuel-related observations were made in the soil. The soil with a weak oil-water reaction and strong diesel odour (borehole 1016, 1.5-2.0m BGL) contains moderately increased levels of mineral oil. In borehole 515 (immediately adjacent to 1016) a lightly increased mineral oil level was measured in the subsoil (2.0-2.5m BGL). Around borehole a5, a mineral oil level in the analysed soil was measured that was not or lightly increased, which delineates the soil contamination.

*Mapping of oil contamination at bfoto3 borehole, building Y7*

Some fuel-related observations were made in the soil. In boreholes 504 (located next to 'bfoto3' borehole), 505 and 509, strongly increased mineral oil levels were measured between approximately 0.6 and 1.3 to 2.0m BGL. In the surrounding boreholes (all outside the building), at most lightly increased levels of mineral oil were measured. Underneath the building, this contamination is bounded by a basement at a distance of about 3m from the facade. Based on this, the soil contamination with mineral oil has been delineated. The C-chain distribution corresponds to that measured in the Grit 2 sample. This sample concerns an oil absorbent and was collected indoors.

*Mapping of oil contamination at building Y34 ('NAPL layer')*

In the soil samples from the boreholes around monitoring tube 41, at most lightly increased levels of mineral oil were read. No borings were carried out along the side of the building because the concrete floor could not be penetrated (> 50cm thick; discontinued several times). Based on the expected westerly/northwesterly flow direction of the groundwater, an additional borehole, no. 514, was placed. In this borehole no fuel-related observations were made, which roughly delineates the oil contamination in the soil.

*Mapping of heavy metals (immobile contaminants)*

In the various soil samples, not increased to strongly increased levels of various heavy metals (mainly copper and, locally, nickel) were read. The measured levels can be related to the admixtures found. Also, the strong contamination is locally present in the subsoil. In the soil samples from boreholes 516, 517, 518, 524, 526, 528a, 529, 543, 544 and 548, not increased to moderately increased levels of heavy metals were measured. Because these contaminants are immobile in nature and no significant earth movement has taken place, the older analysis results are still considered to be normative. Based on all analysis results and field observations, the strong contamination of the soil with heavy metals is roughly delineated. Within this delineation, it can be stated that the contaminations are heterogeneous in nature and partly coincide with the asbestos contamination underneath buildings Y5 and Y9 and the previously demonstrated immobile contaminations with mineral oil in the topsoil.

*Verification and mapping of PCB contamination of topsoil at building Y40*

During a previous survey (Haskoning, 2020), a strongly increased PCB level was measured in a composite sample from the topsoil. Verification boreholes drilled on site (numbers 520 and 523) show that the topsoil of borehole 520 contains a moderately increased level of PCB, and that of borehole 523 a lightly increased level. In the surrounding boreholes, not increased to lightly increased levels of PCB were measured. Based on the verification, it can be stated that additional analyses of the composite sample have shown that no to moderate contamination with PCB is concerned there, and that a strong contamination, if any, will be very limited in volume.

*Verification and mapping of PCB contamination of topsoil at building Y9*
During a previous survey (Haskoning, 2008), a strongly increased PCB level was measured in a composite sample from the topsoil. The on-site verification boreholes (boreholes 530, 531 and 532) show that a strongly increased level of PCB was measured in the topsoil of borehole 530. In the other two boreholes, surrounding boreholes and in the subsoil (530a), lightly increased PCB levels were measured, which delineates the strong contamination in the soil.

*Asbestos survey at building Y2 (clinker pavement)*
In the composite sample from the layer containing rubble, granulate (Repac), slag and concrete underneath building Y1, no asbestos has been demonstrated either sensorily or analytically.

*Survey of VOCL contamination at potential source location, building Y17*
No increased levels of VOCL were measured in the deeper subsoil near the potential source location. In addition, a lightly increased mineral oil level was measured in the plume zone (borehole 1018; strong chemical odour).

## 4.4 Analysis Results - Groundwater

The following table represents the parameters exceeding the relevant target or intervention values.

Table 4.3: Analysis Results - Groundwater

| Sample | Monitoring tube (filter, m BGL) | Exceedances | | | Conclusion sample |
|---|---|---|---|---|---|
| | | > S (i <= 0.5) slight | > S & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| *Mapping of VOCL contamination of groundwater* | | | | | |
| 1002-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1002-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1003-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1003-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1003-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1004-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1004-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1004-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1005-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1005-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1005-1-1-1 | 1 (2.00 - 3.00) | total dichloroethene isomers, vinyl chloride | - | - | Exceeds target value |
| 1006-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1006-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1006-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1007-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1007-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1007-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1008-1-1-1 | 1 (2.00 - 3.00) | total dichloroethene isomers | - | - | Exceeds target value |
| 1008-2-1-1 | 1 (5.00 - 6.00) | vinyl chloride | - | - | Exceeds target value |
| 1008-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1009-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1009-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1009-3-1-1 | 1 (9.00 - 10.00) | 1,1-dichloroethane | - | total dichloroethene isomers, vinyl chloride | Exceeds intervention value |

| Sample | Monitoring tube (filter, m BGL) | Exceedances | | | Conclusion sample |
|---|---|---|---|---|---|
| | | > S (i <= 0.5) slight | > S & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| 1010-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1010-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1010-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1011-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1011-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1011-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1012-1-1-1 | 1 (5.00 - 6.00) | trichloroethene | 1,1-dichloroethane | total dichloroethene isomers, tetrachloroethene | Exceeds intervention value |
| 1012-1-1-2 | 1 (2.00 - 3.00) | total dichloroethene isomers, tetrachloroethene | - | - | Exceeds target value |
| 1012-3-1-1 | 1 (9.00 - 10.00) | 1,1-dichloroethane, tetrachloroethene | - | total dichloroethene isomers | Exceeds intervention value |
| 1013-1-1-1 | 1 (2.00 - 3.00) | trichloroethene | tetrachloroethene | total dichloroethene isomers, vinyl chloride | Exceeds intervention value |
| 1013-2-1-1 | 1 (5.00 - 6.00) | - | - | total dichloroethene isomers, 1,1-dichloroethane, trichloroethene, vinyl chloride, tetrachloroethene | Exceeds intervention value |
| 1013-3-1-1 | 1 (9.00 - 10.00) | 1,1-dichloroethane | - | total dichloroethene isomers, trichloroethene, tetrachloroethene | Exceeds intervention value |
| 1014-1-1-1 | 1 (2.00 - 3.00) | total dichloroethene isomers, tetrachloroethene | - | - | Exceeds target value |
| 1014-2-1-1 | 1 (5.00 - 6.00) | total dichloroethene isomers, tetrachloroethene | - | - | Exceeds target value |
| 1014-3-1-1 | 1 (9.00 - 10.00) | total dichloroethene isomers, tetrachloroethene | - | - | Exceeds target value |
| 1015-1-1-1 | 1 (2.00 - 3.00) | total dichloroethene isomers, 1,1,1-trichloroethane | - | tetrachloroethene | Exceeds intervention value |
| 1015-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 515-1-1 | 1 (1.60 - 2.60) | total dichloroethene isomers, 1,1,1-trichloroethane, tetrachloroethene | - | - | Exceeds target value |
| 1016-2-1-1 | 1 (5.00 - 6.00) | total dichloroethene isomers, vinyl chloride | - | - | Exceeds target value |
| 1016-3-1-1 | 1 (9.00 - 10.00) | vinyl chloride | - | - | Exceeds target value |
| 1017-1-1-1 | 1 (2.00 - 3.00) | total dichloroethene isomers | - | - | Exceeds target value |
| 1017-3-1-1 | 1 (9.00 - 10.00) | vinyl chloride | - | - | Exceeds target value |
| 1017-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1018-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1018-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1018-3-1-1 | 1 (9.00 - 10.00) | 1,1-dichloroethane | - | total dichloroethene isomers, vinyl chloride | Exceeds intervention value |
| 1019-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1019-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1019-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 1020-3-1-1 | 1 (9.00 - 10.00) | - | - | - | Complies with target value |
| 1020-2-1-1 | 1 (5.00 - 6.00) | - | - | - | Complies with target value |
| 1020-1-1-1 | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| OBAS-1-1 | 1 (0.00 - 0.00) | - | - | - | Complies with target value |
| 97-1-1 | 1 (0.00 - 0.00) | - | - | - | Complies with target value |
| *Mapping of oil contamination in borehole a5, buildings Y17/Y18* | | | | | |
| 501-1-1 | 1 (1.90 - 2.90) | - | - | Mineral oil | Exceeds intervention value |
| 502-1-1 | 1 (1.90 - 2.90) | - | - | - | Complies with target value |
| 503-1-1 | 1 (1.90-2.90) | total dichloroethene isomers | - | - | Exceeds target value |
| *Mapping of oil contamination at location 'bfoto3', building Y7* | | | | | |
| 504-1-1 | 1 (1.20 - 2.20) | Mineral oil | - | - | Exceeds target value |

| Sample | Monitoring tube (filter, m BGL) | Exceedances | | | Conclusion sample |
|---|---|---|---|---|---|
| | | > S (i <= 0.5) slight | > S & <= I (0.5 < i <= 1) moderate | > I (i > 1) strong | |
| 506-1-1 | 1 (1.70 - 2.70) | Mineral oil, total dichloroethene isomers, vinyl chloride | - | - | Exceeds target value |
| 508-1-1 | 1 (1.70 - 2.70) | vinyl chloride | - | - | Exceeds target value |
| 507-1-1 | 1 (1.70 - 2.70) | total dichloroethene isomers, vinyl chloride | - | - | Exceeds target value |
| 509-1-1 | 1 (1.70 - 2.70) | total dichloroethene isomers, vinyl chloride | - | - | Exceeds target value |
| *Mapping of oil contamination at building Y34 ('NAPL layer')* | | | | | |
| 41-1-3* | 1 (2.00 - 3.00) | - | - | - | Complies with target value |
| 510-1-1 | 1 (1.70 - 2.70) | - | - | - | Complies with target value |
| 511-1-1 | 1 (1.50 - 2.50) | - | - | - | Complies with target value |
| 513-1-1 | 1 (1.50 - 2.50) | - | - | - | Complies with target value |

**Explanatory notes**

- : No exceedance

S, I, i : S = target value ("*streefwaarde*"), I = intervention value, i = index, see annex 'Explanatory notes on soil surveys' for explanations of S, I and index

* concerns monitoring tube 41 repositioned by Haskoning to approximately 5 metres from the original monitoring tube 41 (from the 1995 survey) and the NAPL layer.

Below, the analysis results are discussed per component/site section.

*Mapping of VOCL contamination of groundwater*

The analysis results show that at the former remediation location near (former) buildings Y17 and Y18 at most lightly increased levels of VOCL were measured (monitoring tubes 515 and 1016). No VOCLs were measured in the water from the local oil-petrol separator. In monitoring tube 1017, situated between the (former) buildings Y17 and Y18 and monitoring tubes 1012, 1013 and a4, at most lightly increased levels of dichloroethenes or vinyl chloride were measured.

In monitoring tubes 1012 and 1013, placed near location a4 where a strong groundwater contamination with PER (tetrachloroethene) was measured in the 2020 survey, strong contaminations with dichloroethenes, 1,1-dichloroethane, trichloroethene, PER and/or vinyl chloride (vinyl chloride; vc) were measured down to 10m BGL. Based on the levels measured, this is pure product.

Downstream, in monitoring tubes 1009 and 1018 (at about 1m from the western boundary of the plot), strong contaminations with dichloroethenes and vinyl chloride and a lightly increased level of 1,1-dichloroethane were measured at 9-10m BGL.

In the eastern section of the site under review, a strongly increased level of PER was measured in monitoring tube 1015 in the groundwater at 2-3 m BGL. In the monitoring tubes with filter depths of 5-6 and 9-10m BGL, no increased levels of VOCL were measured.

In the other groundwater samples that were analyzed (1014, 504 to 509 from the eastern section of the site and 1002 to 1008, 1010, 1011, 1019 and 1020 from the western section of the site), at most lightly increased levels of VOCL were measured.

*Mapping of oil contamination in borehole a5, buildings Y17/Y18*

In groundwater from monitoring tubes 515, 502 and 503 (around a5 from the exploratory survey), no increased levels of mineral oil were measured. A strong groundwater contamination with mineral oil was measured in monitoring tube 501.

*Mapping of oil contamination at location 'bfoto3', building Y7*

The analysis results show that the groundwater at the 'bfoto3' location contains at most lightly increased levels of mineral oil and some VOCLs. Therefore, there is no substantial groundwater contamination at that location.

*Mapping of oil contamination at building Y34 ('NAPL layer')*

In the surrounding monitoring tubes, no NAPL layer was found and the analyses showed no mineral oil or VOCL. The strong oil contamination along with NAPL layer in the groundwater (in monitoring tube 41 from the 1995 survey) has been sufficiently delineated based on field observations and analysis results.

## 4.5 Investigation into biological degradation

In September 2020, groundwater was analysed for a number of macro parameters that are normative for monitoring conditions for on-site natural degradation (see Table 4.4).

Table 4.4: Analysis results for biological degradation (groundwater)

| Parameter | Unit | 9 (5.0-6.0) | A4 (2.0-3.0) | 19 (2.0-3.0) | 154 (0.8-2.8) | 41 (1.8-2.8) |
|---|---|---|---|---|---|---|
| pH | | 6.2 | 6.9 | 7.2 | 7.8 | 7.0 |
| Conductivity | µS/cm | 2020 | 650 | 1550 | 870 | 698 |
| Oxygen* | mg/l | 10.3 | 11.6 | 11.5 | 10.2 | - |
| Redox | mV | 0.7 | -34.3 | -310 | -91.7 | - |
| Iron (total) | mg/l | 64 | 5.1 | 21 | 0.14 | 30 |
| Iron (2+) | mg/l | 61 | 5 | 19 | 0.15 | 30 |
| Iron (3+) | mg/l | 2.9 | 0.05 | 2.4 | <0.05 | <0.05 |
| Sulphate | mg/l | 7.9 | 6 | 5.6 | 38 | < 3 |
| Sulphide | mg/l | <0.05 | <0.05 | <0.05 | <0.05 | 0.58 |
| DOC | mg/l | 21 | 4 | 16 | 6.4 | 12 |
| Ethene | µg/l | 370 | < 2 | < 2 | < 2 | < 2 |
| Ethane | µg/l | 870 | 10 | < 2 | < 2 | < 2 |
| Methane | µg/l | 4,500 | 1,300 | 1,900 | < 2 | 1,400 |

* probably a reading error (factor 100)

Degradation of VOCL requires substrate in addition to good conditions. Measurements show that the soil contains sufficient dissolved organic carbon (DOC) to serve as a substrate. The measured levels are likely to be partly related to the heterogeneously occurring contaminations with mineral oil. In all cases the acidity (pH) is well within 5.5 and 8.5, which is a prerequisite for natural degradation.

The measured oxygen concentrations are extremely high and are probably reading errors. The redox values suggest reducing anaerobic conditions in the soil. Practically, iron (2+) represents the total amount of iron in the groundwater, resulting in iron-reducing conditions. In addition, sulphate concentrations are below 10mg/l, which suggests sulphate-reducing conditions.

In 4 of the 5 groundwater samples, a methane level of > 1mg/l was measured, which, together with the reduction of sulphate, suggests methanogenic conditions. Incidentally, this is also partly caused by the breakdown of organic matter and to a lesser extent by the breakdown of VOCL (monitoring tube 19). Monitoring tube 9 (5-6m BGL) clearly represents methanogenic conditions caused by strong biological degradation.

Based on the measured values, it appears that good conditions for biological degradation exist at the location. This is also shown by the measured levels of cis-1,2-dichloroethene and vinyl chloride in the plume zone. In the source zone, the measured concentrations are so high that biological degradation is expected to be more difficult over there.

# 5 Overview of contamination situation

The contamination situation is shown on drawings 465250.100-S3 through to -S11 and -S13.

*Oil contamination in borehole 13, building Y1*
In the exploratory survey of June 2020, a strong oil contamination was measured in borehole 13 from 0.1 to 1.5m BGL. No oil contamination was present at 1.5m BGL. The local groundwater is at most lightly contaminated with mineral oil.
At the location of this contamination, clear oil stains on the pavement (clinkers) are visible. On the basis of the analysis results and the oil stains on the pavement found in the field, the extent of the strong soil contamination is estimated at approximately 15m³ (10 m² x 1,5m).

*Oil contamination in borehole a5, buildings Y17/Y18*
In the exploratory survey of June 2020, a strong oil contamination was measured in borehole a5 from 0.7 to 0.9m BGL. A slight oil contamination was present at 1.5m BGL. In the present survey, at most slight oil contaminations were measured in the surrounding boreholes (500 to 503; 0.5 to 1.1m BGL. The strong soil contamination with mineral oil is thus delineated and is estimated to be less than 10m³.
No mineral oil was measured in the groundwater from monitoring tube a5. Approximately 5m to the west, a strong oil contamination was identified in the groundwater from monitoring tube 501. This contamination is probably related to the high level of soil contamination in a5 and, given the results for monitoring tubes a5, 502 (2020 survey) and 97 (2019 survey), is expected to be limited in volume.

Fuel-related observations were also made at about 20m southeast of borehole a5 (boreholes 515 and 1016). Analysis results show that this soil has at most a moderately increased level of mineral oil.

*Oil contamination at bfoto3 borehole, building Y7*
Some fuel-related observations were made in the soil over there. In boreholes 504 (located next to 'bfoto3' borehole), 505 and 509, strongly increased mineral oil levels were measured between approximately 0.6 and 1.3 to 2.0m BGL. In the surrounding boreholes outside the building, at most lightly increased levels of mineral oil were measured. In the building, this contamination is bounded by a basement at a distance of about 3m from the facade. Based on this, the soil contamination with mineral oil has been delineated both horizontally and vertically. Based on the field observations and analysis results, the volume of this soil contamination is estimated at approximately 15m³ (20m² x 0.75m).

The local groundwater is at most lightly contaminated with mineral oil.

*Oil contamination at building Y34 ('NAPL layer')*
During the exploratory survey of June 2020, a strong oil contamination was measured in borehole 41 (1.4-2.6m BGL). At 2.6m BGL, a moderate contamination was present. In the present survey, at most slight oil contaminations were measured in the surrounding boreholes (510, 511 and 513). No borings were carried out along the side of the building because the concrete floor could not be penetrated (> 50cm thick; discontinued several times). Based on the expected westerly/northwesterly flow direction of the groundwater, an additional borehole, no. 514, was placed. In this borehole no fuel-related observations were made,
which delineates the heavy soil contamination with mineral oil, and the volume is estimated at approximately 30m³ (25m² x 1.2m).

In the groundwater from monitoring tube 41, an NAPL layer was found, and the groundwater contains a strong mineral oil contamination. In the surrounding monitoring tubes (510, 511, 41H and 513), at most lightly increased levels of mineral oil were measured. The groundwater contamination is thus sufficiently delineated and is expected to have roughly the same volume as

the soil contamination (approximately 30m³). Under the Soil Remediation Circular, an NAPL layer requires in principle urgent remediation. However, it can be sufficiently demonstrated that the contamination remains within the boundaries of the plot, and that there is little potential for spreading.

*Mapping of heavy metals (immobile contaminants)*
In various soil samples, not increased to strongly increased levels of various heavy metals (mainly copper and, locally, nickel) were read. The measured levels can, in part, be related to the admixtures found. Also, the strong contamination is locally present in the subsoil. In the soil samples from boreholes 516, 517, 518, 524, 526, 528a, 529, 543, 544 and 548, not increased to moderately increased levels of heavy metals were measured. Within the contour of this heterogeneous contamination with heavy metals, (immobile) strong contaminations with mineral oil and/or asbestos were also detected locally in the topsoil. Because these contaminants are immobile in nature and no significant earth movement has taken place, previous surveys are also considered to be representative.

The volume of the heavy metal contaminations in the topsoil is estimated at approximately 14,000m³ (18,750m² x 0.75m). Locally within this contour, there are also strong contaminations with asbestos and mineral oil.

*PCB contamination of topsoil at building Y40*
In a previous survey (Haskoning, 2020), a strongly increased PCB level was measured in a composite sample from the topsoil. Verification boreholes 520 and 523 show that in borehole 520 a moderately increased PCB level was measured, and in borehole 523 a lightly increased level. In the surrounding boreholes, no to lightly increased levels were measured. Based on the present survey, it can be stated that a not to moderately increased PCB level is concerned, and that any strong contamination will be very limited in volume.

*PCB contamination of topsoil at building Y9*
In a previous survey (Haskoning, 2008), a strongly increased PCB level was measured in a composite sample from the topsoil. The verification boreholes 530, 531 and 532 show that a strongly increased level of PCB was only measured in the topsoil of borehole 530. In the other two boreholes, the surrounding boreholes and in the subsoil (530a), lightly increased levels were measured, With this, the strong contamination in the soil is delineated and has a limited volume (estimated at 5m³ (10m² x 0.5m)).

*VOCL contaminations*
During the exploratory survey of June 2020, strong contaminations with VOCL were measured at three locations. The more detailed survey shows that two contamination cores are concerned.

In the central section of the site (monitoring tubes 1015, 41) a contamination with PER and cis-1,2-dichloroethene was identified in the shallow groundwater (2.0-3.0m BGL). In the nearby monitoring tubes bfoto5, 506 to 511 and 513, at most lightly increased levels of VOCL were measured. In the groundwater of 5 to 6m BGL and 9 to 10m BGL, no increased levels of VOCL were found. It is noted that at the former source area (tube 1015) only PER is found in relatively low levels (1,83 x I-value). The current levels of PER are comparable to the levels found in 1995. In tube 41 only the degradation product dichloroethene was found (1,85 X I-value). In all the tubes to the west and northwest, at most lightly increased levels of VOCL were measured very locally.
Based on this it can be stated that downstream degradation is already taking place and the contamination is sufficiently contoured on site. The volume of this VOCL contamination is estimated at approximately 5,000m³ (1,250m² x 4m).

In the southern section of the site, the phreatic monitoring tube a4 of the exploratory study of June 2020 showed a strong contamination with PER.

In monitoring tubes 1012 and 1013 (placed near the a4 location), strong contaminations with PER, TRI, dichloroethenes, 1,1-dichloroethane and/or vinyl chloride were measured down to 10m BGL. Pure product is concerned here. There is a distinct decrease in VOCL concentrations from 6 to 10m BGL. These monitoring tubes are located 4m outside building Y9, and a direct relationship with a possible local source is unclear.

The analysis results show that at the former remediation location near (former) buildings Y17 and Y18, the groundwater contains at most lightly increased levels of VOCL (monitoring tubes 515 and 1016). No VOCL was measured in the water from the local oil-petrol separator. In monitoring tube 1017, situated between the potential source location and monitoring tubes 1012, 1013 and a4, at most lightly increased levels of dichloroethenes or vinyl chloride were measured.
Downstream, near the western boundary, in monitoring tubes 1009 and 1018 (at about 1m from the western boundary of the plot), strong contaminations with dichloroethenes and vinyl chloride and a lightly increased level of 1,1-dichloroethane were measured at 9-10m BGL.

In the other analyzed groundwater samples, at most lightly increased levels of VOCL were measured very locally.

It is concluded that no clear former source can be identified for this VOCL contamination. It is clear however that the source is no longer present due to the fact that the activities have been stopped.
Furthermore there is a distinct decrease in VOCL concentrations from 6 to 10m BGL and in monitoring tubes 1009 and 1018 only degradation products are present. Due to the predominant groundwater flow direction in the deeper package (west-northwesterly) and the analytical results from the groundwater in de monitoring tubes on the western boundary it can be stated that the contamination is spread in a quite narrow area. Based on this spreading of the contamination in southerly direction is also expected to be limited.

Based on this, the volume of this VOCL contamination is estimated to be at least 25,000m³ (soil volume) of strongly contaminated groundwater (2,500m² x 10m). It is concluded that a case of serious groundwater contamination is present for which remediation measures are required.

# 6 Resume, conclusions and recommendations

On behalf of Panattoni Dutch Development Coöperatie U.A., Antea Group carried out a more detailed soil survey at the site Ringdijk 390 in Ridderkerk in the period from September to December 2020.

Reasons for the more detailed soil survey were the results of surveys carried out previously (in 2019 and 2020) and the contemplated redevelopment of the site. There are plans in place to remove the current buildings and develop logistics facilities on the site.

The goal of the survey is to record the size of the contaminations being present, and to determine to what extent remedial action will have to be undertaken with a view to the intended redevelopment.

## Results for soil and groundwater

A summary of the results is provided in Table 6.1.

Table 6.1: Overview results

| Site section/Component | Delineated | Estimated volume of strong soil contamination ($m^3$) | Estimated volume of strong groundwater contamination ($m^3$) |
|---|---|---|---|
| Contaminations with heavy metals, mineral oil and asbestos in topsoil | Yes | 14,000 | N/A |
| PCB contamination at building Y9 | Yes | 5 | N/A |
| PCB contamination at building Y40 | Yes | At most moderately contaminated | N/A |
| Strong subsoil contamination with oil, bfoto3 location, building Y7 | Yes | 15 | N/A |
| Strong subsoil contamination with oil, drilling 13, building Y1 | Yes | 15 | N/A |
| Strong soil and groundwater contamination with oil at building Y34 (NAPL layer) | Yes | 30 | 30 |
| Strong subsoil contamination with oil, borehole a5, buildings Y17/Y18 | Yes | < 10 | 50 |
| Groundwater contaminations with VOCL, area Y6, Y34, Y38, Y39 | Yes | N/A | 5,000 |
| Groundwater contaminations with VOCL, area Y5, Y9, Y17, Y18 | Roughly | N/A | 25,000 |
| Investigation into biological degradation | Based on the measured values, it appears that good conditions for biological degradation exist at the location. | | |

## Conclusions and recommendations

Based on the results of the survey, it can be concluded that the site contains various strong contaminations with heavy metals, asbestos, mineral oil, PCB and VOCL. The contaminations are mostly delineated.

Based on the estimated size and volume of the contaminations (> 25$m^3$ soil and > 100$m^3$ soil volume of groundwater being strongly contaminated), a case of serious soil contamination is concerned. It will be necessary to take remediation measures in connection with the contemplated redevelopment.
It is recommended that a remediation plan will be drawn up for this purpose and submitted for approval to the competent authority under the Dutch Soil Protection Act (Wbb), being DCMR.

The aforementioned conclusions are based on the preliminary investigation, the exploratory soil survey, the sensory perceptions and the analysis results of the present survey.

Antea Group
Almere, December 2020

# Appendix 1 Explanation of soil investigation

## *Quality aspects of soil research*

### Reliability / Warranties

In general, soil research is carried out by sampling samples of suspect or non-suspicious soil layers. Although Antea Group acts in accordance with the applicable and applicable regulations, it is precisely this random sampling approach that makes it impossible to issue guarantees regarding the contamination situation based on the results of a soil investigation.

The above means that Antea Group does not accept any liability in advance with regard to possible decisions that the client takes in response to the soil investigation carried out by Antea Group. Where appropriate, we advise you to always contact your contact point within Antea Group.

In this context, it may also be noted that the sources consulted for historical research are not always without errors and complete. Antea Group is dependent on these sources to obtain historical information, which is why Antea Group cannot guarantee the correctness and completeness of the collected historical information.

### Certification / accreditation

Antea Group is certified according to NEN-ISO 9001. Our agency is a member of the Dutch Association for Quality Assurance of Soil Research (VKB).

The fieldwork for the environmental hygiene soil research has been carried out in accordance with the BRL SIKB 2000 (Assessment guideline for the SIKB process certificate for fieldwork in environmental hygiene soil research). In the appendix 'Accountability for the implementation of the BRL 2000 investigation', it is stated whether Antea Group has carried out the fieldwork itself or has outsourced it to another agency. Both Antea Group and the agencies to which Antea Group outsources field work are certified and recognized according to the BRL SIKB 2000. Any deviations from the assessment guideline are stated in the present report. The appendix 'Accountability for conducting BRL 2000 research' lists the names and initials of the field employees who performed the critical functions within the fieldwork.

Compliance with the quality requirements and procedures is periodically tested by internal auditors and external auditors, under the supervision of the Dutch Accreditation Council (RvA).

The location investigated is not owned by Antea Group or related sister companies.

Antea Group has the analyzes of soil and groundwater required in the soil investigation carried out by a laboratory accredited by RvA. This accreditation guarantees that the analyzes consistently use the correct and recorded procedures so that the analysis results have a high degree of reliability. The analyzes must be carried out in accordance with the Accreditation Scheme (AS) 3000. The analysis results have been validated and tested using BOTOVA.

### Application soil

The soil investigation provides insight into the environmental hygiene quality of the soil in the context of the use and / or destination of the location investigated. However, if soil is removed from the site for use elsewhere, the results of the soil investigation performed may not be sufficient. Depending on the size of the batch (s) of soil to be removed and the requirements set by the acceptor or the competent authority at the location of the new application location (for example, the presence of a soil quality map with the associated soil management plan), the soil may still have to be in accordance with the guidelines of the Soil Quality Decree to be examined.

### Asbestos

It is emphasized that research into the presence of asbestos in the soil is not part of research carried out by Antea Group according to NEN 5740. Only if the report states that research has been carried out in accordance with NEN 5707, specific asbestos research has been carried out . If asbestos-suspect materials were noticed during the fieldwork in the soil, this will be reflected in the profile descriptions and the conclusions.

## *Explanation of the conducted research*

### Exploratory asbestos research

A visual inspection of the research area must be carried out prior to the performance of the fieldwork. The top layer of the site is searched for asbestos-suspect material and rubble residues. In some cases visual ground level inspection is very limited or not possible due to the presence of pavement and / or vegetation. Conducting a ground level inspection is used to assess whether there are areas within the research site that may be considered more or less suspicious with regard to the presence of asbestos.

Across the research site, holes were dug from 0.3 x 0.3 m to 0.5 m -mv (meters below ground level). Drilling to approximately 1 m-mv has been made in these holes. The excavated soil has been assessed for the prevention of contamination, described and sampled. The excavated material is spread, raked / sieved and visually inspected for the appearance of asbestos-suspect materials. After inspection and sampling, the holes are closed with the excavated material. The positions of the holes with bores are measured and shown on the situation drawing.

### Exploratory soil investigation

The exploratory soil survey was conducted using NEN 5740 + A1 as a guideline. Based on the preliminary research, the strategy for an unexpected line-shaped location (ONV-L) was chosen for the research area. Due to the limited length of the route, this strategy does not apply to very small digging movements. The investigation strategy for these situations is based on the strategy 'suspect location with a local soil load with a clear contamination core (VEP)'. Because the research was carried out in preparation for the same activities as for linear locations, the criteria for drilling depth and placement of a monitoring well were followed in accordance with the strategy for linear locations.

Drilling has been carried out across the research location. The excavated soil has been assessed for the prevention of contamination, described and sampled.

If the groundwater is near or within the excavation depth of the work, a monitoring well has been placed for sampling the groundwater. The monitoring well was thoroughly pumped immediately after installation and, at least one week later, after another good pumping, sampled for laboratory research. The groundwater level was recorded prior to sampling and the acidity (pH), electrical conductivity (EC) and turbidity were measured. To determine the general soil quality, the soil was examined for the standard fabric package. This concerns analyzes on:

- Heavy metals (barium, cadmium, cobalt, molybdenum, copper, mercury, lead, nickel and zinc);
- Polychlorinated biphenyls (PCBs; sum 7);
- Mineral oil (GC; including pre-treatment);
- Polycyclic aromatic hydrocarbons (PAH total, 10 units according to VROM);
- Percentages of clay, organic and dry matter.

The selection of the soil (mixing) samples is based on sample depth, soil type and field observations.

To determine the general soil quality, the groundwater was examined for the standard fabric package. This concerns analyzes on:

- Heavy metals (barium, cadmium, cobalt, copper, mercury, lead, molybdenum, nickel and zinc);

Volatile aromatics (benzene, toluene, xylenes, styrene and ethylbenzene) and naphthalene;

- Volatile chlorinated hydrocarbons (VOCL);
- Mineral oil (GC).

## *Determination of safety classes*

Especially what is stated in industry publications is considered by the Inspectorate SZW as 'the state of the art' and should therefore be carefully observed.

The safety class established in this study concerns the provisional safety class. In determining the provisional safety class, assumptions were made with regard to the conditions during the execution of the work.

If the work covers an estimated duration of more than 30 man days and there are more than 20 employees working on the site at the same time, or if the estimated duration of the work exceeds 500 man days, the intention must also be notified via a notification to the Inspectorate SZW to be notified of the completion of the work.

## *Explanation of the assessment frameworks*

### Assessment framework for background, target and intervention values

The concepts of background, target and intervention values and their meaning are discussed in more detail below.

During the assessment, a statement is made at the parameter level and at the sample level. With regard to determining the background values, in some cases the overall conclusion at the sample level may differ from the conclusion at the parameter level as a result of the test rule set out in Article 4.2.2 of the Soil Quality Regulation. This article describes what is meant by exceeding the background values.

The background values (AW) are nationally valid values for a multifunctional soil quality and indicate the upper limit for what is called 'clean soil' in daily practice. These background values have been determined on the basis of the levels as they occur in the soil of nature and agricultural land. This is because in such soils no load from local pollution sources is considered to be present. The target value (S) indicates the concentration level in groundwater above and below which there is no demonstrable pollution.

The intervention value (I) indicates the concentration level in the soil, sediment or groundwater above which the functional properties that the soil has for humans, plants and animals may be seriously reduced. Public policy refers to a case of serious soil contamination, if the average concentration of one substance exceeds the intervention value in at least 25 $m^3$ of soil / sludge or for the groundwater in at least 100 $m^3$ of soil volume. In a first investigation, it is usually not yet possible to make a reliable statement about the amount of soil / sludge or groundwater where a possible exceeding of the intervention value occurs. Therefore, based on the results of this initial investigation, no conclusions can be drawn as to whether or not the contamination is serious.

The tested values also include an index.
This index is calculated as follows: Index = (GSSD - AW (or S)) / (I - AW (or S)). A negative value for the index means that the standardized measure (GSSD) is lower than the background value. With an index above 1, the standardized measurement value is above the intervention value. An index between 0 and 0.5 means that the standardized measured value is (far) below the intervention value. An index between 0.5 and 1 means that the standardized measurement value is (close) to the intervention value. Depending on the specific situation, this may lead to the breakdown of a composite sample and / or to a further investigation. The depth and urgency of the case can be determined with a closer examination of the soil. A further investigation can be conducted if there is a clear indication that there is a case of serious soil contamination.

A case of serious soil contamination can also occur without the intervention values being exceeded. If a contamination spreads in another environmental compartment (eg groundwater) or objects (eg consumer crops) in such a way that harmful effects can occur there, then there is a case of serious soil contamination. Even if point sources of contamination (e.g. based on calculations) are likely to cause contamination of the aforementioned 25 or 100 $m^3$ soil volume without measures in the short term (within a maximum of several months), this is a case of serious soil pollution.

In the test, the measured contents in soil samples are validated by means of analyzed or estimated levels of organic matter and lutum, converted to so-called standard soil conditions (soil with 10% organic matter and 25% lutum). If the levels or concentrations in ground and groundwater samples are lower than the reported reporting limit, these are validated recalculated using BOTOVA to a standardized measured value (reported reporting limit times 0.7). These standardized measured values (GSSD) are compared with the standard values.

*Barium*
The Circular Soil Remediation as of 1 July 2013 indicates that the standard for barium has been temporarily withdrawn. It has been found that the intervention value for barium was lower than the level that naturally occurs in the soil. If there are elevated barium levels relative to the natural background due to an

anthropogenic source, this level can be assessed based on the former barium intervention value of 920 mg / kg ds (for standard soil). Analyzes on barium still need to be performed, but the results do not need to be tested anymore, unless a clear anthropogenic source is present. The measured content of barium is in accordance with the circular soil remediation as of 1 July 2013 and has not been tested against the former intervention value. This is due to the lack of an identifiable anthropogenic source for this parameter.

### Assessment framework for asbestos

In accordance with current government policy, the results of the NEN 5707 + C2 study are tested against the intervention value from the Circular Soil Remediation. The intervention value for asbestos in soil, soil and dredging sludge is 100 mg / kg ds, based on the so-called 'weighted content' (the serpentine asbestos content, plus ten times the amphibole asbestos content). The weighted content of asbestos that is tested against the intervention value is the calculated total of asbestos-containing material (size> 20 mm) and asbestos in the fine fraction (<20 mm).
If research has been conducted into respirable fibers, the measured concentration is tested against the risk limit value of 10 mg / kg (weighted). If this concentration is not exceeded, there are no unacceptable risks.

To determine the urgency of a remediation of a soil contamination with asbestos that arose before June 1993, the protocol 'Environmental Hygiene Remediation Criterion Soil - protocol asbestos' should be used. This protocol is included as appendix 3 of the Circular soil remediation.

Based on the physical and chemical nature, asbestos is not subject to spread and ecological risks, but to human risks. Two categories of (human) risks are distinguished in this context:

*Acceptable risks*
The location, extent and extent of the soil contamination must be accurately registered with the Land Registry. The competent authority may also prescribe control measures to be taken to prevent exposure to the contamination. If the layout of the site changes, the site-specific risks must be reassessed.

*Unacceptable risks*
In addition to cadastral registration, remediation measures must be taken quickly at the relevant part of the location. The term 'soon' must be worked out by the competent authority in a decision.

*Debris*
In accordance with current government policy, the results of the NEN 5897 + C2 study are tested against the regulations as included in the Asbestos Products Decree.
The Asbestos Products Decree states that it is prohibited to manufacture, import, hold, make available to another person, apply or process asbestos or products containing asbestos in the Netherlands. A product is not considered to contain asbestos if no asbestos has been added deliberately to the product and the serpentine asbestos content, increased by ten times the amphibole asbestos content, does not exceed 100 mg / kg ds. This value is referred to in this report as the residual concentration standard.

*Reuse of soil and rubble*
If the soil and rubble are reused, the Soil Quality Decree applies. This Decree states that for asbestos in soil and rubble a weighted content of 100 mg / kg ds (the content of serpentine asbestos, increased by ten times the content of amphibole asbestos) is the maximum composition value.

### Assessment framework Soil Quality Decree

The measured contents in a batch of land are tested against the maximum values and calculation rules from the Decree and the Soil Quality Regulation, specifically the rules that apply to applying land to land in accordance with the generic framework. The extent to which the aforementioned maximum values are exceeded determines to which class a batch of land to be applied or the receiving land soil belongs. However, this classification is only possible if the sampling and laboratory examination have been carried out by methods determined by regulation of Our Ministers, as well as by a person or institution that has accreditation for this.

The classes to be classified based on the above maximum values are:

*Background value*

The land soil or a batch of land to be used is classified as 'meets the background value' (ie clean), if the measured contents do not exceed the background values. Article 4.2.2 of the Regulation describes what is meant by exceeding the background values.

*Quality class 'living'*

The quality of a lot of land that is used on land soil is assessed as the quality class 'housing', if the measured contents exceed the above background values but are lower than the maximum values for the soil quality class 'housing' (see article 4.4.1 of the Regulation). The quality of the receiving land soil is assessed as the quality class 'living', if the measured levels exceed the above background values but are lower than the maximum values for the soil quality class 'living'. Article 4.10.2 of the Regulation describes what is meant by exceeding the maximum values for the quality class 'living'.

*Quality class 'industry'*

The quality of the receiving land soil and of a lot of land that is applied to land soil is assessed as the quality class 'industry' when the measured contents exceed the maximum values for the quality class 'housing', but are lower than the maximum values for the soil quality class. 'industry' (see Articles 4.4.1 and 4.10.2 of the Regulation).

*Not applicable soil*

When the measured contents in a batch of soil exceed the maximum values for the quality class 'industry' (and are classified as 'not applicable> industry' or 'not applicable> intervention value'), this soil is not eligible for reuse according to the generic assessment framework or processing in a large-scale soil application. In that case, it must be examined whether the conditions for the area-specific assessment framework may be met (Articles 44 to 53 of the Decree).

# Appendix 2 Profile descriptions and field observations

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

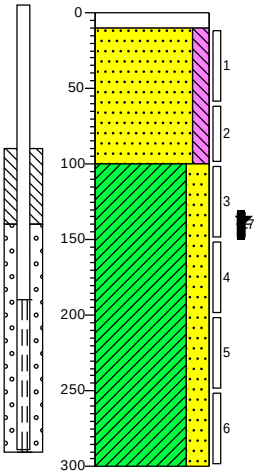
## Borehole: 500

Date: 1-10-2020 GWL (cm -mv): 140

Drilling master: [redacted]

X-coordinate: 102248.37

Y-coordinate: 433060.41




0 (10) tile
10 Hand auger, stelcon
Sand, moderately fine, moderately silty, moderately ferruginous, no oil-water reaction, beigebrown, Hand auger, pid 0
(90)
100
Clay, very sandy, no oil-water reaction, light beigegrey, Hand auger, pid 0
(200)
300

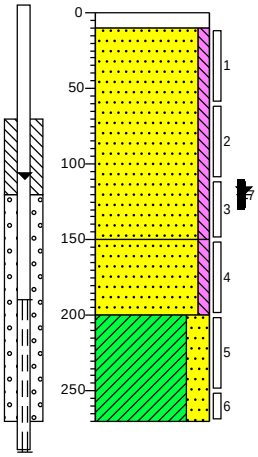
## Borehole: 501

Date: 1-10-2020 GWL (cm -mv): 120

Drilling master: [redacted]

X-coordinate: 102241.36

Y-coordinate: 433061.18




0 (10) tile
10 Hand auger, stelcon
Sand, moderately coarse, slightly silty, no oil-water reaction, beigebrown, Hand auger, pid 0
(140)
150
Sand, moderately coarse, slightly silty, no oil-water reaction, beigegrey, Hand auger, pid 0
(50)
200
Clay, very sandy, no oil-water reaction, light beigegrey, Hand auger, pid 0
(70)
270

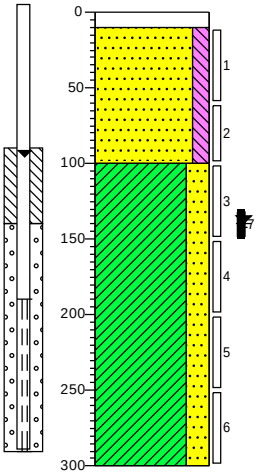
## Borehole: 502

Date: 1-10-2020 GWL (cm -mv): 140

Drilling master: [redacted]

X-coordinate: 102238.11

Y-coordinate: 433055.41




0 (10) tile
10 Hand auger, stelcon
Sand, moderately fine, moderately silty, moderately ferruginous, no oil-water reaction, beigebrown, Hand auger, pid 0
(90)
100
Clay, very sandy, no oil-water reaction, light beigegrey, Hand auger, pid 0
(200)
300

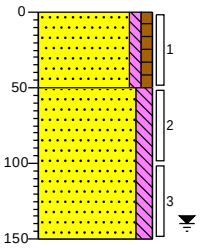
## Borehole: 503

Date: 1-10-2020 GWL (cm -mv): 140

Drilling master: [redacted]

X-coordinate: 102246.15

Y-coordinate: 433050.31




0 tile
(50) Sand, moderately fine, slightly silty, slightly humous, no oil-water reaction, beigebrown, Hand auger, pid 0
50
Sand, moderately fine, moderately silty, no oil-water reaction, Hand auger, pid 0 gestaakt op beton
(100)
150

Project leader: Alex Ooijvaar

Scale: 1: 50

Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

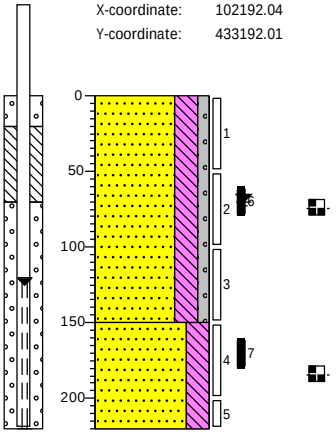
## Borehole: 504

Date: 1-10-2020 GWL (cm -mv): 70

Drilling master: [redacted]

X-coordinate: 102192.04

Y-coordinate: 433192.01




0

Sand, coarse, very silty, slightly gravelly, strong oil-water reaction, beigebrown, Hand auger, pid 0 geroerd

(150)

150

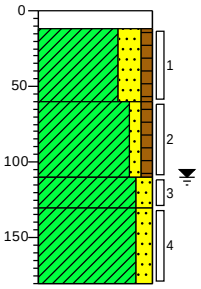
Sand, coarse, very silty, strong oil-water reaction, light beigegrey, Hand auger, pid 0 geroerd

(70)

220

## Borehole: 505

Date: 23-10-2020 GWL (cm -mv): 110




0 (12) Stelcon

12 Exclusively concrete

(48) Clay, very sandy, slightly humous, no oil-water reaction, lightbrown, Hand auger

60

(50) Clay, slightly sandy, slightly humous, no oil-water reaction, light greybrown, Hand auger

110

(20) Clay, moderately sandy, moderate oil-water reaction, neutralgrey, Hand auger

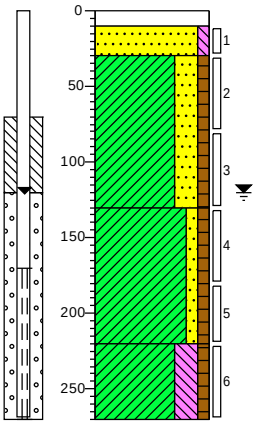
130

(50) Clay, moderately sandy, no oil-water reaction, lightgrey, Hand auger

180

## Borehole: 506

Date: 23-10-2020 GWL (cm -mv): 120




0 (10) clinker brick

10 (20) Sand, moderately coarse, slightly silty, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger

30 Clay, very sandy, slightly humous, fragments of rubble, slightly gravelly, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger

(100)

130 Clay, slightly sandy, slightly humous, slightly wood, no oil-water reaction, pid (0 ppm), neutralgrey, Hand auger

(90)

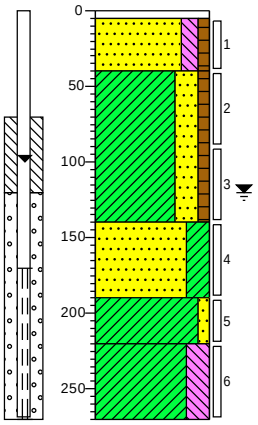
220 Clay, very silty, slightly humous, no oil-water reaction, pid (0 ppm), browngrey, Hand auger

(50)

270

## Borehole: 507

Date: 23-10-2020 GWL (cm -mv): 120




(5) tile

(35) Sand, moderately fine, moderately silty, slightly humous, fragments of clay, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger

40 Clay, very sandy, slightly humous, moderately rubbly, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger

(100)

140 Sand, extremely fine, clayey, no oil-water reaction, pid (0 ppm), lightgrey, Hand auger

(50)

190 Clay, slightly sandy, no oil-water reaction, pid (0 ppm), lightgrey, Hand auger

(30)

220 Clay, very silty, no oil-water reaction, neutralgrey, Hand auger

(50)

270

Project leader: Alex Ooijvaar

Scale: 1: 50

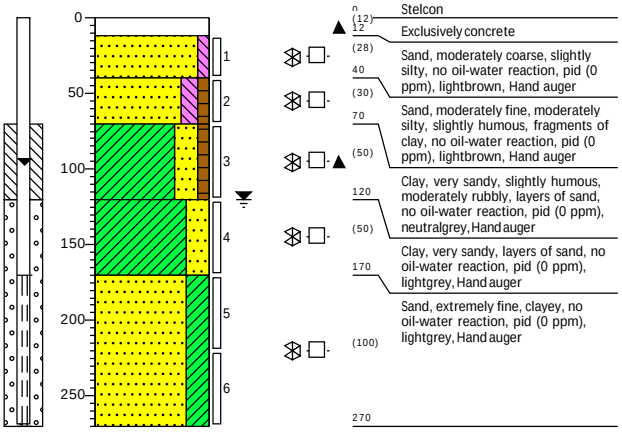
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 508

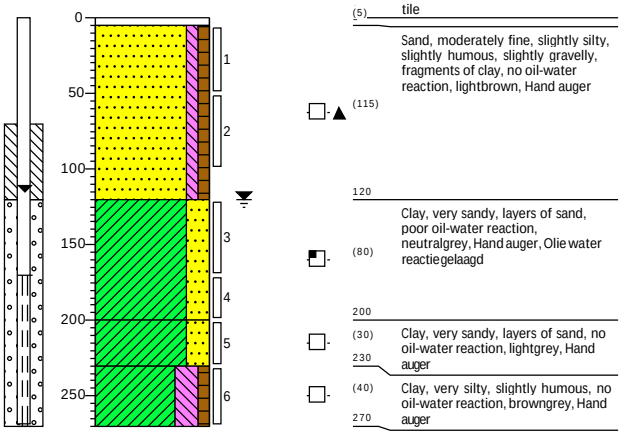
Date: 23-10-2020 GWL (cm -mv): 120




| | | |
|---|---|---|
| 0 | | Stelcon |
| | (12) | |
| 12 | | Exclusively concrete |
| | (28) | |
| 40 | | Sand, moderately coarse, slightly silty, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger |
| | (30) | |
| 70 | | Sand, moderately fine, moderately silty, slightly humous, fragments of clay, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger |
| | (50) | |
| 120 | | Clay, very sandy, slightly humous, moderately rubbly, layers of sand, no oil-water reaction, pid (0 ppm), neutralgrey, Hand auger |
| | (50) | |
| 170 | | Clay, very sandy, layers of sand, no oil-water reaction, pid (0 ppm), lightgrey, Hand auger |
| | (100) | Sand, extremely fine, clayey, no oil-water reaction, pid (0 ppm), lightgrey, Hand auger |
| 270 | | |

## Borehole: 509

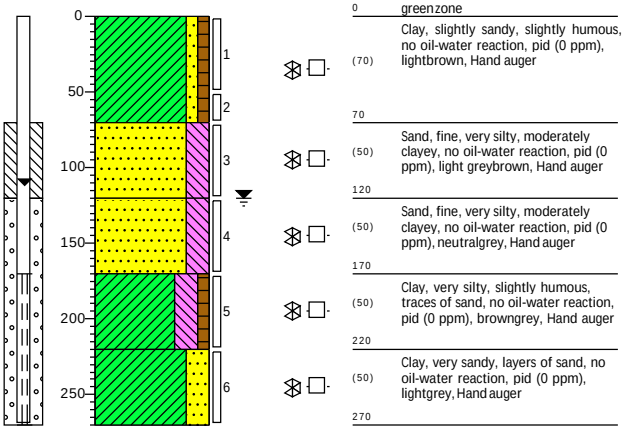
Date: 23-10-2020 GWL (cm -mv): 120




| | | |
|---|---|---|
| | (5) | tile |
| | (115) | Sand, moderately fine, slightly silty, slightly humous, slightly gravelly, fragments of clay, no oil-water reaction, lightbrown, Hand auger |
| 120 | | |
| | (80) | Clay, very sandy, layers of sand, poor oil-water reaction, neutralgrey, Hand auger, Olie water reactie gelaagd |
| 200 | | |
| | (30) | Clay, very sandy, layers of sand, no oil-water reaction, lightgrey, Hand auger |
| 230 | | |
| | (40) | Clay, very silty, slightly humous, no oil-water reaction, browngrey, Hand auger |
| 270 | | |

## Borehole: 510

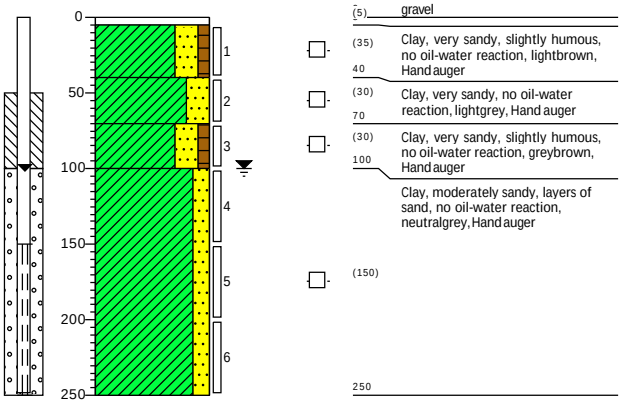
Date: 23-10-2020 GWL (cm -mv): 120




| | | |
|---|---|---|
| 0 | | greenzone |
| | (70) | Clay, slightly sandy, slightly humous, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger |
| 70 | | |
| | (50) | Sand, fine, very silty, moderately clayey, no oil-water reaction, pid (0 ppm), light greybrown, Hand auger |
| 120 | | |
| | (50) | Sand, fine, very silty, moderately clayey, no oil-water reaction, pid (0 ppm), neutralgrey, Hand auger |
| 170 | | |
| | (50) | Clay, very silty, slightly humous, traces of sand, no oil-water reaction, pid (0 ppm), browngrey, Hand auger |
| 220 | | |
| | (50) | Clay, very sandy, layers of sand, no oil-water reaction, pid (0 ppm), lightgrey, Hand auger |
| 270 | | |

## Borehole: 511

Date: 23-10-2020 GWL (cm -mv): 100




| | | |
|---|---|---|
| | (5) | gravel |
| | (35) | Clay, very sandy, slightly humous, no oil-water reaction, lightbrown, Hand auger |
| 40 | | |
| | (30) | Clay, very sandy, no oil-water reaction, lightgrey, Hand auger |
| 70 | | |
| | (30) | Clay, very sandy, slightly humous, no oil-water reaction, greybrown, Hand auger |
| 100 | | |
| | | Clay, moderately sandy, layers of sand, no oil-water reaction, neutralgrey, Hand auger |
| | (150) | |
| 250 | | |

Project leader: Alex Ooijvaar

Scale: 1: 50

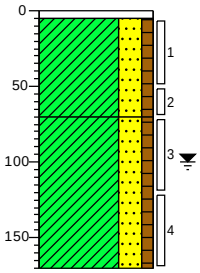
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 512

Date: 23-10-2020 GWL (cm -mv): 100




(5) gravel

(65) Clay, very sandy, slightly humous, no oil-water reaction, neutralbrown, Hand auger

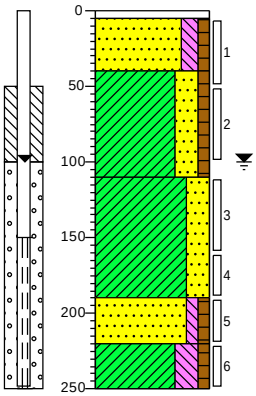
70

(100) Clay, very sandy, slightly humous, layers of sand, poor oil-water reaction, neutralgrey, Hand auger

170

## Borehole: 513

Date: 23-10-2020 GWL (cm -mv): 100




(5) gravel

(35) Sand, moderately fine, moderately silty, slightly humous, no oil-water reaction, lightbrown, Hand auger

40

(70) Clay, very sandy, slightly humous, no oil-water reaction, lightbrown, Hand auger

110

(80) Clay, very sandy, layers of sand, no oil-water reaction, neutralgrey, Hand auger

190

(30) Sand, moderately coarse, slightly silty, slightly humous, no oil-water reaction, darkgrey, Hand auger

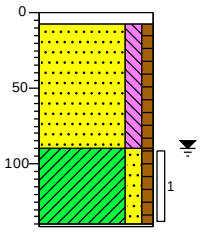
220

(30) Clay, very silty, slightly humous, no oil-water reaction, browngrey, Hand auger

250

## Borehole: 514

Date: 23-10-2020 GWL (cm -mv): 90




(8) clinker brick

8

(82) Sand, moderately fine, moderately silty, slightly humous, no oil-water reaction, lightbrown, Hand auger

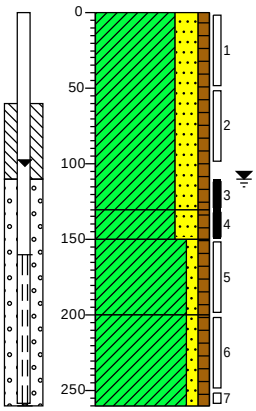
90

(50) Clay, moderately sandy, slightly humous, layers of sand, no oil-water reaction, browngrey, Hand auger

(1)1 Gestaakt op beton?

## Borehole: 515

Date: 23-10-2020 GWL (cm -mv): 110




0 greenzone

(130) Clay, very sandy, slightly humous, no oil-water reaction, pid (0 ppm), lightbrown, Hand auger

130

(20) Clay, very sandy, slightly humous, poor oil-water reaction, pid (0 ppm), darkgrey, Hand auger

150

(50) Clay, slightly sandy, slightly humous, poor oil-water reaction, pid (0 ppm), greybrown, Hand auger

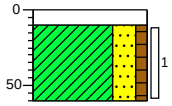
200

(60) Clay, slightly sandy, slightly humous, no oil-water reaction, pid (0 ppm), greybrown, Hand auger

260

## Borehole: 516

Date: 4-11-2020




0 (10) gravel

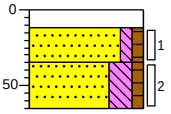
10 Exclusively gravel, Op worteldoek

(50) Clay, very sandy, slightly humous, layers of sand, no oil-water reaction, lightbrown, Hand auger

60

## Borehole: 517

Date: 4-11-2020




0 (12) Stelcon

12 Verwijderde stelcon plaat

(23) Sand, moderately coarse, slightly silty, slightly humous, no oil-water reaction, lightbrown, Hand auger

35

(30) Sand, fine, very silty, slightly humous, slightly clayey, no oil-water reaction, neutralgrey, Hand auger

65

Project leader: Alex Ooijvaar

Scale: 1: 50

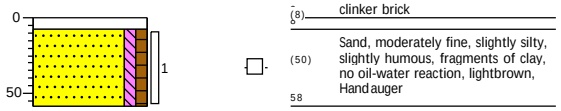
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

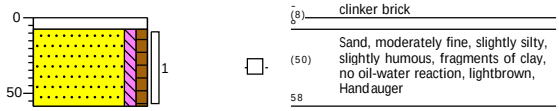
## Borehole: 518

Date: 4-11-2020



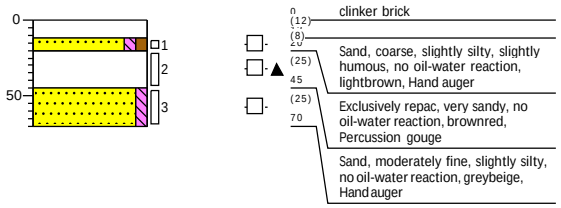

## Borehole: 519

Date: 4-11-2020



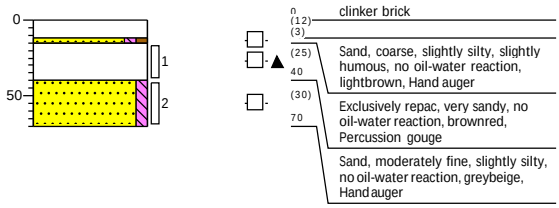

## Borehole: 520

Date: 4-11-2020



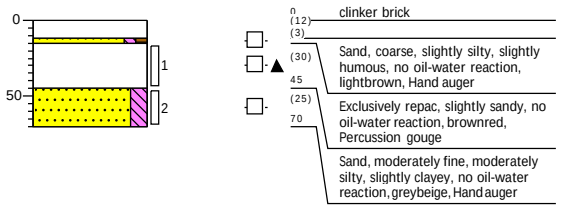

## Borehole: 521

Date: 4-11-2020



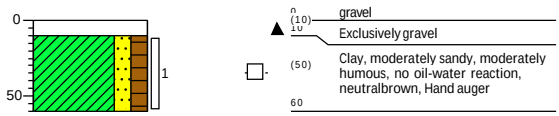

## Borehole: 522

Date: 4-11-2020



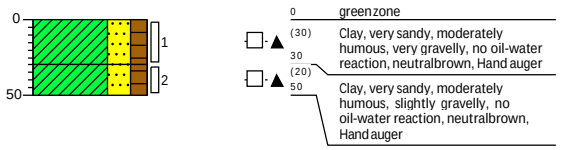

## Borehole: 523

Date: 4-11-2020



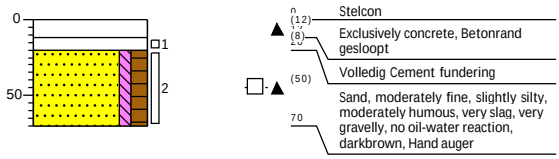

## Borehole: 524

Date: 4-11-2020




## Borehole: 525

Date: 4-11-2020




Project leader: Alex Ooijvaar

Scale: 1: 50

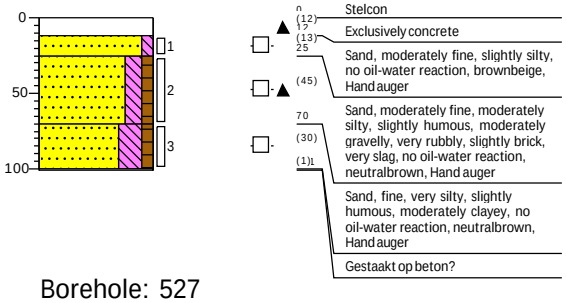
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

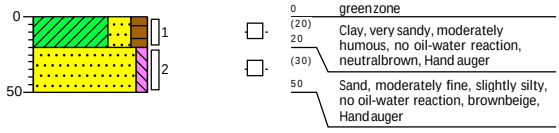
## Borehole: 525a

Date: 18-11-2020



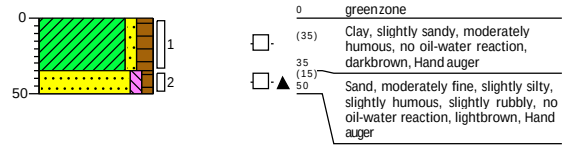

## Borehole: 526

Date: 4-11-2020



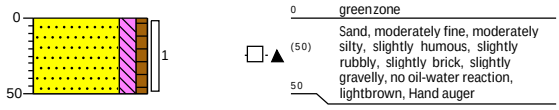

## Borehole: 527

Date: 4-11-2020



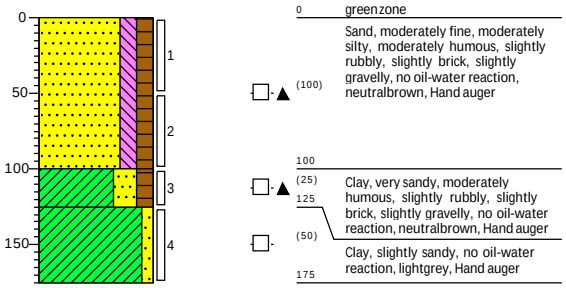

## Borehole: 528

Date: 4-11-2020



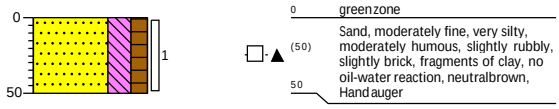

## Borehole: 528a

Date: 18-11-2020



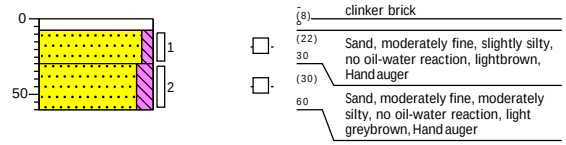

## Borehole: 529

Date: 4-11-2020



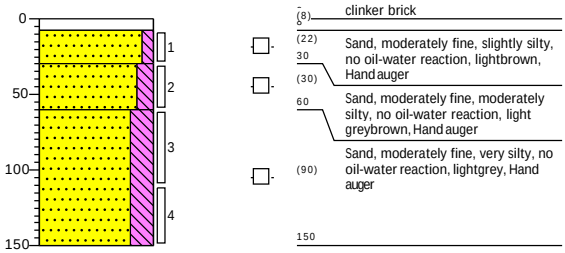

## Borehole: 530

Date: 4-11-2020




## Borehole: 530a

Date: 18-11-2020




Project leader: Alex Ooijvaar

Scale: 1: 50

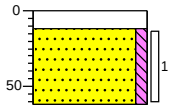
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 531

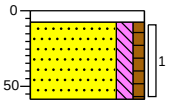
Date: 4-11-2020




0 Stelcon
(12) 12 Exclusively concrete
(50) Sand, moderately fine, slightly silty, no oil-water reaction, brownbeige, Hand auger
62

## Borehole: 532

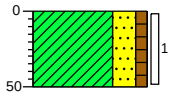
Date: 4-11-2020




0 (8) 8 clinker brick
(50) Sand, moderately fine, moderately silty, slightly humus, fragments of clay, slightly gravelly, no oil-water reaction, lightbrown, Hand auger
58

## Borehole: 533

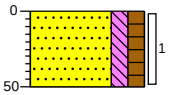
Date: 4-11-2020




0 greenzone
(50) Clay, very sandy, slightly humous, no oil-water reaction, lightbrown, Hand auger
50

## Borehole: 534

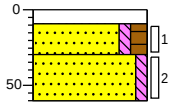
Date: 4-11-2020




0 greenzone
(50) Sand, moderately fine, moderately silty, moderately humous, very slag, no oil-water reaction, darkbrown, Hand auger
50

## Borehole: 535

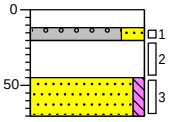
Date: 4-11-2020




0 (9) 9 clinker brick
(21) 30 Sand, moderately fine, slightly silty, moderately humous, slightly brick, slightly rubbly, slightly slag, no oil-water reaction, darkbrown, Hand auger
(30) 60 Sand, moderately fine, slightly silty, no oil-water reaction, brownbeige, Hand auger

## Borehole: 536

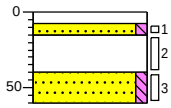
Date: 4-11-2020




0 (12) 12 clinker brick
(8) 20
(25) 45 Gravel, fine, very sandy, no oil-water reaction, lightbrown, Shovel
(25) 70 Moderately sandy, traces of rubble, exclusively repac, very slag, no oil-water reaction, brownred, Shovel, Lava/slakken Sloophamer. AMM1 33-33-45 puin 85% wv 45>20
Sand, moderately fine, slightly silty, no oil-water reaction, lightbrown, Shovel

## Borehole: 537

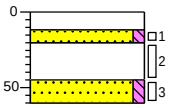
Date: 4-11-2020




0 (8) 8 clinker brick
(7) 15
(25) 40 Sand, coarse, slightly silty, no oil-water reaction, lightbrown, Shovel
(20) 60 Exclusively repac, moderately sandy, slightly lavalith, no oil-water reaction, brownred, Shovel, Sloophamer. AMM1 30-30-40 puin 90% wv 40>20
Sand, moderately fine, slightly silty, no oil-water reaction, lightbrown, Shovel

## Borehole: 538

Date: 4-11-2020




0 (12) 12 clinker brick
(8) 20
(25) 45 Sand, coarse, slightly silty, no oil-water reaction, lightbrown, Shovel
(15) 60 No oil-water reaction, grey, Shovel, Volledig betoncement sloophamer zwak puinhoudend AMM2 31-31-45 puin 5%
Sand, moderately fine, slightly silty, slightly clayey, no oil-water reaction, lightbrown, Shovel

Project leader: Alex Ooijvaar

Scale: 1: 50

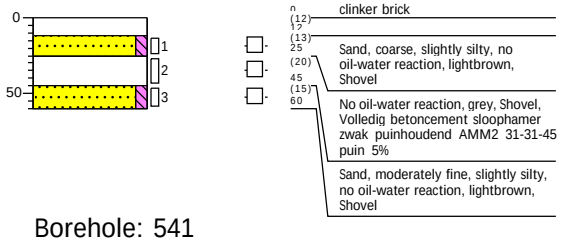
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

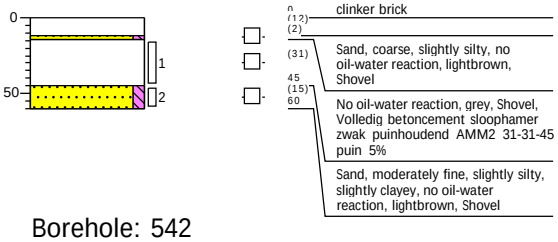
## Borehole: 539

Date: 4-11-2020



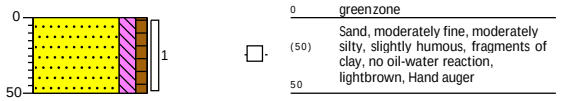

## Borehole: 540

Date: 4-11-2020



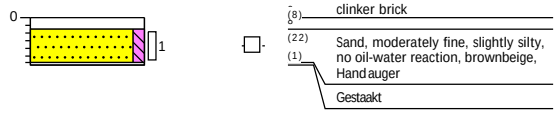

## Borehole: 541

Date: 18-11-2020



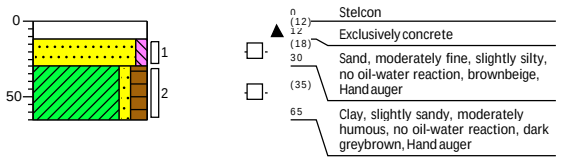

## Borehole: 542

Date: 18-11-2020



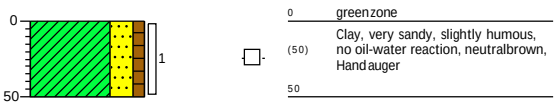

## Borehole: 543

Date: 18-11-2020



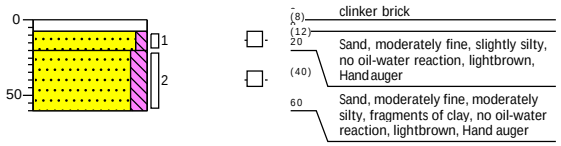

## Borehole: 544

Date: 18-11-2020



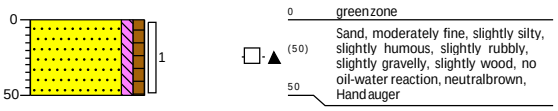

## Borehole: 545

Date: 18-11-2020




## Borehole: 547

Date: 18-11-2020




Project leader: Alex Ooijvaar

Scale: 1: 50

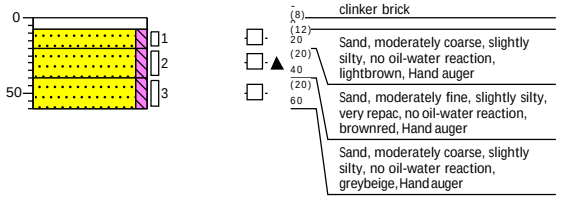
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

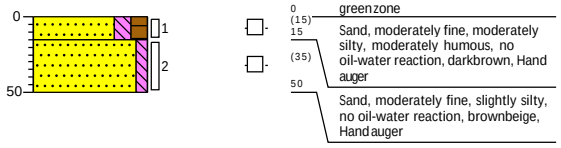
## Borehole: 548

Date: 18-11-2020




## Borehole: 549

Date: 18-11-2020

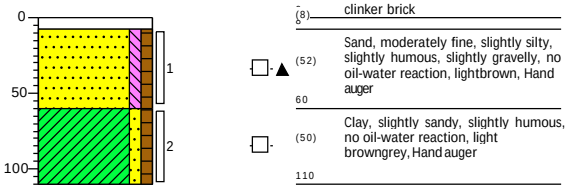



## Borehole: 550

Date: 18-11-2020


## Borehole: 551

Date: 18-11-2020



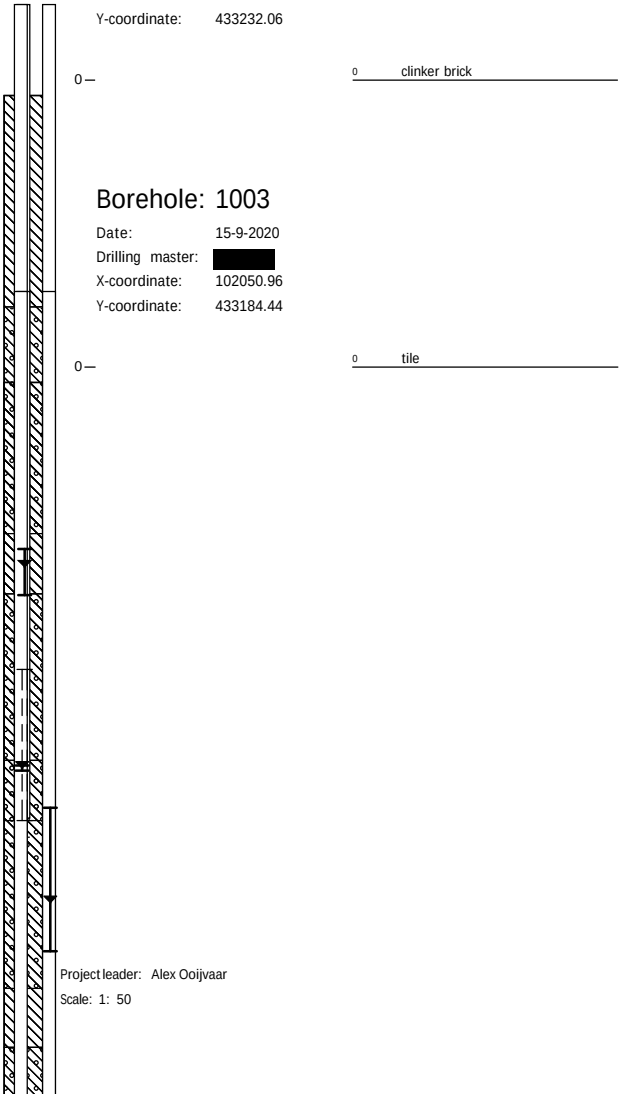

## Borehole: 1001

Date: 15-9-2020

Drilling master: [redacted]

X-coordinate: 102044.48

Y-coordinate: 433232.06



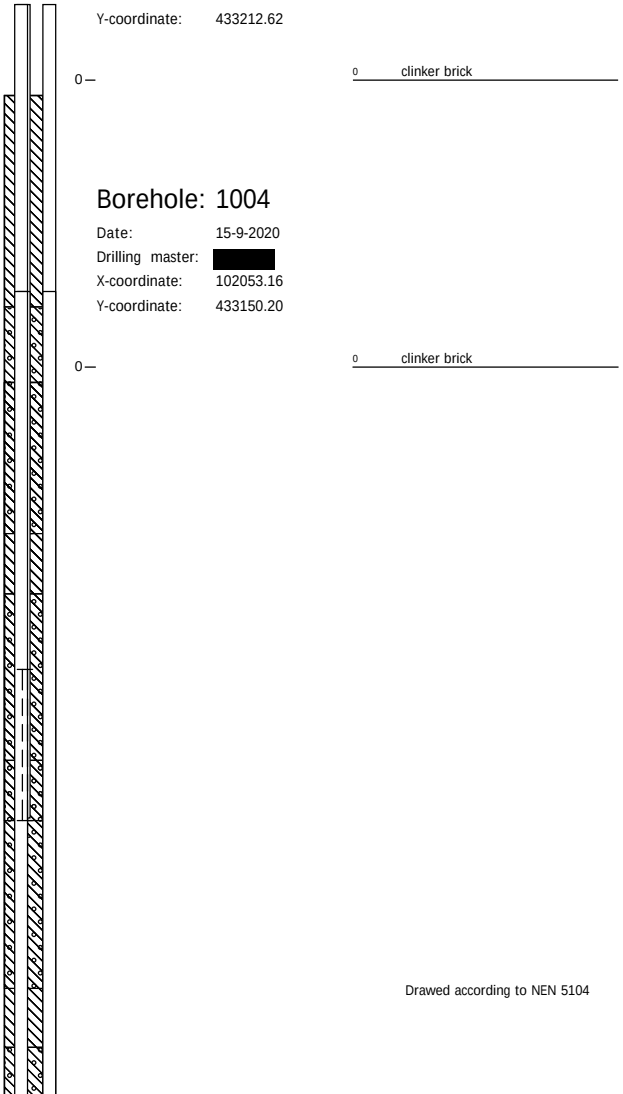

## Borehole: 1002

Date: 15-9-2020

Drilling master: [redacted]

X-coordinate: 102013.53

Y-coordinate: 433212.62




## Borehole: 1003

Date: 15-9-2020

Drilling master: [redacted]

X-coordinate: 102050.96

Y-coordinate: 433184.44

## Borehole: 1004

Date: 15-9-2020

Drilling master: [redacted]

X-coordinate: 102053.16

Y-coordinate: 433150.20

Project leader: Alex Ooijvaar

Scale: 1: 50

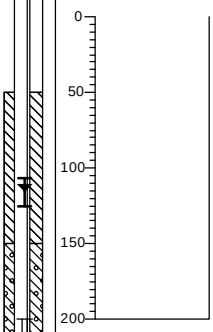
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 1005

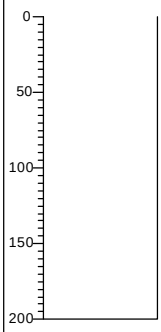
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102052.80
Y-coordinate: 433126.53



0 clinker brick

## Borehole: 1006

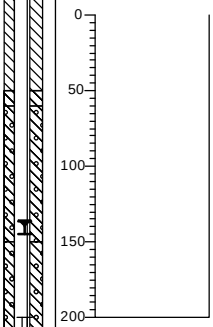
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102079.64
Y-coordinate: 433109.40



0 clinker brick

## Borehole: 1007

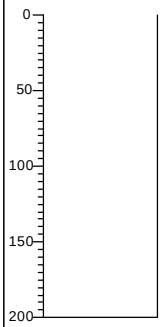
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102103.27
Y-coordinate: 433083.90



0 tile

## Borehole: 1008

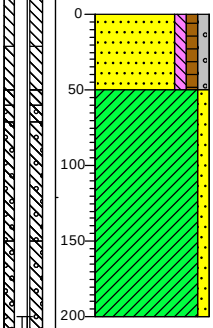
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102116.96
Y-coordinate: 433059.04



0 tile

## Borehole: 1009

Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102130.69
Y-coordinate: 433018.88



0 greenzone

(50) Sand, moderately coarse, slightly silty, slightly humous, slightly gravelly, neutralbrown, Hand auger

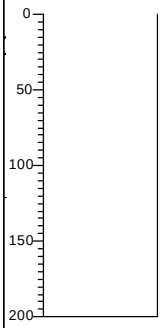
50 Clay, slightly sandy, neutralgrey, Hand auger

(150)

200

## Borehole: 1010

Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102138.97
Y-coordinate: 433012.53



0 clinker brick

Project leader: Alex Ooijvaar
Scale: 1: 50

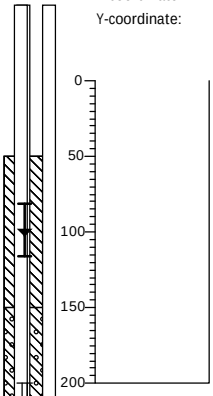
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 1011

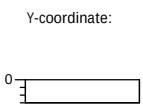
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102144.30
Y-coordinate: 433003.70




0 clinker brick

## Borehole: 1012

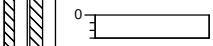
Date: 22-9-2020
Drilling master: [redacted]
X-coordinate: 102178.28
Y-coordinate: 433016.88




0 concrete
(15)
15 Sonic Drill

## Borehole: 1013

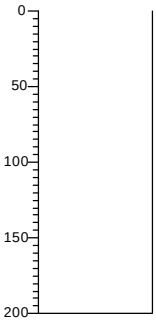
Date: 22-9-2020
Drilling master: [redacted]
X-coordinate: 102185.91
Y-coordinate: 433021.84




0 concrete
(15)
15 Sonic Drill

## Borehole: 1014

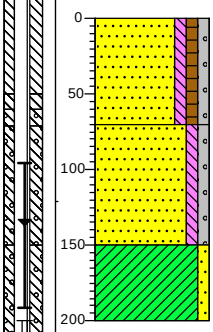
Date: 16-9-2020
Drilling master: [redacted]
X-coordinate: 102278.42
Y-coordinate: 433135.06




0 clinker brick

## Borehole: 1015

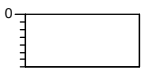
Date: 17-9-2020
Drilling master: [redacted]
X-coordinate: 102235.81
Y-coordinate: 433201.56




0 fallow
(70) Sand, moderately coarse, slightly silty, slightly humous, slightly gravelly, very rubbly, moderately ferrous, neutralbrown, Shovel
70
(80) Sand, moderately coarse, slightly silty, slightly gravelly, neutralbrown, Hand auger
150
(50) Clay, slightly sandy, neutralgrey, Hand auger
200

## Borehole: 1016

Date: 30-9-2020
Drilling master: [redacted]




0 Asphalt
(35) Exclusively Asphalt, Hand auger
35

Project leader: Alex Ooijvaar
Scale: 1: 50

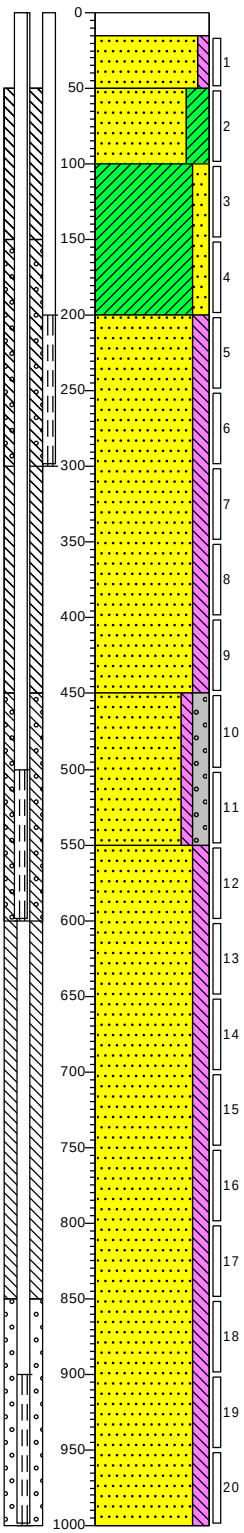
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 1017

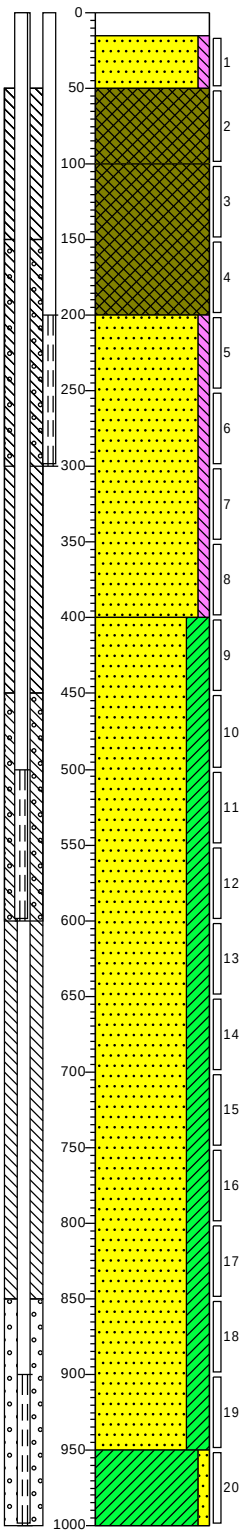
Date: 4-11-2020
Drilling master: [redacted]
X-coordinate: 102212.06
Y-coordinate: 433037.88



0 (15) concrete
15 Concrete drill
(35) Sand, moderately coarse, slightly silty, neutralbrown, Hand auger, diameter=100
50 Sand, moderately coarse, clayey, neutral browngrey, Hand auger, diameter=100
(50)
100 Clay, moderately sandy, neutralgrey, Hand auger, diameter=100
(100)
200 Sand, moderately coarse, moderately silty, neutralgrey, Sonic Drill
(250)
450 Sand, moderately coarse, slightly silty, moderately gravelly, neutral blackgrey, Sonic Drill
(100)
550 Sand, moderately coarse, moderately silty, neutralgrey, Sonic Drill
(450)
1000

## Borehole: 1018

Date: 4-11-2020
Drilling master: [redacted]
X-coordinate: 102121.52
Y-coordinate: 433013.22



0 (15) concrete
15 Concrete drill
(35) Sand, moderately fine, slightly silty, neutral brownbeige, Hand auger, diameter=100
50 Alluvium, neutral browngrey, Hand auger, diameter=100
(50)
100 Alluvium, strong chemical odour, neutral bluegrey, Hand auger, diameter=100
(100)
200 Sand, moderately coarse, slightly silty, neutralgrey, Sonic Drill
(200)
400 Sand, moderately coarse, clayey, neutralgrey, Sonic Drill
(550)
950 Clay, slightly sandy, neutralgrey, Sonic Drill
(50)
1000

Project leader: Alex Ooijvaar
Scale: 1: 50

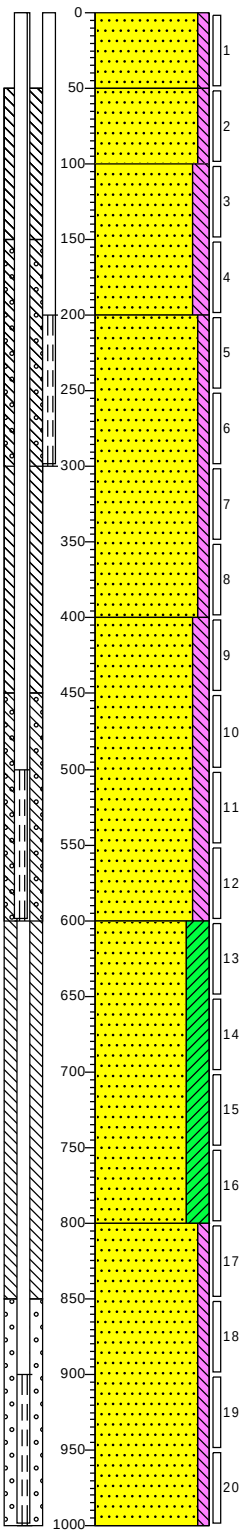
Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

Projectnr. 0465250.100

## Borehole: 1019

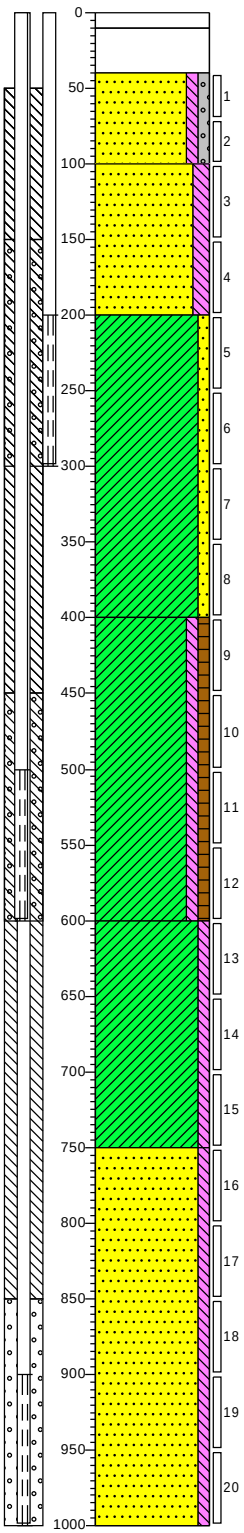
Date: 4-11-2020
Drilling master: [redacted]
X-coordinate: 102119.13
Y-coordinate: 433018.40



| | |
|---|---|
| 0 | grass |
| (50) | Sand, moderately fine, slightly silty, neutral beigebrown, Hand auger, diameter=100 |
| 50 | |
| (50) | Sand, moderately fine, slightly silty, neutral greyblue, Hand auger, diameter=100 |
| 100 | |
| (100) | Sand, moderately fine, moderately silty, neutral greyblue, Hand auger, diameter=100 |
| 200 | |
| (200) | Sand, moderately coarse, slightly silty, neutralgrey, Sonic Drill |
| 400 | |
| (200) | Sand, moderately coarse, moderately silty, neutralgrey, Sonic Drill |
| 600 | |
| (200) | Sand, moderately coarse, clayey, neutralgrey, Sonic Drill |
| 800 | |
| (200) | Sand, moderately coarse, slightly silty, neutralgrey, Sonic Drill |
| 1000 | |

## Borehole: 1020

Date: 4-11-2020
Drilling master: [redacted]
X-coordinate: 102100.02
Y-coordinate: 433032.62



| | |
|---|---|
| 0 | Asphalt |
| (10) | Concrete drill, Asfaltkern |
| 10 | |
| (30) | Exclusively rubble, Concrete drill |
| 40 | |
| (60) | Sand, moderately coarse, slightly silty, slightly gravelly, neutralgrey, Hand auger, diameter=100 |
| 100 | |
| (100) | Sand, moderately fine, moderately silty, neutralgrey, Hand auger, diameter=100 |
| 200 | |
| (200) | Clay, slightly sandy, neutralgrey, Sonic Drill |
| 400 | |
| (200) | Clay, slightly silty, slightly humous, neutral browngrey, Sonic Drill |
| 600 | |
| (150) | Clay, slightly silty, neutral browngrey, Sonic Drill |
| 750 | |
| (250) | Sand, moderately coarse, slightly silty, neutralgrey, Sonic Drill |
| 1000 | |

Project leader: Alex Ooijvaar
Scale: 1: 50

Drawed according to NEN 5104

Project name: Ringdijk 390, Ridderkerk

# Legend (NEN 5104 compliant)

## gravel

- Gravel, silty
- Gravel, slightly sandy
- Gravel, moderately sandy
- Gravel, very sandy
- Gravel, extremely sandy

## sand

- Sand, clayey
- Sand, slightly silty
- Sand, moderately silty
- Sand, very silty
- Sand, extremely silty

## peat

- Peat, mineral deficient
- Peat, slightly clayey
- Peat, very clayey
- Peat, slightly sandy
- Peat, very sandy

## gauging tube

- plain tube
- casing
- highest groundwater level
- average groundwater level
- lowest groundwater level
- sand seal
- bentonite/mikolite/clay seal
- gravel seal
- filter

## clay

- Clay, slightly silty
- Clay, moderately silty
- Clay, very silty
- Clay, extremely silty
- Clay, slightly sandy
- Clay, moderately sandy
- Clay, very sandy

## loam

- Loam, slightly sandy
- Loam, very sandy

## other additives

- slightly humous
- moderately humous
- very humous
- slightly gravelly
- moderately gravelly
- very gravelly

## odour

- None odour
- weak odour
- moderate odour
- strong odour
- extreme odour

## oil

- no oil-water reaction
- poor oil-water reaction
- moderate oil-water reaction
- strong oil-water reaction
- extreme oil-water reaction

## p.i.d. value

- >0
- >1
- >10
- >100
- >1000
- >10000

## samples

- disturbed sample
- undisturbed sample
- voluming

## miscellaneous

- special compound
- Average highest groundwater level
- groundwater level
- Average lowest groundwater level
- alluvium
- water

Project leader: Alex Ooijvaar

Scale: 1: 50

Drawed according to NEN 5104

# Appendix 3 Assessment of soil samples against the Soil Protection Act

| Analyseresultaten grond | | 500-2 | | | 501-2 | | | 502-2 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 500 | | | 501 | | | 502 | | |
| Monstertraject (m -mv) | | 0,60-1,00 | | | 0,60-1,10 | | | 0,60-1,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Voldoet aan achtergrondwaarde | | | Voldoet aan achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 77,00 | | | 85,00 | | | 82,70 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 1,8 | | | 0,7 | | | 1,3 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 11(6) | | < 3 | 11(6) | |
| Minerale olie C10 - C40 | mg/kg ds | 62 | 310 | 0,02 | < 35 | 123 | -0,01 | < 35 | 123 | -0,01 |
| Minerale olie C12 - C16 | mg/kg ds | 5,3 | 26,500(6) | | < 5 | 18(6) | | < 5 | 18(6) | |
| Minerale olie C16 - C21 | mg/kg ds | 21 | 105(6) | | < 5 | 18(6) | | < 5 | 18(6) | |
| Minerale olie C21 - C30 | mg/kg ds | 25 | 125(6) | | < 11 | 39(6) | | < 11 | 39(6) | |
| Minerale olie C30 - C35 | mg/kg ds | 5,8 | 29(6) | | < 5 | 18(6) | | < 5 | 18(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | | < 6 | 21(6) | | < 6 | 21(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 503-2 | | | 504-6 | | | 515-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 503 | | | 504 | | | 515 | | |
| Monstertraject (m -mv) | | 0,50-1,00 | | | 0,60-0,80 | | | 1,30-1,50 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding interventiewaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 80,20 | | | 84,10 | | | 77,30 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 1,6 | | | 2,0 | | | 1,6 | | |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| naftaleen | mg/kg ds | | | | < 0,01 | 0,010 | | | | |
| som (10) PAK | mg/kg | | | | | 0,007(2) | -0,04 | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 11(6) | | < 3 | 11(6) | |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | -0,01 | 13000 | 65000 | 13,47 | 46 | 230 | 0,01 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | | 14 | 70(6) | | < 5 | 18(6) | |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | | 420 | 2100(6) | | 5,2 | 26(6) | |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 39(6) | | 9400 | 47000(6) | | 21 | 105(6) | |
| Minerale olie C30 - C35 | mg/kg ds | < 5 | 18(6) | | 2700 | 13500(6) | | 12 | 60(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | | 560 | 2800(6) | | < 6 | 21(6) | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | 0,00 |
| 1,1,2-trichloorethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,01 |
| 1,1-dichloorethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,01 |
| 1,2-dichloorethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | | | | | | | 0,07 | | |
| chlooretheen | mg/kg ds | | | | | | | < 0,01 | 0,040 | - (^) |
| cis-1,2-dichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | |
| CKW (som) | mg/kg ds | | | | | | | < 0,42 | | |
| dichloormethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | 0,02 |
| som dichlooretheen-isomeren | mg/kg ds | | | | | | | | 0,350 | 0,07 |
| tetrachlooretheen | mg/kg ds | | | | | | | 0,025 | 0,125 | 0,00 |
| tetrachloormethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,30 |
| trans-1,2-dichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | |
| trichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,03 |
| trichloormethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,03 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
EOL
2: Enkele parameters ontbreken in de som
6: Heeft geen normwaarde

| Analyseresultaten grond | | 503-2 | | | 504-6 | | | 515-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **AROMATISCHE VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,2-xyleen | mg/kg ds | | | | < 0,05 | 0,180 | | | | |
| benzeen | mg/kg ds | | | | < 0,05 | 0,180 | -0,02 | | | |
| ethylbenzeen | mg/kg ds | | | | < 0,05 | 0,180 | 0,00 | | | |
| som (16) aromatische oplosmiddelen | mg/kg ds | | | | | 0,880(2) | | | | |
| som (3) xyleen | mg/kg ds | | | | | 0,350 | -0,01 | | | |
| som 1,3- en 1,4-xyleen | mg/kg ds | | | | < 0,05 | 0,180 | | | | |
| som monocyclische aromatische koolwaterstoffen (BTEX) | mg/kg ds | | | | < 0,25 | | | | | |
| tolueen | mg/kg ds | | | | < 0,05 | 0,180 | 0,00 | | | |
| Xylenen (som, 0.7 factor) | mg/kg ds | | | | 0,07 | | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
2: Enkele parameters ontbreken in de som

**Additional soil research**
Ringdijk in Ridderkerk
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december 2020, revision 00

| Analyseresultaten grond | | 515-6 | | | 505-3 | | | 505-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 515 | | | 505 | | | 505 | | |
| Monstertraject (m -mv) | | 2,00-2,50 | | | 1,10-1,30 | | | 1,30-1,80 | | |
| Analysedatum | | 23-10-2020 | | | 23-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding interventiewaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 70,90 | | | 76,60 | | | 73,30 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 4,9 | | | 3,7 | | | 0,7 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | 62 | 127(6) | | < 3 | 6(6) | | < 3 | 11(6) | |
| Minerale olie C10 - C40 | mg/kg ds | 160 | 327 | 0,03 | 6300 | 17027 | 3,50 | 420 | 2100 | 0,40 |
| Minerale olie C12 - C16 | mg/kg ds | 28 | 57(6) | | 29 | 78(6) | | < 5 | 18(6) | |
| Minerale olie C16 - C21 | mg/kg ds | 16 | 33(6) | | 82 | 222(6) | | 11 | 55(6) | |
| Minerale olie C21 - C30 | mg/kg ds | 36 | 73(6) | | 3300 | 8919(6) | | 220 | 1100(6) | |
| Minerale olie C30 - C35 | mg/kg ds | 18 | 37(6) | | 2100 | 5676(6) | | 140 | 700(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 9(6) | | 780 | 2108(6) | | 51 | 255(6) | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | mg/kg ds | < 0,05 | 0,070 | -0,01 | | | | | | |
| 1,1,2-trichloorethaan | mg/kg ds | < 0,05 | 0,070 | -0,02 | | | | | | |
| 1,1-dichloorethaan | mg/kg ds | < 0,02 | 0,030 | -0,01 | | | | | | |
| 1,2-dichloorethaan | mg/kg ds | < 0,02 | 0,030 | -0,03 | | | | | | |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | 0,07 | | | | | | | | |
| chlooretheen | mg/kg ds | < 0,01 | 0,010 | - (^) | | | | | | |
| cis-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,070 | | | | | | | |
| CKW (som) | mg/kg ds | < 0,42 | | | | | | | | |
| dichloormethaan | mg/kg ds | < 0,05 | 0,070 | -0,01 | | | | | | |
| som dichlooretheen-isomeren | mg/kg ds | | 0,140 | -0,23 | | | | | | |
| tetrachlooretheen | mg/kg ds | < 0,01 | 0,010 | -0,02 | | | | | | |
| tetrachloormethaan | mg/kg ds | < 0,05 | 0,070 | -0,57 | | | | | | |
| trans-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,070 | | | | | | | |
| trichlooretheen | mg/kg ds | < 0,05 | 0,070 | -0,08 | | | | | | |
| trichloormethaan | mg/kg ds | < 0,02 | 0,030 | -0,04 | | | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
EOL
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 506-3 | | | 507-3 | | | 508-3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 506 | | | 507 | | | 508 | | |
| Monstertraject (m -mv) | | 0,80-1,30 | | | 0,90-1,40 | | | 0,70-1,20 | | |
| Analysedatum | | 23-10-2020 | | | 23-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 76,90 | | | 80,20 | | | 81,60 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 2,1 | | | 1,7 | | | 2,2 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 10(6) | | < 3 | 11(6) | | < 3 | 10(6) | |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 117 | -0,02 | 65 | 325 | 0,03 | 43 | 195 | 0,00 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 17(6) | | < 5 | 18(6) | | < 5 | 16(6) | |
| Minerale olie C16 - C21 | mg/kg ds | 5,5 | 26,200(6) | | 12 | 60(6) | | 6,7 | 30,500(6) | |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 37(6) | | 27 | 135(6) | | 21 | 95(6) | |
| Minerale olie C30 - C35 | mg/kg ds | < 5 | 17(6) | | 15 | 75(6) | | 8,5 | 38,600(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 20(6) | | 8,3 | 41,500(6) | | < 6 | 19(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 509-3 | | | 510-4 | | | 511-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 509 | | | 510 | | | 511 | | |
| Monstertraject (m -mv) | | 1,20-1,70 | | | 1,20-1,70 | | | 1,00-1,50 | | |
| Analysedatum | | 23-10-2020 | | | 23-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding interventiewaarde | | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 77,90 | | | 71,20 | | | 73,30 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 0,9 | | | 2,8 | | | 0,9 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 8(6) | | 4,2 | 21(6) | |
| Minerale olie C10 - C40 | mg/kg ds | 4200 | 21000 | 4,33 | < 35 | 88 | -0,02 | 40 | 200 | 0,00 |
| Minerale olie C12 - C16 | mg/kg ds | 11 | 55(6) | | < 5 | 13(6) | | 7,9 | 39,500(6) | |
| Minerale olie C16 - C21 | mg/kg ds | 60 | 300(6) | | < 5 | 13(6) | | 8,5 | 42,500(6) | |
| Minerale olie C21 - C30 | mg/kg ds | 2300 | 11500(6) | | < 11 | 28(6) | | 11 | 55(6) | |
| Minerale olie C30 - C35 | mg/kg ds | 1200 | 6000(6) | | 7,3 | 26,100(6) | | 6,6 | 33(6) | |
| Minerale olie C35 - C40 | mg/kg ds | 540 | 2700(6) | | < 6 | 15(6) | | < 6 | 21(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 513-3 | | | 516-1 | | | 518-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 513 | | | 516 | | | 518 | | |
| Monstertraject (m -mv) | | 1,10-1,60 | | | 0,10-0,60 | | | 0,08-0,58 | | |
| Analysedatum | | 23-10-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 80,50 | | | 82,20 | | | 85,40 | | |
| Lutum | % ds | | | | 7,9 | | | 3,5 | | |
| Organische stof | % ds | 1,2 | | | 1,8 | | | 0,9 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | | | | 50 | 112(6) | | 47 | 153(6) | |
| cadmium | mg/kg ds | | | | 0,34 | 0,540 | 0,00 | 0,45 | 0,760 | 0,01 |
| kobalt | mg/kg ds | | | | 6,6 | 14,100 | -0,01 | 5 | 15 | 0,00 |
| koper | mg/kg ds | | | | 21 | 36 | -0,03 | 11 | 22 | -0,12 |
| kwik | mg/kg ds | | | | 0,12 | 0,160 | 0,00 | 0,12 | 0,170 | 0,00 |
| lood | mg/kg ds | | | | 43 | 61 | 0,02 | 16 | 25 | -0,05 |
| molybdeen | mg/kg ds | | | | < 1,5 | 1,100 | 0,00 | < 1,5 | 1,100 | 0,00 |
| nikkel | mg/kg ds | | | | 14 | 27 | -0,12 | 9,2 | 23,900 | -0,17 |
| zink | mg/kg ds | | | | 130 | 237 | 0,17 | 220 | 485 | 0,59 |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | | | | 0,34 | 0,340 | | < 0,05 | 0,040 | |
| benzo(a)antraceen | mg/kg ds | | | | 0,47 | 0,470 | | 0,12 | 0,120 | |
| benzo(a)pyreen | mg/kg ds | | | | 0,57 | 0,570 | | 0,11 | 0,110 | |
| benzo(ghi)peryleen | mg/kg ds | | | | 0,49 | 0,490 | | 0,082 | 0,082 | |
| benzo(k)fluorantheen | mg/kg ds | | | | 0,27 | 0,270 | | 0,086 | 0,086 | |
| chryseen | mg/kg ds | | | | 0,49 | 0,490 | | 0,13 | 0,130 | |
| fenantreen | mg/kg ds | | | | 1,1 | 1,100 | | < 0,05 | 0,040 | |
| fluorantheen | mg/kg ds | | | | 0,96 | 0,960 | | 0,24 | 0,240 | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | 0,53 | 0,530 | | 0,11 | 0,110 | |
| naftaleen | mg/kg ds | | | | < 0,05 | 0,040 | | < 0,05 | 0,040 | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | 5,3 | | | 0,97 | | |
| som (10) PAK | mg/kg ds | | | | | 5,300 | 0,10 | | 0,980 | -0,01 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 11(6) | | < 3 | 11(6) | |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | -0,01 | 160 | 800 | 0,13 | < 35 | 123 | -0,01 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | | < 5 | 18(6) | | < 5 | 18(6) | |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | | 7,8 | 39(6) | | < 5 | 18(6) | |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 39(6) | | 62 | 310(6) | | < 11 | 39(6) | |
| Minerale olie C30 - C35 | mg/kg ds | 5,2 | 26(6) | | 56 | 280(6) | | < 5 | 18(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | | 35 | 175(6) | | < 6 | 21(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 513-3 | | | 516-1 | | | 518-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | 0,0049 | | | 0,0076 | | |
| PCB 101 | mg/kg ds | | | | < 0,001 | 0,004 | | 0,0011 | 0,006 | |
| PCB 118 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 138 | mg/kg ds | | | | < 0,001 | 0,004 | | 0,0014 | 0,007 | |
| PCB 153 | mg/kg ds | | | | < 0,001 | 0,004 | | 0,0016 | 0,008 | |
| PCB 180 | mg/kg ds | | | | < 0,001 | 0,004 | | 0,0014 | 0,007 | |
| PCB 28 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 52 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| som (7) PCB | mg/kg ds | | | | | 0,025 | 0,01 | | 0,038 | 0,02 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 519-1 | | | 520-2 | | | 521-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 519 | | | 520 | | | 521 | | |
| Monstertraject (m -mv) | | 0,08-0,58 | | | 0,20-0,45 | | | 0,15-0,40 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 90,20 | | | 90,00 | | | 87,60 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 0,8 | | | 1,2 | | | 1,9 | | |
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,036 | | | 0,13 | | | 0,0085 | | |
| PCB 101 | mg/kg ds | 0,0023 | 0,012 | | 0,015 | 0,075 | | < 0,001 | 0,004 | |
| PCB 118 | mg/kg ds | 0,0011 | 0,006 | | 0,0087 | 0,044 | | < 0,001 | 0,004 | |
| PCB 138 | mg/kg ds | 0,009 | 0,045 | | 0,035 | 0,175 | | 0,0025 | 0,013 | |
| PCB 153 | mg/kg ds | 0,012 | 0,060 | | 0,04 | 0,200 | | 0,0025 | 0,013 | |
| PCB 180 | mg/kg ds | 0,0097 | 0,049 | | 0,025 | 0,125 | | < 0,001 | 0,004 | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | | 0,0018 | 0,009 | | < 0,001 | 0,004 | |
| som (7) PCB | mg/kg ds | | 0,180 | 0,16 | | 0,630 | 0,62 | | 0,043 | 0,02 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 522-1 | | | 523-1 | | | 525-2 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 522 | | | 523 | | | 525 | | |
| Monstertraject (m -mv) | | 0,15-0,45 | | | 0,10-0,60 | | | 0,20-0,70 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 90,20 | | | 78,90 | | | 84,30 | | |
| Lutum | % ds | | | | | | | 4,6 | | |
| Organische stof | % ds | 1,1 | | | 2,2 | | | 2,4 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | | | | | | | 150 | 439(6) | |
| cadmium | mg/kg ds | | | | | | | 4,7 | 7,600 | 0,56 |
| kobalt | mg/kg ds | | | | | | | 19 | 52 | 0,21 |
| koper | mg/kg ds | | | | | | | 180 | 338 | 1,99 |
| kwik | mg/kg ds | | | | | | | 0,13 | 0,180 | 0,00 |
| lood | mg/kg ds | | | | | | | 59 | 88 | 0,08 |
| molybdeen | mg/kg ds | | | | | | | 3,7 | 3,700 | 0,01 |
| nikkel | mg/kg ds | | | | | | | 58 | 139 | 1,60 |
| zink | mg/kg ds | | | | | | | 160 | 332 | 0,33 |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | | | | | | | 0,063 | 0,063 | |
| benzo(a)antraceen | mg/kg ds | | | | | | | 0,15 | 0,150 | |
| benzo(a)pyreen | mg/kg ds | | | | | | | 0,11 | 0,110 | |
| benzo(ghi)peryleen | mg/kg ds | | | | | | | 0,099 | 0,099 | |
| benzo(k)fluorantheen | mg/kg ds | | | | | | | 0,064 | 0,064 | |
| chryseen | mg/kg ds | | | | | | | 0,16 | 0,160 | |
| fenantreen | mg/kg ds | | | | | | | 0,15 | 0,150 | |
| fluorantheen | mg/kg ds | | | | | | | 0,25 | 0,250 | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | | | 0,1 | 0,100 | |
| naftaleen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | | | 1,2 | | |
| som (10) PAK | mg/kg ds | | | | | | | | 1,200 | -0,01 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | | | | | | | < 3 | 9(6) | |
| Minerale olie C10 - C40 | mg/kg ds | | | | | | | < 35 | 102 | -0,02 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | | | < 5 | 15(6) | |
| Minerale olie C16 - C21 | mg/kg ds | | | | | | | < 5 | 15(6) | |
| Minerale olie C21 - C30 | mg/kg ds | | | | | | | 14 | 58(6) | |
| Minerale olie C30 - C35 | mg/kg ds | | | | | | | 6,5 | 27,100(6) | |
| Minerale olie C35 - C40 | mg/kg ds | | | | | | | < 6 | 18(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 522-1 | | | 523-1 | | | 525-2 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,042 | | | 0,0055 | | | 0,0052 | | |
| PCB 101 | mg/kg ds | 0,0051 | 0,026 | | < 0,001 | 0,003 | | < 0,001 | 0,003 | |
| PCB 118 | mg/kg ds | 0,0028 | 0,014 | | < 0,001 | 0,003 | | < 0,001 | 0,003 | |
| PCB 138 | mg/kg ds | 0,011 | 0,055 | | 0,001 | 0,005 | | < 0,001 | 0,003 | |
| PCB 153 | mg/kg ds | 0,013 | 0,065 | | 0,001 | 0,005 | | 0,001 | 0,004 | |
| PCB 180 | mg/kg ds | 0,0093 | 0,047 | | < 0,001 | 0,003 | | < 0,001 | 0,003 | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,003 | | < 0,001 | 0,003 | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,003 | | < 0,001 | 0,003 | |
| som (7) PCB | mg/kg ds | | 0,210 | 0,19 | | 0,025 | 0,01 | | 0,022 | 0,00 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 526-2 | | | 527-1 | | | 528-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 526 | | | 527 | | | 528 | | |
| Monstertraject (m -mv) | | 0,20-0,50 | | | 0,00-0,35 | | | 0,00-0,50 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Voldoet aan achtergrondwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 91,70 | | | 75,30 | | | 88,80 | | |
| Lutum | % ds | 2,0 | | | 21,3 | | | 5,9 | | |
| Organische stof | % ds | 1,0 | | | 7,1 | | | 2,3 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | 29 | 60 | 0,13 | 35 | 39 | -0,01 | 130 | 235 | 1,30 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 529-1 | | | 531-1 | | | 532-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 529 | | | 531 | | | 532 | | |
| Monstertraject (m -mv) | | 0,00-0,50 | | | 0,12-0,62 | | | 0,08-0,58 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 83,90 | | | 85,90 | | | 84,90 | | |
| Lutum | % ds | 7,4 | | | | | | | | |
| Organische stof | % ds | 3,3 | | | 0,7 | | | 0,7 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | 84 | 141 | 0,67 | | | | | | |
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | 0,0059 | | | 0,016 | | |
| PCB 101 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 118 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 138 | mg/kg ds | | | | < 0,001 | 0,004 | | 0,0037 | 0,019 | |
| PCB 153 | mg/kg ds | | | | 0,0012 | 0,006 | | 0,0051 | 0,026 | |
| PCB 180 | mg/kg ds | | | | 0,0012 | 0,006 | | 0,0048 | 0,024 | |
| PCB 28 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 52 | mg/kg ds | | | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| som (7) PCB | mg/kg ds | | | | | 0,030 | 0,01 | | 0,082 | 0,06 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 533-1 | | | 534-1 | | | 535-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 533 | | | 534 | | | 535 | | |
| Monstertraject (m -mv) | | 0,00-0,50 | | | 0,00-0,50 | | | 0,09-0,30 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 77,20 | | | 84,70 | | | 92,00 | | |
| Lutum | % ds | 8,2 | | | 3,5 | | | 2,9 | | |
| Organische stof | % ds | 1,5 | | | 1,9 | | | 2,1 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | | | | | | | 48 | 167(6) | |
| cadmium | mg/kg ds | | | | | | | 0,54 | 0,910 | 0,03 |
| kobalt | mg/kg ds | | | | | | | 14 | 45 | 0,17 |
| koper | mg/kg ds | | | | | | | 260 | 520 | 3,20 |
| kwik | mg/kg ds | | | | | | | 0,11 | 0,160 | 0,00 |
| lood | mg/kg ds | | | | | | | 61 | 94 | 0,09 |
| molybdeen | mg/kg ds | | | | | | | 5,5 | 5,500 | 0,02 |
| nikkel | mg/kg ds | | | | | | | 44 | 119 | 1,29 |
| zink | mg/kg ds | 54 | 97 | -0,07 | 130 | 287 | 0,25 | 150 | 340 | 0,34 |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | | | | | | | 0,34 | 0,340 | |
| benzo(a)antraceen | mg/kg ds | | | | | | | 1,1 | 1,100 | |
| benzo(a)pyreen | mg/kg ds | | | | | | | 0,95 | 0,950 | |
| benzo(ghi)peryleen | mg/kg ds | | | | | | | 0,63 | 0,630 | |
| benzo(k)fluorantheen | mg/kg ds | | | | | | | 0,45 | 0,450 | |
| chryseen | mg/kg ds | | | | | | | 1 | 1 | |
| fenantreen | mg/kg ds | | | | | | | 0,93 | 0,930 | |
| fluorantheen | mg/kg ds | | | | | | | 2 | 2 | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | | | 0,5 | 0,500 | |
| naftaleen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | | | 8 | | |
| som (10) PAK | mg/kg ds | | | | | | | | 7,900 | 0,17 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | | | | | | | < 3 | 10(6) | |
| Minerale olie C10 - C40 | mg/kg ds | | | | | | | 55 | 262 | 0,01 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | | | < 5 | 17(6) | |
| Minerale olie C16 - C21 | mg/kg ds | | | | | | | 10 | 48(6) | |
| Minerale olie C21 - C30 | mg/kg ds | | | | | | | 27 | 129(6) | |
| Minerale olie C30 - C35 | mg/kg ds | | | | | | | 11 | 52(6) | |
| Minerale olie C35 - C40 | mg/kg ds | | | | | | | < 6 | 20(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 533-1 | | | 534-1 | | | 535-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | | | 0,0071 | | |
| PCB 101 | mg/kg ds | | | | | | | < 0,001 | 0,003 | |
| PCB 118 | mg/kg ds | | | | | | | < 0,001 | 0,003 | |
| PCB 138 | mg/kg ds | | | | | | | 0,0015 | 0,007 | |
| PCB 153 | mg/kg ds | | | | | | | 0,0013 | 0,006 | |
| PCB 180 | mg/kg ds | | | | | | | 0,0015 | 0,007 | |
| PCB 28 | mg/kg ds | | | | | | | < 0,001 | 0,003 | |
| PCB 52 | mg/kg ds | | | | | | | < 0,001 | 0,003 | |
| som (7) PCB | mg/kg ds | | | | | | | | 0,034 | 0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | MM01 | | | MM02 | | | MM03 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 536, 537, 538 | | | 536, 537, 538 | | | 530 | | |
| Monstertraject (m -mv) | | 0,15-0,45 | | | 0,40-0,70 | | | 0,08-0,60 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 95,00 | | | 96,80 | | | 86,90 | | |
| Lutum | % ds | 2,4 | | | 2,0 | | | | | |
| Organische stof | % ds | 1,1 | | | 0,7 | | | 0,7 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | 140 | 517(6) | | 36 | 140(6) | | | | |
| cadmium | mg/kg ds | < 0,2 | 0,200 | -0,03 | 0,36 | 0,620 | 0,00 | | | |
| kobalt | mg/kg ds | 10 | 34 | 0,11 | 4 | 14 | -0,01 | | | |
| koper | mg/kg ds | 35 | 71 | 0,21 | 7,2 | 14,900 | -0,17 | | | |
| kwik | mg/kg ds | < 0,05 | 0,050 | 0,00 | 0,065 | 0,093 | 0,00 | | | |
| lood | mg/kg ds | 22 | 34 | -0,03 | 16 | 25 | -0,05 | | | |
| molybdeen | mg/kg ds | 1,8 | 1,800 | 0,00 | < 1,5 | 1,100 | 0,00 | | | |
| nikkel | mg/kg ds | 26 | 73 | 0,58 | 8,7 | 25,400 | -0,15 | | | |
| zink | mg/kg ds | 70 | 163 | 0,04 | 93 | 221 | 0,14 | | | |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | 0,086 | 0,086 | | 0,19 | 0,190 | | | | |
| benzo(a)antraceen | mg/kg ds | 0,43 | 0,430 | | 0,62 | 0,620 | | | | |
| benzo(a)pyreen | mg/kg ds | 0,36 | 0,360 | | 0,39 | 0,390 | | | | |
| benzo(ghi)peryleen | mg/kg ds | 0,28 | 0,280 | | 0,22 | 0,220 | | | | |
| benzo(k)fluorantheen | mg/kg ds | 0,18 | 0,180 | | 0,21 | 0,210 | | | | |
| chryseen | mg/kg ds | 0,43 | 0,430 | | 0,62 | 0,620 | | | | |
| fenantreen | mg/kg ds | 0,35 | 0,350 | | 0,83 | 0,830 | | | | |
| fluorantheen | mg/kg ds | 0,81 | 0,810 | | 1,2 | 1,200 | | | | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | 0,29 | 0,290 | | 0,27 | 0,270 | | | | |
| naftaleen | mg/kg ds | < 0,05 | 0,040 | | < 0,05 | 0,040 | | | | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | 3,3 | | | 4,6 | | | | | |
| som (10) PAK | mg/kg ds | | 3,300 | 0,05 | | 4,600 | 0,08 | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 11(6) | | | | |
| Minerale olie C10 - C40 | mg/kg ds | 79 | 395 | 0,04 | 60 | 300 | 0,02 | | | |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | | < 5 | 18(6) | | | | |
| Minerale olie C16 - C21 | mg/kg ds | 10 | 50(6) | | 9,2 | 46(6) | | | | |
| Minerale olie C21 - C30 | mg/kg ds | 28 | 140(6) | | 25 | 125(6) | | | | |
| Minerale olie C30 - C35 | mg/kg ds | 21 | 105(6) | | 14 | 70(6) | | | | |
| Minerale olie C35 - C40 | mg/kg ds | 15 | 75(6) | | 9,7 | 48,500(6) | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | MM01 | | | MM02 | | | MM03 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,06 | | | 0,0049 | | | 0,86 | | |
| PCB 101 | mg/kg ds | 0,0087 | 0,044 | | < 0,001 | 0,004 | | 0,065 | 0,325 | |
| PCB 118 | mg/kg ds | 0,0029 | 0,015 | | < 0,001 | 0,004 | | 0,024 | 0,120 | |
| PCB 138 | mg/kg ds | 0,015 | 0,075 | | < 0,001 | 0,004 | | 0,21 | 1,050 | |
| PCB 153 | mg/kg ds | 0,017 | 0,085 | | < 0,001 | 0,004 | | 0,3 | 1,500 | |
| PCB 180 | mg/kg ds | 0,013 | 0,065 | | < 0,001 | 0,004 | | 0,26 | 1,300 | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | < 0,001 | 0,004 | |
| PCB 52 | mg/kg ds | 0,0018 | 0,009 | | < 0,001 | 0,004 | | 0,0043 | 0,022 | |
| som (7) PCB | mg/kg ds | | 0,300 | 0,29 | | 0,025 | 0,01 | | 4,300 | 4,37 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | MM04 | | | MM05 | | | 1016_N-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 524 | | | 517 | | | 1016_N | | |
| Monstertraject (m -mv) | | 0,00-0,50 | | | 0,12-0,65 | | | 1,50-2,00 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 03-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 85,20 | | | 86,20 | | | 75,30 | | |
| Lutum | % ds | 8,6 | | | 3,4 | | | | | |
| Organische stof | % ds | 1,6 | | | 0,8 | | | 1,9 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | 220 | 467(6) | | < 20 | 46(6) | | | | |
| cadmium | mg/kg ds | 0,4 | 0,600 | 0,00 | < 0,2 | 0,200 | -0,03 | | | |
| kobalt | mg/kg ds | 7,2 | 14,700 | 0,00 | 3,9 | 11,900 | -0,02 | | | |
| koper | mg/kg ds | 46 | 78 | 0,25 | < 5 | 7 | -0,22 | | | |
| kwik | mg/kg ds | 0,097 | 0,126 | 0,00 | < 0,05 | 0,050 | 0,00 | | | |
| lood | mg/kg ds | 47 | 66 | 0,03 | < 10 | 11 | -0,08 | | | |
| molybdeen | mg/kg ds | < 1,5 | 1,100 | 0,00 | < 1,5 | 1,100 | 0,00 | | | |
| nikkel | mg/kg ds | 19 | 36 | 0,02 | 8,2 | 21,400 | -0,21 | | | |
| zink | mg/kg ds | 140 | 249 | 0,19 | 40 | 89 | -0,09 | | | |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | < 0,05 | 0,040 | | < 0,05 | 0,040 | | | | |
| benzo(a)antraceen | mg/kg ds | 0,15 | 0,150 | | < 0,05 | 0,040 | | | | |
| benzo(a)pyreen | mg/kg ds | 0,16 | 0,160 | | < 0,05 | 0,040 | | | | |
| benzo(ghi)peryleen | mg/kg ds | 0,1 | 0,100 | | < 0,05 | 0,040 | | | | |
| benzo(k)fluorantheen | mg/kg ds | 0,072 | 0,072 | | < 0,05 | 0,040 | | | | |
| chryseen | mg/kg ds | 0,16 | 0,160 | | < 0,05 | 0,040 | | | | |
| fenantreen | mg/kg ds | 0,1 | 0,100 | | < 0,05 | 0,040 | | | | |
| fluorantheen | mg/kg ds | 0,24 | 0,240 | | < 0,05 | 0,040 | | | | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | 0,099 | 0,099 | | < 0,05 | 0,040 | | | | |
| naftaleen | mg/kg ds | < 0,05 | 0,040 | | < 0,05 | 0,040 | | | | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | 1,2 | | | 0,35 | | | | | |
| som (10) PAK | mg/kg ds | | 1,200 | -0,01 | | 0,350 | -0,03 | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | | < 3 | 11(6) | | 310 | 1550(6) | |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | -0,01 | < 35 | 123 | -0,01 | 810 | 4050 | 0,80 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | | < 5 | 18(6) | | 140 | 700(6) | |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | | < 5 | 18(6) | | 68 | 340(6) | |
| Minerale olie C21 - C30 | mg/kg ds | 13 | 65(6) | | < 11 | 39(6) | | 190 | 950(6) | |
| Minerale olie C30 - C35 | mg/kg ds | 9,6 | 48(6) | | < 5 | 18(6) | | 82 | 410(6) | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | | < 6 | 21(6) | | 35 | 175(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | MM04 | | | MM05 | | | 1016_N-4 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | 0,00 |
| 1,1,2-trichloorethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,01 |
| 1,1-dichloorethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,01 |
| 1,2-dichloorethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | | | | | | | 0,07 | | |
| chlooretheen | mg/kg ds | | | | | | | < 0,01 | 0,040 | - (^) |
| cis-1,2-dichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | |
| CKW (som) | mg/kg ds | | | | | | | < 0,42 | | |
| dichloormethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | 0,02 |
| som dichlooretheen-isomeren | mg/kg ds | | | | | | | | 0,350 | 0,07 |
| tetrachlooretheen | mg/kg ds | | | | | | | < 0,01 | 0,040 | -0,01 |
| tetrachloormethaan | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,30 |
| trans-1,2-dichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | |
| trichlooretheen | mg/kg ds | | | | | | | < 0,05 | 0,180 | -0,03 |
| trichloormethaan | mg/kg ds | | | | | | | < 0,02 | 0,070 | -0,03 |
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,012 | | | 0,0049 | | | | | |
| PCB 101 | mg/kg ds | 0,0012 | 0,006 | | < 0,001 | 0,004 | | | | |
| PCB 118 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| PCB 138 | mg/kg ds | 0,0029 | 0,015 | | < 0,001 | 0,004 | | | | |
| PCB 153 | mg/kg ds | 0,0031 | 0,016 | | < 0,001 | 0,004 | | | | |
| PCB 180 | mg/kg ds | 0,0026 | 0,013 | | < 0,001 | 0,004 | | | | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| som (7) PCB | mg/kg ds | | 0,060 | 0,04 | | 0,025 | 0,01 | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
EOL

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 1016_N-16 | | | 1017-19 | | | 1018-3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 1016_N | | | 1017 | | | 1018 | | |
| Monstertraject (m -mv) | | 7,50-8,00 | | | 9,00-9,50 | | | 1,00-1,50 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 03-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 76,60 | | | 73,00 | | | 79,20 | | |
| Lutum | % ds | | | | | | | | | |
| Organische stof | % ds | 1,3 | | | 4,0 | | | 0,7 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | | | | | | | < 3 | 11 (6) | |
| Minerale olie C10 - C40 | mg/kg ds | | | | | | | 54 | 270 | 0,02 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | | | < 5 | 18 (6) | |
| Minerale olie C16 - C21 | mg/kg ds | | | | | | | 11 | 55 (6) | |
| Minerale olie C21 - C30 | mg/kg ds | | | | | | | 25 | 125 (6) | |
| Minerale olie C30 - C35 | mg/kg ds | | | | | | | 11 | 55 (6) | |
| Minerale olie C35 - C40 | mg/kg ds | | | | | | | < 6 | 21 (6) | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | mg/kg ds | < 0,05 | 0,180 | 0,00 | < 0,05 | 0,090 | -0,01 | < 0,05 | 0,180 | 0,00 |
| 1,1,2-trichloorethaan | mg/kg ds | < 0,05 | 0,180 | -0,01 | < 0,05 | 0,090 | -0,02 | < 0,05 | 0,180 | -0,01 |
| 1,1-dichloorethaan | mg/kg ds | < 0,02 | 0,070 | -0,01 | < 0,02 | 0,040 | -0,01 | < 0,02 | 0,070 | -0,01 |
| 1,2-dichloorethaan | mg/kg ds | < 0,02 | 0,070 | -0,02 | < 0,02 | 0,040 | -0,03 | < 0,02 | 0,070 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | 0,07 | | | 0,07 | | | 0,07 | | |
| chloorethen | mg/kg ds | < 0,01 | 0,040 | - (^) | < 0,01 | 0,020 | - (^) | < 0,01 | 0,040 | - (^) |
| cis-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,180 | | < 0,05 | 0,090 | | < 0,05 | 0,180 | |
| CKW (som) | mg/kg ds | < 0,42 | | | < 0,42 | | | < 0,42 | | |
| dichloormethaan | mg/kg ds | < 0,05 | 0,180 | 0,02 | < 0,05 | 0,090 | 0,00 | < 0,05 | 0,180 | 0,02 |
| som dichlooretheen-isomeren | mg/kg ds | | 0,350 | 0,07 | | 0,180 | -0,17 | | 0,350 | 0,07 |
| tetrachloorethen | mg/kg ds | < 0,01 | 0,040 | -0,01 | < 0,01 | 0,020 | -0,02 | < 0,01 | 0,040 | -0,01 |
| tetrachloormethaan | mg/kg ds | < 0,05 | 0,180 | -0,30 | < 0,05 | 0,090 | -0,52 | < 0,05 | 0,180 | -0,30 |
| trans-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,180 | | < 0,05 | 0,090 | | < 0,05 | 0,180 | |
| trichlooretheen | mg/kg ds | < 0,05 | 0,180 | -0,03 | < 0,05 | 0,090 | -0,07 | < 0,05 | 0,180 | -0,03 |
| trichloormethaan | mg/kg ds | < 0,02 | 0,070 | -0,03 | < 0,02 | 0,040 | -0,04 | < 0,02 | 0,070 | -0,03 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
EOL
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 509-5 | | | 535-2 | | | 525a-3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 509 | | | 535 | | | 525a | | |
| Monstertraject (m -mv) | | 2,00-2,30 | | | 0,30-0,60 | | | 0,70-1,00 | | |
| Analysedatum | | 23-10-2020 | | | 04-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 71,40 | | | 94,30 | | | 82,10 | | |
| Lutum | % ds | | | | 2,0 | | | 3,8 | | |
| Organische stof | % ds | 6,9 | | | 0,7 | | | 1,6 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | | | | < 20 | 54(6) | | | | |
| cadmium | mg/kg ds | | | | 0,34 | 0,590 | 0,00 | | | |
| kobalt | mg/kg ds | | | | 6,4 | 22,500 | 0,04 | | | |
| koper | mg/kg ds | | | | 87 | 180 | 0,93 | 240 | 468 | 2,85 |
| kwik | mg/kg ds | | | | < 0,05 | 0,050 | 0,00 | | | |
| lood | mg/kg ds | | | | 18 | 28 | -0,05 | | | |
| molybdeen | mg/kg ds | | | | 8,8 | 8,800 | 0,04 | | | |
| nikkel | mg/kg ds | | | | 32 | 93 | 0,89 | | | |
| zink | mg/kg ds | | | | 81 | 192 | 0,09 | 120 | 261 | 0,21 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 3(6) | | | | | | | |
| Minerale olie C10 - C40 | mg/kg ds | 67 | 97 | -0,02 | | | | | | |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 5(6) | | | | | | | |
| Minerale olie C16 - C21 | mg/kg ds | 8,7 | 12,600(6) | | | | | | | |
| Minerale olie C21 - C30 | mg/kg ds | 31 | 45(6) | | | | | | | |
| Minerale olie C30 - C35 | mg/kg ds | 21 | 30(6) | | | | | | | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 6(6) | | | | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 528a-2 | | | 528a-3 | | | 530a-3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 528a | | | 528a | | | 530a | | |
| Monstertraject (m -mv) | | 0,50-1,00 | | | 1,00-1,25 | | | 0,60-1,10 | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding interventiewaarde | | | Overschrijding interventiewaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 89,10 | | | 82,30 | | | 77,70 | | |
| Lutum | % ds | 3,3 | | | 10,0 | | | | | |
| Organische stof | % ds | 1,7 | | | 1,3 | | | 0,7 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | 550 | 1089 | 6,99 | 790 | 1281 | 8,27 | | | |
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | | | 0,0059 | | |
| PCB 101 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| PCB 118 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| PCB 138 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| PCB 153 | mg/kg ds | | | | | | | 0,0012 | 0,006 | |
| PCB 180 | mg/kg ds | | | | | | | 0,0012 | 0,006 | |
| PCB 28 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| PCB 52 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| som (7) PCB | mg/kg ds | | | | | | | | 0,030 | 0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 541-1 | | | 542-1 | | | 543-2 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 541 | | | 542 | | | 543 | | |
| Monstertraject (m -mv) | | 0,00-0,50 | | | 0,08-0,30 | | | 0,30-0,65 | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 84,90 | | | 97,80 | | | 81,10 | | |
| Lutum | % ds | | | | | | | 12,5 | | |
| Organische stof | % ds | 0,7 | | | 0,7 | | | 3,9 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | | | | | | | 82 | 119 | 0,53 |
| zink | mg/kg ds | | | | | | | 120 | 180 | 0,07 |
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,047 | | | 0,0064 | | | | | |
| PCB 101 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| PCB 118 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| PCB 138 | mg/kg ds | 0,012 | 0,060 | | 0,0011 | 0,006 | | | | |
| PCB 153 | mg/kg ds | 0,012 | 0,060 | | 0,0011 | 0,006 | | | | |
| PCB 180 | mg/kg ds | 0,02 | 0,100 | | 0,0014 | 0,007 | | | | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | | < 0,001 | 0,004 | | | | |
| som (7) PCB | mg/kg ds | | 0,230 | 0,21 | | 0,032 | 0,01 | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 544-1 | | | 545 | | | 547-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 544 | | | 545 | | | 547 | | |
| Monstertraject (m -mv) | | 0,00-0,50 | | | 0,08-0,60 | | | 0,00-0,50 | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 85,60 | | | 88,60 | | | 88,70 | | |
| Lutum | % ds | 7,4 | | | 2,0 | | | 2,9 | | |
| Organische stof | % ds | 2,2 | | | 0,7 | | | 1,6 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | 29 | 50 | 0,07 | 77 | 159 | 0,79 | 85 | 171 | 0,87 |
| zink | mg/kg ds | 190 | 352 | 0,37 | 80 | 190 | 0,09 | 93 | 211 | 0,12 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 548-2 | | | 550-1 | | | 551-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | 548 | | | 550 | | | 551 | | |
| Monstertraject (m -mv) | | 0,20-0,40 | | | 0,00-0,50 | | | 0,08-0,58 | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan achtergrondwaarde | | | Overschrijding interventiewaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 89,00 | | | 88,10 | | | 97,50 | | |
| Lutum | % ds | 2,0 | | | 4,4 | | | 2,0 | | |
| Organische stof | % ds | 1,3 | | | 3,2 | | | 0,8 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| barium | mg/kg ds | | | | | | | 29 | 112(6) | |
| cadmium | mg/kg ds | | | | | | | 0,67 | 1,150 | 0,04 |
| kobalt | mg/kg ds | | | | | | | 4,5 | 15,800 | 0,00 |
| koper | mg/kg ds | 13 | 27 | -0,09 | 120 | 221 | 1,21 | 120 | 248 | 1,39 |
| kwik | mg/kg ds | | | | | | | 0,12 | 0,170 | 0,00 |
| lood | mg/kg ds | | | | | | | 39 | 61 | 0,02 |
| molybdeen | mg/kg ds | | | | | | | < 1,5 | 1,100 | 0,00 |
| nikkel | mg/kg ds | | | | | | | 14 | 41 | 0,09 |
| zink | mg/kg ds | | | | | | | 140 | 332 | 0,33 |
| **PAK** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| antraceen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| benzo(a)antraceen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| benzo(a)pyreen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| benzo(ghi)peryleen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| benzo(k)fluorantheen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| chryseen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| fenantreen | mg/kg ds | | | | | | | 0,49 | 0,490 | |
| fluorantheen | mg/kg ds | | | | | | | 0,07 | 0,070 | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| naftaleen | mg/kg ds | | | | | | | < 0,05 | 0,040 | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | | | 0,84 | | |
| som (10) PAK | mg/kg ds | | | | | | | | 0,840 | -0,02 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | | | | | | | 7 | 35(6) | |
| Minerale olie C10 - C40 | mg/kg ds | | | | | | | 1000 | 5000 | 1,00 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | | | 65 | 325(6) | |
| Minerale olie C16 - C21 | mg/kg ds | | | | | | | 470 | 2350(6) | |
| Minerale olie C21 - C30 | mg/kg ds | | | | | | | 350 | 1750(6) | |
| Minerale olie C30 - C35 | mg/kg ds | | | | | | | 87 | 435(6) | |
| Minerale olie C35 - C40 | mg/kg ds | | | | | | | 35 | 175(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 548-2 | | | 550-1 | | | 551-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | | | 0,017 | | |
| PCB 101 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| PCB 118 | mg/kg ds | | | | | | | 0,0026 | 0,013 | |
| PCB 138 | mg/kg ds | | | | | | | 0,0029 | 0,015 | |
| PCB 153 | mg/kg ds | | | | | | | 0,0033 | 0,017 | |
| PCB 180 | mg/kg ds | | | | | | | 0,0029 | 0,015 | |
| PCB 28 | mg/kg ds | | | | | | | 0,0038 | 0,019 | |
| PCB 52 | mg/kg ds | | | | | | | < 0,001 | 0,004 | |
| som (7) PCB | mg/kg ds | | | | | | | | 0,085 | 0,07 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | Grit 1-1 | | | Grit 2-1 | | | 549 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Boringnummer | | Grit 1 | | | Grit 2 | | | 549 | | |
| Monstertraject (m -mv) | | 0,00-0,01 | | | 0,00-0,01 | | | 0,00-0,50 | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding interventiewaarde | | | Overschrijding interventiewaarde | | | Overschrijding achtergrondwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Droge stof | % | 99,60 | | | 97,50 | | | 90,90 | | |
| Lutum | % ds | | | | | | | 2,7 | | |
| Organische stof | % ds | | | | | | | 1,1 | | |
| **METALEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| koper | mg/kg ds | | | | | | | 40 | 81 | 0,27 |
| zink | mg/kg ds | | | | | | | 100 | 229 | 0,15 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | mg/kg ds | < 300 | 210(6) | | 330 | 330(6) | | | | |
| Minerale olie C10 - C40 | mg/kg ds | 180000 | 180000 | 37,38 | 180000 | 180000 | 37,38 | | | |
| Minerale olie C12 - C16 | mg/kg ds | < 500 | 350(6) | | 580 | 580(6) | | | | |
| Minerale olie C16 - C21 | mg/kg ds | 3600 | 3600(6) | | 7500 | 7500(6) | | | | |
| Minerale olie C21 - C30 | mg/kg ds | 77000 | 77000(6) | | 140000 | 140000(6) | | | | |
| Minerale olie C30 - C35 | mg/kg ds | 69000 | 69000(6) | | 30000 | 30000(6) | | | | |
| Minerale olie C35 - C40 | mg/kg ds | 28000 | 28000(6) | | 6600 | 6600(6) | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | | 528a-4 | |
|---|---|---|---|---|
| Boringnummer | | | 528a | |
| Monstertraject (m -mv) | | | 1,25-1,75 | |
| Analysedatum | | | 18-11-2020 | |
| Monsterconclusie Wbb | | | Overschrijding achtergrondwaarde | |
| **BODEMKUNDIG** | | | | |
| Droge stof | % | | 69,60 | |
| Lutum | % ds | | 8,1 | |
| Organische stof | % ds | | 2,0 | |
| **METALEN** | Eenheid | Meetw | GSSD | Index |
| koper | mg/kg ds | 36 | 62 | 0,15 |

TOELICHTING

Wet bodembescherming (Wbb)

- Gehalte kleiner dan of gelijk aan de achtergrondwaarde
- Gehalte groter dan de achtergrondwaarde, maar index maximaal gelijk aan 0,5
- Gehalte groter dan de achtergrondwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Gehalte groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

# Appendix 4 Assessment of groundwater samples against the Soil Protection Act

| Analyseresultaten grondwater | | 1002-3-1-1 | | | 1002-1-1-1 | | | 1003-3-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 9,00-10,00 | | | 2,00-3,00 | | | 9,00-10,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,71 | | | 1,85 | | | 2,76 | | |
| pH | | 6,50 | | | 7,10 | | | 6,90 | | |
| EC | µS/cm | 2.500 | | | 1.050 | | | 1.940 | | |
| Troebelheid | NTU | 621 | | | 27 | | | 247 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1003-2-1-1 | | | 1003-1-1-1 | | | 1004-3-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 2,00-3,00 | | | 9,00-10,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 2,58 | | | 1,38 | | | 3,25 | | |
| pH | | 7,00 | | | 7,30 | | | 6,80 | | |
| EC | µS/cm | 1.310 | | | 970 | | | 1.450 | | |
| Troebelheid | NTU | 229 | | | 207 | | | 126 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | | | | | | | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1004-2-1-1 | | | 1004-1-1-1 | | | 1005-3-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 2,00-3,00 | | | 9,00-10,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,08 | | | 1,26 | | | 3,34 | | |
| pH | | 7,00 | | | 7,30 | | | 7,00 | | |
| EC | µS/cm | 1.510 | | | 940 | | | 1.230 | | |
| Troebelheid | NTU | 1.000 | | | 22 | | | 180 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | | | | | | |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1005-2-1-1 | | | 1005-1-1-1 | | | 1006-3-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 2,00-3,00 | | | 9,00-10,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,05 | | | 1,19 | | | 3,07 | | |
| pH | | 7,10 | | | 7,30 | | | 7,10 | | |
| EC | µS/cm | 1.510 | | | 820 | | | 800 | | |
| Troebelheid | NTU | 1.000 | | | 881 | | | 35 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,35 | | | 0,14 | | |
| chlooretheen | µg/l | | | | 0,34 | 0,340 | 0,07 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 0,28 | 0,280 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,350 | 0,02 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1006-2-1-1 | | | 1006-1-1-1 | | | 1007-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 2,00-3,00 | | | 2,00-3,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,29 | | | 1,03 | | | 1,31 | | |
| pH | | 7,00 | | | 7,20 | | | 7,20 | | |
| EC | µS/cm | 1.000 | | | 810 | | | 910 | | |
| Troebelheid | NTU | 653 | | | 130 | | | 67 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | | | | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1007-2-1-1 | | | 1007-3-1-1 | | | 1008-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,49 | | | 3,89 | | | 1,22 | | |
| pH | | 7,20 | | | 7,10 | | | 7,10 | | |
| EC | µS/cm | 1.610 | | | 1.090 | | | 920 | | |
| Troebelheid | NTU | 212 | | | 12 | | | 25 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,3 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | 0,23 | 0,230 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,300 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1008-2-1-1 | | | 1008-3-1-1 | | | 1009-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,80 | | | 4,04 | | | 1,30 | | |
| pH | | 7,10 | | | 6,90 | | | 7,30 | | |
| EC | µS/cm | 1.390 | | | 1.430 | | | 124 | | |
| Troebelheid | NTU | 55 | | | 24 | | | 526 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | 0,17 | 0,170 | 0,03 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1009-2-1-1 | | | 1009-3-1-1 | | | 1010-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Overschrijding interventiewaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,72 | | | 4,02 | | | 0,71 | | |
| pH | | 7,00 | | | 6,90 | | | 7,40 | | |
| EC | µS/cm | 1.330 | | | 1.860 | | | 610 | | |
| Troebelheid | NTU | 49 | | | 42 | | | 34 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 110 | 110 | 0,12 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 360 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | 500 | 500 | 100,20 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 360 | 360 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | 460 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 360 | 18,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 0,24 | 0,240 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1010-2-1-1 | | | 1010-3-1-1 | | | 1011-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 01-10-2020 | | | 01-10-2020 | | | 01-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 2,72 | | | 3,70 | | | 0,73 | | |
| pH | | 7,30 | | | 6,80 | | | 7,20 | | |
| EC | µS/cm | 920 | | | 2.140 | | | 390 | | |
| Troebelheid | NTU | 691 | | | 52 | | | 113 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 0,36 | 0,360 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1011-2-1-1 | | | 1011-3-1-1 | | | 1012-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 5,00-6,00 | | |
| Analysedatum | | 05-10-2020 | | | 05-10-2020 | | | 05-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 2,69 | | | 3,73 | | | 3,29 | | |
| pH | | 6,90 | | | 6,60 | | | 6,80 | | |
| EC | µS/cm | 880 | | | 2.140 | | | 1.380 | | |
| Troebelheid | NTU | 1.000 | | | 14 | | | 1.000 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 1,8 | 1,800 | -0,01 | 530 | 530 | 0,59 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 3600 | | |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | 3600 | 3600 | |
| CKW (som) | µg/l | < 1,6 | | | 1,8 | | | 4700 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 3612 | 180,69 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | 370 | 370 | 9,25 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | 12 | 12 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | 250 | 250 | 0,47 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1012-1-1-2 | | | 1012-3-1-1 | | | 1013-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 2,00-3,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 05-10-2020 | | | 05-10-2020 | | | 05-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Overschrijding interventiewaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,06 | | | 3,34 | | | 1,02 | | |
| pH | | 7,40 | | | 7,00 | | | 7,70 | | |
| EC | µS/cm | 890 | | | 2.350 | | | 880 | | |
| Troebelheid | NTU | 890 | | | 1.000 | | | 64 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | 0,34 | 0,340 | -0,01 | 14 | 14 | 0,01 | 4,1 | 4,100 | 0,00 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,88 | | | 770 | | | 160 | | |
| chlooretheen | µg/l | | | | | | | 20 | 20 | 4,01 |
| cis-1,2-dichlooretheen | µg/l | 0,81 | 0,810 | | 770 | 770 | | 160 | 160 | |
| CKW (som) | µg/l | 16 | | | 790 | | | 260 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,880 | 0,04 | | 771 | 38,57 | | 160 | 8,00 |
| tetrachlooretheen | µg/l | 14 | 14 | 0,35 | < 1 | 1(41) | 0,02 | 40 | 40 | 1,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 0,5 | 0,500 | | 0,49 | 0,490 | |
| trichlooretheen | µg/l | 1 | 1 | -0,05 | < 2 | 1(41) | -0,05 | 58 | 58 | 0,07 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1013-2-1-1 | | | 1013-3-1-1 | | | 1014-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 05-10-2020 | | | 05-10-2020 | | | 05-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding interventiewaarde | | | Overschrijding interventiewaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,37 | | | 3,60 | | | 1,58 | | |
| pH | | 0,00 | | | 7,10 | | | 7,20 | | |
| EC | µS/cm | 0 | | | 1.690 | | | 670 | | |
| Troebelheid | NTU | 0 | | | 1.000 | | | 120 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 2000 | 1400(41) | 1,56 | 93 | 93 | 0,10 | 2,4 | 2,400 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 93000 | | | 23000 | | | 0,79 | | |
| chlooretheen | µg/l | 6800 | 6800 | 1.362,72 | | | | | | |
| cis-1,2-dichlooretheen | µg/l | 92000 | 92000 | | 23000 | 23000 | | 0,72 | 0,720 | |
| CKW (som) | µg/l | 370000 | | | 140000 | | | 3,5 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 92310 | 4.617,81 | | 23170 | 1.159,08 | | 0,790 | 0,04 |
| tetrachlooretheen | µg/l | 210000 | 210000 | 5.251,31 | 91000 | 91000 | 2.275,57 | 0,36 | 0,360 | 0,01 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | 310 | 310 | | 170 | 170 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | 76000 | 76000 | 159,61 | 29000 | 29000 | 60,87 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1014-2-1-1 | | | 1014-3-1-1 | | | 1015-1-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | 2,00-3,00 | | |
| Analysedatum | | 05-10-2020 | | | 05-10-2020 | | | 05-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Overschrijding streefwaarde | | | Overschrijding interventiewaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,36 | | | 3,54 | | | 2,15 | | |
| pH | | 6,90 | | | 6,90 | | | 7,50 | | |
| EC | µS/cm | 1.030 | | | 1.220 | | | 670 | | |
| Troebelheid | NTU | 618 | | | 463 | | | 404 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | 0,25 | 0,250 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | 0,25 | 0,250 | -0,01 | < 0,2 | 0,100 | -0,01 | 1,5 | 1,500 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,41 | | | 1,7 | | | 5,7 | | |
| cis-1,2-dichlooretheen | µg/l | 0,34 | 0,340 | | 1,7 | 1,700 | | 5,5 | 5,500 | |
| CKW (som) | µg/l | 10 | | | 20 | | | 92 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,410 | 0,02 | | 1,800 | 0,09 | | 5,600 | 0,28 |
| tetrachlooretheen | µg/l | 8,6 | 8,600 | 0,21 | 15 | 15 | 0,37 | 73 | 73 | 1,83 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | 0,12 | 0,120 | |
| trichlooretheen | µg/l | 1 | 1 | -0,05 | 3,5 | 3,500 | -0,04 | 11 | 11 | -0,03 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grondwater | | 1015-2-1-1 | | | 1015-3-1-1 | | | 41-1-3 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 5,00-6,00 | | | 9,00-10,00 | | | - | | |
| Analysedatum | | 05-10-2020 | | | 05-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,40 | | | 3,60 | | | 1,17 | | |
| pH | | 7,10 | | | 7,00 | | | 6,98 | | |
| EC | µS/cm | 930 | | | 1.070 | | | 698 | | |
| Troebelheid | NTU | 297 | | | 362 | | | 9 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| 1,1-dichloorethaan | µg/l | 2,8 | 2,800 | 0,00 | < 0,2 | 0,100 | -0,01 | | | |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | | | |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | | | |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | | | |
| CKW (som) | µg/l | 2,8 | | | < 1,6 | | | | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | | | |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | | |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | | | |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | | | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | | | |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | | | | | | | < 10 | 7(6) | |
| Minerale olie C10 - C40 | µg/l | | | | | | | < 50 | 35 | -0,03 |
| Minerale olie C12 - C16 | µg/l | | | | | | | < 10 | 7(6) | |
| Minerale olie C16 - C21 | µg/l | | | | | | | < 10 | 7(6) | |
| Minerale olie C21 - C30 | µg/l | | | | | | | < 15 | 11(6) | |
| Minerale olie C30 - C35 | µg/l | | | | | | | < 10 | 7(6) | |
| Minerale olie C35 - C40 | µg/l | | | | | | | < 10 | 7(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 501-1-1 | | | Obas-1-1 | | | 502-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 1,90-2,90 | | | - | | | 1,90-2,90 | | |
| Analysedatum | | 23-10-2020 | | | 23-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding interventiewaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,10 | | | - | | | 0,96 | | |
| pH | | 6,81 | | | - | | | 6,95 | | |
| EC | µS/cm | 722 | | | - | | | 691 | | |
| Troebelheid | NTU | 9 | | | - | | | 9 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | | | | < 0,1 | 0,100 | | | | |
| 1,1,2-trichloorethaan | µg/l | | | | < 0,1 | 0,100 | | | | |
| 1,1-dichloorethaan | µg/l | | | | < 0,2 | 0,100 | | | | |
| 1,2-dichloorethaan | µg/l | | | | < 0,2 | 0,100 | | | | |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | | | | 0,14 | | | | | |
| chlooretheen | µg/l | | | | < 0,1 | 0,100 | | | | |
| cis-1,2-dichlooretheen | µg/l | | | | < 0,1 | 0,100 | | | | |
| CKW (som) | µg/l | | | | < 1,6 | | | | | |
| dichloormethaan | µg/l | | | | < 0,2 | 0,100 | | | | |
| som dichlooretheen-isomeren | µg/l | | | | | 0,140 | | | | |
| tetrachlooretheen | µg/l | | | | < 0,1 | 0,100 | | | | |
| tetrachloormethaan | µg/l | | | | < 0,1 | 0,100 | | | | |
| trans-1,2-dichlooretheen | µg/l | | | | < 0,1 | 0,100 | | | | |
| trichlooretheen | µg/l | | | | < 0,2 | 0,100 | | | | |
| trichloormethaan | µg/l | | | | < 0,2 | 0,100 | | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | 530 | 530(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C10 - C40 | µg/l | 11000 | 11000 | 19,91 | < 50 | 35 | | < 50 | 35 | -0,03 |
| Minerale olie C12 - C16 | µg/l | 3500 | 3500(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C16 - C21 | µg/l | 4700 | 4700(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C21 - C30 | µg/l | 2400 | 2400(6) | | < 15 | 11(6) | | < 15 | 11(6) | |
| Minerale olie C30 - C35 | µg/l | 72 | 72(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C35 - C40 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 503-1-1 | | | 97-1-1 | | | 504-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | - | | | - | | | 1,20-2,20 | | |
| Analysedatum | | 23-10-2020 | | | 23-10-2020 | | | 23-10-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,12 | | | 0,90 | | | 1,25 | | |
| pH | | 6,93 | | | 7,05 | | | 7,32 | | |
| EC | µS/cm | 708 | | | 676 | | | 554 | | |
| Troebelheid | NTU | 31 | | | 16 | | | 9 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| 1,1-dichloorethaan | µg/l | 0,27 | 0,270 | -0,01 | < 0,2 | 0,100 | -0,01 | | | |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | | | |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,48 | | | 0,14 | | | | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 | | | |
| cis-1,2-dichlooretheen | µg/l | 0,41 | 0,410 | | < 0,1 | 0,100 | | | | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | | | |
| som dichlooretheen-isomeren | µg/l | | 0,480 | 0,02 | | 0,140 | 0,01 | | | |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | | | |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | | | |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | | | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | | | |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | < 10 | 7(6) | | | | | < 10 | 7(6) | |
| Minerale olie C10 - C40 | µg/l | < 50 | 35 | -0,03 | | | | 240 | 240 | 0,35 |
| Minerale olie C12 - C16 | µg/l | < 10 | 7(6) | | | | | < 10 | 7(6) | |
| Minerale olie C16 - C21 | µg/l | < 10 | 7(6) | | | | | 15 | 15(6) | |
| Minerale olie C21 - C30 | µg/l | < 15 | 11(6) | | | | | 160 | 160(6) | |
| Minerale olie C30 - C35 | µg/l | < 10 | 7(6) | | | | | 48 | 48(6) | |
| Minerale olie C35 - C40 | µg/l | < 10 | 7(6) | | | | | 10 | 10(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 506-1-1 | | | 508-1-1 | | | 507-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 1,70-2,70 | | | 1,70-2,70 | | | 1,70-2,70 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Overschrijding streefwaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,21 | | | 0,97 | | | 1,00 | | |
| pH | | 7,26 | | | 7,58 | | | 7,34 | | |
| EC | µS/cm | 656 | | | 422 | | | 570 | | |
| Troebelheid | NTU | 39 | | | 8 | | | 29 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,26 | | | 0,14 | | | 0,36 | | |
| chlooretheen | µg/l | 0,27 | 0,270 | 0,05 | 0,2 | 0,200 | 0,04 | 0,35 | 0,350 | 0,07 |
| cis-1,2-dichlooretheen | µg/l | 0,19 | 0,190 | | < 0,1 | 0,100 | | 0,29 | 0,290 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,260 | 0,01 | | 0,140 | 0,01 | | 0,360 | 0,02 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C10 - C40 | µg/l | 100 | 100 | 0,09 | < 50 | 35 | -0,03 | | | |
| Minerale olie C12 - C16 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C16 - C21 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C21 - C30 | µg/l | 56 | 56(6) | | < 15 | 11(6) | | | | |
| Minerale olie C30 - C35 | µg/l | 34 | 34(6) | | < 10 | 7(6) | | | | |
| Minerale olie C35 - C40 | µg/l | 12 | 12(6) | | < 10 | 7(6) | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 509-1-1 | | | 510-1-1 | | | 511-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 1,70-2,70 | | | 1,70-2,70 | | | 1,50-2,50 | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 04-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,15 | | | 1,12 | | | 1,02 | | |
| pH | | 7,21 | | | 7,68 | | | 7,31 | | |
| EC | µS/cm | 783 | | | 659 | | | 779 | | |
| Troebelheid | NTU | 41 | | | 34 | | | 42 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,3 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | 0,28 | 0,280 | 0,05 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | 0,23 | 0,230 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,300 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C10 - C40 | µg/l | < 50 | 35 | -0,03 | < 50 | 35 | -0,03 | < 50 | 35 | -0,03 |
| Minerale olie C12 - C16 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C16 - C21 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C21 - C30 | µg/l | < 15 | 11(6) | | < 15 | 11(6) | | < 15 | 11(6) | |
| Minerale olie C30 - C35 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |
| Minerale olie C35 - C40 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | < 10 | 7(6) | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grondwater | | 513-1-1 | | | 515-1-1 | | | 1020(10m)-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | 1,50-2,50 | | | 1,60-2,60 | | | - | | |
| Analysedatum | | 04-11-2020 | | | 04-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,00 | | | 1,02 | | | 4,06 | | |
| pH | | 7,54 | | | 7,41 | | | 6,73 | | |
| EC | µS/cm | 511 | | | 899 | | | 1.764 | | |
| Troebelheid | NTU | 9 | | | 11 | | | 226 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | 0,15 | 0,150 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 0,8 | 0,800 | -0,01 | 0,54 | 0,540 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,85 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 0,78 | 0,780 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | 3,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,850 | 0,04 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | 1,3 | 1,300 | 0,03 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | 0,55 | 0,550 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| Minerale olie C10 - C12 | µg/l | < 10 | 7(6) | | 12 | 12(6) | | | | |
| Minerale olie C10 - C40 | µg/l | < 50 | 35 | -0,03 | < 50 | 35 | -0,03 | | | |
| Minerale olie C12 - C16 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C16 - C21 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C21 - C30 | µg/l | < 15 | 11(6) | | < 15 | 11(6) | | | | |
| Minerale olie C30 - C35 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |
| Minerale olie C35 - C40 | µg/l | < 10 | 7(6) | | < 10 | 7(6) | | | | |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar
6: Heeft geen normwaarde

| Analyseresultaten grondwater | | 1020(6m)-1-1 | | | 1020(3m)-1-1 | | | 1018(3m)-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | - | | | - | | | - | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,89 | | | 1,19 | | | 0,82 | | |
| pH | | 6,58 | | | 7,03 | | | 7,39 | | |
| EC | µS/cm | 1.917 | | | 1.171 | | | 699 | | |
| Troebelheid | NTU | 37 | | | 188 | | | 136 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1018(6m)-1-1 | | | 1018(10m)-1-1 | | | 1019(10m)-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | - | | | - | | | - | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Overschrijding interventiewaarde | | | Voldoet aan streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 1,91 | | | 3,88 | | | 4,13 | | |
| pH | | 7,16 | | | 6,63 | | | 6,56 | | |
| EC | µS/cm | 903 | | | 2.040 | | | 1.704 | | |
| Troebelheid | NTU | 114 | | | 155 | | | 123 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 57 | 57 | 0,06 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 460 | | | 0,14 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | 1200 | 1200 | 240,48 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 460 | 460 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | 510 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 460 | 23,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | 0,19 | 0,190 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1019(6m)-1-1 | | | 1019(3m)-1-1 | | | 1017(3m)-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | - | | | - | | | - | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Voldoet aan streefwaarde | | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,78 | | | 1,10 | | | 1,12 | | |
| pH | | 6,99 | | | 6,96 | | | 7,31 | | |
| EC | µS/cm | 1.292 | | | 2.695 | | | 560 | | |
| Troebelheid | NTU | 27 | | | 21 | | | 210 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,23 | | |
| chlooretheen | µg/l | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 | < 0,1 | 0,100 | 0,02 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | 0,16 | 0,160 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,230 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grondwater | | 1017(10m)-1-1 | | | 1017(6m)-1-1 | | | 1016(10m)-1-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Filter (m -mv) | | - | | | - | | | - | | |
| Analysedatum | | 18-11-2020 | | | 18-11-2020 | | | 18-11-2020 | | |
| Monsterconclusie Wbb | | Overschrijding streefwaarde | | | Voldoet aan streefwaarde | | | Overschrijding streefwaarde | | |
| **BODEMKUNDIG** | | | | | | | | | | |
| Grondwaterstand | m -mv | 3,48 | | | 3,33 | | | 3,50 | | |
| pH | | 6,81 | | | 6,85 | | | 6,74 | | |
| EC | µS/cm | 1.592 | | | 1.473 | | | 1.335 | | |
| Troebelheid | NTU | 30 | | | 95 | | | 16 | | |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Index | Meetw | GSSD | Index | Meetw | GSSD | Index |
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 | 0,61 | 0,610 | -0,01 | 0,29 | 0,290 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,14 | | | 0,14 | | | 0,14 | | |
| chlooretheen | µg/l | 0,21 | 0,210 | 0,04 | < 0,1 | 0,100 | 0,02 | 0,21 | 0,210 | 0,04 |
| cis-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| CKW (som) | µg/l | < 1,6 | | | < 1,6 | | | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,140 | 0,01 | | 0,140 | 0,01 | | 0,140 | 0,01 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | | < 0,1 | 0,100 | | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar

| Analyseresultaten grondwater | | 1016(6m)-1-1 |
|---|---|---|
| Filter (m -mv) | | - |
| Analysedatum | | 18-11-2020 |
| Monsterconclusie Wbb | | Overschrijding streefwaarde |

**BODEMKUNDIG**

| | | |
|---|---|---|
| Grondwaterstand | m -mv | 2,40 |
| pH | | 7,06 |
| EC | µS/cm | 892 |
| Troebelheid | NTU | 60 |

| GECHLOREERDE KOOLWATERSTOFFEN | Eenheid | Meetw | GSSD | Index |
|---|---|---|---|---|
| 1,1,1-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 |
| 1,1,2-trichloorethaan | µg/l | < 0,1 | 0,100 | 0,00 |
| 1,1-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,01 |
| 1,2-dichloorethaan | µg/l | < 0,2 | 0,100 | -0,02 |
| 1.2-Dichloorethenen (som, 0.7 facto | µg/l | 0,31 | | |
| chlooretheen | µg/l | 0,17 | 0,170 | 0,03 |
| cis-1,2-dichlooretheen | µg/l | 0,24 | 0,240 | |
| CKW (som) | µg/l | < 1,6 | | |
| dichloormethaan | µg/l | < 0,2 | 0,100 | 0,00 |
| som dichlooretheen-isomeren | µg/l | | 0,310 | 0,02 |
| tetrachlooretheen | µg/l | < 0,1 | 0,100 | 0,00 |
| tetrachloormethaan | µg/l | < 0,1 | 0,100 | 0,01 |
| trans-1,2-dichlooretheen | µg/l | < 0,1 | 0,100 | |
| trichlooretheen | µg/l | < 0,2 | 0,100 | -0,05 |
| trichloormethaan | µg/l | < 0,2 | 0,100 | -0,01 |

TOELICHTING

Wet bodembescherming (Wbb)

- Concentratie kleiner dan of gelijk aan de streefwaarde
- Concentratie groter dan de streefwaarde, maar index maximaal gelijk aan 0,5
- Concentratie groter dan de streefwaarde en index groter dan 0,5, maar maximaal gelijk aan 1
- Concentratie groter dan de interventiewaarde

GSSD: Gestandaardiseerde meetwaarde
-: Geen gegevens beschikbaar

# Appendix 5 Assessment of soil samples against the Soil Quality Decree

| Analyseresultaten grond | | 500-2 | | 501-2 | | 502-2 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 500 | | 501 | | 502 | |
| Monstertraject (m -mv) | | 0,60-1,00 | | 0,60-1,10 | | 0,60-1,00 | |
| Analysedatum | | 01-10-2020 | | 01-10-2020 | | 01-10-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Voldoet aan achtergrondwaarde | | Voldoet aan achtergrondwaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 77,00 | | 85,00 | | 82,70 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 1,8 | | 0,7 | | 1,3 | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 11(6) | < 3 | 11(6) |
| Minerale olie C10 - C40 | mg/kg ds | 62 | 310 | < 35 | 123 | < 35 | 123 |
| Minerale olie C12 - C16 | mg/kg ds | 5,3 | 26,500(6) | < 5 | 18(6) | < 5 | 18(6) |
| Minerale olie C16 - C21 | mg/kg ds | 21 | 105(6) | < 5 | 18(6) | < 5 | 18(6) |
| Minerale olie C21 - C30 | mg/kg ds | 25 | 125(6) | < 11 | 39(6) | < 11 | 39(6) |
| Minerale olie C30 - C35 | mg/kg ds | 5,8 | 29(6) | < 5 | 18(6) | < 5 | 18(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | < 6 | 21(6) | < 6 | 21(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 503-2 | | 504-6 | | 515-4 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 503 | | 504 | | 515 | |
| Monstertraject (m -mv) | | 0,50-1,00 | | 0,60-0,80 | | 1,30-1,50 | |
| Analysedatum | | 01-10-2020 | | 01-10-2020 | | 23-10-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Niet toepasbaar > interventiewaarde | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 80,20 | | 84,10 | | 77,30 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 1,6 | | 2,0 | | 1,6 | |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| naftaleen | mg/kg ds | | | < 0,01 | 0,010 | | |
| som (10) PAK | mg/kg | | | | 0,007(2) | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 11(6) | < 3 | 11(6) |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | 13000 | 65000 | 46 | 230 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | 14 | 70(6) | < 5 | 18(6) |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | 420 | 2100(6) | 5,2 | 26(6) |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 39(6) | 9400 | 47000(6) | 21 | 105(6) |
| Minerale olie C30 - C35 | mg/kg ds | < 5 | 18(6) | 2700 | 13500(6) | 12 | 60(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | 560 | 2800(6) | < 6 | 21(6) |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| 1,1,1-trichloorethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| 1,1,2-trichloorethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| 1,1-dichloorethaan | mg/kg ds | | | | | < 0,02 | 0,070 |
| 1,2-dichloorethaan | mg/kg ds | | | | | < 0,02 | 0,070 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | | | | | 0,07 | |
| chlooretheen | mg/kg ds | | | | | < 0,01 | 0,040 |
| cis-1,2-dichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| CKW (som) | mg/kg ds | | | | | < 0,42 | |
| dichloormethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| som dichlooretheen-isomeren | mg/kg ds | | | | | | 0,350 |
| tetrachlooretheen | mg/kg ds | | | | | 0,025 | 0,125 |
| tetrachloormethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| trans-1,2-dichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| trichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| trichloormethaan | mg/kg ds | | | | | < 0,02 | 0,070 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
2: Enkele parameters ontbreken in de som
6: Heeft geen normwaarde

| Analyseresultaten grond | | 503-2 | | 504-6 | | 515-4 | |
|---|---|---|---|---|---|---|---|
| **AROMATISCHE VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| 1,2-xyleen | mg/kg ds | | | < 0,05 | 0,180 | | |
| benzeen | mg/kg ds | | | < 0,05 | 0,180 | | |
| ethylbenzeen | mg/kg ds | | | < 0,05 | 0,180 | | |
| som (16) aromatische oplosmiddelen | mg/kg ds | | | | 0,880[(2)] | | |
| som (3) xyleen | mg/kg ds | | | | 0,350 | | |
| som 1,3- en 1,4-xyleen | mg/kg ds | | | < 0,05 | 0,180 | | |
| som monocyclische aromatische koolwaterstoffen (BTEX) | mg/kg ds | | | < 0,25 | | | |
| tolueen | mg/kg ds | | | < 0,05 | 0,180 | | |
| Xylenen (som, 0.7 factor) | mg/kg ds | | | 0,07 | | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
2: Enkele parameters ontbreken in de som

| Analyseresultaten grond | | 515-6 | | 505-3 | | 505-4 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 515 | | 505 | | 505 | |
| Monstertraject (m -mv) | | 2,00-2,50 | | 1,10-1,30 | | 1,30-1,80 | |
| Analysedatum | | 23-10-2020 | | 23-10-2020 | | 23-10-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Niet toepasbaar > interventiewaarde | | Niet toepasbaar > industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 70,90 | | 76,60 | | 73,30 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 4,9 | | 3,7 | | 0,7 | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | 62 | 127(6) | < 3 | 6(6) | < 3 | 11(6) |
| Minerale olie C10 - C40 | mg/kg ds | 160 | 327 | 6300 | 17027 | 420 | 2100 |
| Minerale olie C12 - C16 | mg/kg ds | 28 | 57(6) | 29 | 78(6) | < 5 | 18(6) |
| Minerale olie C16 - C21 | mg/kg ds | 16 | 33(6) | 82 | 222(6) | 11 | 55(6) |
| Minerale olie C21 - C30 | mg/kg ds | 36 | 73(6) | 3300 | 8919(6) | 220 | 1100(6) |
| Minerale olie C30 - C35 | mg/kg ds | 18 | 37(6) | 2100 | 5676(6) | 140 | 700(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 9(6) | 780 | 2108(6) | 51 | 255(6) |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| 1,1,1-trichloorethaan | mg/kg ds | < 0,05 | 0,070 | | | | |
| 1,1,2-trichloorethaan | mg/kg ds | < 0,05 | 0,070 | | | | |
| 1,1-dichloorethaan | mg/kg ds | < 0,02 | 0,030 | | | | |
| 1,2-dichloorethaan | mg/kg ds | < 0,02 | 0,030 | | | | |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | 0,07 | | | | | |
| chlooretheen | mg/kg ds | < 0,01 | 0,010 | | | | |
| cis-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,070 | | | | |
| CKW (som) | mg/kg ds | < 0,42 | | | | | |
| dichloormethaan | mg/kg ds | < 0,05 | 0,070 | | | | |
| som dichlooretheen-isomeren | mg/kg ds | | 0,140 | | | | |
| tetrachlooretheen | mg/kg ds | < 0,01 | 0,010 | | | | |
| tetrachloormethaan | mg/kg ds | < 0,05 | 0,070 | | | | |
| trans-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,070 | | | | |
| trichlooretheen | mg/kg ds | < 0,05 | 0,070 | | | | |
| trichloormethaan | mg/kg ds | < 0,02 | 0,030 | | | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 506-3 | | 507-3 | | 508-3 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 506 | | 507 | | 508 | |
| Monstertraject (m -mv) | | 0,80-1,30 | | 0,90-1,40 | | 0,70-1,20 | |
| Analysedatum | | 23-10-2020 | | 23-10-2020 | | 23-10-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Kwaliteitsklasse industrie | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 76,90 | | 80,20 | | 81,60 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 2,1 | | 1,7 | | 2,2 | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 10(6) | < 3 | 11(6) | < 3 | 10(6) |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 117 | 65 | 325 | 43 | 195 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 17(6) | < 5 | 18(6) | < 5 | 16(6) |
| Minerale olie C16 - C21 | mg/kg ds | 5,5 | 26,200(6) | 12 | 60(6) | 6,7 | 30,500(6) |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 37(6) | 27 | 135(6) | 21 | 95(6) |
| Minerale olie C30 - C35 | mg/kg ds | < 5 | 17(6) | 15 | 75(6) | 8,5 | 38,600(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 20(6) | 8,3 | 41,500(6) | < 6 | 19(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 509-3 | | 510-4 | | 511-4 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 509 | | 510 | | 511 | |
| Monstertraject (m -mv) | | 1,20-1,70 | | 1,20-1,70 | | 1,00-1,50 | |
| Analysedatum | | 23-10-2020 | | 23-10-2020 | | 23-10-2020 | |
| Monsterconclusie Bbk | | Niet toepasbaar > interventiewaarde | | Voldoet aan achtergrondwaarde | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 77,90 | | 71,20 | | 73,30 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 0,9 | | 2,8 | | 0,9 | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 8(6) | 4,2 | 21(6) |
| Minerale olie C10 - C40 | mg/kg ds | 4200 | 21000 | < 35 | 88 | 40 | 200 |
| Minerale olie C12 - C16 | mg/kg ds | 11 | 55(6) | < 5 | 13(6) | 7,9 | 39,500(6) |
| Minerale olie C16 - C21 | mg/kg ds | 60 | 300(6) | < 5 | 13(6) | 8,5 | 42,500(6) |
| Minerale olie C21 - C30 | mg/kg ds | 2300 | 11500(6) | < 11 | 28(6) | 11 | 55(6) |
| Minerale olie C30 - C35 | mg/kg ds | 1200 | 6000(6) | 7,3 | 26,100(6) | 6,6 | 33(6) |
| Minerale olie C35 - C40 | mg/kg ds | 540 | 2700(6) | < 6 | 15(6) | < 6 | 21(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 513-3 | | 516-1 | | 518-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 513 | | 516 | | 518 | |
| Monstertraject (m -mv) | | 1,10-1,60 | | 0,10-0,60 | | 0,08-0,58 | |
| Analysedatum | | 23-10-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Niet toepasbaar > industrie | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 80,50 | | 82,20 | | 85,40 | |
| Lutum | % ds | | | 7,9 | | 3,5 | |
| Organische stof | % ds | 1,2 | | 1,8 | | 0,9 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | | | 50 | 112(6) | 47 | 153(6) |
| cadmium | mg/kg ds | | | 0,34 | 0,540 | 0,45 | 0,760 |
| kobalt | mg/kg ds | | | 6,6 | 14,100 | 5 | 15 |
| koper | mg/kg ds | | | 21 | 36 | 11 | 22 |
| kwik | mg/kg ds | | | 0,12 | 0,160 | 0,12 | 0,170 |
| lood | mg/kg ds | | | 43 | 61 | 16 | 25 |
| molybdeen | mg/kg ds | | | < 1,5 | 1,100 | < 1,5 | 1,100 |
| nikkel | mg/kg ds | | | 14 | 27 | 9,2 | 23,900 |
| zink | mg/kg ds | | | 130 | 237 | 220 | 485 |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | | | 0,34 | 0,340 | < 0,05 | 0,040 |
| benzo(a)antraceen | mg/kg ds | | | 0,47 | 0,470 | 0,12 | 0,120 |
| benzo(a)pyreen | mg/kg ds | | | 0,57 | 0,570 | 0,11 | 0,110 |
| benzo(ghi)peryleen | mg/kg ds | | | 0,49 | 0,490 | 0,082 | 0,082 |
| benzo(k)fluorantheen | mg/kg ds | | | 0,27 | 0,270 | 0,086 | 0,086 |
| chryseen | mg/kg ds | | | 0,49 | 0,490 | 0,13 | 0,130 |
| fenantreen | mg/kg ds | | | 1,1 | 1,100 | < 0,05 | 0,040 |
| fluorantheen | mg/kg ds | | | 0,96 | 0,960 | 0,24 | 0,240 |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | 0,53 | 0,530 | 0,11 | 0,110 |
| naftaleen | mg/kg ds | | | < 0,05 | 0,040 | < 0,05 | 0,040 |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | 5,3 | | 0,97 | |
| som (10) PAK | mg/kg ds | | | | 5,300 | | 0,980 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 11(6) | < 3 | 11(6) |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | 160 | 800 | < 35 | 123 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | < 5 | 18(6) | < 5 | 18(6) |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | 7,8 | 39(6) | < 5 | 18(6) |
| Minerale olie C21 - C30 | mg/kg ds | < 11 | 39(6) | 62 | 310(6) | < 11 | 39(6) |
| Minerale olie C30 - C35 | mg/kg ds | 5,2 | 26(6) | 56 | 280(6) | < 5 | 18(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | 35 | 175(6) | < 6 | 21(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 513-3 | | 516-1 | | 518-1 | |
|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | 0,0049 | | 0,0076 | |
| PCB 101 | mg/kg ds | | | < 0,001 | 0,004 | 0,0011 | 0,006 |
| PCB 118 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 138 | mg/kg ds | | | < 0,001 | 0,004 | 0,0014 | 0,007 |
| PCB 153 | mg/kg ds | | | < 0,001 | 0,004 | 0,0016 | 0,008 |
| PCB 180 | mg/kg ds | | | < 0,001 | 0,004 | 0,0014 | 0,007 |
| PCB 28 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 52 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| som (7) PCB | mg/kg ds | | | | 0,025 | | 0,038 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 519-1 | | 520-2 | | 521-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 519 | | 520 | | 521 | |
| Monstertraject (m -mv) | | 0,08-0,58 | | 0,20-0,45 | | 0,15-0,40 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Niet toepasbaar > industrie | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 90,20 | | 90,00 | | 87,60 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 0,8 | | 1,2 | | 1,9 | |
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,036 | | 0,13 | | 0,0085 | |
| PCB 101 | mg/kg ds | 0,0023 | 0,012 | 0,015 | 0,075 | < 0,001 | 0,004 |
| PCB 118 | mg/kg ds | 0,0011 | 0,006 | 0,0087 | 0,044 | < 0,001 | 0,004 |
| PCB 138 | mg/kg ds | 0,009 | 0,045 | 0,035 | 0,175 | 0,0025 | 0,013 |
| PCB 153 | mg/kg ds | 0,012 | 0,060 | 0,04 | 0,200 | 0,0025 | 0,013 |
| PCB 180 | mg/kg ds | 0,0097 | 0,049 | 0,025 | 0,125 | < 0,001 | 0,004 |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | 0,0018 | 0,009 | < 0,001 | 0,004 |
| som (7) PCB | mg/kg ds | | 0,180 | | 0,630 | | 0,043 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 522-1 | | 523-1 | | 525-2 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 522 | | 523 | | 525 | |
| Monstertraject (m -mv) | | 0,15-0,45 | | 0,10-0,60 | | 0,20-0,70 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Kwaliteitsklasse wonen | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 90,20 | | 78,90 | | 84,30 | |
| Lutum | % ds | | | | | 4,6 | |
| Organische stof | % ds | 1,1 | | 2,2 | | 2,4 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | | | | | 150 | 439(6) |
| cadmium | mg/kg ds | | | | | 4,7 | 7,600 |
| kobalt | mg/kg ds | | | | | 19 | 52 |
| koper | mg/kg ds | | | | | 180 | 338 |
| kwik | mg/kg ds | | | | | 0,13 | 0,180 |
| lood | mg/kg ds | | | | | 59 | 88 |
| molybdeen | mg/kg ds | | | | | 3,7 | 3,700 |
| nikkel | mg/kg ds | | | | | 58 | 139 |
| zink | mg/kg ds | | | | | 160 | 332 |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | | | | | 0,063 | 0,063 |
| benzo(a)antraceen | mg/kg ds | | | | | 0,15 | 0,150 |
| benzo(a)pyreen | mg/kg ds | | | | | 0,11 | 0,110 |
| benzo(ghi)peryleen | mg/kg ds | | | | | 0,099 | 0,099 |
| benzo(k)fluorantheen | mg/kg ds | | | | | 0,064 | 0,064 |
| chryseen | mg/kg ds | | | | | 0,16 | 0,160 |
| fenantreen | mg/kg ds | | | | | 0,15 | 0,150 |
| fluorantheen | mg/kg ds | | | | | 0,25 | 0,250 |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | 0,1 | 0,100 |
| naftaleen | mg/kg ds | | | | | < 0,05 | 0,040 |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | 1,2 | |
| som (10) PAK | mg/kg ds | | | | | | 1,200 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | | | | | < 3 | 9(6) |
| Minerale olie C10 - C40 | mg/kg ds | | | | | < 35 | 102 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | < 5 | 15(6) |
| Minerale olie C16 - C21 | mg/kg ds | | | | | < 5 | 15(6) |
| Minerale olie C21 - C30 | mg/kg ds | | | | | 14 | 58(6) |
| Minerale olie C30 - C35 | mg/kg ds | | | | | 6,5 | 27,100(6) |
| Minerale olie C35 - C40 | mg/kg ds | | | | | < 6 | 18(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 522-1 | | 523-1 | | 525-2 | |
|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,042 | | 0,0055 | | 0,0052 | |
| PCB 101 | mg/kg ds | 0,0051 | 0,026 | < 0,001 | 0,003 | < 0,001 | 0,003 |
| PCB 118 | mg/kg ds | 0,0028 | 0,014 | < 0,001 | 0,003 | < 0,001 | 0,003 |
| PCB 138 | mg/kg ds | 0,011 | 0,055 | 0,001 | 0,005 | < 0,001 | 0,003 |
| PCB 153 | mg/kg ds | 0,013 | 0,065 | 0,001 | 0,005 | 0,001 | 0,004 |
| PCB 180 | mg/kg ds | 0,0093 | 0,047 | < 0,001 | 0,003 | < 0,001 | 0,003 |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,003 | < 0,001 | 0,003 |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,003 | < 0,001 | 0,003 |
| som (7) PCB | mg/kg ds | | 0,210 | | 0,025 | | 0,022 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 526-2 | | 527-1 | | 528-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 526 | | 527 | | 528 | |
| Monstertraject (m -mv) | | 0,20-0,50 | | 0,00-0,35 | | 0,00-0,50 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Voldoet aan achtergrondwaarde | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 91,70 | | 75,30 | | 88,80 | |
| Lutum | % ds | 2,0 | | 21,3 | | 5,9 | |
| Organische stof | % ds | 1,0 | | 7,1 | | 2,3 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | 29 | 60 | 35 | 39 | 130 | 235 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 529-1 | | 531-1 | | 532-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 529 | | 531 | | 532 | |
| Monstertraject (m -mv) | | 0,00-0,50 | | 0,12-0,62 | | 0,08-0,58 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Kwaliteitsklasse wonen | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 83,90 | | 85,90 | | 84,90 | |
| Lutum | % ds | 7,4 | | | | | |
| Organische stof | % ds | 3,3 | | 0,7 | | 0,7 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | 84 | 141 | | | | |
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | 0,0059 | | 0,016 | |
| PCB 101 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 118 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 138 | mg/kg ds | | | < 0,001 | 0,004 | 0,0037 | 0,019 |
| PCB 153 | mg/kg ds | | | 0,0012 | 0,006 | 0,0051 | 0,026 |
| PCB 180 | mg/kg ds | | | 0,0012 | 0,006 | 0,0048 | 0,024 |
| PCB 28 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 52 | mg/kg ds | | | < 0,001 | 0,004 | < 0,001 | 0,004 |
| som (7) PCB | mg/kg ds | | | | 0,030 | | 0,082 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 533-1 | | 534-1 | | 535-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 533 | | 534 | | 535 | |
| Monstertraject (m -mv) | | 0,00-0,50 | | 0,00-0,50 | | 0,09-0,30 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Kwaliteitsklasse industrie | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 77,20 | | 84,70 | | 92,00 | |
| Lutum | % ds | 8,2 | | 3,5 | | 2,9 | |
| Organische stof | % ds | 1,5 | | 1,9 | | 2,1 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | | | | | 48 | 167(6) |
| cadmium | mg/kg ds | | | | | 0,54 | 0,910 |
| kobalt | mg/kg ds | | | | | 14 | 45 |
| koper | mg/kg ds | | | | | 260 | 520 |
| kwik | mg/kg ds | | | | | 0,11 | 0,160 |
| lood | mg/kg ds | | | | | 61 | 94 |
| molybdeen | mg/kg ds | | | | | 5,5 | 5,500 |
| nikkel | mg/kg ds | | | | | 44 | 119 |
| zink | mg/kg ds | 54 | 97 | 130 | 287 | 150 | 340 |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | | | | | 0,34 | 0,340 |
| benzo(a)antraceen | mg/kg ds | | | | | 1,1 | 1,100 |
| benzo(a)pyreen | mg/kg ds | | | | | 0,95 | 0,950 |
| benzo(ghi)peryleen | mg/kg ds | | | | | 0,63 | 0,630 |
| benzo(k)fluorantheen | mg/kg ds | | | | | 0,45 | 0,450 |
| chryseen | mg/kg ds | | | | | 1 | 1 |
| fenantreen | mg/kg ds | | | | | 0,93 | 0,930 |
| fluorantheen | mg/kg ds | | | | | 2 | 2 |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | 0,5 | 0,500 |
| naftaleen | mg/kg ds | | | | | < 0,05 | 0,040 |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | 8 | |
| som (10) PAK | mg/kg ds | | | | | | 7,900 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | | | | | < 3 | 10(6) |
| Minerale olie C10 - C40 | mg/kg ds | | | | | 55 | 262 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | < 5 | 17(6) |
| Minerale olie C16 - C21 | mg/kg ds | | | | | 10 | 48(6) |
| Minerale olie C21 - C30 | mg/kg ds | | | | | 27 | 129(6) |
| Minerale olie C30 - C35 | mg/kg ds | | | | | 11 | 52(6) |
| Minerale olie C35 - C40 | mg/kg ds | | | | | < 6 | 20(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 533-1 | | 534-1 | | 535-1 | |
|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | 0,0071 | |
| PCB 101 | mg/kg ds | | | | | < 0,001 | 0,003 |
| PCB 118 | mg/kg ds | | | | | < 0,001 | 0,003 |
| PCB 138 | mg/kg ds | | | | | 0,0015 | 0,007 |
| PCB 153 | mg/kg ds | | | | | 0,0013 | 0,006 |
| PCB 180 | mg/kg ds | | | | | 0,0015 | 0,007 |
| PCB 28 | mg/kg ds | | | | | < 0,001 | 0,003 |
| PCB 52 | mg/kg ds | | | | | < 0,001 | 0,003 |
| som (7) PCB | mg/kg ds | | | | | | 0,034 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | MM01 | | MM02 | | MM03 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 536, 537, 538 | | 536, 537, 538 | | 530 | |
| Monstertraject (m -mv) | | 0,15-0,45 | | 0,40-0,70 | | 0,08-0,60 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 04-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Kwaliteitsklasse industrie | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 95,00 | | 96,80 | | 86,90 | |
| Lutum | % ds | 2,4 | | 2,0 | | | |
| Organische stof | % ds | 1,1 | | 0,7 | | 0,7 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | 140 | 517(6) | 36 | 140(6) | | |
| cadmium | mg/kg ds | < 0,2 | 0,200 | 0,36 | 0,620 | | |
| kobalt | mg/kg ds | 10 | 34 | 4 | 14 | | |
| koper | mg/kg ds | 35 | 71 | 7,2 | 14,900 | | |
| kwik | mg/kg ds | < 0,05 | 0,050 | 0,065 | 0,093 | | |
| lood | mg/kg ds | 22 | 34 | 16 | 25 | | |
| molybdeen | mg/kg ds | 1,8 | 1,800 | < 1,5 | 1,100 | | |
| nikkel | mg/kg ds | 26 | 73 | 8,7 | 25,400 | | |
| zink | mg/kg ds | 70 | 163 | 93 | 221 | | |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | 0,086 | 0,086 | 0,19 | 0,190 | | |
| benzo(a)antraceen | mg/kg ds | 0,43 | 0,430 | 0,62 | 0,620 | | |
| benzo(a)pyreen | mg/kg ds | 0,36 | 0,360 | 0,39 | 0,390 | | |
| benzo(ghi)peryleen | mg/kg ds | 0,28 | 0,280 | 0,22 | 0,220 | | |
| benzo(k)fluorantheen | mg/kg ds | 0,18 | 0,180 | 0,21 | 0,210 | | |
| chryseen | mg/kg ds | 0,43 | 0,430 | 0,62 | 0,620 | | |
| fenantreen | mg/kg ds | 0,35 | 0,350 | 0,83 | 0,830 | | |
| fluorantheen | mg/kg ds | 0,81 | 0,810 | 1,2 | 1,200 | | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | 0,29 | 0,290 | 0,27 | 0,270 | | |
| naftaleen | mg/kg ds | < 0,05 | 0,040 | < 0,05 | 0,040 | | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | 3,3 | | 4,6 | | | |
| som (10) PAK | mg/kg ds | | 3,300 | | 4,600 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 11(6) | | |
| Minerale olie C10 - C40 | mg/kg ds | 79 | 395 | 60 | 300 | | |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | < 5 | 18(6) | | |
| Minerale olie C16 - C21 | mg/kg ds | 10 | 50(6) | 9,2 | 46(6) | | |
| Minerale olie C21 - C30 | mg/kg ds | 28 | 140(6) | 25 | 125(6) | | |
| Minerale olie C30 - C35 | mg/kg ds | 21 | 105(6) | 14 | 70(6) | | |
| Minerale olie C35 - C40 | mg/kg ds | 15 | 75(6) | 9,7 | 48,500(6) | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | MM01 | | MM02 | | MM03 | |
|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,06 | | 0,0049 | | 0,86 | |
| PCB 101 | mg/kg ds | 0,0087 | 0,044 | < 0,001 | 0,004 | 0,065 | 0,325 |
| PCB 118 | mg/kg ds | 0,0029 | 0,015 | < 0,001 | 0,004 | 0,024 | 0,120 |
| PCB 138 | mg/kg ds | 0,015 | 0,075 | < 0,001 | 0,004 | 0,21 | 1,050 |
| PCB 153 | mg/kg ds | 0,017 | 0,085 | < 0,001 | 0,004 | 0,3 | 1,500 |
| PCB 180 | mg/kg ds | 0,013 | 0,065 | < 0,001 | 0,004 | 0,26 | 1,300 |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | < 0,001 | 0,004 |
| PCB 52 | mg/kg ds | 0,0018 | 0,009 | < 0,001 | 0,004 | 0,0043 | 0,022 |
| som (7) PCB | mg/kg ds | | 0,300 | | 0,025 | | 4,300 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
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| Analyseresultaten grond | | MM04 | | MM05 | | 1016_N-4 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 524 | | 517 | | 1016_N | |
| Monstertraject (m -mv) | | 0,00-0,50 | | 0,12-0,65 | | 1,50-2,00 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 03-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Voldoet aan achtergrondwaarde | | Niet toepasbaar > industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 85,20 | | 86,20 | | 75,30 | |
| Lutum | % ds | 8,6 | | 3,4 | | | |
| Organische stof | % ds | 1,6 | | 0,8 | | 1,9 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | 220 | 467(6) | < 20 | 46(6) | | |
| cadmium | mg/kg ds | 0,4 | 0,600 | < 0,2 | 0,200 | | |
| kobalt | mg/kg ds | 7,2 | 14,700 | 3,9 | 11,900 | | |
| koper | mg/kg ds | 46 | 78 | < 5 | 7 | | |
| kwik | mg/kg ds | 0,097 | 0,126 | < 0,05 | 0,050 | | |
| lood | mg/kg ds | 47 | 66 | < 10 | 11 | | |
| molybdeen | mg/kg ds | < 1,5 | 1,100 | < 1,5 | 1,100 | | |
| nikkel | mg/kg ds | 19 | 36 | 8,2 | 21,400 | | |
| zink | mg/kg ds | 140 | 249 | 40 | 89 | | |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | < 0,05 | 0,040 | < 0,05 | 0,040 | | |
| benzo(a)antraceen | mg/kg ds | 0,15 | 0,150 | < 0,05 | 0,040 | | |
| benzo(a)pyreen | mg/kg ds | 0,16 | 0,160 | < 0,05 | 0,040 | | |
| benzo(ghi)peryleen | mg/kg ds | 0,1 | 0,100 | < 0,05 | 0,040 | | |
| benzo(k)fluorantheen | mg/kg ds | 0,072 | 0,072 | < 0,05 | 0,040 | | |
| chryseen | mg/kg ds | 0,16 | 0,160 | < 0,05 | 0,040 | | |
| fenantreen | mg/kg ds | 0,1 | 0,100 | < 0,05 | 0,040 | | |
| fluorantheen | mg/kg ds | 0,24 | 0,240 | < 0,05 | 0,040 | | |
| indeno(1,2,3-cd)pyreen | mg/kg ds | 0,099 | 0,099 | < 0,05 | 0,040 | | |
| naftaleen | mg/kg ds | < 0,05 | 0,040 | < 0,05 | 0,040 | | |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | 1,2 | | 0,35 | | | |
| som (10) PAK | mg/kg ds | | 1,200 | | 0,350 | | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 11(6) | < 3 | 11(6) | 310 | 1550(6) |
| Minerale olie C10 - C40 | mg/kg ds | < 35 | 123 | < 35 | 123 | 810 | 4050 |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 18(6) | < 5 | 18(6) | 140 | 700(6) |
| Minerale olie C16 - C21 | mg/kg ds | < 5 | 18(6) | < 5 | 18(6) | 68 | 340(6) |
| Minerale olie C21 - C30 | mg/kg ds | 13 | 65(6) | < 11 | 39(6) | 190 | 950(6) |
| Minerale olie C30 - C35 | mg/kg ds | 9,6 | 48(6) | < 5 | 18(6) | 82 | 410(6) |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 21(6) | < 6 | 21(6) | 35 | 175(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | MM04 | | MM05 | | 1016_N-4 | |
|---|---|---|---|---|---|---|---|
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| 1,1,1-trichloorethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| 1,1,2-trichloorethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| 1,1-dichloorethaan | mg/kg ds | | | | | < 0,02 | 0,070 |
| 1,2-dichloorethaan | mg/kg ds | | | | | < 0,02 | 0,070 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | | | | | 0,07 | |
| chlooretheen | mg/kg ds | | | | | < 0,01 | 0,040 |
| cis-1,2-dichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| CKW (som) | mg/kg ds | | | | | < 0,42 | |
| dichloormethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| som dichlooretheen-isomeren | mg/kg ds | | | | | | 0,350 |
| tetrachlooretheen | mg/kg ds | | | | | < 0,01 | 0,040 |
| tetrachloormethaan | mg/kg ds | | | | | < 0,05 | 0,180 |
| trans-1,2-dichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| trichlooretheen | mg/kg ds | | | | | < 0,05 | 0,180 |
| trichloormethaan | mg/kg ds | | | | | < 0,02 | 0,070 |
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,012 | | 0,0049 | | | |
| PCB 101 | mg/kg ds | 0,0012 | 0,006 | < 0,001 | 0,004 | | |
| PCB 118 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| PCB 138 | mg/kg ds | 0,0029 | 0,015 | < 0,001 | 0,004 | | |
| PCB 153 | mg/kg ds | 0,0031 | 0,016 | < 0,001 | 0,004 | | |
| PCB 180 | mg/kg ds | 0,0026 | 0,013 | < 0,001 | 0,004 | | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| som (7) PCB | mg/kg ds | | 0,060 | | 0,025 | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 1016_N-16 | | 1017-19 | | 1018-3 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 1016_N | | 1017 | | 1018 | |
| Monstertraject (m -mv) | | 7,50-8,00 | | 9,00-9,50 | | 1,00-1,50 | |
| Analysedatum | | 04-11-2020 | | 04-11-2020 | | 03-11-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Voldoet aan achtergrondwaarde | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 76,60 | | 73,00 | | 79,20 | |
| Lutum | % ds | | | | | | |
| Organische stof | % ds | 1,3 | | 4,0 | | 0,7 | |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | | | | | < 3 | 11(6) |
| Minerale olie C10 - C40 | mg/kg ds | | | | | 54 | 270 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | < 5 | 18(6) |
| Minerale olie C16 - C21 | mg/kg ds | | | | | 11 | 55(6) |
| Minerale olie C21 - C30 | mg/kg ds | | | | | 25 | 125(6) |
| Minerale olie C30 - C35 | mg/kg ds | | | | | 11 | 55(6) |
| Minerale olie C35 - C40 | mg/kg ds | | | | | < 6 | 21(6) |
| **GECHLOREERDE KOOLWATERSTOFFEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| 1,1,1-trichloorethaan | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| 1,1,2-trichloorethaan | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| 1,1-dichloorethaan | mg/kg ds | < 0,02 | 0,070 | < 0,02 | 0,040 | < 0,02 | 0,070 |
| 1,2-dichloorethaan | mg/kg ds | < 0,02 | 0,070 | < 0,02 | 0,040 | < 0,02 | 0,070 |
| 1.2-Dichloorethenen (som, 0.7 facto | mg/kg ds | 0,07 | | 0,07 | | 0,07 | |
| chlooretheen | mg/kg ds | < 0,01 | 0,040 | < 0,01 | 0,020 | < 0,01 | 0,040 |
| cis-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| CKW (som) | mg/kg ds | < 0,42 | | < 0,42 | | < 0,42 | |
| dichloormethaan | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| som dichlooretheen-isomeren | mg/kg ds | | 0,350 | | 0,180 | | 0,350 |
| tetrachlooretheen | mg/kg ds | < 0,01 | 0,040 | < 0,01 | 0,020 | < 0,01 | 0,040 |
| tetrachloormethaan | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| trans-1,2-dichlooretheen | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| trichlooretheen | mg/kg ds | < 0,05 | 0,180 | < 0,05 | 0,090 | < 0,05 | 0,180 |
| trichloormethaan | mg/kg ds | < 0,02 | 0,070 | < 0,02 | 0,040 | < 0,02 | 0,070 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)
- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | 509-5 | | 535-2 | | 525a-3 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 509 | | 535 | | 525a | |
| Monstertraject (m -mv) | | 2,00-2,30 | | 0,30-0,60 | | 0,70-1,00 | |
| Analysedatum | | 23-10-2020 | | 04-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Kwaliteitsklasse industrie | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 71,40 | | 94,30 | | 82,10 | |
| Lutum | % ds | | | 2,0 | | 3,8 | |
| Organische stof | % ds | 6,9 | | 0,7 | | 1,6 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | | | < 20 | 54(6) | | |
| cadmium | mg/kg ds | | | 0,34 | 0,590 | | |
| kobalt | mg/kg ds | | | 6,4 | 22,500 | | |
| koper | mg/kg ds | | | 87 | 180 | 240 | 468 |
| kwik | mg/kg ds | | | < 0,05 | 0,050 | | |
| lood | mg/kg ds | | | 18 | 28 | | |
| molybdeen | mg/kg ds | | | 8,8 | 8,800 | | |
| nikkel | mg/kg ds | | | 32 | 93 | | |
| zink | mg/kg ds | | | 81 | 192 | 120 | 261 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 3 | 3(6) | | | | |
| Minerale olie C10 - C40 | mg/kg ds | 67 | 97 | | | | |
| Minerale olie C12 - C16 | mg/kg ds | < 5 | 5(6) | | | | |
| Minerale olie C16 - C21 | mg/kg ds | 8,7 | 12,600(6) | | | | |
| Minerale olie C21 - C30 | mg/kg ds | 31 | 45(6) | | | | |
| Minerale olie C30 - C35 | mg/kg ds | 21 | 30(6) | | | | |
| Minerale olie C35 - C40 | mg/kg ds | < 6 | 6(6) | | | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 528a-2 | | 528a-3 | | 530a-3 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 528a | | 528a | | 530a | |
| Monstertraject (m -mv) | | 0,50-1,00 | | 1,00-1,25 | | 0,60-1,10 | |
| Analysedatum | | 18-11-2020 | | 18-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Niet toepasbaar > interventiewaarde | | Niet toepasbaar > interventiewaarde | | Kwaliteitsklasse wonen | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 89,10 | | 82,30 | | 77,70 | |
| Lutum | % ds | 3,3 | | 10,0 | | | |
| Organische stof | % ds | 1,7 | | 1,3 | | 0,7 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | 550 | 1089 | 790 | 1281 | | |
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | 0,0059 | |
| PCB 101 | mg/kg ds | | | | | < 0,001 | 0,004 |
| PCB 118 | mg/kg ds | | | | | < 0,001 | 0,004 |
| PCB 138 | mg/kg ds | | | | | < 0,001 | 0,004 |
| PCB 153 | mg/kg ds | | | | | 0,0012 | 0,006 |
| PCB 180 | mg/kg ds | | | | | 0,0012 | 0,006 |
| PCB 28 | mg/kg ds | | | | | < 0,001 | 0,004 |
| PCB 52 | mg/kg ds | | | | | < 0,001 | 0,004 |
| som (7) PCB | mg/kg ds | | | | | | 0,030 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 541-1 | | 542-1 | | 543-2 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 541 | | 542 | | 543 | |
| Monstertraject (m -mv) | | 0,00-0,50 | | 0,08-0,30 | | 0,30-0,65 | |
| Analysedatum | | 18-11-2020 | | 18-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Kwaliteitsklasse wonen | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 84,90 | | 97,80 | | 81,10 | |
| Lutum | % ds | | | | | 12,5 | |
| Organische stof | % ds | 0,7 | | 0,7 | | 3,9 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | | | | | 82 | 119 |
| zink | mg/kg ds | | | | | 120 | 180 |
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | 0,047 | | 0,0064 | | | |
| PCB 101 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| PCB 118 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| PCB 138 | mg/kg ds | 0,012 | 0,060 | 0,0011 | 0,006 | | |
| PCB 153 | mg/kg ds | 0,012 | 0,060 | 0,0011 | 0,006 | | |
| PCB 180 | mg/kg ds | 0,02 | 0,100 | 0,0014 | 0,007 | | |
| PCB 28 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| PCB 52 | mg/kg ds | < 0,001 | 0,004 | < 0,001 | 0,004 | | |
| som (7) PCB | mg/kg ds | | 0,230 | | 0,032 | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

| Analyseresultaten grond | | 544-1 | | 545 | | 547-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 544 | | 545 | | 547 | |
| Monstertraject (m -mv) | | 0,00-0,50 | | 0,08-0,60 | | 0,00-0,50 | |
| Analysedatum | | 18-11-2020 | | 18-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Kwaliteitsklasse industrie | | Kwaliteitsklasse industrie | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 85,60 | | 88,60 | | 88,70 | |
| Lutum | % ds | 7,4 | | 2,0 | | 2,9 | |
| Organische stof | % ds | 2,2 | | 0,7 | | 1,6 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | 29 | 50 | 77 | 159 | 85 | 171 |
| zink | mg/kg ds | 190 | 352 | 80 | 190 | 93 | 211 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
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| Analyseresultaten grond | | 548-2 | | 550-1 | | 551-1 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | 548 | | 550 | | 551 | |
| Monstertraject (m -mv) | | 0,20-0,40 | | 0,00-0,50 | | 0,08-0,58 | |
| Analysedatum | | 18-11-2020 | | 18-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Voldoet aan achtergrondwaarde | | Niet toepasbaar > interventiewaarde | | Niet toepasbaar > interventiewaarde | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 89,00 | | 88,10 | | 97,50 | |
| Lutum | % ds | 2,0 | | 4,4 | | 2,0 | |
| Organische stof | % ds | 1,3 | | 3,2 | | 0,8 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| barium | mg/kg ds | | | | | 29 | 112(6) |
| cadmium | mg/kg ds | | | | | 0,67 | 1,150 |
| kobalt | mg/kg ds | | | | | 4,5 | 15,800 |
| koper | mg/kg ds | 13 | 27 | 120 | 221 | 120 | 248 |
| kwik | mg/kg ds | | | | | 0,12 | 0,170 |
| lood | mg/kg ds | | | | | 39 | 61 |
| molybdeen | mg/kg ds | | | | | < 1,5 | 1,100 |
| nikkel | mg/kg ds | | | | | 14 | 41 |
| zink | mg/kg ds | | | | | 140 | 332 |
| **PAK** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| antraceen | mg/kg ds | | | | | < 0,05 | 0,040 |
| benzo(a)antraceen | mg/kg ds | | | | | < 0,05 | 0,040 |
| benzo(a)pyreen | mg/kg ds | | | | | < 0,05 | 0,040 |
| benzo(ghi)peryleen | mg/kg ds | | | | | < 0,05 | 0,040 |
| benzo(k)fluorantheen | mg/kg ds | | | | | < 0,05 | 0,040 |
| chryseen | mg/kg ds | | | | | < 0,05 | 0,040 |
| fenantreen | mg/kg ds | | | | | 0,49 | 0,490 |
| fluorantheen | mg/kg ds | | | | | 0,07 | 0,070 |
| indeno(1,2,3-cd)pyreen | mg/kg ds | | | | | < 0,05 | 0,040 |
| naftaleen | mg/kg ds | | | | | < 0,05 | 0,040 |
| Pak-totaal (10 van VROM) (0.7 facto | mg/kg ds | | | | | 0,84 | |
| som (10) PAK | mg/kg ds | | | | | | 0,840 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | | | | | 7 | 35(6) |
| Minerale olie C10 - C40 | mg/kg ds | | | | | 1000 | 5000 |
| Minerale olie C12 - C16 | mg/kg ds | | | | | 65 | 325(6) |
| Minerale olie C16 - C21 | mg/kg ds | | | | | 470 | 2350(6) |
| Minerale olie C21 - C30 | mg/kg ds | | | | | 350 | 1750(6) |
| Minerale olie C30 - C35 | mg/kg ds | | | | | 87 | 435(6) |
| Minerale olie C35 - C40 | mg/kg ds | | | | | 35 | 175(6) |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | 548-2 | | 550-1 | | 551-1 | |
|---|---|---|---|---|---|---|---|
| **PCB`S** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| PCB (7) (som, 0.7 factor) | mg/kg ds | | | | | 0,017 | |
| PCB 101 | mg/kg ds | | | | | < 0,001 | 0,004 |
| PCB 118 | mg/kg ds | | | | | 0,0026 | 0,013 |
| PCB 138 | mg/kg ds | | | | | 0,0029 | 0,015 |
| PCB 153 | mg/kg ds | | | | | 0,0033 | 0,017 |
| PCB 180 | mg/kg ds | | | | | 0,0029 | 0,015 |
| PCB 28 | mg/kg ds | | | | | 0,0038 | 0,019 |
| PCB 52 | mg/kg ds | | | | | < 0,001 | 0,004 |
| som (7) PCB | mg/kg ds | | | | | | 0,085 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

**Additional soil research**
Ringdijk in Ridderkerk
projectnumber 0465250.100
december 2020, revision 00

| Analyseresultaten grond | | Grit 1-1 | | Grit 2-1 | | 549 | |
|---|---|---|---|---|---|---|---|
| Boringnummer | | Grit 1 | | Grit 2 | | 549 | |
| Monstertraject (m -mv) | | 0,00-0,01 | | 0,00-0,01 | | 0,00-0,50 | |
| Analysedatum | | 18-11-2020 | | 18-11-2020 | | 18-11-2020 | |
| Monsterconclusie Bbk | | Niet toepasbaar > interventiewaarde | | Niet toepasbaar > interventiewaarde | | Kwaliteitsklasse industrie | |
| **BODEMKUNDIG** | | | | | | | |
| Droge stof | % | 99,60 | | 97,50 | | 90,90 | |
| Lutum | % ds | | | | | 2,7 | |
| Organische stof | % ds | | | | | 1,1 | |
| **METALEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| koper | mg/kg ds | | | | | 40 | 81 |
| zink | mg/kg ds | | | | | 100 | 229 |
| **OVERIGE (ORG.) VERBINDINGEN** | Eenheid | Meetw | GSSD | Meetw | GSSD | Meetw | GSSD |
| Minerale olie C10 - C12 | mg/kg ds | < 300 | 210(6) | 330 | 330(6) | | |
| Minerale olie C10 - C40 | mg/kg ds | 180000 | 180000 | 180000 | 180000 | | |
| Minerale olie C12 - C16 | mg/kg ds | < 500 | 350(6) | 580 | 580(6) | | |
| Minerale olie C16 - C21 | mg/kg ds | 3600 | 3600(6) | 7500 | 7500(6) | | |
| Minerale olie C21 - C30 | mg/kg ds | 77000 | 77000(6) | 140000 | 140000(6) | | |
| Minerale olie C30 - C35 | mg/kg ds | 69000 | 69000(6) | 30000 | 30000(6) | | |
| Minerale olie C35 - C40 | mg/kg ds | 28000 | 28000(6) | 6600 | 6600(6) | | |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde
6: Heeft geen normwaarde

| Analyseresultaten grond | | | 528a-4 |
|---|---|---|---|
| Boringnummer | | | 528a |
| Monstertraject (m -mv) | | | 1,25-1,75 |
| Analysedatum | | | 18-11-2020 |
| Monsterconclusie Bbk | | | Kwaliteitsklasse industrie |
| **BODEMKUNDIG** | | | |
| Droge stof | % | | 69,60 |
| Lutum | % ds | | 8,1 |
| Organische stof | % ds | | 2,0 |
| **METALEN** | Eenheid | Meetw | GSSD |
| koper | mg/kg ds | 36 | 62 |

TOELICHTING

Besluit bodemkwaliteit (Bbk)

- Voldoet aan achtergrondwaarde (altijd toepasbaar)
- Kwaliteitsklasse wonen
- Kwaliteitsklasse industrie
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > industrie)
- Overschrijding kwaliteitsklasse industrie (niet toepasbaar > interventiewaarde)

GSSD: Gestandaardiseerde meetwaarde

# Appendix 6 Standards of soil and groundwater
# Soil Protection Act

# Achtergrondwaarden en interventiewaarden grond[9] (gehalten in mg/kg ds)

| Stof | Achtergrond-waarde | Interventie-waarde |
|---|---|---|
| **1. Metalen** | | |
| Antimoon | 4,0* | 22 |
| Arseen | 20 | 76 |
| Barium | - | -[8] |
| Cadmium | 0,60 | 13 |
| Chroom III | 55 | 180 |
| Chroom VI | - | 78 |
| Kobalt | 15 | 190 |
| Koper | 40 | 190 |
| Kwik (anorganisch) | 0,15 | 36 |
| Kwik (organisch) | - | 4 |
| Lood | 50 | 530 |
| Molybdeen | 1,5* | 190 |
| Nikkel | 35 | 100 |
| Zink | 140 | 720 |
| Beryllium | - | 30# |
| Seleen | - | 100# |
| Tellurium | - | 600# |
| Thallium | - | 15# |
| Tin | 6,5 | 900# |
| Vanadium | 80 | 250# |
| Zilver | - | 15# |
| **2. Overige organische stoffen** | | |
| Chloride[13] | - | - |
| Cyanide (vrij)[5] | 3,0 | 20 |
| Cyanide (complex)[6] | 5,5 | 50 |
| Thiocyanaat | 6,0 | 20 |
| **3. Aromatische verbindingen** | | |
| Benzeen | 0,20* | 1,1 |
| Ethylbenzeen | 0,20* | 110 |
| Tolueen | 0,20* | 32 |
| Xylenen (som)[1] | 0,45* | 17 |
| Styreen (vinylbenzeen) | 0,25* | 86 |
| Fenol | 0,25 | 14 |
| Cresolen (som)[1] | 0,30* | 13 |
| Dodecylbenzeen | 0,35* | 1000# |
| Aromatische oplosmiddelen[1, 7] | 2,5* | 200# |
| Dihydroxybenzenen (som)[12] | - | 8# |
| **4. Polycyclische aromatische koolwaterstoffen (PAK)** | | |
| PAK's (totaal) (som 10)[1] | 1,5 | 40 |
| **5. Gechloreerde koolwaterstoffen** | | |
| **A. (Vluchtige koolwaterstoffen)** | | |
| Monochloroetheen (Vinylchloride)[2] | 0,10* | 0,1 |
| Dichloormethaan | 0,10 | 3,9 |
| 1,1-dichloorethaan | 0,20* | 15 |
| 1,2-dichloorethaan | 0,20* | 6,4 |
| 1,1-dichloroetheen[2] | 0,30* | 0,3 |
| 1,2-dichloroetheen (som)[1] | 0,30* | 1 |
| Dichloorpropanen (som)[1] | 0,80* | 2 |
| Trichloormethaan (chloroform) | 0,25* | 5,6 |
| 1,1,1-trichloorethaan | 0,25* | 15 |
| 1,1,2-trichloorethaan | 0,30* | 10 |
| Trichloroetheen (Tri) | 0,25* | 2,5 |
| Tetrachloormethaan (Tetra) | 0,30* | 0,7 |
| Tetrachloroetheen (Per) | 0,15 | 8,8 |
| **B. Chloorbenzenen** | | |
| Monochloorbenzeen | 0,20* | 15 |
| Dichloorbenzenen (som)[1] | 2,0* | 19 |
| Trichloorbenzenen (som)[1] | 0,015* | 11 |
| Tetrachloorbenzenen (som)[1] | 0,0090* | 2,2 |
| Pentachloorbenzenen | 0,0025 | 6,7 |
| Hexachloorbenzeen | 0,0085 | 2 |
| **C. Chloorfenolen** | | |
| Monochloorfenolen (som)[1] | 0,045 | 5,4 |
| Dichloorfenolen (som)[1] | 0,20* | 22 |
| Trichloorfenolen (som)[1] | 0,0030* | 22 |
| Tetrachloorfenolen (som)[1] | 0,015* | 21 |
| Pentachloorfenol | 0,0030* | 12 |

| Stof | Achtergrond-waarde | Interventie-waarde |
|---|---|---|
| **D. Polychloorbifenylen (PCB's)** | | |
| PCB's (som 7)[1] | 0,020 | 1 |
| **E. Overige gechloreerde koolwaterstoffen** | | |
| Monochlooranilinen (som)[1] | 0,20* | 50 |
| Dioxine (som TEQ)[1] | 0,000055* | 0,00018 |
| Chloornaftaleen (som)[1] | 0,070* | 23 |
| Dichlooranilinen | - | 50# |
| Trichlooranilinen | - | 10# |
| Tetrachlooranilinen | - | 30# |
| Pentachlooranilinen | 0,15* | 10# |
| **6. Bestrijdingsmiddelen** | | |
| **A. Organochloor-bestrijdingsmiddelen** | | |
| Chloordaan (som)[1] | 0,0020 | 4 |
| DDT (som)[1] | 0,20 | 1,7 |
| DDE (som)[1] | 0,10 | 2,3 |
| DDD (som)[1] | 0,020 | 34 |
| Aldrin | - | 0,32 |
| Drins (som)[1] | 0,015 | 4 |
| α-endosulfan | 0,00090 | 4 |
| α-HCH | 0,0010 | 17 |
| β-HCH | 0,0020 | 1,6 |
| γ-HCH (lindaan) | 0,0030 | 1,2 |
| Heptachloor | 0,00070 | 4 |
| Heptachloorepoxide (som)[1] | 0,0020 | 4 |
| Hexachloorbutadieen | 0,003* | - |
| organochloorhoudende bestrijdingsmiddelen (som landbodem) | 0,40 | - |
| **B.Organofsforpesticiden** | | |
| Azinfosmethyl | 0,0075* | 2# |
| **C. Organotinbestrijdingsmiddelen** | | |
| Organotinverbindingen (som)[1, 10] | 0,15 | 2,5 |
| tributyltin (TBT)[10] | 0,065 | - |
| **D. Chloorfenoxy-azijnzuur herbiciden** | | |
| MCPA | 0,55* | 4 |
| **E. Overige bestrijdingsmiddelen** | | |
| Atrazine | 0,035* | 0,71 |
| Carbaryl | 0,15* | 0,45 |
| Carbofuran[2] | 0,017* | 0,017 |
| 4-chloormethylfenolen | 0,60* | 15# |
| Organostikstof- en organofosfor bestrijdingsmiddelen (som) | 0,090* | - |
| Maneb | - | 22# |
| **7. Overige stoffen** | | |
| Asbest[3] | - | 100 |
| Cyclohexanon | 2,0* | 150 |
| Dimethyl ftalaat[11] | 0,045* | 82 |
| Diethyl ftalaat[11] | 0,045* | 53 |
| Di-isobutyl ftalaat[11] | 0,045* | 17 |
| Dibutyl ftalaat[11] | 0,070* | 36 |
| Butyl benzylftalaat[11] | 0,070* | 48 |
| Dihexyl ftalaat[11] | 0,070* | 220 |
| Di(2-ethylhexyl)ftalaat[11] | 0,045* | 60 |
| Minerale olie[4] | 190 | 5000 |
| Pyridine | 0,15* | 11 |
| Tetrahydrofuran | 0,45 | 7 |
| Tetrahydrothiofeen | 1,5* | 8,8 |
| Tribroommethaan (bromoform) | 0,20* | 75 |
| Acrylonitril | 0,1* | 0,1# |
| Butanol (1-butanol) | 2,0* | 30# |
| 1,2 butylacetaat | 2,0* | 200# |
| Ethylacetaat | 2,0* | 75# |
| Diethyleen glycol | 8,0 | 270# |
| Ethyleen glycol | 5,0 | 100# |
| Formaldehyde | 0,1* | 0,1# |
| Isopropanol (2-propanol) | 0,75 | 220# |
| Methanol | 3,0 | 30# |
| Methylethylketon | 2,0* | 35# |
| Methyl-tert-buthyl ether (MTBE) | 0,20* | 100# |

Toelichting:

* *Achtergrondwaarde is gebaseerd op de bepalingsgrens (intralaboratorium reproduceerbaarheid), omdat onvoldoende data beschikbaar zijn om een betrouwbare P95 af te leiden.*

# Voor deze stof is geen interventiewaarde vastgesteld, het gehalte betreft een niveau voor ernstige verontreiniging (INEV).

1 Voor de samenstelling van de somparameters wordt verwezen naar bijlage N van de Regeling bodemkwaliteit.
Voor de berekening van de som TEQ voor dioxine wordt verwezen naar bijlage B van de Regeling Bodemkwaliteit. Voor het optellen van meetwaarden beneden de bepalingsgrens wordt verwezen naar bijlage G onderdeel IV van de Regeling bodemkwaliteit.

2 De interventiewaarde voor grond voor deze stof is gelijk of kleiner dan de bepalingsgrens (intralaboratorium reproduceerbaarheid). Indien de stof wordt aangetoond moeten de risico's nader worden onderzocht. Bij het aantreffen van vinylchloride of 1,1-dichlooretheen in grond moet tevens het grondwater worden onderzocht.

3 Gewogen norm (concentratie serpentijn asbest + 10 x concentratie amfibool asbest). Deze eis bedraagt 0 mg/kg ds indien niet is voldaan aan artikel 2, onder b, van het Productenbesluit Asbest.

4 De definitie van minerale olie wordt beschreven bij de analysenorm. Indien er sprake is van een verontreiniging met mengsels (bijvoorbeeld benzine of huisbrandolie) dan dient naast het alkaangehalte ook het gehalte aan aromatische en/of polycyclische aromatische koolwaterstoffen bepaald te worden. Met deze somparameter is om praktische redenen volstaan. Nadere toxicologische en chemische differentiatie worden bestudeerd.

5 Bij gehalten die de achtergrondwaarden overschrijden moet rekening worden gehouden met de mogelijkheid van uitdamping. Wanneer uitdamping naar binnenlucht zou kunnen optreden, moet bij overschrijding van de achtergrondwaarde worden gemeten in de bodemlucht en moet worden getoetst aan de TCL (Toxicologisch Toelaatbare Concentratie in Lucht).

6 Het gehalte cyanide-complex is gelijk aan het gehalte cyanide-totaal minus het gehalte cyanide-vrij, bepaald conform NEN-EN-ISO 14403-1:2012, NEN-EN-ISO 14403-2:2012 en NEN-ISO 17380:2013. Indien geen cyanide-vrij wordt verwacht, mag het gehalte cyanide-complex gelijk worden gesteld aan het gehalte cyanide-totaal (en hoeft dus alleen het gehalte cyanide-totaal te worden gemeten).

7 De achtergrondwaarde van deze somparameter gaat uit van de aanwezigheid van meerdere van de 16 componenten, die tot deze somparameter worden gerekend (zie bijlage N van de Regeling bodemkwaliteit). De hoogte van de achtergrondwaarde is gebaseerd op de som van de bepalingsgrenzen vermenigvuldigd met 0,7. Sommige componenten zijn tevens individueel genormeerd. Binnen de somparameter mag de achtergrondwaarde van de individueel genormeerde componenten niet worden overschreden. Voor de componenten, die niet individueel zijn genormeerd, geldt per component een maximum gehalte van 0,45 mg/kg ds voor de achtergrondwaarde.

8 De norm voor barium is tijdelijk ingetrokken. Gebleken is dat de interventiewaarde voor barium lager was dan het gehalte dat van nature in de bodem voorkomt. Indien er sprake is van verhoogde bariumgehalten ten opzichte van de natuurlijke achtergrond als gevolg van een antropogene bron, kan dit gehalte worden beoordeeld op basis van de voormalige interventiewaarde voor barium van 920 mg/kg. Deze voormalige interventiewaarde is op dezelfde manier onderbouwd als de interventiewaarde voor de meeste andere metalen en is voor barium inclusief een natuurlijk achtergrondgehalte van 190 mg/kg ds.

9 Voor het omgaan met meetwaarden beneden de bepalingsgrens van het laboratorium wordt verwezen naar bijlage G onderdeel IV van de Regeling bodemkwaliteit.

10 De eenheid voor organotinverbindingen is mg Sn/kg ds.

11 Het is onzeker of de achtergrondwaarden voor ftalaten meetbaar zijn. Toekomstige ervaringen moeten uitwijzen of sprake is van een knelpunt.

12 Onder dihydroxybenzenen (som) wordt verstaan: de som van catechol, resorcinol en hydrochinon

13 Voor het toepassen van zeezand geldt de norm van 200 mg/kg ds. Bij het toepassen van zeezand op plaatsen waar een direct contact is of mogelijk is met brak water of zeewater met van nature een chloride-concentratie van meer dan 5.000 mg/l, geldt voor chloride geen maximale waarde.

# Appendix 7 Explanation of standard values for the Soil Quality Decree

# Streefwaarden en interventiewaarden grondwater[9] (concentraties in µg/l)

| Stof | Streefwaarde[7] | | Interventie-waarde |
|---|---|---|---|
| | Ondiep (< 10 m -mv.) | Diep (> 10 m -mv.) | |
| **1. Metalen** | | | |
| Antimoon | - | 0,15* | 20 |
| Arseen | 10 | 7,2 | 60 |
| Barium | 50 | 200 | 625 |
| Cadmium | 0,4 | 0,06* | 6 |
| Chroom | 1 | 2,5 | 30 |
| Kobalt | 20 | 0,7* | 100 |
| Koper | 15 | 1,3* | 75 |
| Kwik | 0,05 | 0,01* | 0,3 |
| Lood | 15 | 1,7* | 75 |
| Molybdeen | 5 | 3,6 | 300 |
| Nikkel | 15 | 2,1* | 75 |
| Zink | 65 | 24 | 800 |
| Beryllium | - | 0,05 * | 15# |
| Seleen | - | 0,07 | 160# |
| Tellurium | - | – | 70# |
| Thallium | - | 2* | 7# |
| Tin | - | 2,2* | 50# |
| Vanadium | - | 1,2* | 70# |
| Zilver | - | – | 40# |
| **2. Overige organische stoffen** | | | |
| Chloride | 100000 | | - |
| Cyanide (vrij) | 5 | | 1500 |
| Cyanide (complex) | 10 | | 1500 |
| Thiocyanaat | - | | 1500 |
| **3. Aromatische verbindingen** | | | |
| Benzeen | 0,2 * | | 30 |
| Ethylbenzeen | 4 | | 150 |
| Tolueen | 7 | | 1000 |
| Xylenen (som)[1] | 0,2 * | | 70 |
| Styreen (vinylbenzeen) | 6 | | 300 |
| Fenol | 0,2 | | 2000 |
| Cresolen (som)[1] | 0,2 | | 200 |
| Dodecylbenzeen | - | | 0,02# |
| Aromatische oplosmiddelen[1] | - | | 150# |
| Catechol (o-dihydroxybenzeen) | 0,2 | | 1250# |
| Resorcinol (m-dihydroxybenzeen) | 0,2 | | 600# |
| Hydrochinon (p-dihydroxybenzeen) | 0,2 | | 800# |
| **4. Polycyclische aromatische koolwaterstoffen (PAK)[5]** | | | |
| Naftaleen | 0,01* | | 70 |
| Fenantreen | 0,003* | | 5 |
| Antraceen | 0,0007* | | 5 |
| Fluorantheen | 0,003* | | 1 |
| Chryseen | 0,003* | | 0,2 |
| Benzo(a)antraceen | 0,0001* | | 0,5 |
| Benzo(a)pyreen | 0,0005* | | 0,05 |
| Benzo(k)fluorantheen | 0,0004* | | 0,05 |
| Indeno(1,2,3cd)pyreen | 0,0004* | | 0,05 |
| Benzo(ghi)peryleen | 0,0003* | | 0,05 |
| **5. Gechloreerde koolwaterstoffen** | | | |
| **A. (Vluchtige koolwaterstoffen)** | | | |
| Monochlooretheen (Vinylchloride) | 0,01* | | 5 |
| Dichloormethaan | 0,01* | | 1000 |
| 1,1-dichloorethaan | 7 | | 900 |
| 1,2-dichloorethaan | 7 | | 400 |
| 1,1-dichlooretheen | 0,01* | | 10 |
| 1,2-dichlooretheen (som)[1] | 0,01* | | 20 |
| Dichloorpropanen (som)[1] | 0,8* | | 80 |
| Trichloormethaan (chloroform) | 6 | | 400 |
| 1,1,1-trichloorethaan | 0,01* | | 300 |
| 1,1,2-trichloorethaan | 0,01* | | 130 |
| Trichlooretheen (Tri) | 24 | | 500 |
| Tetrachloormethaan (Tetra) | 0,01* | | 10 |
| Tetrachlooretheen (Per) | 0,01* | | 40 |
| **B. Chloorbenzenen[5]** | | | |
| Monochloorbenzeen | 7 | | 180 |
| Dichloorbenzenen (som)[1] | 3 | | 50 |
| Trichloorbenzenen (som)[1] | 0,01* | | 10 |
| Tetrachloorbenzenen (som)[1] | 0,01* | | 2,5 |
| Pentachloorbenzenen | 0,003* | | 1 |
| Hexachloorbenzeen | 0,00009* | | 0,5 |

| Stof | Streefwaarde[7] | Interventie-waarde |
|---|---|---|
| **C. Chloorfenolen[5]** | | |
| Monochloorfenolen (som)[1] | 0,3 | 100 |
| Dichloorfenolen (som)[1] | 0,2 | 30 |
| Trichloorfenolen (som)[1] | 0,03 | 10 |
| Tetrachloorfenolen (som)[1] | 0,01 | 10 |
| Pentachloorfenol | 0,04 | 3 |
| **D. Polychloorbifenylen (PCB's)** | | |
| PCB's (som 7)[1] | 0,01* | 0,01 |
| **E. Overige gechloreerde koolwaterstoffen** | | |
| Monochlooranilinen (som)[1] | - | 30 |
| Chloornaftaleen (som)[1] | - | 6 |
| Dichlooranilinen | - | 100# |
| Trichlooranilinen | - | 10# |
| Tetrachlooranilinen | - | 10# |
| Pentachlooranilinen | - | 1# |
| 4-chloormethylfenolen | - | 350# |
| Dioxine (som TEQ)[1] | - | 0,000001# |
| **6. Bestrijdingsmiddelen** | | |
| **A. Organochloor-bestrijdingsmiddelen** | | |
| Chloordaan (som)[1] | 0,00002* | 0,2 |
| DDT (som)[1] | - | - |
| DDE (som)[1] | - | - |
| DDD (som)[1] | - | - |
| DDT/DDE/DDD (som)[1] | 0,000004* | 0,01 |
| Aldrin | 0,000009* | - |
| Dieldrin | 0,0001* | - |
| Endrin | 0,00004* | - |
| Drins (som)[1] | - | 0,1 |
| α-endosulfan | 0,0002* | 5 |
| α-HCH | 0,033 | - |
| β-HCH | 0,008* | - |
| γ-HCH (lindaan) | 0,009* | - |
| HCH-verbindingen (som)[1] | 0,05 | 1 |
| Heptachloor | 0,000005* | 0,3 |
| Heptachloorepoxide (som)[1] | 0,000005* | 3 |
| **C. Organotinbestrijdingsmiddelen** | | |
| Organotinverbindingen (som)[1] | 0,00005 - 0,016 | 0,7 |
| **D. Chloorfenoxy-azijnzuur herbiciden** | | |
| MCPA | 0,02 | 50 |
| **E. Overige bestrijdingsmiddelen** | | |
| Atrazine | 0,029 | 150 |
| Carbaryl | 0,002 | 60 |
| Carbofuran | 0,009 | 100 |
| Azinfosmethyl | 0,0001 | 2# |
| Maneb | 0,00005 | 0,1# |
| **7. Overige stoffen** | | |
| Cyclohexanon | 0,5 | 15000 |
| Dimethyl ftalaat | - | - |
| Diethyl ftalaat | - | - |
| Di-isobutyl ftalaat | - | - |
| Dibutyl ftalaat | - | - |
| Butyl benzylftalaat | - | - |
| Dihexyl ftalaat | - | - |
| Di(2-ethylhexyl)ftalaat | - | - |
| Ftalaten (som)[1] | 0,5 | 5 |
| Minerale olie[4] | 50 * | 600 |
| Pyridine | 0,5 | 30 |
| Tetrahydrofuran | 0,5 | 300 |
| Tetrahydrothiofeen | 0,5 | 5000 |
| Tribroommethaan (bromoform) | - | 630 |
| Acrylonitril | 0,08 | 5# |
| Butanol | - | 5600# |
| 1,2 butylacetaat | - | 6300# |
| Ethylacetaat | - | 15000# |
| Diethyleen glycol | - | 13000# |
| Ethyleen glycol | - | 5500# |
| Formaldehyde | - | 50# |
| Isopropanol | - | 31000# |
| Methanol | - | 24000# |
| Methylethylketon | - | 6000# |
| Methyl-tert-buthyl ether (MTBE) | - | 9400# |

Toelichting:

[#] Voor deze stof is geen interventiewaarde vastgesteld, de concentratie betreft een niveau voor ernstige verontreiniging (INEV).

[1] Voor de samenstelling van de somparameters wordt verwezen naar bijlage N van de Regeling bodemkwaliteit.
Voor de berekening van de som TEQ voor dioxine wordt verwezen naar bijlage B van de Regeling Bodemkwaliteit. Voor het optellen van meetwaarden beneden de bepalingsgrens wordt verwezen naar bijlage G onderdeel IV van de Regeling bodemkwaliteit.

[4] De definitie van minerale olie wordt beschreven bij de analysenorm. Indien er sprake is van een verontreiniging met mengsels (bijvoorbeeld benzine of huisbrandolie) dan dient naast de alkaanconcentratie ook de concentratie aan aromatische en/of polycyclische aromatische koolwaterstoffen bepaald te worden. Met deze somparameter is om praktische redenen volstaan. Nadere toxicologische en chemische differentiatie worden bestudeerd.

[5] Voor grondwater zijn de effecten van PAK's, chloorbenzenen en chloorfenolen indirect, als fractie van de individuele interventiewaarde, optelbaar (dat wil zeggen 0,5 x interventiewaarde stof A heeft evenveel effect als 0,5 x interventiewaarde stof B). Dit betekent dat een somformule moet worden gebruikt om te beoordelen of van overschrijding van de interventiewaarde sprake is. Er is sprake van overschrijding van de interventiewaarde voor de som van een groep stoffen indien $\Sigma(Ci/Ii) > 1$, waarbij Ci= gemeten concentratie van een stof uit de betreffende groep en Ii= interventiewaarde voor de betreffende stof uit de betreffende groep.

[7] De streefwaarde grondwater voor een aantal stoffen **(gemarkeerd met *)** is lager dan of gelijk aan de vereiste rapportagegrens in bijlage G onderdeel IV van de Regeling bodemkwaliteit. Voor het beoordelen van meetwaarden beneden de rapportagegrens, wordt verwezen naar bijlage G.

[9] Voor het omgaan met meetwaarden beneden de bepalingsgrens van het laboratorium wordt verwezen naar bijlage G onderdeel IV van de Regeling bodemkwaliteit.

# Appendix 8 Certificates of Analysis

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Antea Group
[redacted]
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020179440/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 11-Nov-2020 |

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Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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BNP Paribas S.A. 227 9245 25
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020179440/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 11-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C |
| | | Page | 1/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | 0.19 | 0.29 | <0.10 | 0.23 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | 0.27 | 0.35 | 0.20 | 0.28 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.26 | 0.36 | 0.14 1) | 0.30 | 0.14 1) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 506-1-1 506 (170-270) | Water, AS3000 [redacted] | 11694856 |
| 2 | 507-1-1 507 (170-270) | Water, AS3000 | 11694857 |
| 3 | 508-1-1 508 (170-270) | Water, AS3000 | 11694858 |
| 4 | 509-1-1 509 (170-270) | Water, AS3000 | 11694859 |
| 5 | 510-1-1 510 (170-270) | Water, AS3000 | 11694860 |

kwaliteitswaarborg bodembeheer SIKB

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A: AP04 accredited test
S: AS SIKB recognized test
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W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020179440/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 11-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C |
| | | Page | 2/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 |
|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | 0.55 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | 1.3 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | 0.80 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | 0.15 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 0.78 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | 3.6 |
| S | Vinyl chloride | µg/L | <0.10 | <0.10 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 1) | 0.14 1) | 0.85 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 511-1-1 511 (150-250) | Water, AS3000 [redacted] | 11694861 |
| 7 | 513-1-1 513 (150-250) | Water, AS3000 | 11694862 |
| 8 | 515-1-1 515 (160-260) | Water, AS3000 | 11694863 |

kwaliteitswaarborg bodembeheer SIKB

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V: VLAREL recognized test
W: Walloon region recognized test

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020179440/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11694856 | 506-1-1 506 (170-270) | | | | |
| 0692021845 | 506 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316016 | 506 | 170 | 270 | 04-Nov-2020 | 2 |
| 11694857 | 507-1-1 507 (170-270) | | | | |
| 0692054641 | 507 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316011 | 507 | 170 | 270 | 04-Nov-2020 | 2 |
| 11694858 | 508-1-1 508 (170-270) | | | | |
| 0692054630 | 508 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316036 | 508 | 170 | 270 | 04-Nov-2020 | 2 |
| 11694859 | 509-1-1 509 (170-270) | | | | |
| 0670316067 | 509 | 170 | 270 | 04-Nov-2020 | 2 |
| 0692054670 | 509 | 170 | 270 | 04-Nov-2020 | 1 |
| 11694860 | 510-1-1 510 (170-270) | | | | |
| 0670316032 | 510 | 170 | 270 | 04-Nov-2020 | 2 |
| 0692054645 | 510 | 170 | 270 | 04-Nov-2020 | 1 |
| 11694861 | 511-1-1 511 (150-250) | | | | |
| 0377858YA | 511 | 150 | 250 | 04-Nov-2020 | 1 |
| 0670316000 | 511 | 150 | 250 | 04-Nov-2020 | 2 |
| 11694862 | 513-1-1 513 (150-250) | | | | |
| 0377852YA | 513 | 150 | 250 | 04-Nov-2020 | 1 |
| 0670316088 | 513 | 150 | 250 | 04-Nov-2020 | 2 |
| 11694863 | 515-1-1 515 (160-260) | | | | |
| 0377837YA | 515 | 160 | 260 | 04-Nov-2020 | 1 |
| 0670316089 | 515 | 160 | 260 | 04-Nov-2020 | 2 |

[redacted]

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**Annex (B) concerning remarks referring to certificate of analysis 2020179440/1**



**Remark 1)**

The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

[redacted]

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## Annex (C) method references belonging to certificate of analysis 2020179440/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020185683/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 19-Nov-2020 |

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Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020185683/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 19-Nov-2020 |
| Your order number | | End date analysis | 27-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C,D |
| | | Page | 1/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | 0.29 | <0.20 | 0.61 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | 0.24 | <0.10 | 0.16 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | 0.17 | 0.21 | <0.10 | <0.10 | 0.21 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.31 | 0.14 1) | 0.23 | 0.14 1) | 0.14 1) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 1016(6m)-1-1 1016(6m) | Water, AS3000 [redacted] | 11713912 |
| 2 | 1016(10m)-1-1 1016(10m) | Water, AS3000 | 11713913 |
| 3 | 1017(3m)-1-1 1017(3m) | Water, AS3000 | 11713914 |
| 4 | 1017(6m)-1-1 1017(6m) | Water, AS3000 | 11713915 |
| 5 | 1017(10m)-1-1 1017(10m) | Water, AS3000 | 11713916 |

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020185683/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 19-Nov-2020 |
| Your order number | | End date analysis | 27-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C,D |
| | | Page | 2/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | 57 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 460 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 0.19 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | 510 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | <0.10 | <0.10 | 1200 | <0.10 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 1) | 0.14 1) | 460 | 0.14 1) | 0.14 1) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 1018(3m)-1-1 1018(3m) | Water, AS3000 [redacted] | 11713917 |
| 7 | 1018(6m)-1-1 1018(6m) | Water, AS3000 | 11713918 |
| 8 | 1018(10m)-1-1 1018(10m) | Water, AS3000 | 11713919 |
| 9 | 1019(3m)-1-1 1019(3m) | Water, AS3000 | 11713920 |
| 10 | 1019(6m)-1-1 1019(6m) | Water, AS3000 | 11713921 |

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S: AS SIKB recognized test
V: VLAREL recognized test
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BNP Paribas S.A. 227 9245 25
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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020185683/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 19-Nov-2020 |
| Your order number | | End date analysis | 27-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C,D |
| | | Page | 3/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | 0.54 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 1) | 0.14 1) | 0.14 1) | 0.14 1) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 11 | 1019(10m)-1-1 1019(10m) | Water, AS3000 [redacted] | 11713922 |
| 12 | 1020(3m)-1-1 1020(3m) | Water, AS3000 | 11713923 |
| 13 | 1020(6m)-1-1 1020(6m) | Water, AS3000 | 11713924 |
| 14 | 1020(10m)-1-1 1020(10m) | Water, AS3000 | 11713925 |

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020185683/**



| Sample nr. / Barcode | Your sample description / Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
|---|---|---|---|---|---|
| 11713912 | 1016(6m)-1-1 | 1016(6m) | | | |
| 0692066102 | 1016(6m) | | | 18-Nov-2020 | 1 |
| 0670316080 | 1016(6m) | | | 18-Nov-2020 | 2 |
| 11713913 | 1016(10m)-1-1 | 1016(10m) | | | |
| 0692066116 | 1016(10m) | | | 18-Nov-2020 | 1 |
| 0670316087 | 1016(10m) | | | 18-Nov-2020 | 2 |
| 11713914 | 1017(3m)-1-1 | 1017(3m) | | | |
| 0692066135 | 1017(3m) | | | 18-Nov-2020 | 1 |
| 0670316055 | 1017(3m) | | | 18-Nov-2020 | 2 |
| 11713915 | 1017(6m)-1-1 | 1017(6m) | | | |
| 0692066109 | 1017(6m) | | | 18-Nov-2020 | 1 |
| 0670316046 | 1017(6m) | | | 18-Nov-2020 | 2 |
| 11713916 | 1017(10m)-1-1 | 1017(10m) | | | |
| 0670316086 | 1017(10m) | | | 18-Nov-2020 | 2 |
| 0692066141 | 1017(10m) | | | 18-Nov-2020 | 1 |
| 11713917 | 1018(3m)-1-1 | 1018(3m) | | | |
| 0692066139 | 1018(3m) | | | 18-Nov-2020 | 1 |
| 11713918 | 1018(6m)-1-1 | 1018(6m) | | | |
| 0692066124 | 1018(6m) | | | 18-Nov-2020 | 1 |
| 11713919 | 1018(10m)-1-1 | 1018(10m) | | | |
| 0692066133 | 1018(10m) | | | 18-Nov-2020 | 1 |
| 11713920 | 1019(3m)-1-1 | 1019(3m) | | | |
| 0692066101 | 1019(3m) | | | 18-Nov-2020 | 1 |
| 11713921 | 1019(6m)-1-1 | 1019(6m) | | | |
| 0692066134 | 1019(6m) | | | 18-Nov-2020 | 1 |
| 11713922 | 1019(10m)-1-1 | 1019(10m) | | | |
| 0692066140 | 1019(10m) | | | 18-Nov-2020 | 1 |
| 11713923 | 1020(3m)-1-1 | 1020(3m) | | | |
| 0692066103 | 1020(3m) | | | 18-Nov-2020 | 1 |
| 11713924 | 1020(6m)-1-1 | 1020(6m) | | | |
| 0692066126 | 1020(6m) | | | 18-Nov-2020 | 1 |
| 11713925 | 1020(10m)-1-1 | 1020(10m) | | | |
| 0692066118 | 1020(10m) | | | 18-Nov-2020 | 1 |

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**Annex (B) concerning remarks referring to certificate of analysis 2020185683/1**



**Remark 1)**

The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

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## Annex (C) method references belonging to certificate of analysis 2020185683/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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**Annex (D) remarks concerning the sampling and preservation period 2020185683/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| During sample acceptance was established that the pH of the sample was not in accordance with the requirements. | |
| Volatiles (HS) preparation | 11713914 |

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020187449/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 23-Nov-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020187449/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 23-Nov-2020 |
| Your order number | | End date analysis | 01-Dec-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 1/4 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| S | Dry matter | % (w/w) | 82.1 | 89.1 | 82.3 | 77.7 | 84.9 |
| S | Organic matter | % (w/w) dm | 1.6 | 1.7 | 1.3 | <0.7 1) | <0.7 1) |
| | Residue on ignition | % (w/w) dm | 98 | 98 | 98 | 100 | 99 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 3.8 | 3.3 | 10.0 | | |
| | **Metals** | | | | | | |
| S | Copper (Cu) | mg/kg dm | 240 | 550 | 790 | | |
| S | Zinc (Zn) | mg/kg dm | 120 | | | | |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | | | | <0.0010 | <0.0010 |
| S | PCB 52 | mg/kg dm | | | | <0.0010 | <0.0010 |
| S | PCB 101 | mg/kg dm | | | | <0.0010 | <0.0010 |
| S | PCB 118 | mg/kg dm | | | | <0.0010 | <0.0010 |
| S | PCB 138 | mg/kg dm | | | | <0.0010 | 0.012 4) |
| S | PCB 153 | mg/kg dm | | | | 0.0012 | 0.012 |
| S | PCB 180 | mg/kg dm | | | | 0.0012 | 0.020 |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | | | | 0.0059 | 0.047 |

| No. | Your sample description | Specified sample matrix | | Sample nr. |
|---|---|---|---|---|
| 1 | 525a-3 525a (70-100) | Soil, AS3000 | [redacted] | 11719173 |
| 2 | 528a-2 528a (50-100) | Soil, AS3000 | | 11719174 |
| 3 | 528a-3 528a (100-125) | Soil, AS3000 | | 11719175 |
| 4 | 530a-3 530a (60-110) | Soil, AS3000 | | 11719176 |
| 5 | 541-1 541 (0-50) | Soil, AS3000 | | 11719177 |

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020187449/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 23-Nov-2020 |
| Your order number | | End date analysis | 01-Dec-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 2/4 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| S | Dry matter | % (w/w) | 97.8 | 81.1 | 85.6 | 88.6 | 88.7 |
| S | Organic matter | % (w/w) dm | <0.7 1) | 3.9 | 2.2 | 0.7 | 1.6 |
| | Residue on ignition | % (w/w) dm | 99 | 95 | 97 | 99 | 98 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | | 12.5 | 7.4 | <2.0 | 2.9 |
| | **Metals** | | | | | | |
| S | Copper (Cu) | mg/kg dm | | 82 | 29 | 77 | 85 |
| S | Zinc (Zn) | mg/kg dm | | 120 | 190 | 80 | 93 |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | <0.0010 | | | | |
| S | PCB 52 | mg/kg dm | <0.0010 | | | | |
| S | PCB 101 | mg/kg dm | <0.0010 | | | | |
| S | PCB 118 | mg/kg dm | <0.0010 | | | | |
| S | PCB 138 | mg/kg dm | 0.0011 4) | | | | |
| S | PCB 153 | mg/kg dm | 0.0011 | | | | |
| S | PCB 180 | mg/kg dm | 0.0014 | | | | |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | 0.0064 | | | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 542-1 542 (8-30) | Soil, AS3000 | 11719178 |
| 7 | 543-2 543 (30-65) | Soil, AS3000 [redacted] | 11719179 |
| 8 | 544-1 544 (0-50) | Soil, AS3000 | 11719180 |
| 9 | 545 545 (8-20) 545 (20-60) | Soil, AS3000 | 11719181 |
| 10 | 547-1 547 (0-50) | Soil, AS3000 | 11719182 |

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020187449/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 23-Nov-2020 |
| Your order number | | End date analysis | 01-Dec-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 3/4 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| S | Dry matter | % (w/w) | 89.0 | 88.1 | 97.5 | 99.6 | 97.5 |
| S | Organic matter | % (w/w) dm | 1.3 | 3.2 | 0.8 | | |
| | Residue on ignition | % (w/w) dm | 99 | 97 | 99 | | |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | <2.0 | 4.4 | <2.0 | | |
| | **Metals** | | | | | | |
| S | Barium (Ba) | mg/kg dm | | | 29 | | |
| S | Cadmium (Cd) | mg/kg dm | | | 0.67 | | |
| S | Cobalt (Co) | mg/kg dm | | | 4.5 | | |
| S | Copper (Cu) | mg/kg dm | 13 | 120 | 120 | | |
| S | Mercury (Hg) | mg/kg dm | | | 0.12 | | |
| S | Molybdenum (Mo) | mg/kg dm | | | <1.5 | | |
| S | Nickel (Ni) | mg/kg dm | | | 14 | | |
| S | Lead (Pb) | mg/kg dm | | | 39 | | |
| S | Zinc (Zn) | mg/kg dm | | | 140 | | |
| | **Petroleum Hydrocarbons** | | | | | | |
| | EPH (C10-C12) | mg/kg dm | | | 7.0 | <300 [2)] | 330 |
| | EPH (C12-C16) | mg/kg dm | | | 65 | <500 [2)] | 580 |
| | EPH (C16-C21) | mg/kg dm | | | 470 | 3600 | 7500 |
| | EPH (C21-C30) | mg/kg dm | | | 350 | 77000 | 140000 |
| | EPH (C30-C35) | mg/kg dm | | | 87 | 69000 | 30000 |
| | EPH (C35-C40) | mg/kg dm | | | 35 | 28000 | 6600 |
| S | EPH Sum (C10-C40) | mg/kg dm | | | 1000 | 180000 | 180000 |
| | Chromatogram TPH (GC) | | | | See annex | See annex | See annex |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | | | 0.0038 [3)] | | |
| S | PCB 52 | mg/kg dm | | | <0.0010 | | |
| S | PCB 101 | mg/kg dm | | | <0.0010 | | |

| No. | Your sample description | Specified sample matrix | | Sample nr. |
|---|---|---|---|---|
| 11 | 548-2 548 (20-40) | Soil, AS3000 | [redacted] | 11719183 |
| 12 | 550-1 550 (0-50) | Soil, AS3000 | | 11719184 |
| 13 | 551-1 551 (8-58) | Soil, AS3000 | | 11719185 |
| 14 | Grit 1-1 Grit 1 (0-1) | Soil, AS3000 | | 11719186 |
| 15 | Grit 2-1 Grit 2 (0-1) | Soil, AS3000 | | 11719187 |

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020187449/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 23-Nov-2020 |
| Your order number | | End date analysis | 01-Dec-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 4/4 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|
| S | PCB 118 | mg/kg dm | | | 0.0026 | | |
| S | PCB 138 | mg/kg dm | | | 0.0029 [4)] | | |
| S | PCB 153 | mg/kg dm | | | 0.0033 | | |
| S | PCB 180 | mg/kg dm | | | 0.0029 | | |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | | | 0.017 | | |
| | **Polycyclic Aromatic Hydrocarbons, PAH** | | | | | | |
| S | Naphtalene | mg/kg dm | | | <0.050 | | |
| S | Phenanthrene | mg/kg dm | | | 0.49 | | |
| S | Anthracene | mg/kg dm | | | <0.050 | | |
| S | Fluoranthene | mg/kg dm | | | 0.070 | | |
| S | Benzo(a)anthracene | mg/kg dm | | | <0.050 | | |
| S | Chrysene | mg/kg dm | | | <0.050 | | |
| S | Benzo(k)fluoranthene | mg/kg dm | | | <0.050 | | |
| S | Benzo(a)pyrene | mg/kg dm | | | <0.050 | | |
| S | Benzo(ghi)perylene | mg/kg dm | | | <0.050 | | |
| S | Indeno(123cd)pyrene | mg/kg dm | | | <0.050 | | |
| S | PAK VROM (10) (factor 0,7) | mg/kg dm | | | 0.84 | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 11 | 548-2 548 (20-40) | Soil, AS3000 | 11719183 |
| 12 | 550-1 550 (0-50) | Soil, AS3000 | 11719184 |
| 13 | 551-1 551 (8-58) | Soil, AS3000 | 11719185 |
| 14 | Grit 1-1 Grit 1 (0-1) | Soil, AS3000 | 11719186 |
| 15 | Grit 2-1 Grit 2 (0-1) | Soil, AS3000 | 11719187 |

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

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ASM



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NV TESTING RvA L010

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020187449/**



| Sample nr. / Barcode | Your sample description / Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
|---|---|---|---|---|---|
| 11719173 | 525a-3 525a (70-100) | | | | |
| 3731555AA | 525a | 70 | 100 | 18-Nov-2020 | 3 |
| 11719174 | 528a-2 528a (50-100) | | | | |
| 3731591AA | 528a | 50 | 100 | 18-Nov-2020 | 2 |
| 11719175 | 528a-3 528a (100-125) | | | | |
| 3731577AA | 528a | 100 | 125 | 18-Nov-2020 | 3 |
| 11719176 | 530a-3 530a (60-110) | | | | |
| 3731587AA | 530a | 60 | 110 | 18-Nov-2020 | 3 |
| 11719177 | 541-1 541 (0-50) | | | | |
| 3731580AA | 541 | 0 | 50 | 18-Nov-2020 | 1 |
| 11719178 | 542-1 542 (8-30) | | | | |
| 3731550AA | 542 | 8 | 30 | 18-Nov-2020 | 1 |
| 11719179 | 543-2 543 (30-65) | | | | |
| 3731548AA | 543 | 30 | 65 | 18-Nov-2020 | 2 |
| 11719180 | 544-1 544 (0-50) | | | | |
| 3731586AA | 544 | 0 | 50 | 18-Nov-2020 | 1 |
| 11719181 | 545 545 (8-20) 545 (20-60) | | | | |
| 3731576AA | 545 | 20 | 60 | 18-Nov-2020 | 2 |
| 3731543AA | 545 | 8 | 20 | 18-Nov-2020 | 1 |
| 11719182 | 547-1 547 (0-50) | | | | |
| 3731583AA | 547 | 0 | 50 | 18-Nov-2020 | 1 |
| 11719183 | 548-2 548 (20-40) | | | | |
| 3731541AA | 548 | 20 | 40 | 18-Nov-2020 | 2 |
| 11719184 | 550-1 550 (0-50) | | | | |
| 3731578AA | 550 | 0 | 50 | 18-Nov-2020 | 1 |
| 11719185 | 551-1 551 (8-58) | | | | |
| 3731520AA | 551 | 8 | 58 | 18-Nov-2020 | 1 |
| 11719186 | Grit 1-1 Grit 1 (0-1) | | | | |
| 3731557AA | Grit 1 | 0 | 1 | 18-Nov-2020 | 1 |
| 11719187 | Grit 2-1 Grit 2 (0-1) | | | | |
| 3731523AA | Grit 2 | 0 | 1 | 18-Nov-2020 | 1 |

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020187449/1**



**Remark 1)**
The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

**Remark 2)**
Reporting limit increased due to dilution of sample.

**Remark 3)**
PCB 28 could be affected by PCB 31.

**Remark 4)**
PCB 138 could be influenced by PCB 163.

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## Annex (C) method references belonging to certificate of analysis 2020187449/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| Grainsize < 2 µm (clay) | W0171 | Sedimentation | pb 3010-4 & NEN 5753 |
| **Metals** | | | |
| Barium (Ba) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cadmium (Cd) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cobalt (Co) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Copper (Cu) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Mercury (Hg) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Molybdenum (Mo) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Nickel (Ni) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Lead (Pb) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Zinc (Zn) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |
| **Polychlorinated Biphenyl** | | | |
| PCB (7) | W0271 | GC-MS | pb 3010-8 & NEN 6980 |
| **Polycyclic Aromatic Hydrocarbons, PAH** | | | |
| PAK som AS3000/AP04 | W0271 | GC-MS | pb. 3010-6 & NEN-ISO 18287 |
| PAH (10) (VROM) | W0271 | GC-MS | pb. 3010-6 & NEN-ISO 18287 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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**Annex (D) remarks concerning the sampling and preservation period 2020187449/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| The preservation term for this parameter has been expired. | |
| TPH (pretreatment) | 11719186 |
| | 11719187 |

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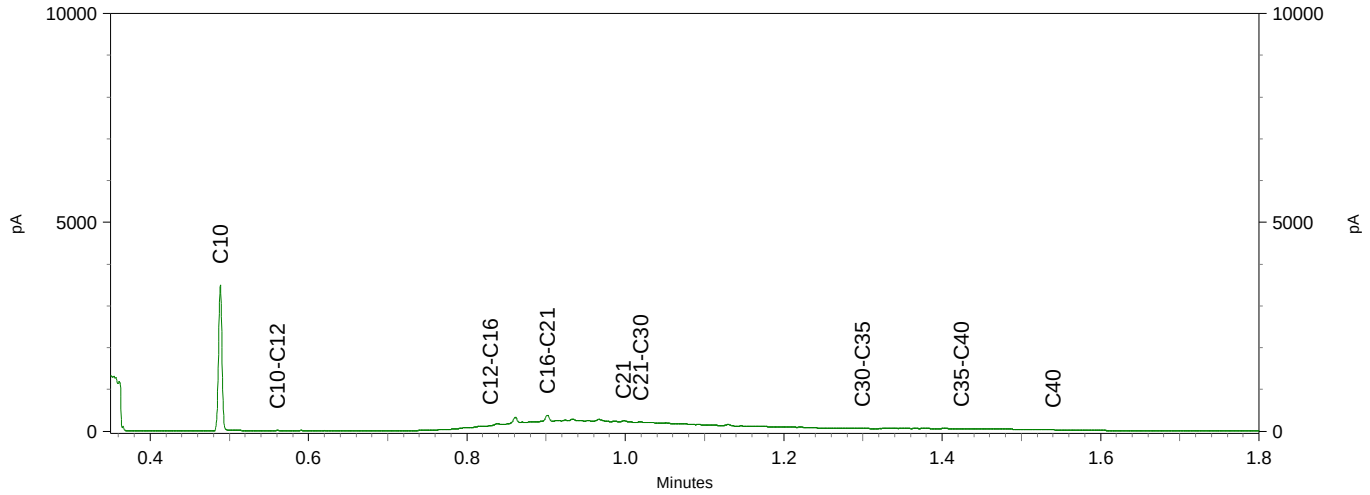
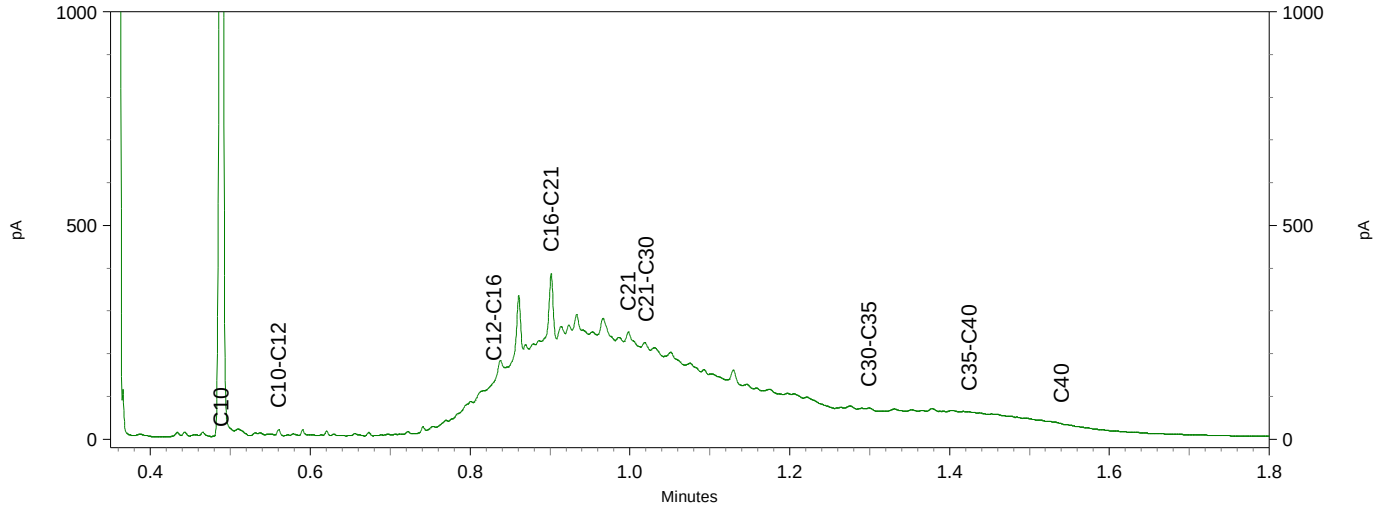
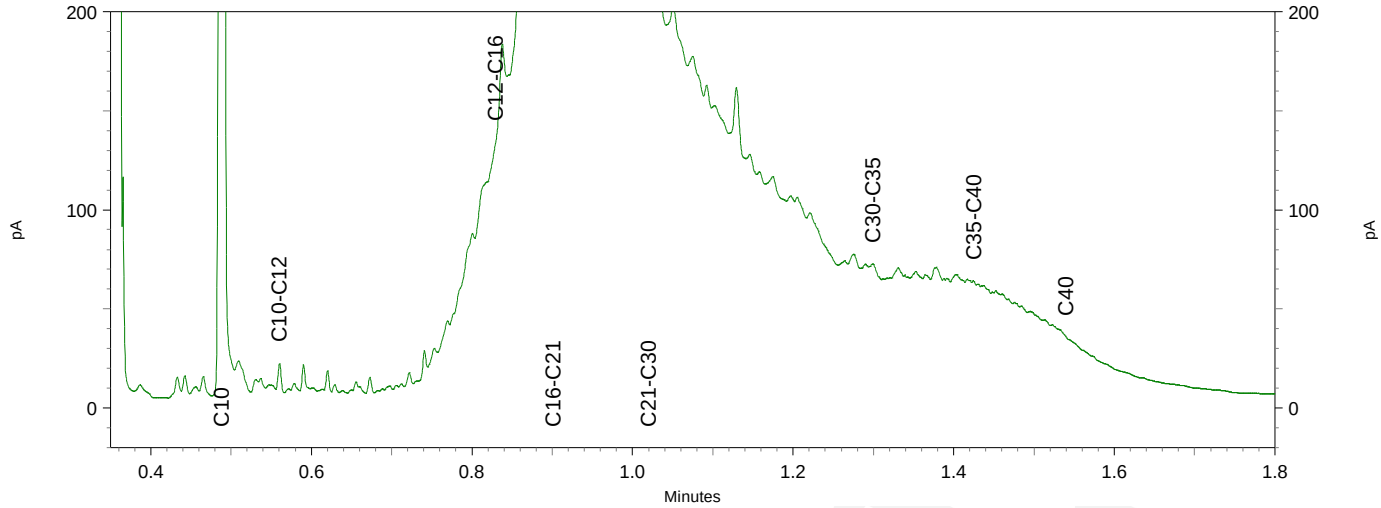
BTW/VAT No. NL 8043.14.883.B01

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11719185
Certificate no.:2020187449
Sample description.: 551-1 551 (8-58)
V

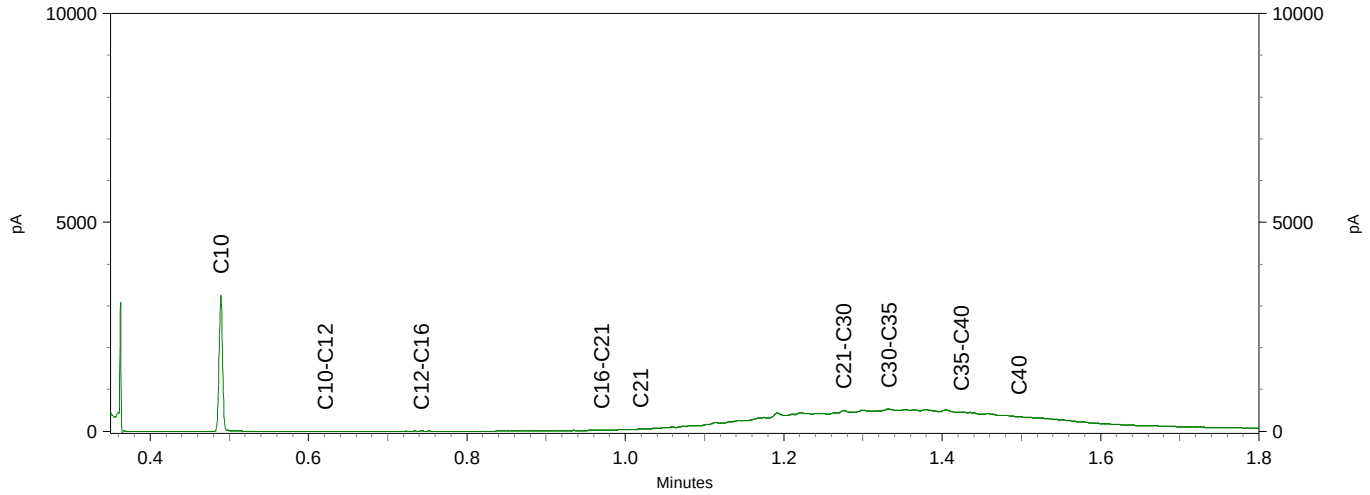


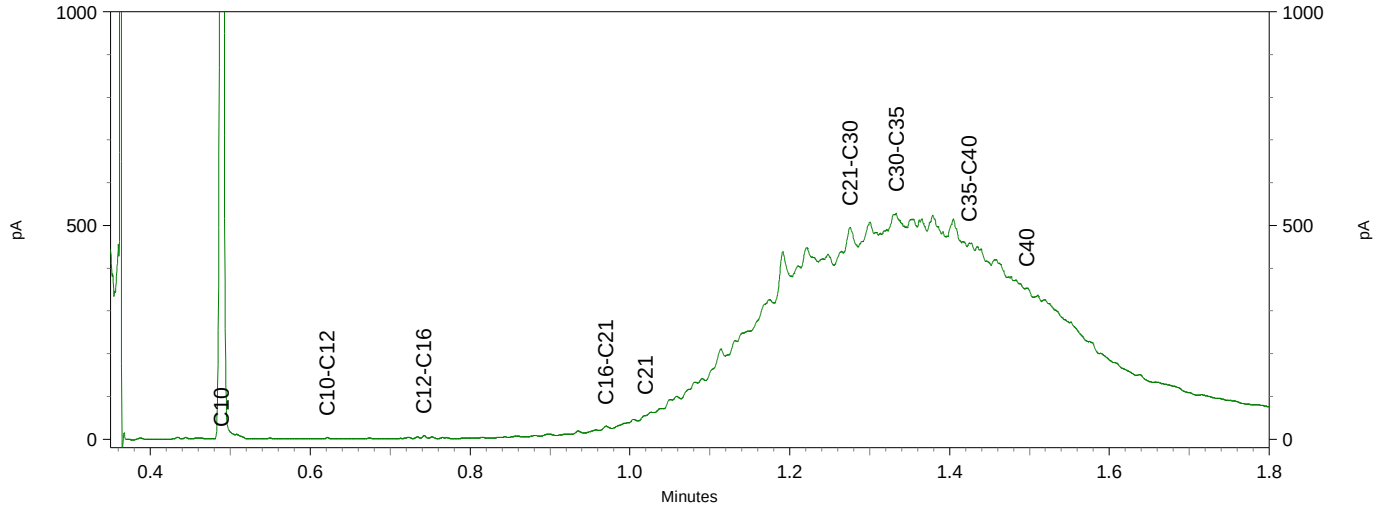



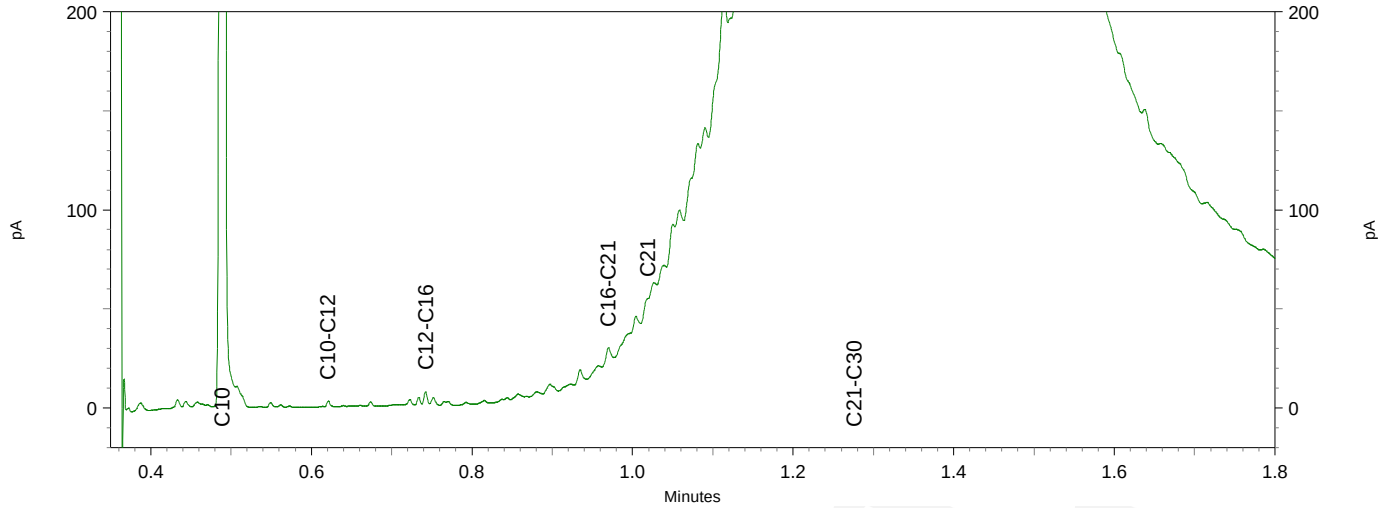



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11719186  I2 100VV
Certificate no.:2020187449
Sample description.: Grit 1-1 Grit 1 (0-1)
V

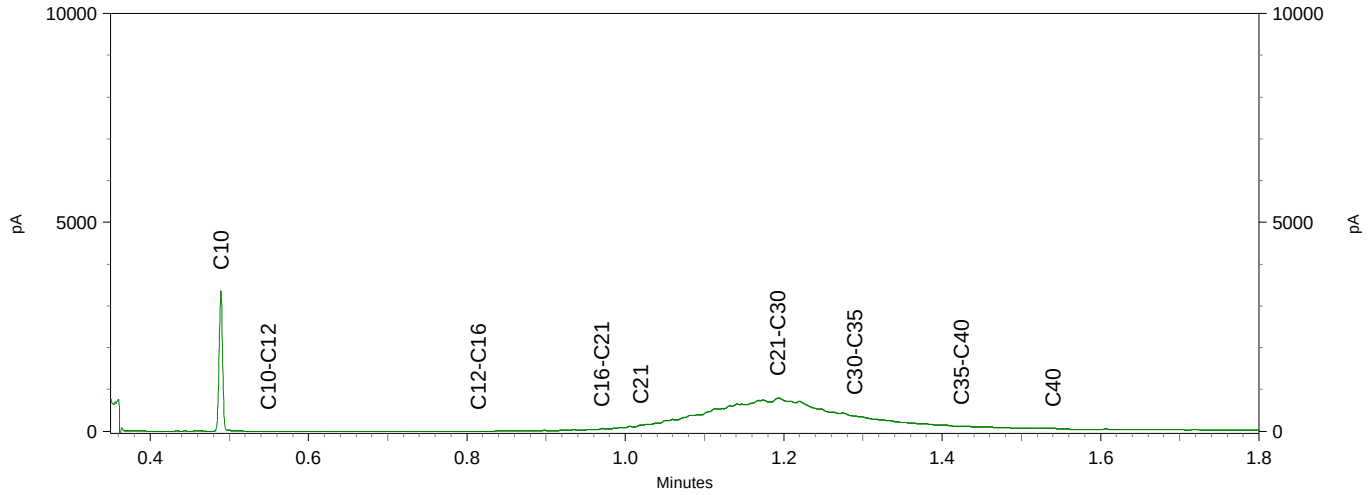


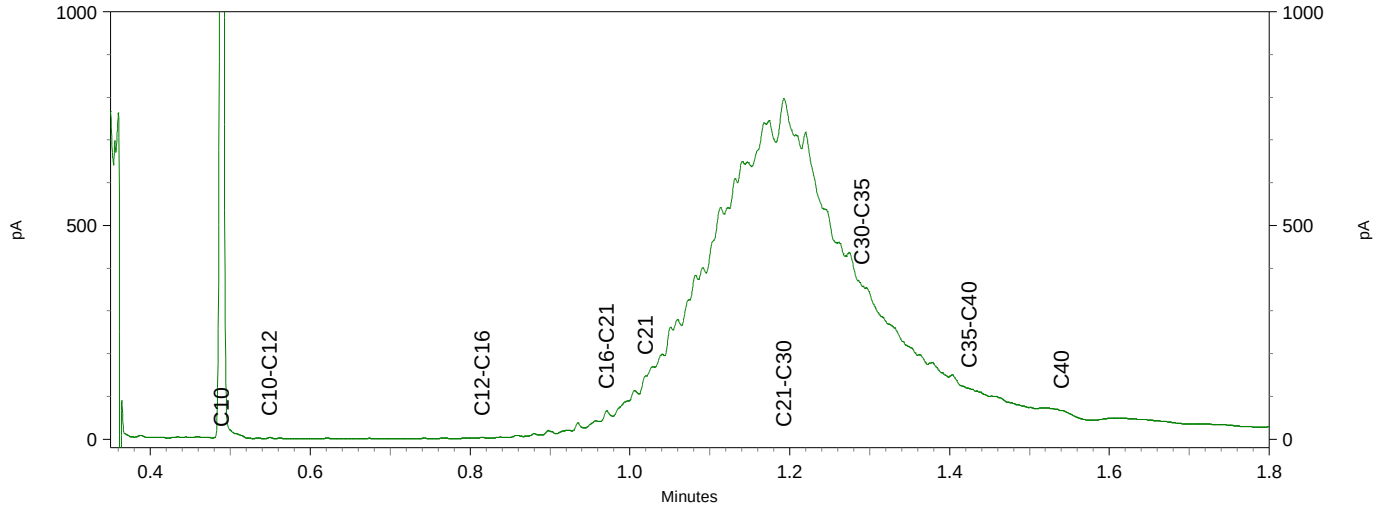



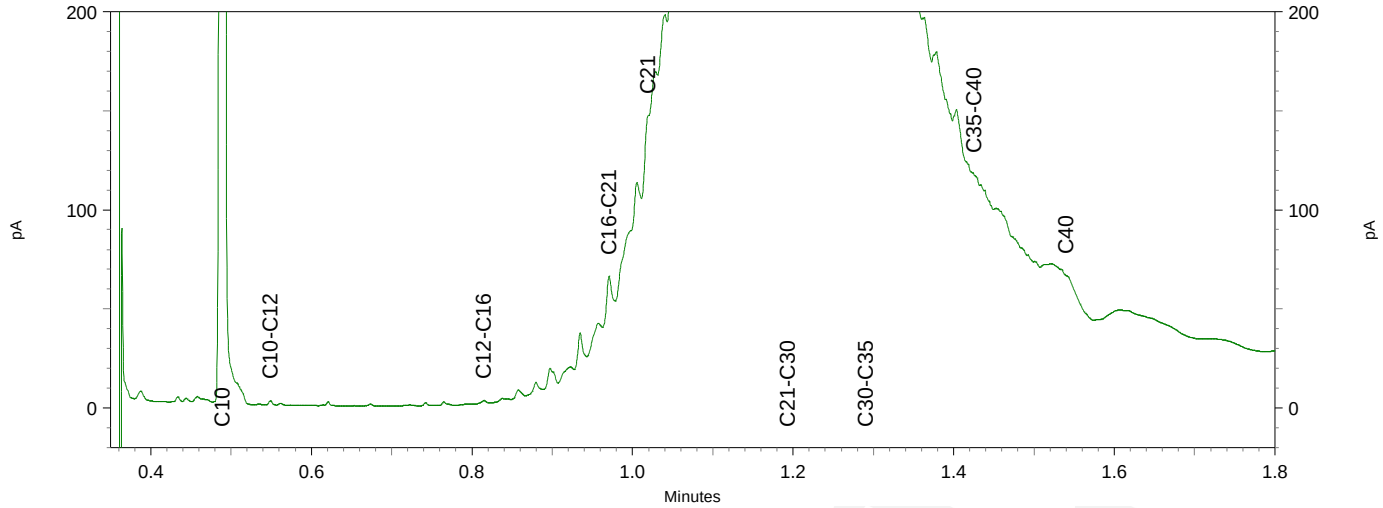



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11719187  I2 100VV
Certificate no.:2020187449
Sample description.: Grit 2-1 Grit 2 (0-1)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020182169/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 16-Nov-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020182169/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 16-Nov-2020 |
| Your order number | | End date analysis | 19-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 |
|---|---|---|---|---|
| | **Sample Pre-treatment** | | | |
| | Preperation AS3000 | | Executed | Executed |
| | **Characteristics** | | | |
| S | Dry matter | % (w/w) | 71.4 | 94.3 |
| S | Organic matter | % (w/w) dm | 6.9 [1)] | <0.7 |
| | Residue on ignition | % (w/w) dm | 93 | 100 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | | <2.0 |
| | **Metals** | | | |
| S | Barium (Ba) | mg/kg dm | | <20 |
| S | Cadmium (Cd) | mg/kg dm | | 0.34 |
| S | Cobalt (Co) | mg/kg dm | | 6.4 |
| S | Copper (Cu) | mg/kg dm | | 87 |
| S | Mercury (Hg) | mg/kg dm | | <0.050 |
| S | Molybdenum (Mo) | mg/kg dm | | 8.8 |
| S | Nickel (Ni) | mg/kg dm | | 32 |
| S | Lead (Pb) | mg/kg dm | | 18 |
| S | Zinc (Zn) | mg/kg dm | | 81 |
| | **Petroleum Hydrocarbons** | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | |
| | EPH (C12-C16) | mg/kg dm | <5.0 | |
| | EPH (C16-C21) | mg/kg dm | 8.7 | |
| | EPH (C21-C30) | mg/kg dm | 31 | |
| | EPH (C30-C35) | mg/kg dm | 21 | |
| | EPH (C35-C40) | mg/kg dm | <6.0 | |
| S | EPH Sum (C10-C40) | mg/kg dm | 67 | |
| | Chromatogram TPH (GC) | | See annex | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 509-5 509 (200-230) | Soil, AS3000 | 11702987 |
| 2 | 535-2 535 (30-60) | Soil, AS3000 [redacted] | 11702988 |

kwaliteitswaarborg bodembeheer SIKB

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020182169/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11702987 | 509-5 509 (200-230) | | | | |
| 3707253AA | 509 | 200 | 230 | 23-Oct-2020 | 5 |
| 11702988 | 535-2 535 (30-60) | | | | |
| 3705506AA | 535 | 30 | 60 | 04-Nov-2020 | 2 |

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**Annex (B) concerning remarks referring to certificate of analysis 2020182169/1**



**Remark 1)**

The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

[redacted]

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020182169/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| Grainsize < 2 µm (clay) | W0171 | Sedimentation | pb 3010-4 & NEN 5753 |
| **Metals** | | | |
| Barium (Ba) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cadmium (Cd) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cobalt (Co) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Copper (Cu) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Mercury (Hg) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Molybdenum (Mo) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Nickel (Ni) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Lead (Pb) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Zinc (Zn) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

**Annex (D) remarks concerning the sampling and preservation period 2020182169/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| The preservation term for this parameter has been expired. | |
| TPH (pretreatment) | 11702987 |

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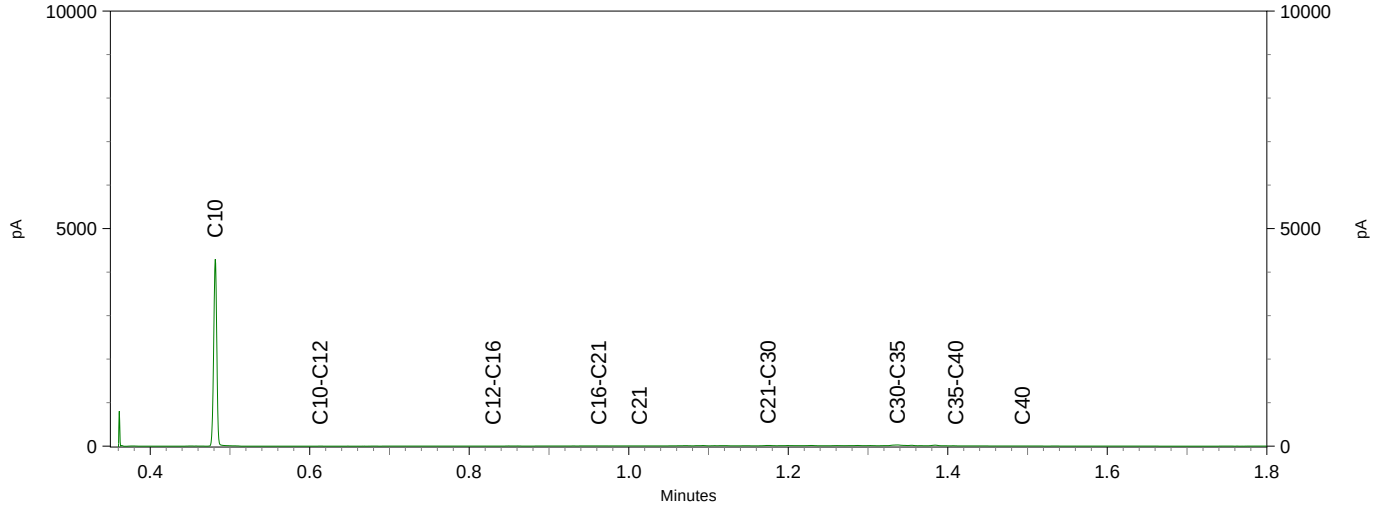
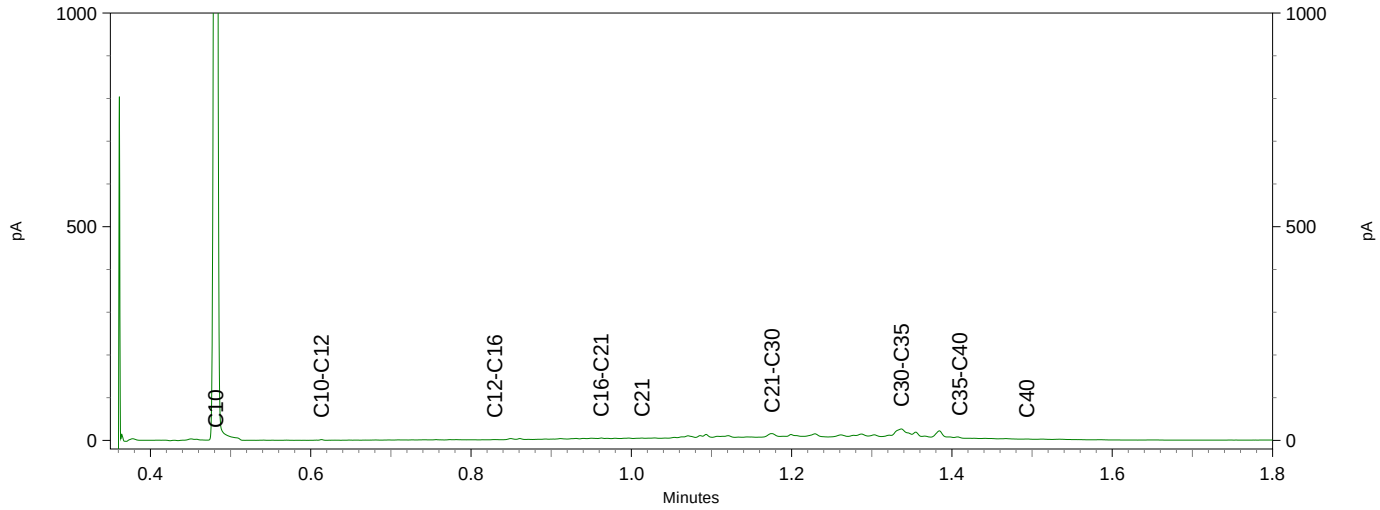
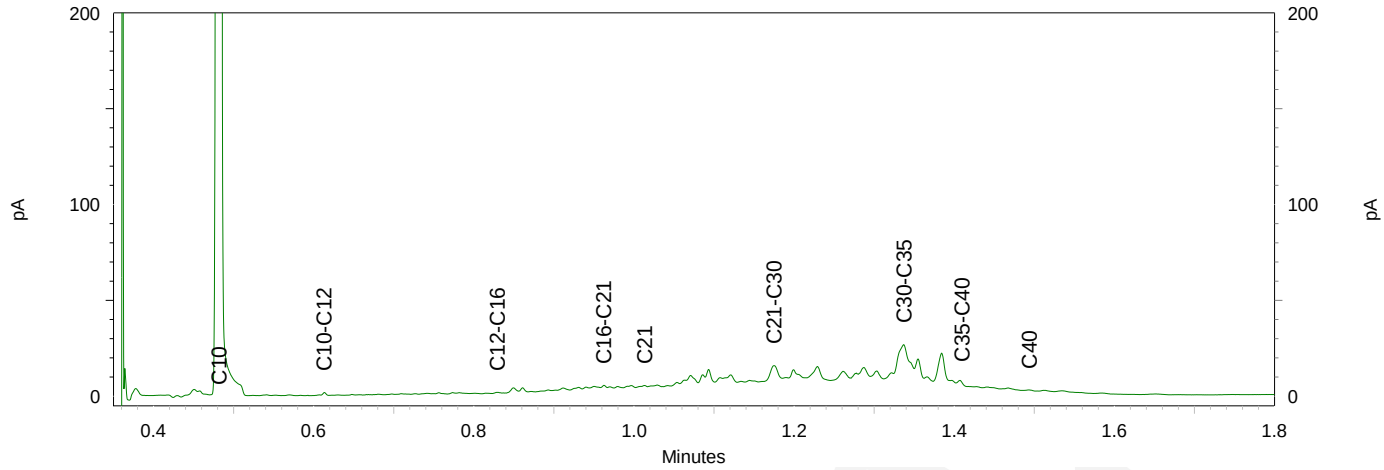
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11702987
Certificate no.: 2020182169
Sample description.: 509-5 509 (200-230)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020168300/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 26-Oct-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020168300/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 26-Oct-2020 |
| Your order number | | End date analysis | 27-Oct-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C,D |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 |
|---|---|---|---|---|
| | **Sample Pre-treatment** | | | |
| | Preperation AS3000 | | Executed | Executed |
| | **Characteristics** | | | |
| S | Dry matter | % (w/w) | 77.3 | 70.9 |
| S | Organic matter | % (w/w) dm | 1.6 [1)] | 4.9 [1)] |
| | Residue on ignition | % (w/w) dm | 98 | 95 |
| | **Volatile halogenated Hydrocarbons** | | | |
| S | Dichloromethane | mg/kg dm | <0.050 | <0.050 |
| S | Trichloromethane | mg/kg dm | <0.020 | <0.020 |
| S | Tetrachloromethane | mg/kg dm | <0.050 | <0.050 |
| S | Trichloroethene | mg/kg dm | <0.050 | <0.050 |
| S | Tetrachloroethene | mg/kg dm | 0.025 | <0.010 |
| S | 1,1-Dichloroethane | mg/kg dm | <0.020 | <0.020 |
| S | 1,2-Dichloroethane | mg/kg dm | <0.020 | <0.020 |
| S | 1,1,1-Trichloroethane | mg/kg dm | <0.050 | <0.050 |
| S | 1,1,2-Trichloroethane | mg/kg dm | <0.050 | <0.050 |
| S | cis1,2-Dichloroethene | mg/kg dm | <0.050 | <0.050 |
| S | trans 1,2-Dichloroethene | mg/kg dm | <0.050 | <0.050 |
| | Chlorinated Hydrocarbons (sum) | mg/kg dm | <0.42 | <0.42 |
| S | Vinyl chloride | mg/kg dm | <0.010 | <0.010 |
| S | 1,2-Dichloorethenen (som) (factor 0,7) | mg/kg dm | 0.070 [2)] | 0.070 [2)] |
| | **Petroleum Hydrocarbons** | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | 62 |
| | EPH (C12-C16) | mg/kg dm | <5.0 | 28 |
| | EPH (C16-C21) | mg/kg dm | 5.2 | 16 |
| | EPH (C21-C30) | mg/kg dm | 21 | 36 |
| | EPH (C30-C35) | mg/kg dm | 12 | 18 |
| | EPH (C35-C40) | mg/kg dm | <6.0 | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | 46 | 160 |
| | Chromatogram TPH (GC) | | See annex | See annex |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 515-4 515 (130-150) | Soil, AS3000 | 11660240 |
| 2 | 515-6 515 (200-250) | Soil, AS3000 [redacted] | 11660241 |

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020168300/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11660240 | 515-4 515 (130-150) | | | | |
| 0550280437 | 515 | 130 | 150 | 23-Oct-2020 | 4 |
| 11660241 | 515-6 515 (200-250) | | | | |
| 3707249AA | 515 | 200 | 250 | 23-Oct-2020 | 6 |

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**Annex (B) concerning remarks referring to certificate of analysis 2020168300/1**



**Remark 1)**
The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

**Remark 2)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

[redacted]

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## Annex (C) method references belonging to certificate of analysis 2020168300/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3030-2 & NEN-EN-ISO 22155 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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**Annex (D) remarks concerning the sampling and preservation period 2020168300/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| Monsterhouder voor vluchtige stoffen ongeschikt en/of mengmonster uit ongeschikte monsterhouder genomen. | 11660241 |

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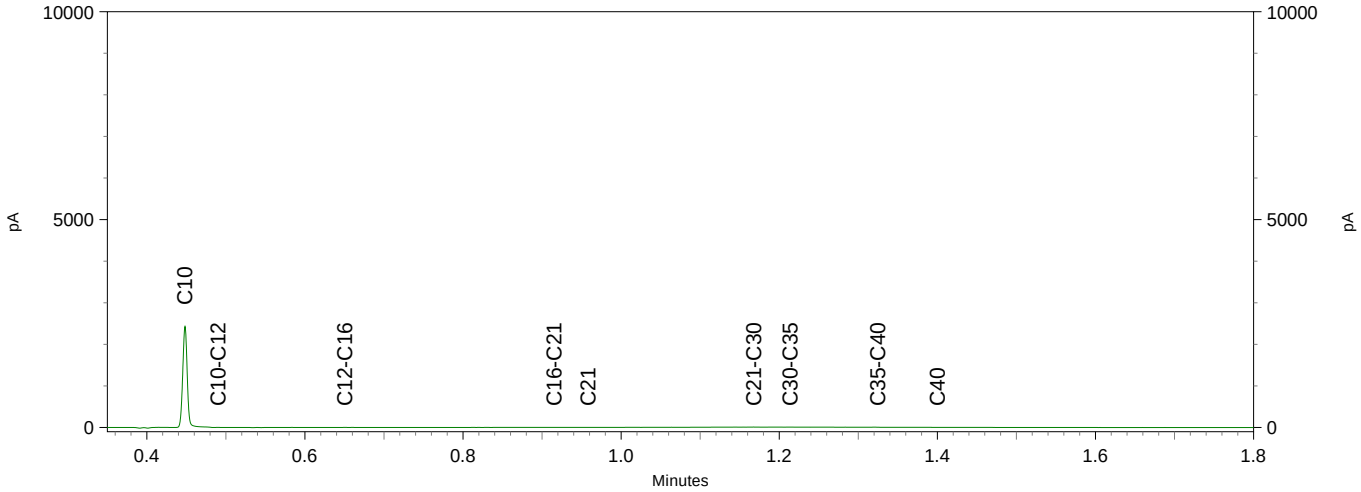
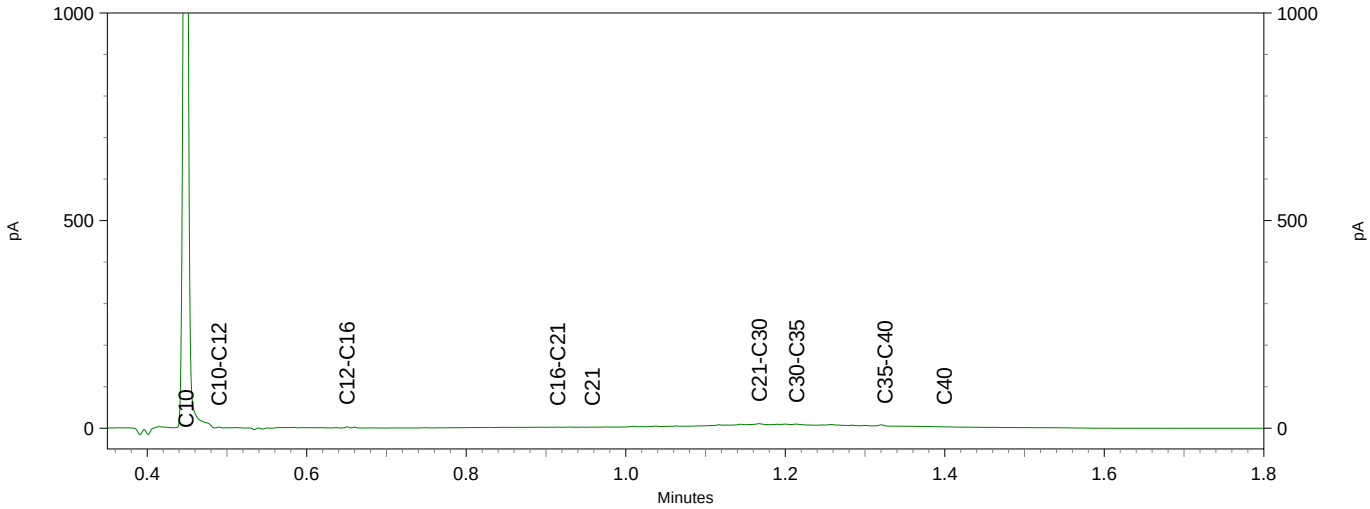
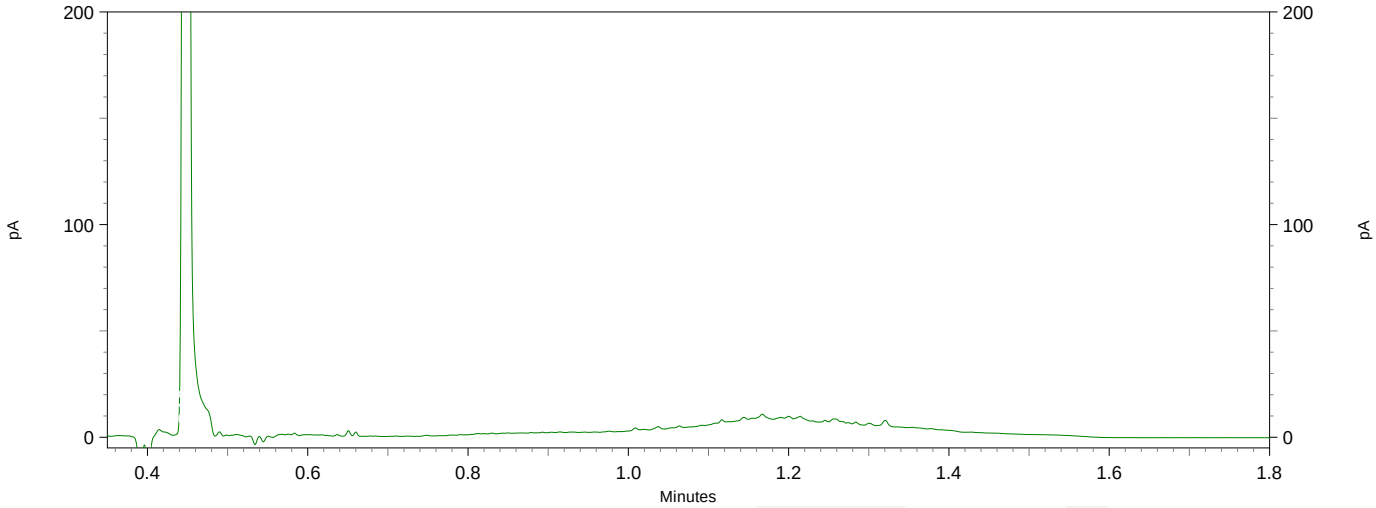
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660240
Certificate no.:2020168300
Sample description.: 515-4 515 (130-150)
V



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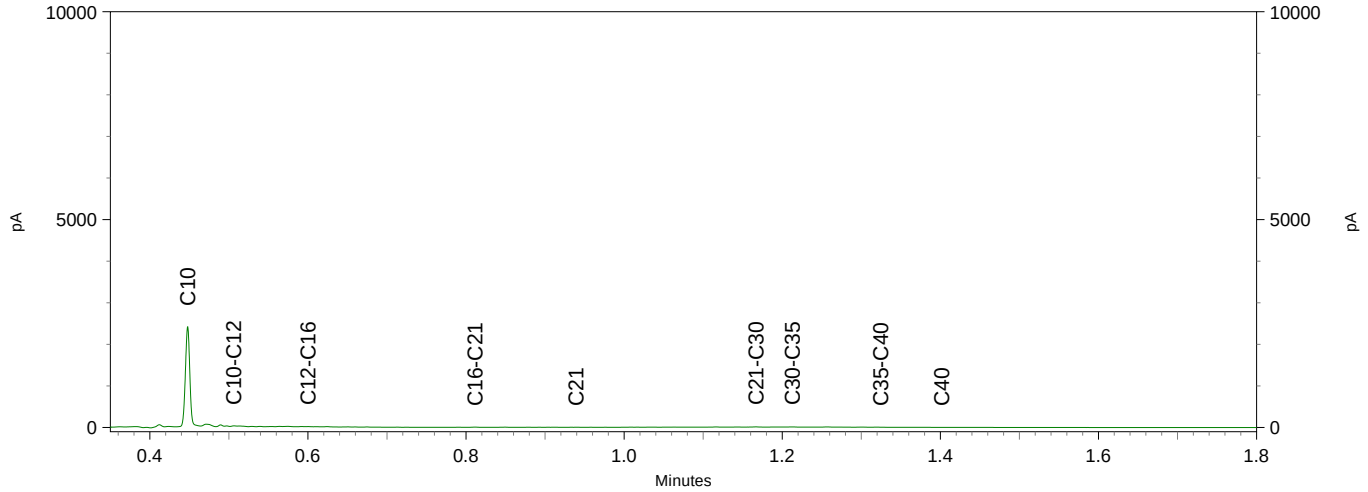
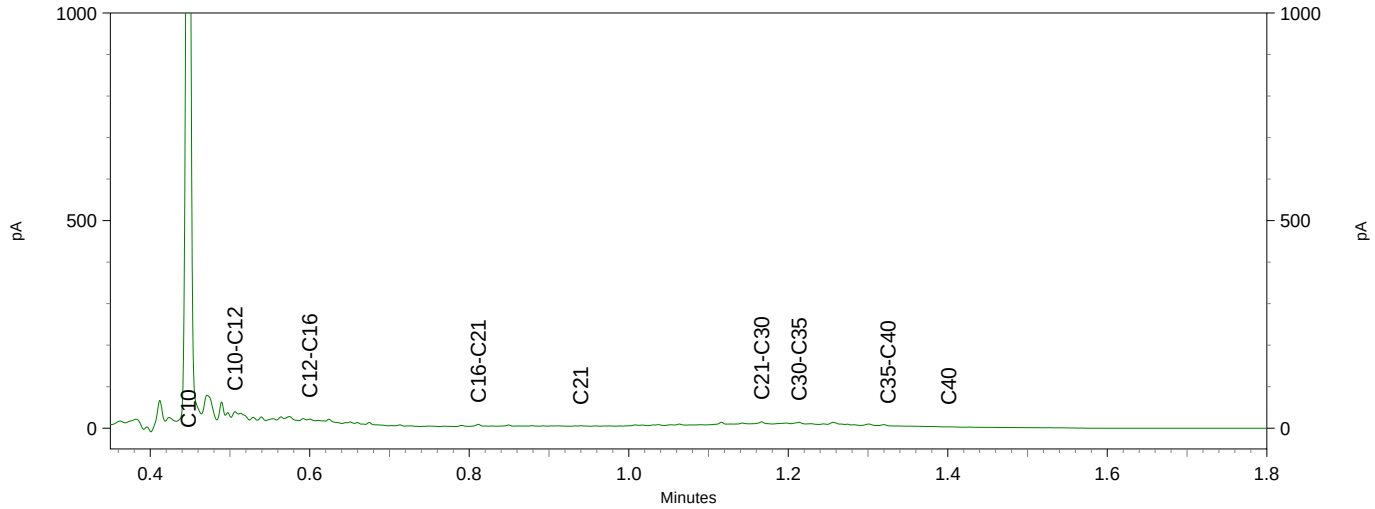
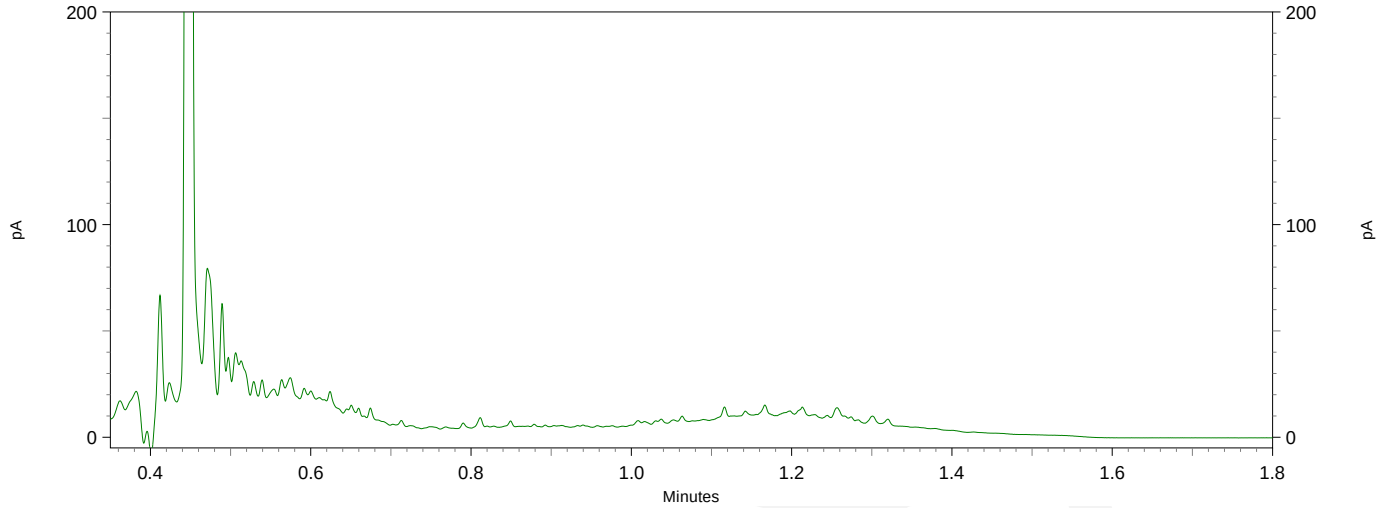
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660241
Certificate no.:2020168300
Sample description.: 515-6 515 (200-250)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020175751/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 05-Nov-2020 |

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Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020175751/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 05-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
| | | Page | 1/9 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| | Grinding | | | | | Executed | |
| S | Dry matter | % (w/w) | 82.2 | 85.4 | 90.2 | 90.0 | 87.6 |
| S | Organic matter | % (w/w) dm | 1.8 | 0.9 | 0.8 1) | 1.2 1) | 1.9 1) |
| | Residue on ignition | % (w/w) dm | 98 | 99 | 99 | 98 | 98 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 7.9 | 3.5 | | | |
| | **Metals** | | | | | | |
| S | Barium (Ba) | mg/kg dm | 50 | 47 | | | |
| S | Cadmium (Cd) | mg/kg dm | 0.34 | 0.45 | | | |
| S | Cobalt (Co) | mg/kg dm | 6.6 | 5.0 | | | |
| S | Copper (Cu) | mg/kg dm | 21 | 11 | | | |
| S | Mercury (Hg) | mg/kg dm | 0.12 | 0.12 | | | |
| S | Molybdenum (Mo) | mg/kg dm | <1.5 | <1.5 | | | |
| S | Nickel (Ni) | mg/kg dm | 14 | 9.2 | | | |
| S | Lead (Pb) | mg/kg dm | 43 | 16 | | | |
| S | Zinc (Zn) | mg/kg dm | 130 | 220 | | | |
| | **Petroleum Hydrocarbons** | | | | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | <3.0 | | | |
| | EPH (C12-C16) | mg/kg dm | <5.0 | <5.0 | | | |
| | EPH (C16-C21) | mg/kg dm | 7.8 | <5.0 | | | |
| | EPH (C21-C30) | mg/kg dm | 62 | <11 | | | |
| | EPH (C30-C35) | mg/kg dm | 56 | <5.0 | | | |
| | EPH (C35-C40) | mg/kg dm | 35 | <6.0 | | | |
| S | EPH Sum (C10-C40) | mg/kg dm | 160 | <35 | | | |
| | Chromatogram TPH (GC) | | See annex | | | | |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| S | PCB 52 | mg/kg dm | <0.0010 | <0.0010 | <0.0010 | 0.0018 | <0.0010 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 516-1 516 (10-60) | Soil, AS3000 | 11683751 |
| 2 | 518-1 518 (8-58) | Soil, AS3000 | 11683752 |
| 3 | 519-1 519 (8-58) | Soil, AS3000 | 11683753 |
| 4 | 520-2 520 (20-45) | Soil, AS3000 | 11683754 |
| 5 | 521-1 521 (15-40) | Soil, AS3000 | 11683755 |

[redacted]

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020175751/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 05-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
| | | Page | 2/9 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| S | PCB 101 | mg/kg dm | <0.0010 | 0.0011 | 0.0023 | 0.015 | <0.0010 |
| S | PCB 118 | mg/kg dm | <0.0010 | <0.0010 | 0.0011 | 0.0087 | <0.0010 |
| S | PCB 138 | mg/kg dm | <0.0010 | 0.0014 3) | 0.0090 3) | 0.035 3) | 0.0025 3) |
| S | PCB 153 | mg/kg dm | <0.0010 | 0.0016 | 0.012 | 0.040 | 0.0025 |
| S | PCB 180 | mg/kg dm | <0.0010 | 0.0014 | 0.0097 | 0.025 | <0.0010 |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | 0.0049 2) | 0.0076 | 0.036 | 0.13 | 0.0085 |
| | **Polycyclic Aromatic Hydrocarbons, PAH** | | | | | | |
| S | Naphtalene | mg/kg dm | <0.050 | <0.050 | | | |
| S | Phenanthrene | mg/kg dm | 1.1 | <0.050 | | | |
| S | Anthracene | mg/kg dm | 0.34 | <0.050 | | | |
| S | Fluoranthene | mg/kg dm | 0.96 | 0.24 | | | |
| S | Benzo(a)anthracene | mg/kg dm | 0.47 | 0.12 | | | |
| S | Chrysene | mg/kg dm | 0.49 | 0.13 | | | |
| S | Benzo(k)fluoranthene | mg/kg dm | 0.27 | 0.086 | | | |
| S | Benzo(a)pyrene | mg/kg dm | 0.57 | 0.11 | | | |
| S | Benzo(ghi)perylene | mg/kg dm | 0.49 | 0.082 | | | |
| S | Indeno(123cd)pyrene | mg/kg dm | 0.53 | 0.11 | | | |
| S | PAK VROM (10) (factor 0,7) | mg/kg dm | 5.3 | 0.97 | | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 516-1 516 (10-60) | Soil, AS3000 | 11683751 |
| 2 | 518-1 518 (8-58) | Soil, AS3000 [redacted] | 11683752 |
| 3 | 519-1 519 (8-58) | Soil, AS3000 | 11683753 |
| 4 | 520-2 520 (20-45) | Soil, AS3000 | 11683754 |
| 5 | 521-1 521 (15-40) | Soil, AS3000 | 11683755 |

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020175751/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 05-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
| | | Page | 3/9 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| | Grinding | | Executed | | Executed | | |
| S | Dry matter | % (w/w) | 90.2 | 78.9 | 84.3 | 91.7 | 75.3 |
| S | Organic matter | % (w/w) dm | 1.1 [1)] | 2.2 [1)] | 2.4 | 1.0 | 7.1 |
| | Residue on ignition | % (w/w) dm | 99 | 97 | 97 | 99 | 91 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | | | 4.6 | <2.0 | 21.3 |
| | **Metals** | | | | | | |
| S | Barium (Ba) | mg/kg dm | | | 150 | | |
| S | Cadmium (Cd) | mg/kg dm | | | 4.7 | | |
| S | Cobalt (Co) | mg/kg dm | | | 19 | | |
| S | Copper (Cu) | mg/kg dm | | | 180 | 29 | 35 |
| S | Mercury (Hg) | mg/kg dm | | | 0.13 | | |
| S | Molybdenum (Mo) | mg/kg dm | | | 3.7 | | |
| S | Nickel (Ni) | mg/kg dm | | | 58 | | |
| S | Lead (Pb) | mg/kg dm | | | 59 | | |
| S | Zinc (Zn) | mg/kg dm | | | 160 | | |
| | **Petroleum Hydrocarbons** | | | | | | |
| | EPH (C10-C12) | mg/kg dm | | | <3.0 | | |
| | EPH (C12-C16) | mg/kg dm | | | <5.0 | | |
| | EPH (C16-C21) | mg/kg dm | | | <5.0 | | |
| | EPH (C21-C30) | mg/kg dm | | | 14 | | |
| | EPH (C30-C35) | mg/kg dm | | | 6.5 | | |
| | EPH (C35-C40) | mg/kg dm | | | <6.0 | | |
| S | EPH Sum (C10-C40) | mg/kg dm | | | <35 | | |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | <0.0010 | <0.0010 | <0.0010 | | |
| S | PCB 52 | mg/kg dm | <0.0010 | <0.0010 | <0.0010 | | |
| S | PCB 101 | mg/kg dm | 0.0051 | <0.0010 | <0.0010 | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 522-1 522 (15-45) | Soil, AS3000 | 11683756 |
| 7 | 523-1 523 (10-60) | Soil, AS3000 | 11683757 |
| 8 | 525-2 525 (20-70) | Soil, AS3000 | 11683758 |
| 9 | 526-2 526 (20-50) | Soil, AS3000 | 11683759 |
| 10 | 527-1 527 (0-35) | Soil, AS3000 | 11683760 |

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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| Your project name | Ringdijk 390, Ridderkerk | Start date | 05-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
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| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| S | PCB 118 | mg/kg dm | 0.0028 | <0.0010 | <0.0010 | | |
| S | PCB 138 | mg/kg dm | 0.011 3) | 0.0010 3) | <0.0010 | | |
| S | PCB 153 | mg/kg dm | 0.013 | 0.0010 | 0.0010 | | |
| S | PCB 180 | mg/kg dm | 0.0093 | <0.0010 | <0.0010 | | |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | 0.042 | 0.0055 | 0.0052 | | |
| | **Polycyclic Aromatic Hydrocarbons, PAH** | | | | | | |
| S | Naphtalene | mg/kg dm | | | <0.050 | | |
| S | Phenanthrene | mg/kg dm | | | 0.15 | | |
| S | Anthracene | mg/kg dm | | | 0.063 | | |
| S | Fluoranthene | mg/kg dm | | | 0.25 | | |
| S | Benzo(a)anthracene | mg/kg dm | | | 0.15 | | |
| S | Chrysene | mg/kg dm | | | 0.16 | | |
| S | Benzo(k)fluoranthene | mg/kg dm | | | 0.064 | | |
| S | Benzo(a)pyrene | mg/kg dm | | | 0.11 | | |
| S | Benzo(ghi)perylene | mg/kg dm | | | 0.099 | | |
| S | Indeno(123cd)pyrene | mg/kg dm | | | 0.10 | | |
| S | PAK VROM (10) (factor 0,7) | mg/kg dm | | | 1.2 | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 522-1 522 (15-45) | Soil, AS3000 | 11683756 |
| 7 | 523-1 523 (10-60) | Soil, AS3000 | 11683757 |
| 8 | 525-2 525 (20-70) | Soil, AS3000 | 11683758 |
| 9 | 526-2 526 (20-50) | Soil, AS3000 | 11683759 |
| 10 | 527-1 527 (0-35) | Soil, AS3000 | 11683760 |

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| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
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| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| S | Dry matter | % (w/w) | 88.8 | 83.9 | 85.9 | 84.9 | 77.2 |
| S | Organic matter | % (w/w) dm | 2.3 | 3.3 | <0.7 1) | <0.7 1) | 1.5 |
| | Residue on ignition | % (w/w) dm | 97 | 96 | 100 | 99 | 98 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 5.9 | 7.4 | | | 8.2 |
| | **Metals** | | | | | | |
| S | Copper (Cu) | mg/kg dm | 130 | 84 | | | |
| S | Zinc (Zn) | mg/kg dm | | | | | 54 |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | | | <0.0010 | <0.0010 | |
| S | PCB 52 | mg/kg dm | | | <0.0010 | <0.0010 | |
| S | PCB 101 | mg/kg dm | | | <0.0010 | <0.0010 | |
| S | PCB 118 | mg/kg dm | | | <0.0010 | <0.0010 | |
| S | PCB 138 | mg/kg dm | | | <0.0010 | 0.0037 3) | |
| S | PCB 153 | mg/kg dm | | | 0.0012 | 0.0051 | |
| S | PCB 180 | mg/kg dm | | | 0.0012 | 0.0048 | |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | | | 0.0059 | 0.016 | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 11 | 528-1 528 (0-50) | Soil, AS3000 | 11683761 |
| 12 | 529-1 529 (0-50) | Soil, AS3000 | 11683762 |
| 13 | 531-1 531 (12-62) | Soil, AS3000 | 11683763 |
| 14 | 532-1 532 (8-58) | Soil, AS3000 | 11683764 |
| 15 | 533-1 533 (0-50) | Soil, AS3000 | 11683765 |

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| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
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| | Analysis | Unit | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| | Grinding | | | | Executed | | |
| S | Dry matter | % (w/w) | 84.7 | 92.0 | 95.0 | 96.8 | 86.9 |
| S | Organic matter | % (w/w) dm | 1.9 | 2.1 | 1.1 | <0.7 | <0.7 1) |
| | Residue on ignition | % (w/w) dm | 98 | 98 | 99 | 99 | 99 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 3.5 | 2.9 | 2.4 | <2.0 | |
| | **Metals** | | | | | | |
| S | Barium (Ba) | mg/kg dm | | 48 | 140 | 36 | |
| S | Cadmium (Cd) | mg/kg dm | | 0.54 | <0.20 | 0.36 | |
| S | Cobalt (Co) | mg/kg dm | | 14 | 10.0 | 4.0 | |
| S | Copper (Cu) | mg/kg dm | | 260 | 35 | 7.2 | |
| S | Mercury (Hg) | mg/kg dm | | 0.11 | <0.050 | 0.065 | |
| S | Molybdenum (Mo) | mg/kg dm | | 5.5 | 1.8 | <1.5 | |
| S | Nickel (Ni) | mg/kg dm | | 44 | 26 | 8.7 | |
| S | Lead (Pb) | mg/kg dm | | 61 | 22 | 16 | |
| S | Zinc (Zn) | mg/kg dm | 130 | 150 | 70 | 93 | |
| | **Petroleum Hydrocarbons** | | | | | | |
| | EPH (C10-C12) | mg/kg dm | | <3.0 | <3.0 | <3.0 | |
| | EPH (C12-C16) | mg/kg dm | | <5.0 | <5.0 | <5.0 | |
| | EPH (C16-C21) | mg/kg dm | | 10 | 10 | 9.2 | |
| | EPH (C21-C30) | mg/kg dm | | 27 | 28 | 25 | |
| | EPH (C30-C35) | mg/kg dm | | 11 | 21 | 14 | |
| | EPH (C35-C40) | mg/kg dm | | <6.0 | 15 | 9.7 | |
| S | EPH Sum (C10-C40) | mg/kg dm | | 55 | 79 | 60 | |
| | Chromatogram TPH (GC) | | | See annex | See annex | See annex | |
| | **Polychlorinated Biphenyl** | | | | | | |
| S | PCB 28 | mg/kg dm | | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| S | PCB 52 | mg/kg dm | | <0.0010 | 0.0018 | <0.0010 | 0.0043 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 16 | 534-1 534 (0-50) | Soil, AS3000 | 11683766 |
| 17 | 535-1 535 (9-30) | Soil, AS3000 | 11683767 |
| 18 | MM01 536 (20-45) 537 (15-40) 538 (20-45) | Soil, AS3000 | 11683768 |
| 19 | MM02 536 (45-70) 537 (40-60) 538 (45-60) | Soil, AS3000 | 11683769 |
| 20 | MM03 530 (8-30) 530 (30-60) | Soil, AS3000 | 11683770 |

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| Your project name | Ringdijk 390, Ridderkerk | Start date | 05-Nov-2020 |
| Your order number | | End date analysis | 12-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:19 |
| | | Annex | A,B,C |
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| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|
| S | PCB 101 | mg/kg dm | | <0.0010 | 0.0087 | <0.0010 | 0.065 |
| S | PCB 118 | mg/kg dm | | <0.0010 | 0.0029 | <0.0010 | 0.024 |
| S | PCB 138 | mg/kg dm | | 0.0015 3) | 0.015 3) | <0.0010 | 0.21 3) |
| S | PCB 153 | mg/kg dm | | 0.0013 | 0.017 | <0.0010 | 0.30 |
| S | PCB 180 | mg/kg dm | | 0.0015 | 0.013 | <0.0010 | 0.26 |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | | 0.0071 | 0.060 | 0.0049 2) | 0.86 |
| | **Polycyclic Aromatic Hydrocarbons, PAH** | | | | | | |
| S | Naphtalene | mg/kg dm | | <0.050 | <0.050 | <0.050 | |
| S | Phenanthrene | mg/kg dm | | 0.93 | 0.35 | 0.83 | |
| S | Anthracene | mg/kg dm | | 0.34 | 0.086 | 0.19 | |
| S | Fluoranthene | mg/kg dm | | 2.0 | 0.81 | 1.2 | |
| S | Benzo(a)anthracene | mg/kg dm | | 1.1 | 0.43 | 0.62 | |
| S | Chrysene | mg/kg dm | | 1.0 | 0.43 | 0.62 | |
| S | Benzo(k)fluoranthene | mg/kg dm | | 0.45 | 0.18 | 0.21 | |
| S | Benzo(a)pyrene | mg/kg dm | | 0.95 | 0.36 | 0.39 | |
| S | Benzo(ghi)perylene | mg/kg dm | | 0.63 | 0.28 | 0.22 | |
| S | Indeno(123cd)pyrene | mg/kg dm | | 0.50 | 0.29 | 0.27 | |
| S | PAK VROM (10) (factor 0,7) | mg/kg dm | | 8.0 | 3.3 | 4.6 | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 16 | 534-1 534 (0-50) | Soil, AS3000 | 11683766 |
| 17 | 535-1 535 (9-30) | Soil, AS3000 | 11683767 |
| 18 | MM01 536 (20-45) 537 (15-40) 538 (20-45) | Soil, AS3000 | 11683768 |
| 19 | MM02 536 (45-70) 537 (40-60) 538 (45-60) | Soil, AS3000 | 11683769 |
| 20 | MM03 530 (8-30) 530 (30-60) | Soil, AS3000 | 11683770 |

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| | Analysis | Unit | 21 | 22 |
|---|---|---|---|---|
| | **Sample Pre-treatment** | | | |
| | Preperation AS3000 | | Executed | Executed |
| | **Characteristics** | | | |
| S | Dry matter | % (w/w) | 85.2 | 86.2 |
| S | Organic matter | % (w/w) dm | 1.6 | 0.8 |
| | Residue on ignition | % (w/w) dm | 98 | 99 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 8.6 | 3.4 |
| | **Metals** | | | |
| S | Barium (Ba) | mg/kg dm | 220 | <20 |
| S | Cadmium (Cd) | mg/kg dm | 0.40 | <0.20 |
| S | Cobalt (Co) | mg/kg dm | 7.2 | 3.9 |
| S | Copper (Cu) | mg/kg dm | 46 | <5.0 |
| S | Mercury (Hg) | mg/kg dm | 0.097 | <0.050 |
| S | Molybdenum (Mo) | mg/kg dm | <1.5 | <1.5 |
| S | Nickel (Ni) | mg/kg dm | 19 | 8.2 |
| S | Lead (Pb) | mg/kg dm | 47 | <10 |
| S | Zinc (Zn) | mg/kg dm | 140 | 40 |
| | **Petroleum Hydrocarbons** | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | <3.0 |
| | EPH (C12-C16) | mg/kg dm | <5.0 | <5.0 |
| | EPH (C16-C21) | mg/kg dm | <5.0 | <5.0 |
| | EPH (C21-C30) | mg/kg dm | 13 | <11 |
| | EPH (C30-C35) | mg/kg dm | 9.6 | <5.0 |
| | EPH (C35-C40) | mg/kg dm | <6.0 | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | <35 | <35 |
| | **Polychlorinated Biphenyl** | | | |
| S | PCB 28 | mg/kg dm | <0.0010 | <0.0010 |
| S | PCB 52 | mg/kg dm | <0.0010 | <0.0010 |
| S | PCB 101 | mg/kg dm | 0.0012 | <0.0010 |
| S | PCB 118 | mg/kg dm | <0.0010 | <0.0010 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 21 | MM04 524 (0-30) 524 (30-50) | Soil, AS3000 | 11683771 |
| 22 | MM05 517 (12-35) 517 (35-65) | Soil, AS3000 | 11683772 |

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| | | Annex | A,B,C |
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| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 21 | 22 |
|---|---|---|---|---|
| S | PCB 138 | mg/kg dm | 0.0029 3) | <0.0010 |
| S | PCB 153 | mg/kg dm | 0.0031 | <0.0010 |
| S | PCB 180 | mg/kg dm | 0.0026 | <0.0010 |
| S | PCB (som 7) (factor 0,7) | mg/kg dm | 0.012 | 0.0049 2) |
| | **Polycyclic Aromatic Hydrocarbons, PAH** | | | |
| S | Naphtalene | mg/kg dm | <0.050 | <0.050 |
| S | Phenanthrene | mg/kg dm | 0.10 | <0.050 |
| S | Anthracene | mg/kg dm | <0.050 | <0.050 |
| S | Fluoranthene | mg/kg dm | 0.24 | <0.050 |
| S | Benzo(a)anthracene | mg/kg dm | 0.15 | <0.050 |
| S | Chrysene | mg/kg dm | 0.16 | <0.050 |
| S | Benzo(k)fluoranthene | mg/kg dm | 0.072 | <0.050 |
| S | Benzo(a)pyrene | mg/kg dm | 0.16 | <0.050 |
| S | Benzo(ghi)perylene | mg/kg dm | 0.10 | <0.050 |
| S | Indeno(123cd)pyrene | mg/kg dm | 0.099 | <0.050 |
| S | PAK VROM (10) (factor 0,7) | mg/kg dm | 1.2 | 0.35 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 21 | MM04 524 (0-30) 524 (30-50) | Soil, AS3000 | 11683771 |
| 22 | MM05 517 (12-35) 517 (35-65) | Soil, AS3000 | 11683772 |

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020175751/**



| Sample nr. / Barcode | Your sample description / Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
|---|---|---|---|---|---|
| 11683751 | 516-1 516 (10-60) | | | | |
| 3705708AA | 516 | 10 | 60 | 04-Nov-2020 | 1 |
| 11683752 | 518-1 518 (8-58) | | | | |
| 3705536AA | 518 | 8 | 58 | 04-Nov-2020 | 1 |
| 11683753 | 519-1 519 (8-58) | | | | |
| 3705711AA | 519 | 8 | 58 | 04-Nov-2020 | 1 |
| 11683754 | 520-2 520 (20-45) | | | | |
| 3705547AA | 520 | 20 | 45 | 04-Nov-2020 | 2 |
| 11683755 | 521-1 521 (15-40) | | | | |
| 0538518011 | 521 | 15 | 40 | 04-Nov-2020 | 1 |
| 11683756 | 522-1 522 (15-45) | | | | |
| 0538517995 | 522 | 15 | 45 | 04-Nov-2020 | 1 |
| 11683757 | 523-1 523 (10-60) | | | | |
| 3705722AA | 523 | 10 | 60 | 04-Nov-2020 | 1 |
| 11683758 | 525-2 525 (20-70) | | | | |
| 3705715AA | 525 | 20 | 70 | 04-Nov-2020 | 2 |
| 11683759 | 526-2 526 (20-50) | | | | |
| 3705723AA | 526 | 20 | 50 | 04-Nov-2020 | 2 |
| 11683760 | 527-1 527 (0-35) | | | | |
| 3705703AA | 527 | 0 | 35 | 04-Nov-2020 | 1 |
| 11683761 | 528-1 528 (0-50) | | | | |
| 3705702AA | 528 | 0 | 50 | 04-Nov-2020 | 1 |
| 11683762 | 529-1 529 (0-50) | | | | |
| 3705718AA | 529 | 0 | 50 | 04-Nov-2020 | 1 |
| 11683763 | 531-1 531 (12-62) | | | | |
| 3705710AA | 531 | 12 | 62 | 04-Nov-2020 | 1 |
| 11683764 | 532-1 532 (8-58) | | | | |
| 3705716AA | 532 | 8 | 58 | 04-Nov-2020 | 1 |
| 11683765 | 533-1 533 (0-50) | | | | |
| 3705713AA | 533 | 0 | 50 | 04-Nov-2020 | 1 |
| 11683766 | 534-1 534 (0-50) | | | | |
| 3705706AA | 534 | 0 | 50 | 04-Nov-2020 | 1 |

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BNP Paribas S.A. 227 9245 25
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020175751/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11683767 | 535-1 535 (9-30) | | | | |
| 3705704AA | 535 | 9 | 30 | 04-Nov-2020 | 1 |
| 11683768 | MM01 536 (20-45) 537 (15-40) 538 (20-45) | | | | |
| 3705517AA | 536 | 20 | 45 | 04-Nov-2020 | 2 |
| 3705508AA | 537 | 15 | 40 | 04-Nov-2020 | 2 |
| 3705649AA | 538 | 20 | 45 | 04-Nov-2020 | 2 |
| 11683769 | MM02 536 (45-70) 537 (40-60) 538 (45-60) | | | | |
| 3705514AA | 536 | 45 | 70 | 04-Nov-2020 | 3 |
| 3705511AA | 537 | 40 | 60 | 04-Nov-2020 | 3 |
| 3705512AA | 538 | 45 | 60 | 04-Nov-2020 | 3 |
| 11683770 | MM03 530 (8-30) 530 (30-60) | | | | |
| 3705709AA | 530 | 8 | 30 | 04-Nov-2020 | 1 |
| 3705720AA | 530 | 30 | 60 | 04-Nov-2020 | 2 |
| 11683771 | MM04 524 (0-30) 524 (30-50) | | | | |
| 3705701AA | 524 | 0 | 30 | 04-Nov-2020 | 1 |
| 3543278AA | 524 | 30 | 50 | 04-Nov-2020 | 2 |
| 11683772 | MM05 517 (12-35) 517 (35-65) | | | | |
| 3705700AA | 517 | 12 | 35 | 04-Nov-2020 | 1 |
| 3705544AA | 517 | 35 | 65 | 04-Nov-2020 | 2 |

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020175751/1**



**Remark 1)**
The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

**Remark 2)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

**Remark 3)**
PCB 138 could be influenced by PCB 163.

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BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020175751/1

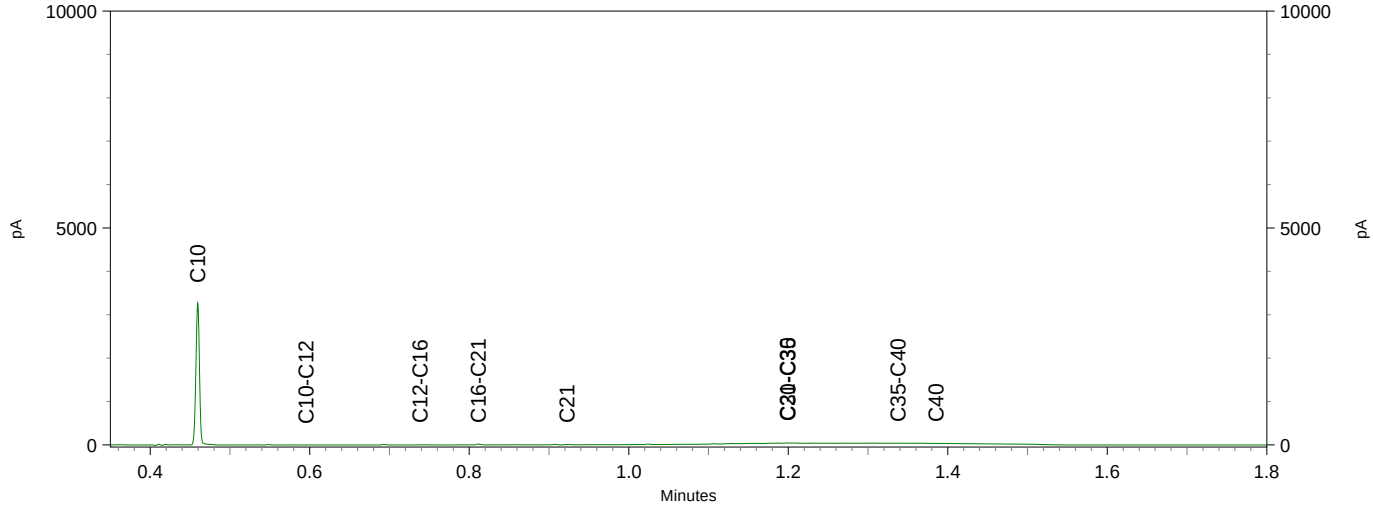


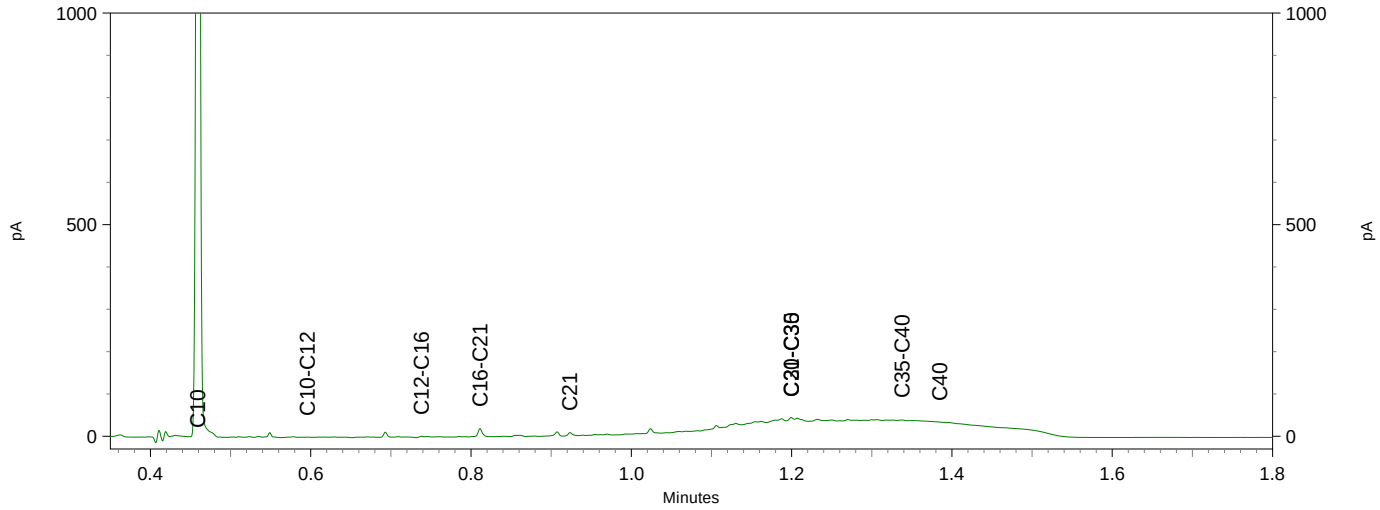
| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Grinding jaw crusher (1 kg) | W0101 | Pre-treatment | EN 16179 |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| Grainsize < 2 µm (clay) | W0171 | Sedimentation | pb 3010-4 & NEN 5753 |
| **Metals** | | | |
| Barium (Ba) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cadmium (Cd) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Cobalt (Co) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Copper (Cu) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Mercury (Hg) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Molybdenum (Mo) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Nickel (Ni) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Lead (Pb) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Zinc (Zn) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |
| **Polychlorinated Biphenyl** | | | |
| PCB (7) | W0271 | GC-MS | pb 3010-8 & NEN 6980 |
| **Polycyclic Aromatic Hydrocarbons, PAH** | | | |
| PAH (10) (VROM) | W0271 | GC-MS | pb. 3010-6 & NEN-ISO 18287 |
| PAK som AS3000/AP04 | W0271 | GC-MS | pb. 3010-6 & NEN-ISO 18287 |

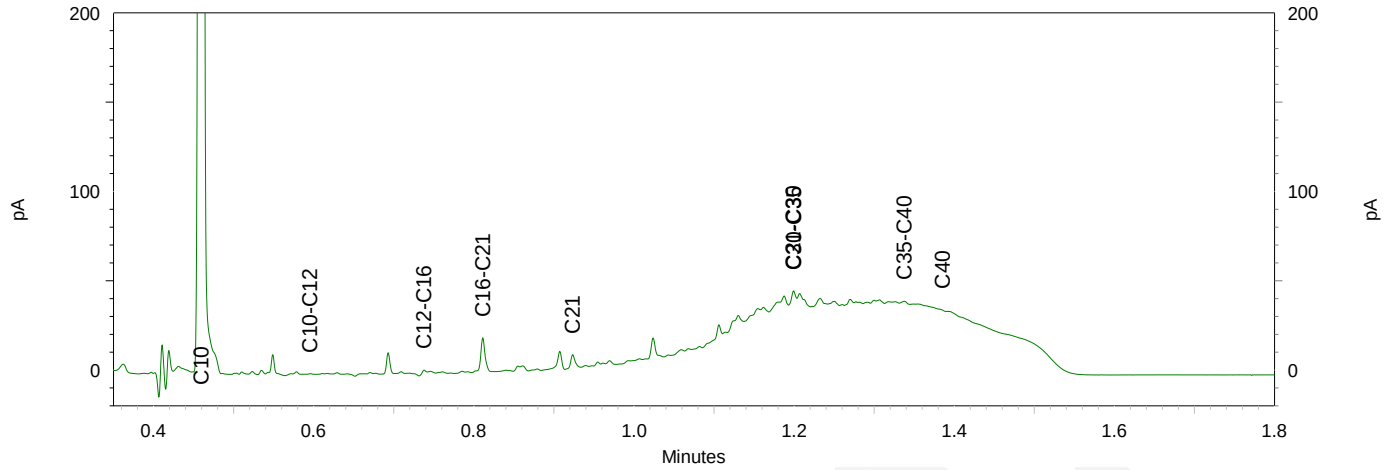
Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11683751
Certificate no.: 2020175751
Sample description.: 516-1 516 (10-60)
V



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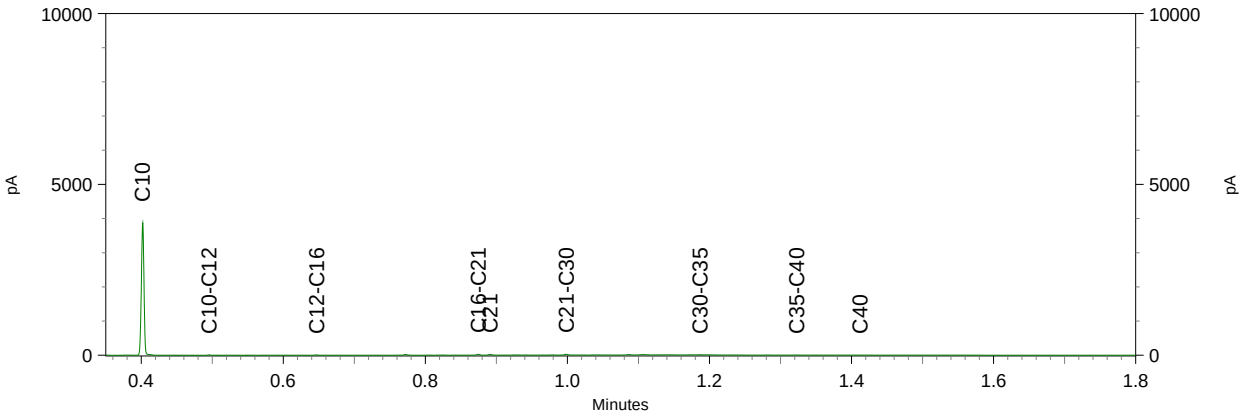
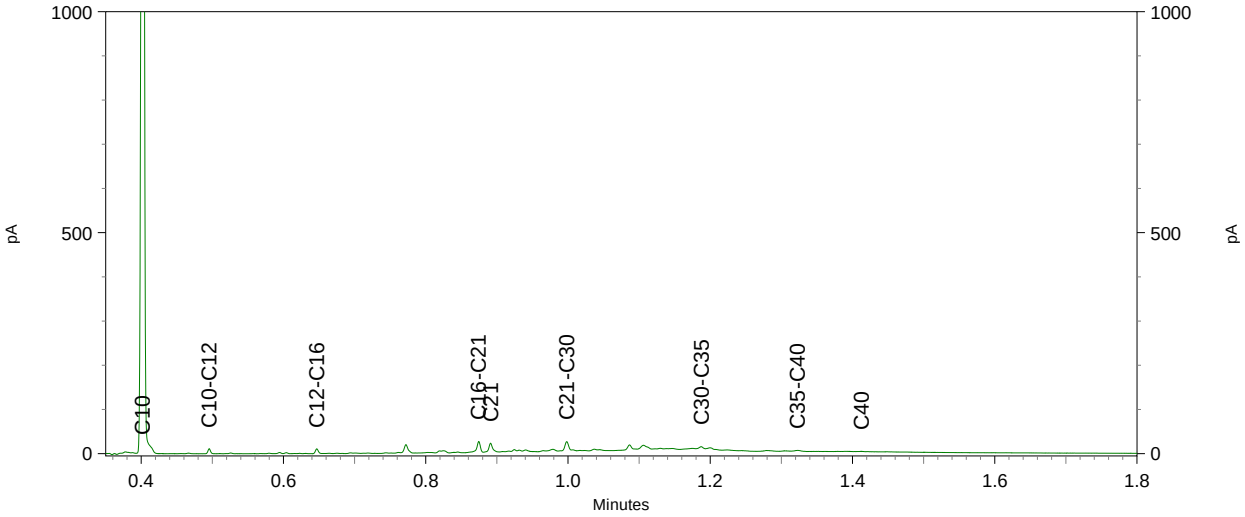
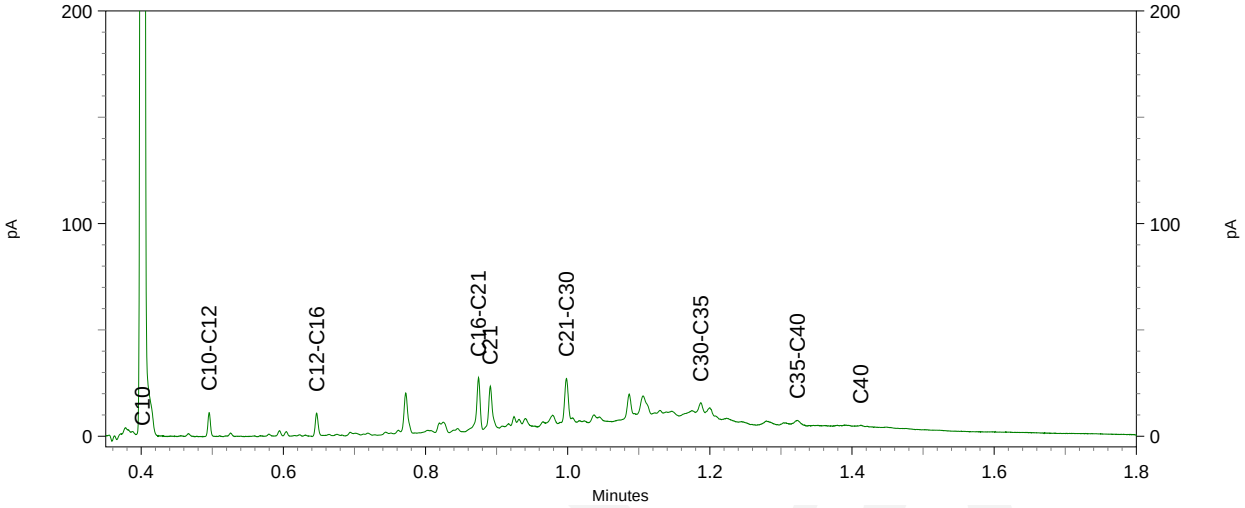
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11683767
Certificate no.: 2020175751
Sample description.: 535-1 535 (9-30)
V

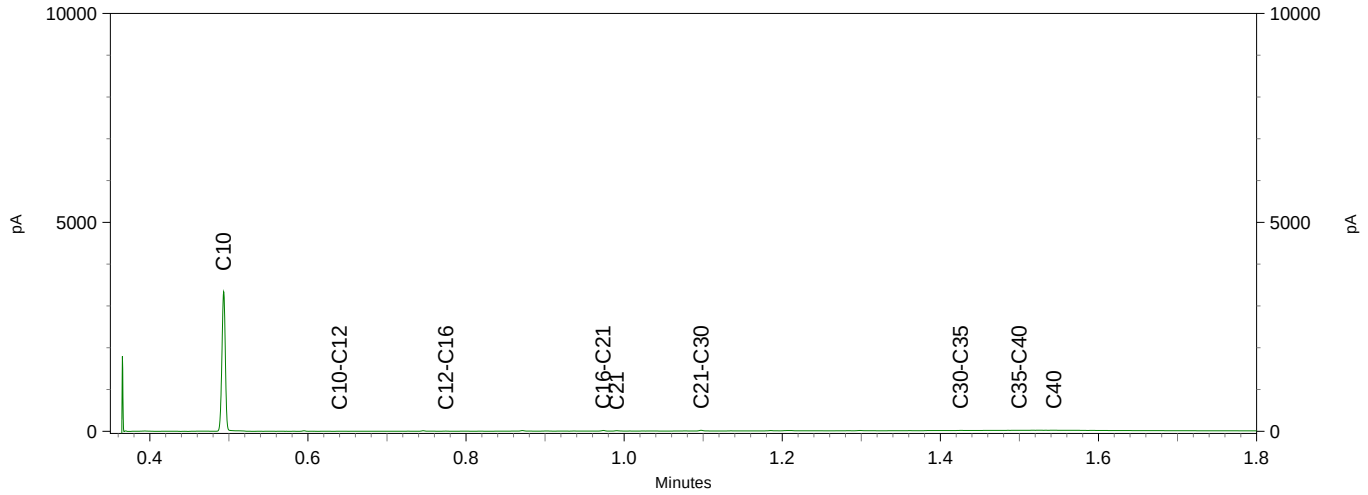


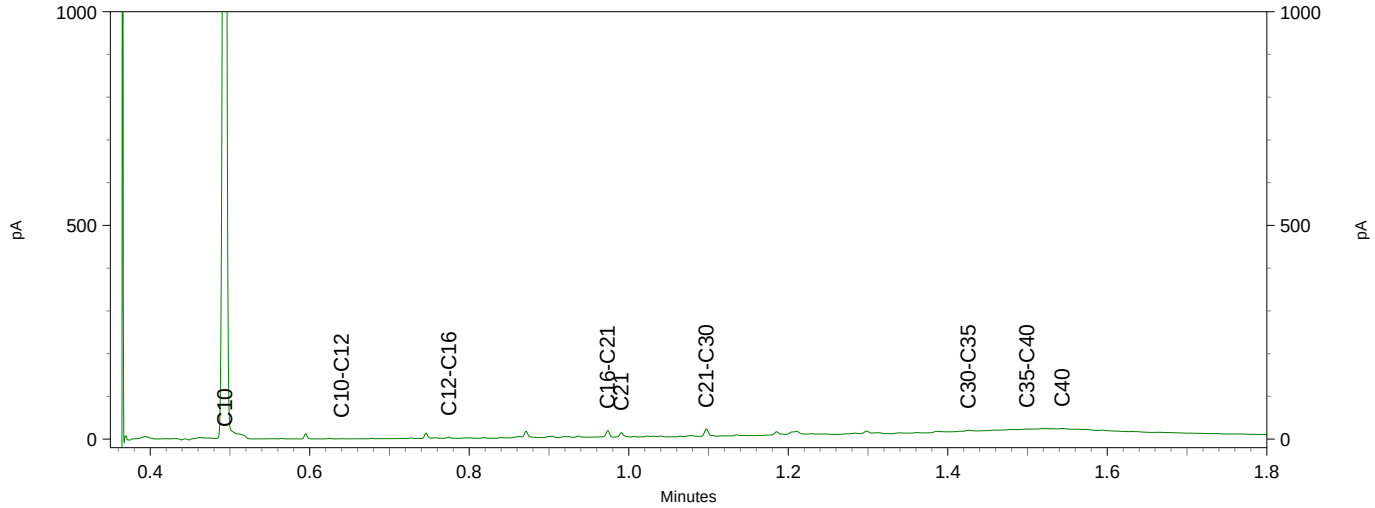



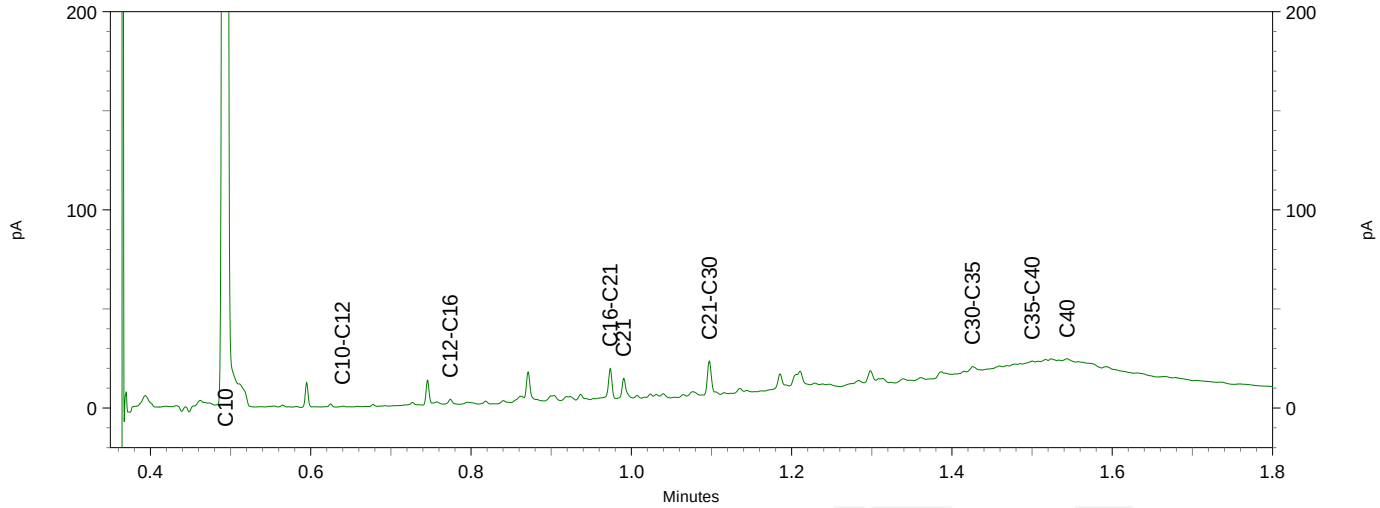



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11683768
Certificate no.:2020175751
Sample description.: MM01 536 (20-45) 537 (15-40) 538 (20-45)
V



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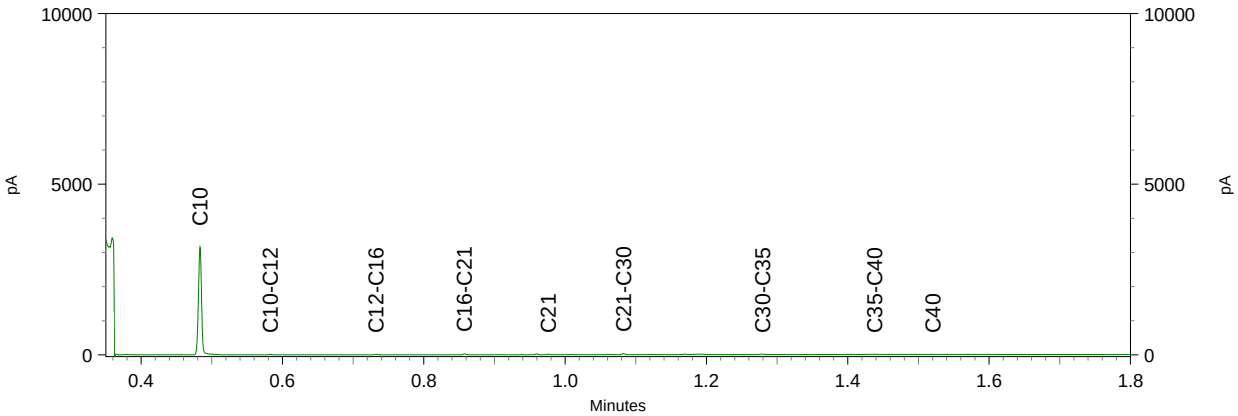
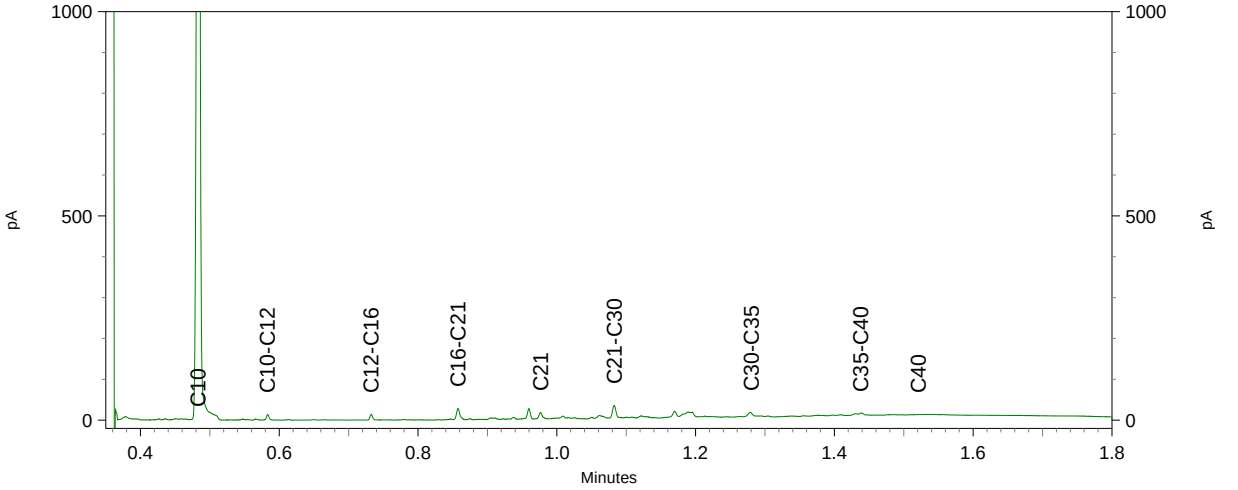
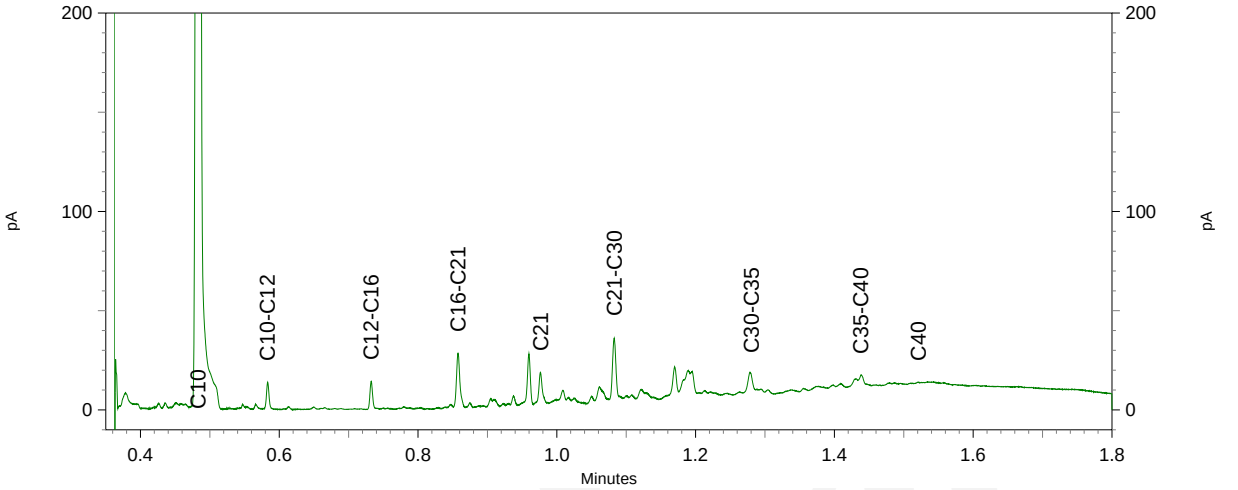
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11683769
Certificate no.: 2020175751
Sample description.: MM02 536 (45-70) 537 (40-60) 538 (45-60) V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020168308/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 26-Oct-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020168308/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 26-Oct-2020 |
| Your order number | | End date analysis | 29-Oct-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C |
| | | Page | 1/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | | |
| S | Dry matter | % (w/w) | 76.6 | 73.3 | 76.9 | 80.2 | 81.6 |
| S | Organic matter | % (w/w) dm | 3.7 1) | <0.7 1) | 2.1 1) | 1.7 1) | 2.2 1) |
| | Residue on ignition | % (w/w) dm | 96 | 99 | 97 | 98 | 97 |
| | **Petroleum Hydrocarbons** | | | | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| | EPH (C12-C16) | mg/kg dm | 29 | <5.0 | <5.0 | <5.0 | <5.0 |
| | EPH (C16-C21) | mg/kg dm | 82 | 11 | 5.5 | 12 | 6.7 |
| | EPH (C21-C30) | mg/kg dm | 3300 | 220 | <11 | 27 | 21 |
| | EPH (C30-C35) | mg/kg dm | 2100 | 140 | <5.0 | 15 | 8.5 |
| | EPH (C35-C40) | mg/kg dm | 780 | 51 | <6.0 | 8.3 | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | 6300 | 420 | <35 | 65 | 43 |
| | Chromatogram TPH (GC) | | See annex | See annex | | See annex | See annex |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 505-3 505 (110-130) | Soil, AS3000 | 11660259 |
| 2 | 505-4 505 (130-180) | Soil, AS3000 [redacted] | 11660260 |
| 3 | 506-3 506 (80-130) | Soil, AS3000 | 11660261 |
| 4 | 507-3 507 (90-140) | Soil, AS3000 | 11660262 |
| 5 | 508-3 508 (70-120) | Soil, AS3000 | 11660263 |

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V: VLAREL recognized test
W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020168308/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 26-Oct-2020 |
| Your order number | | End date analysis | 29-Oct-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C |
| | | Page | 2/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | |
| S | Dry matter | % (w/w) | 77.9 | 71.2 | 73.3 | 80.5 |
| S | Organic matter | % (w/w) dm | 0.9 1) | 2.8 1) | 0.9 1) | 1.2 1) |
| | Residue on ignition | % (w/w) dm | 99 | 97 | 99 | 98 |
| | **Petroleum Hydrocarbons** | | | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | <3.0 | 4.2 | <3.0 |
| | EPH (C12-C16) | mg/kg dm | 11 | <5.0 | 7.9 | <5.0 |
| | EPH (C16-C21) | mg/kg dm | 60 | <5.0 | 8.5 | <5.0 |
| | EPH (C21-C30) | mg/kg dm | 2300 | <11 | 11 | <11 |
| | EPH (C30-C35) | mg/kg dm | 1200 | 7.3 | 6.6 | 5.2 |
| | EPH (C35-C40) | mg/kg dm | 540 | <6.0 | <6.0 | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | 4200 | <35 | 40 | <35 |
| | Chromatogram TPH (GC) | | See annex | | See annex | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 509-3 509 (120-170) | Soil, AS3000 | 11660264 |
| 7 | 510-4 510 (120-170) | Soil, AS3000 [redacted] | 11660265 |
| 8 | 511-4 511 (100-150) | Soil, AS3000 | 11660266 |
| 9 | 513-3 513 (110-160) | Soil, AS3000 | 11660267 |

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

Verified
ASM

VA TESTING RvA L010

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BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020168308/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11660259 | 505-3 505 (110-130) | | | | |
| 3706708AA | 505 | 110 | 130 | 23-Oct-2020 | 3 |
| 11660260 | 505-4 505 (130-180) | | | | |
| 3706716AA | 505 | 130 | 180 | 23-Oct-2020 | 4 |
| 11660261 | 506-3 506 (80-130) | | | | |
| 3706699AA | 506 | 80 | 130 | 23-Oct-2020 | 3 |
| 11660262 | 507-3 507 (90-140) | | | | |
| 3707702AA | 507 | 90 | 140 | 23-Oct-2020 | 3 |
| 11660263 | 508-3 508 (70-120) | | | | |
| 3706719AA | 508 | 70 | 120 | 23-Oct-2020 | 3 |
| 11660264 | 509-3 509 (120-170) | | | | |
| 3706863AA | 509 | 120 | 170 | 23-Oct-2020 | 3 |
| 11660265 | 510-4 510 (120-170) | | | | |
| 3707257AA | 510 | 120 | 170 | 23-Oct-2020 | 4 |
| 11660266 | 511-4 511 (100-150) | | | | |
| 3707261AA | 511 | 100 | 150 | 23-Oct-2020 | 4 |
| 11660267 | 513-3 513 (110-160) | | | | |
| 3706804AA | 513 | 110 | 160 | 23-Oct-2020 | 3 |

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020168308/1**



**Remark 1)**

The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020168308/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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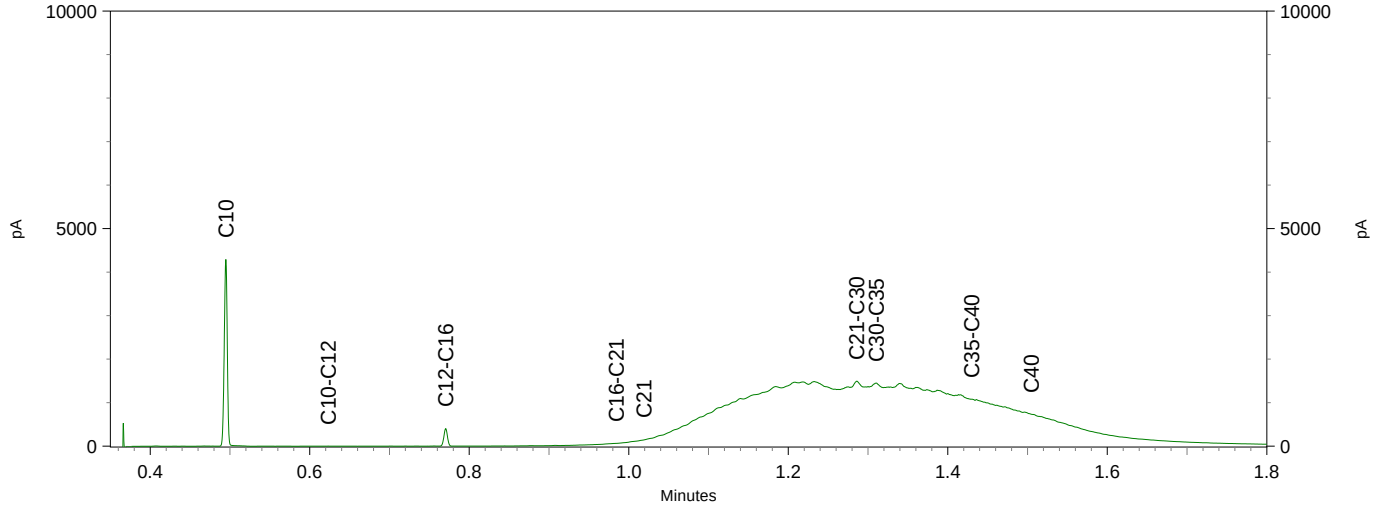
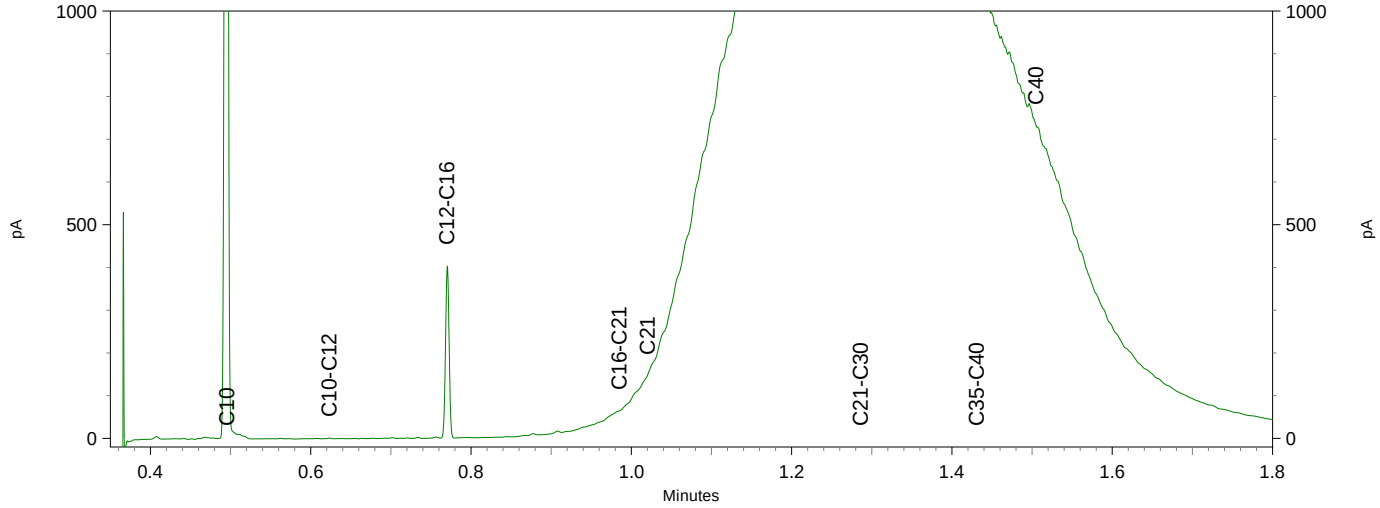
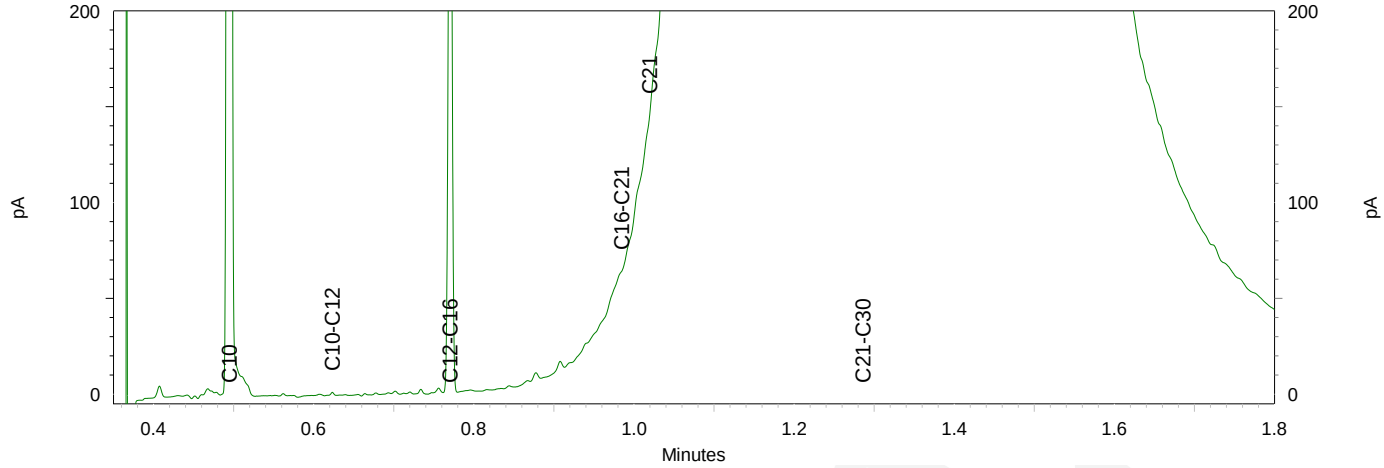
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660259
Certificate no.: 2020168308
Sample description.: 505-3 505 (110-130)
V

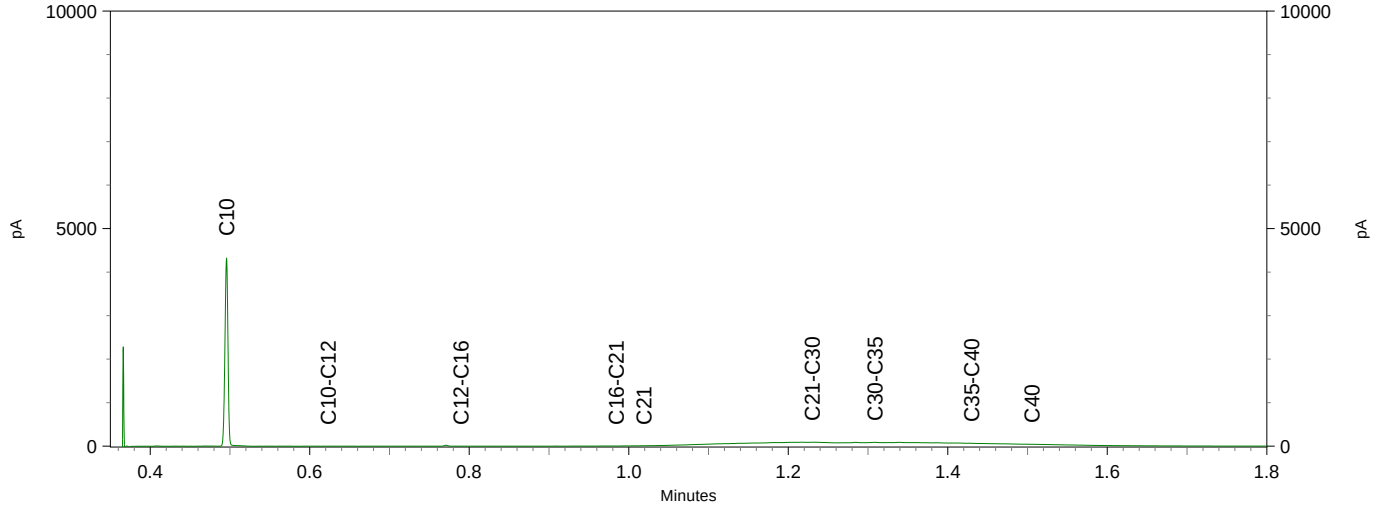


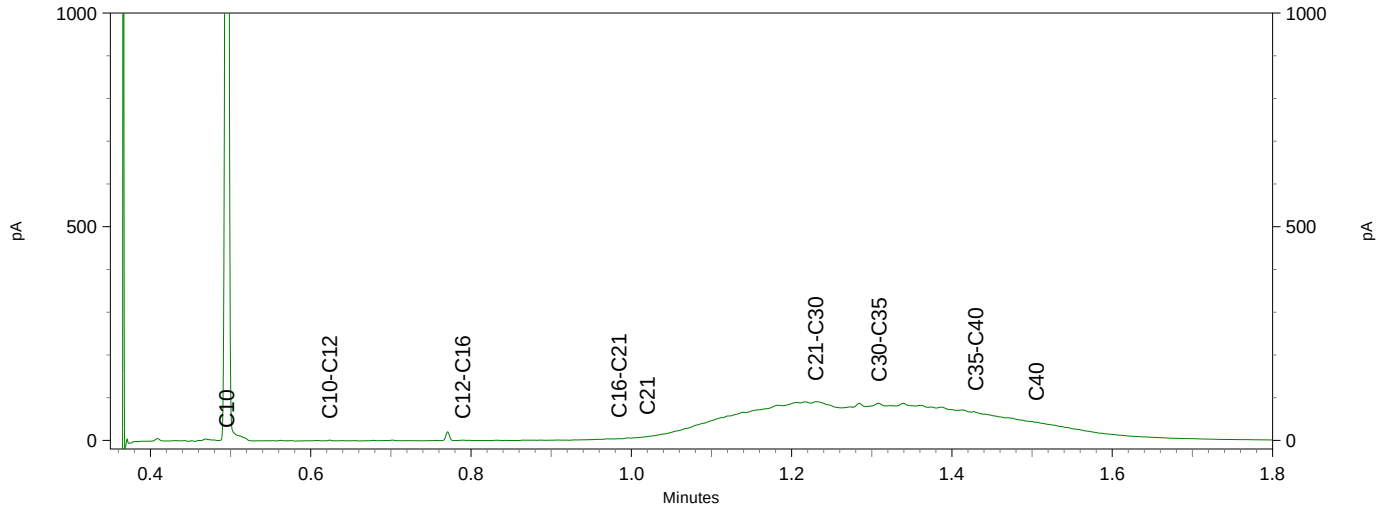



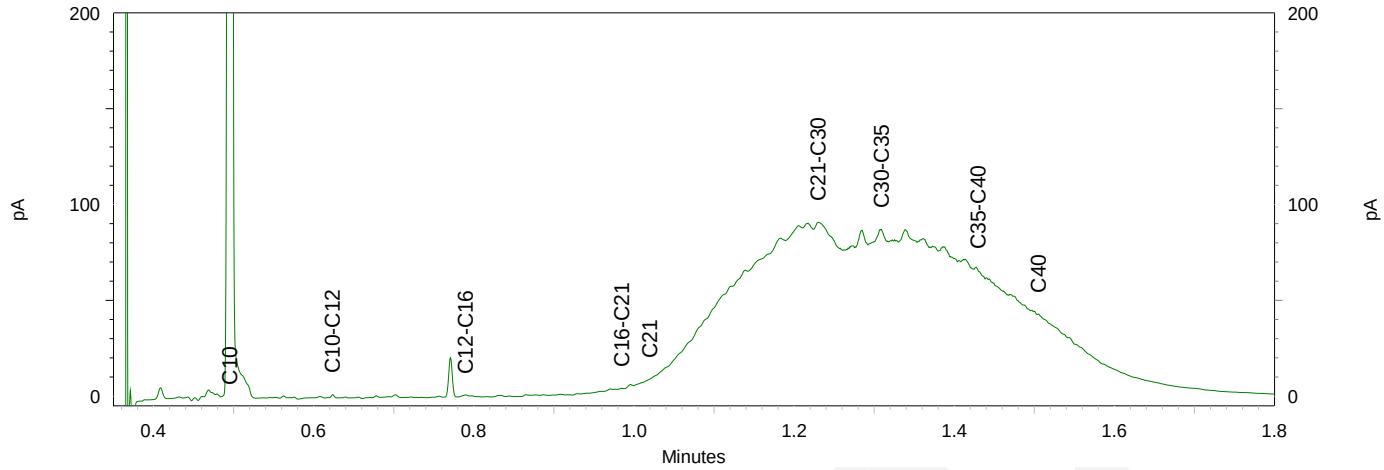



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660260
Certificate no.: 2020168308
Sample description.: 505-4 505 (130-180)
V

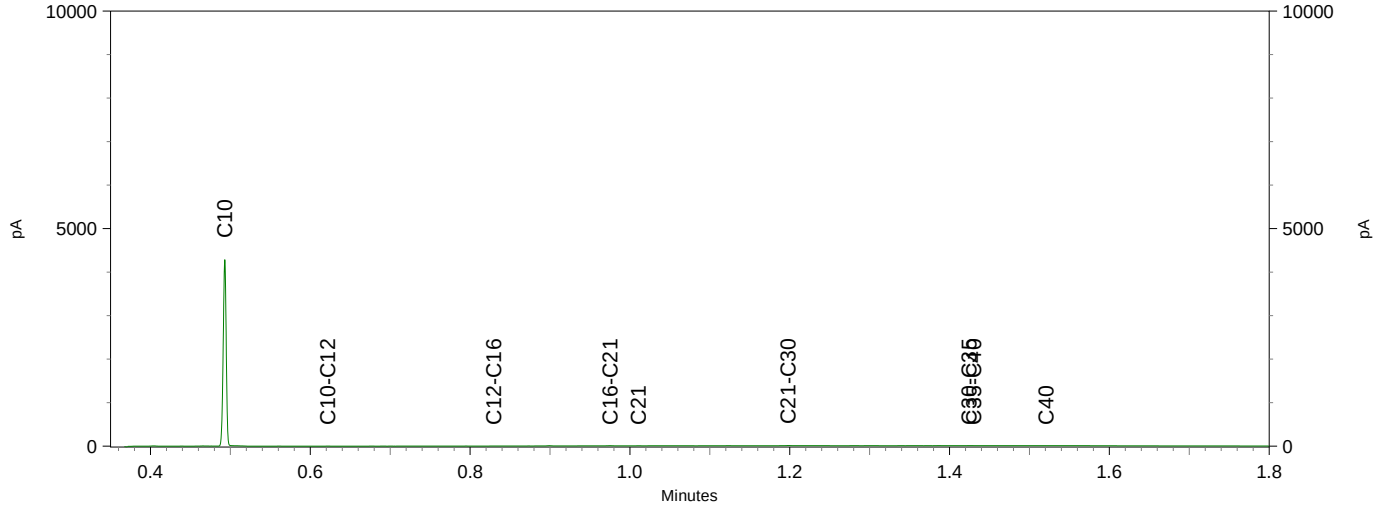


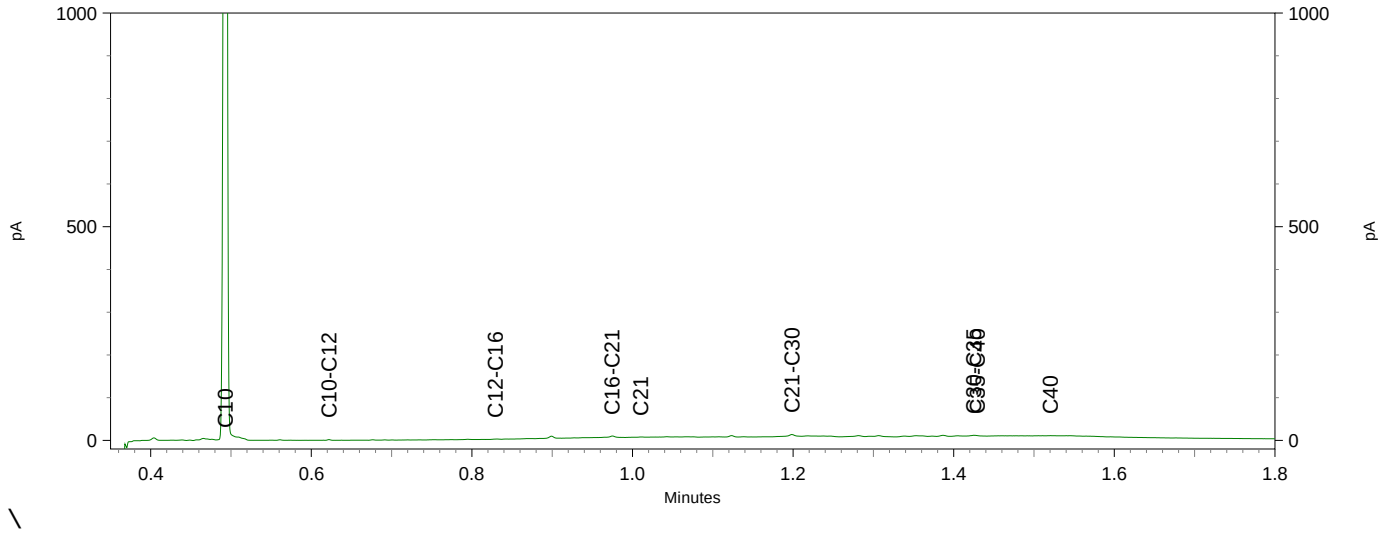



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660262
Certificate no.: 2020168308
Sample description.: 507-3 507 (90-140)
V

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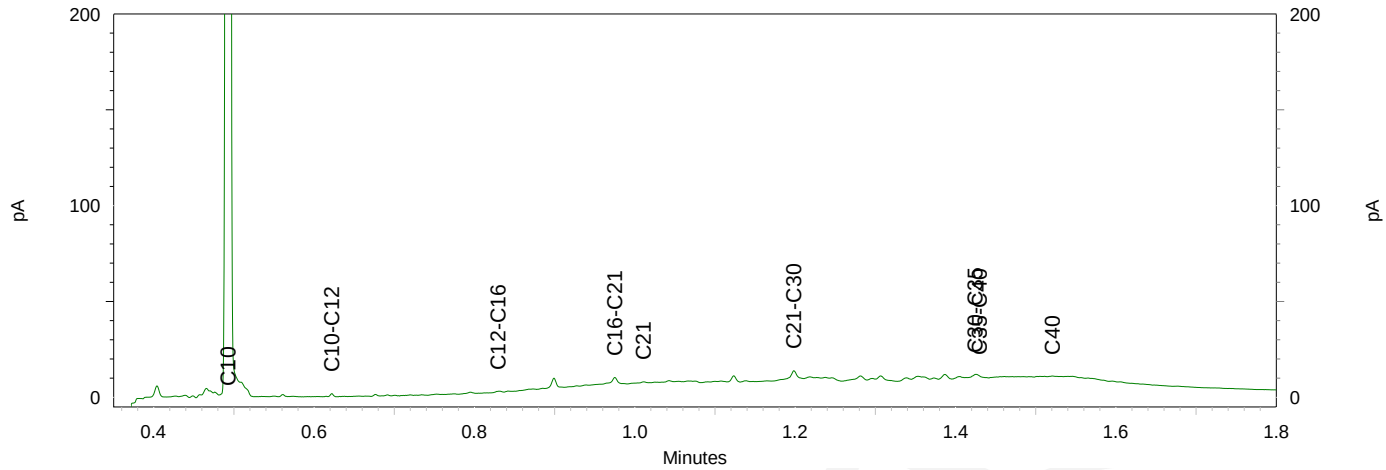
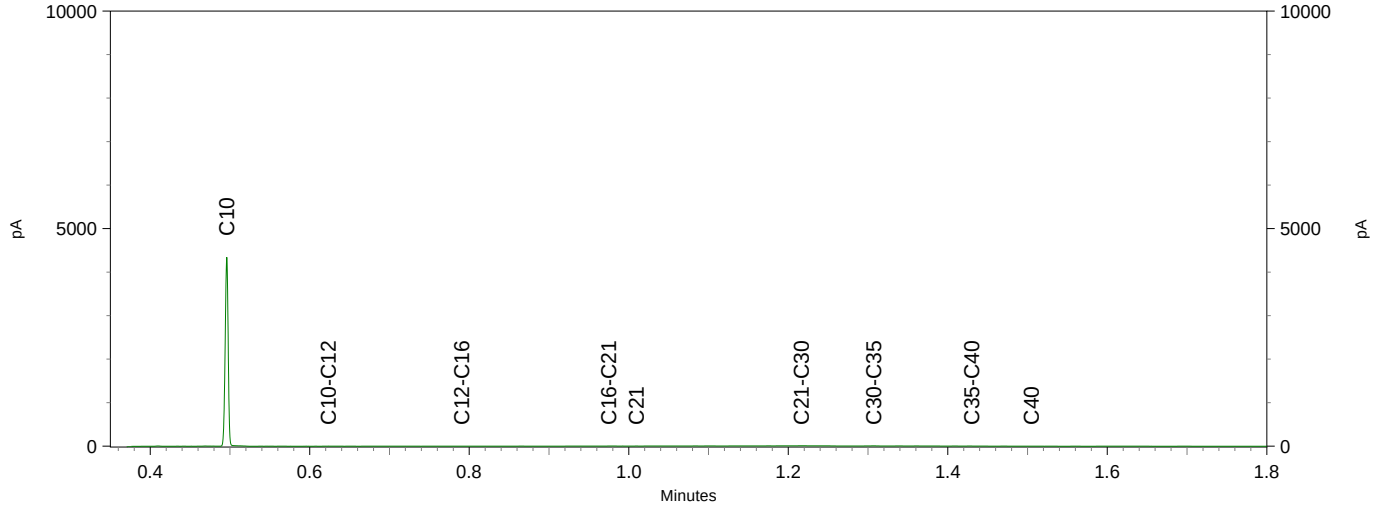
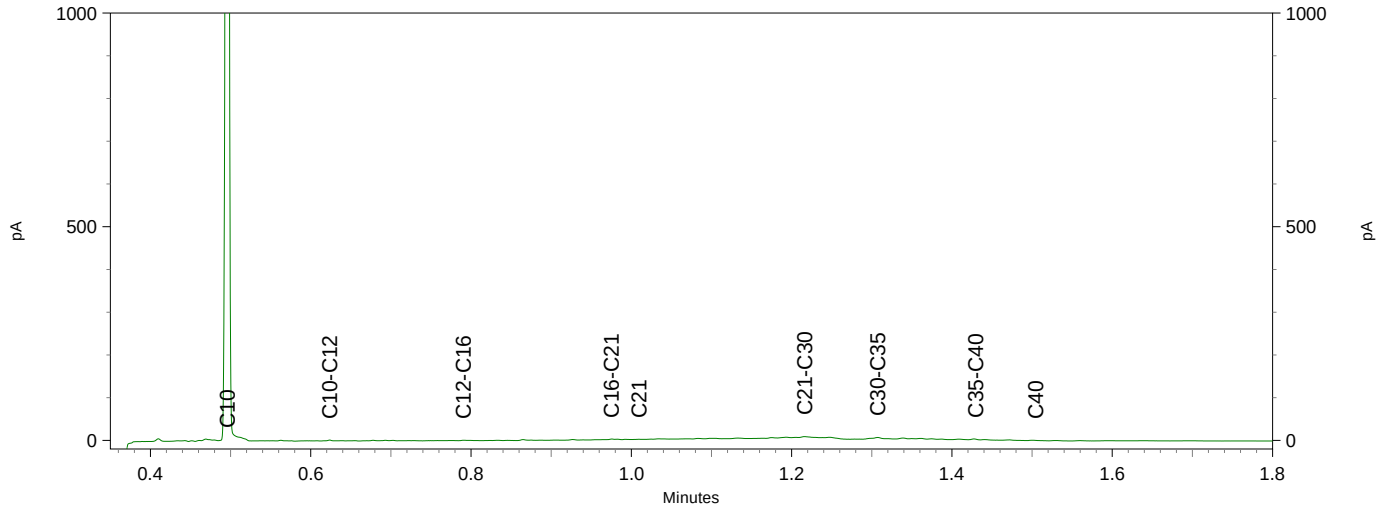
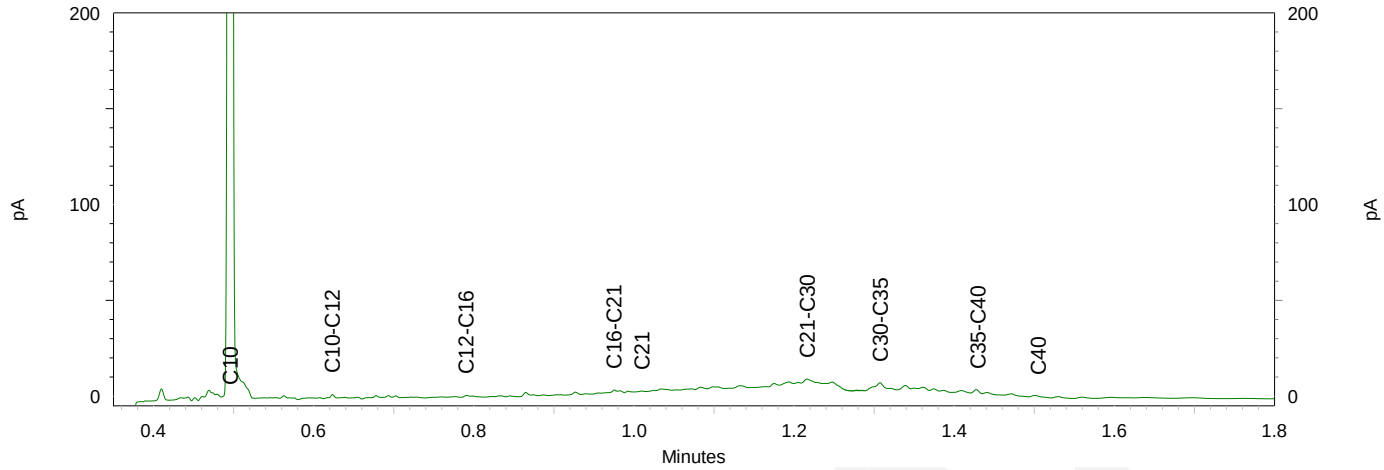


# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660263
Certificate no.: 2020168308
Sample description.: 508-3 508 (70-120)
V

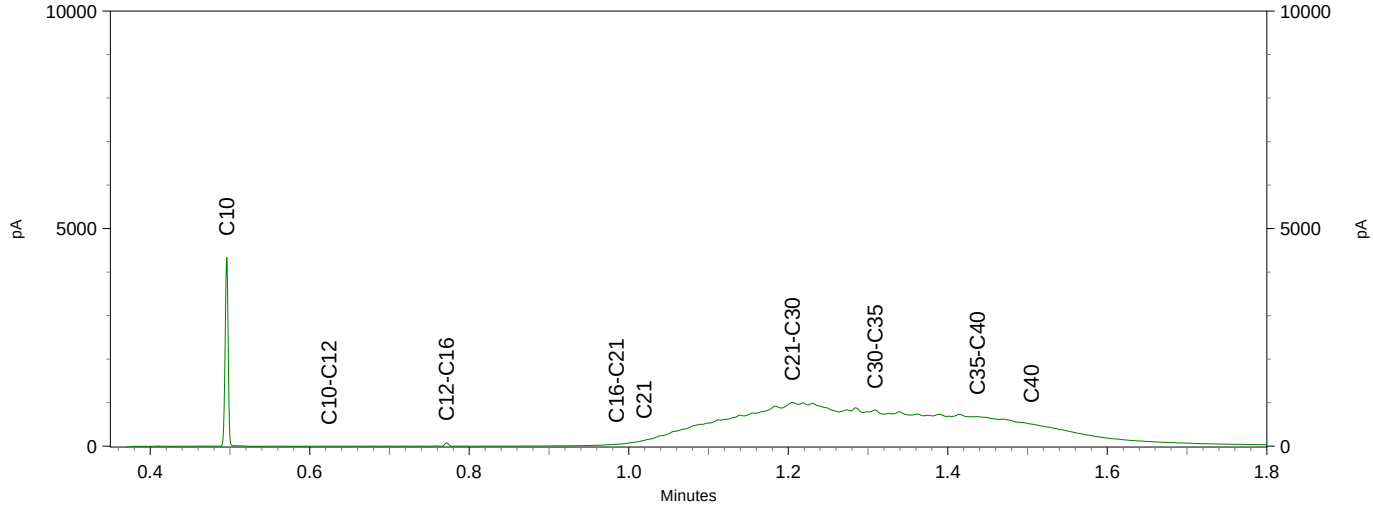


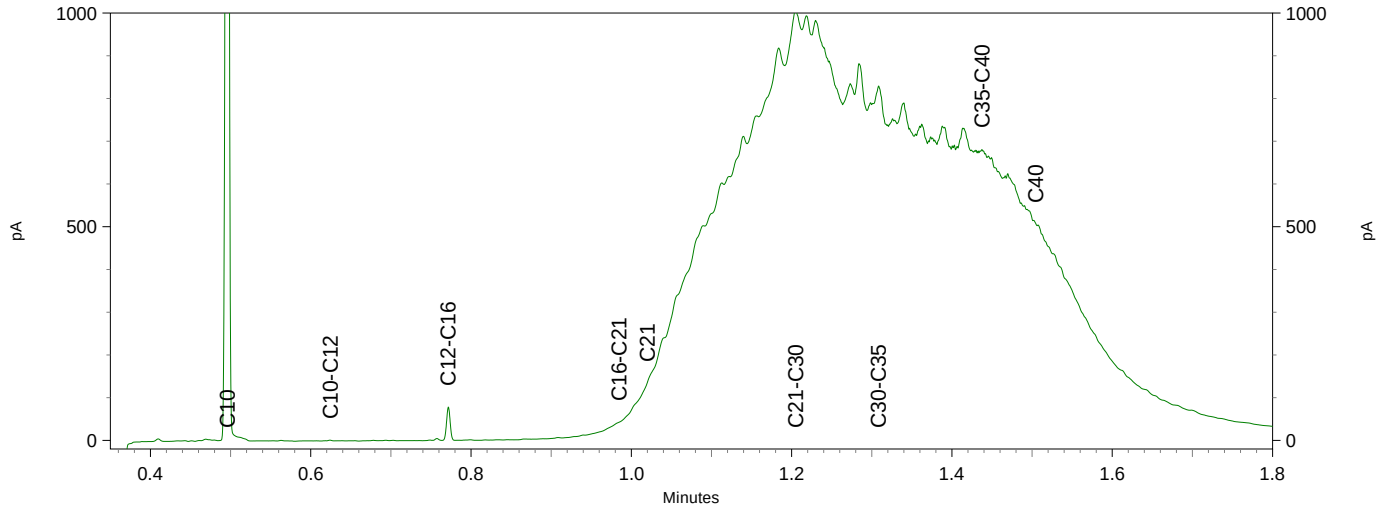



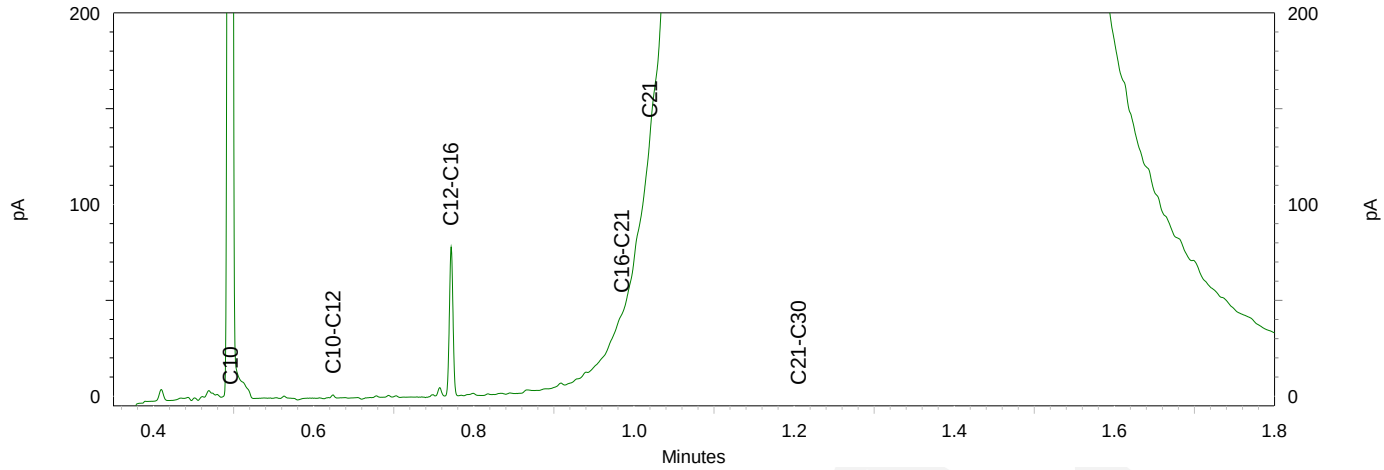



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660264
Certificate no.: 2020168308
Sample description.: 509-3 509 (120-170)
V

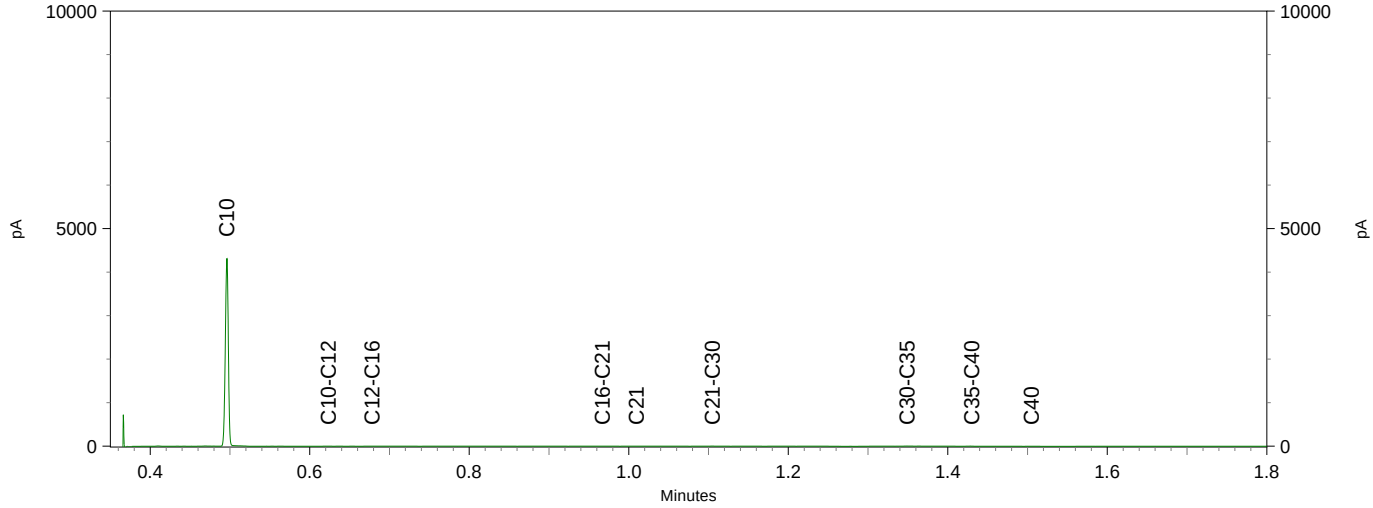


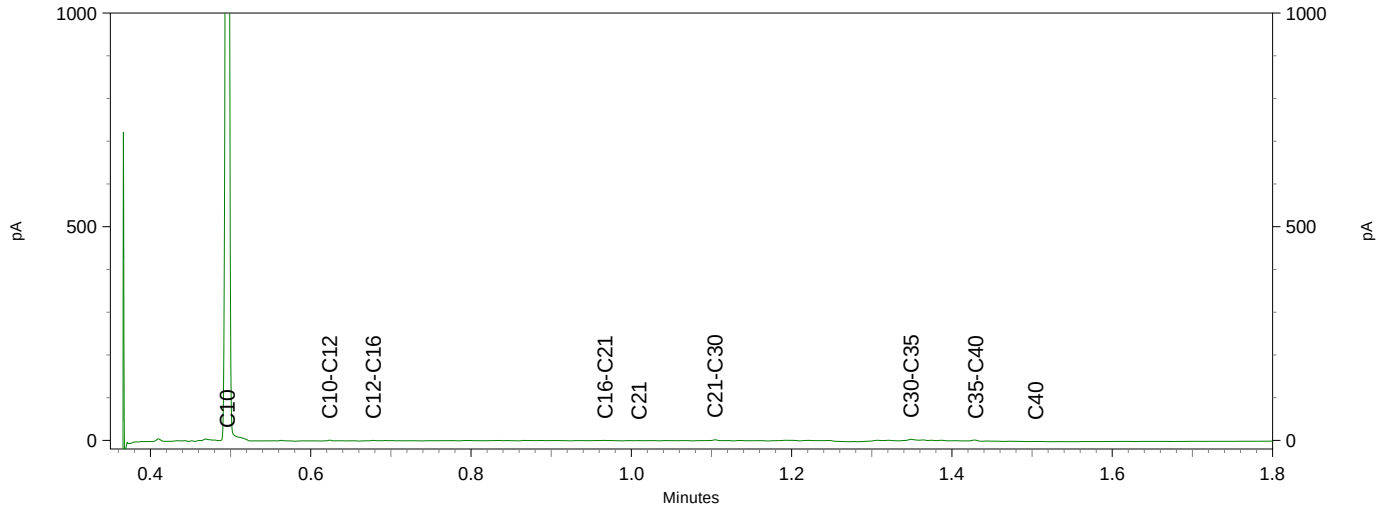



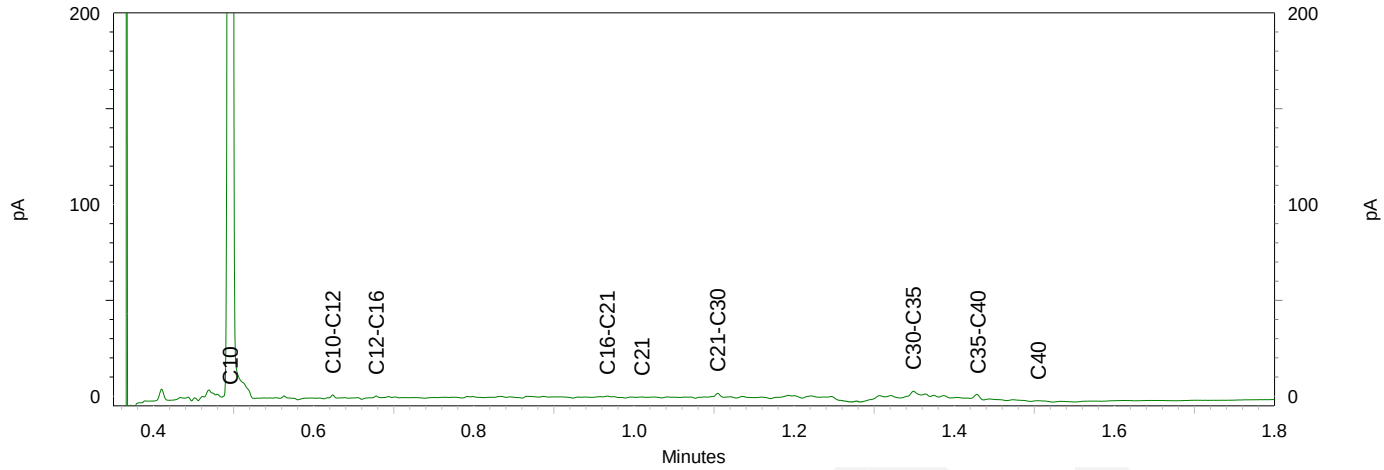



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11660266
Certificate no.: 2020168308
Sample description.: 511-4 511 (100-150)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020167984/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 26-Oct-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020167984/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 26-Oct-2020 |
| Your order number | | End date analysis | 28-Oct-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C |
| | | Page | 1/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | | <0.20 | | | <0.20 |
| S | Trichloromethane | µg/L | | <0.20 | | | <0.20 |
| S | Tetrachloromethane | µg/L | | <0.10 | | | <0.10 |
| S | Trichloroethene | µg/L | | <0.20 | | | <0.20 |
| S | Tetrachloroethene | µg/L | | <0.10 | | | <0.10 |
| S | 1,1-Dichloroethane | µg/L | | <0.20 | | | 0.27 |
| S | 1,2-Dichloroethane | µg/L | | <0.20 | | | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | | <0.10 | | | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | | <0.10 | | | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | | <0.10 | | | 0.41 |
| S | trans 1,2-Dichloroethene | µg/L | | <0.10 | | | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | | <1.6 | | | <1.6 |
| S | Vinyl chloride | µg/L | | <0.10 | | | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | | 0.14 [1)] | | | 0.48 |
| | **Petroleum Hydrocarbons** | | | | | | |
| | TPH (C10-C12) | µg/L | <10 | | 530 | <10 | <10 |
| | TPH (C12-C16) | µg/L | <10 | | 3500 | <10 | <10 |
| | TPH (C16-C21) | µg/L | <10 | | 4700 | <10 | <10 |
| | TPH (C21-C30) | µg/L | <15 | | 2400 | <15 | <15 |
| | TPH (C30-C35) | µg/L | <10 | | 72 | <10 | <10 |
| | TPH (C35-C40) | µg/L | <10 | | <10 | <10 | <10 |
| S | TPH Sum (C10-C40) | µg/L | <50 | | 11000 [2)] | <50 | <50 |
| | Chromatogram | | | | See annex | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 41-1-3 42 | Water, AS3000 | 11659305 |
| 2 | 97-1-1 97 | Water, AS3000 [redacted] | 11659306 |
| 3 | 501-1-1 501 (190-290) | Water, AS3000 | 11659307 |
| 4 | 502-1-1 502 (190-290) | Water, AS3000 | 11659308 |
| 5 | 503-1-1 503 | Water, AS3000 | 11659309 |

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



Eurofins Analytico B.V. is ISO 14001: 2015 certified by TÜV and qualified by the Flemish Region (OVAM and Dep. Environment), the Brussels Region (IBGE/BIM), the Walloon Region (DGRNE-OWD) and by the Government of Luxembourg (MEV).

TESTING RvA L010

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020167984/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 26-Oct-2020 |
| Your order number | | End date analysis | 28-Oct-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:18 |
| | | Annex | A,B,C |
| | | Page | 2/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 |
|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | |
| S | Dichloromethane | µg/L | | <0.20 |
| S | Trichloromethane | µg/L | | <0.20 |
| S | Tetrachloromethane | µg/L | | <0.10 |
| S | Trichloroethene | µg/L | | <0.20 |
| S | Tetrachloroethene | µg/L | | <0.10 |
| S | 1,1-Dichloroethane | µg/L | | <0.20 |
| S | 1,2-Dichloroethane | µg/L | | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | | <1.6 |
| S | Vinyl chloride | µg/L | | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | | 0.14 [1)] |
| | **Petroleum Hydrocarbons** | | | |
| | TPH (C10-C12) | µg/L | <10 | <10 |
| | TPH (C12-C16) | µg/L | <10 | <10 |
| | TPH (C16-C21) | µg/L | 15 | <10 |
| | TPH (C21-C30) | µg/L | 160 | <15 |
| | TPH (C30-C35) | µg/L | 48 | <10 |
| | TPH (C35-C40) | µg/L | 10 | <10 |
| S | TPH Sum (C10-C40) | µg/L | 240 | <50 |
| | Chromatogram | | See annex | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 504-1-1 504 (120-220) | Water, AS3000 | 11659310 |
| 7 | 0bas-1-1 0bas | Water, AS3000 [redacted] | 11659311 |

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

Verified
ASM

VA TESTING RvA L010

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IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020167984/**



| Sample nr. / Barcode | Your sample description / Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
|---|---|---|---|---|---|
| 11659305 | 41-1-3 42 | | | | |
| 0692054643 | 42 | | | 23-Oct-2020 | 1 |
| 0670316010 | 42 | | | 23-Oct-2020 | 2 |
| 11659306 | 97-1-1 97 | | | | |
| 0692054640 | 97 | | | 23-Oct-2020 | 1 |
| 0670316077 | 97 | | | 23-Oct-2020 | 2 |
| 11659307 | 501-1-1 501 (190-290) | | | | |
| 0692054628 | 501 | 190 | 290 | 23-Oct-2020 | 1 |
| 0670316026 | 501 | 190 | 290 | 23-Oct-2020 | 2 |
| 11659308 | 502-1-1 502 (190-290) | | | | |
| 0692054644 | 502 | 190 | 290 | 23-Oct-2020 | 1 |
| 0670316085 | 502 | 190 | 290 | 23-Oct-2020 | 2 |
| 11659309 | 503-1-1 503 | | | | |
| 0670316081 | 503 | | | 23-Oct-2020 | 2 |
| 0692054657 | 503 | | | 23-Oct-2020 | 1 |
| 11659310 | 504-1-1 504 (120-220) | | | | |
| 0692054627 | 504 | 120 | 220 | 23-Oct-2020 | 1 |
| 0670316083 | 504 | 120 | 220 | 23-Oct-2020 | 2 |
| 11659311 | 0bas-1-1 0bas | | | | |
| 0692054655 | 0bas | | | 23-Oct-2020 | 1 |
| 0670316079 | 0bas | | | 23-Oct-2020 | 2 |

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IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020167984/1**



**Remark 1)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

**Remark 2)**
Volatile oil fraction present.

**Eurofins Analytico B.V.**

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020167984/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0215 | GC/FID | pb 3110-5 |
| Chromatogram oil (GC) | W0215 | GC/FID | In house method |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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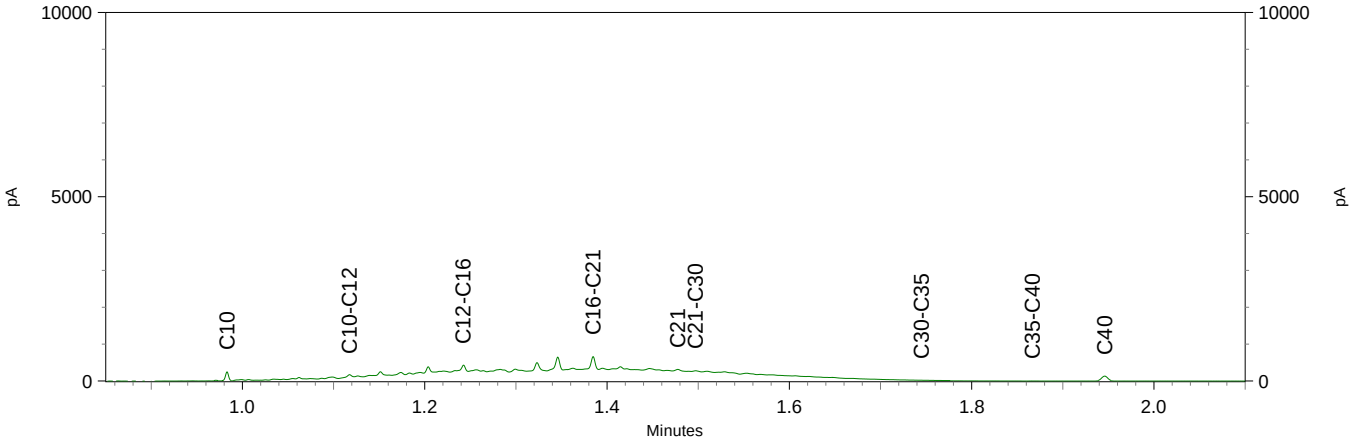
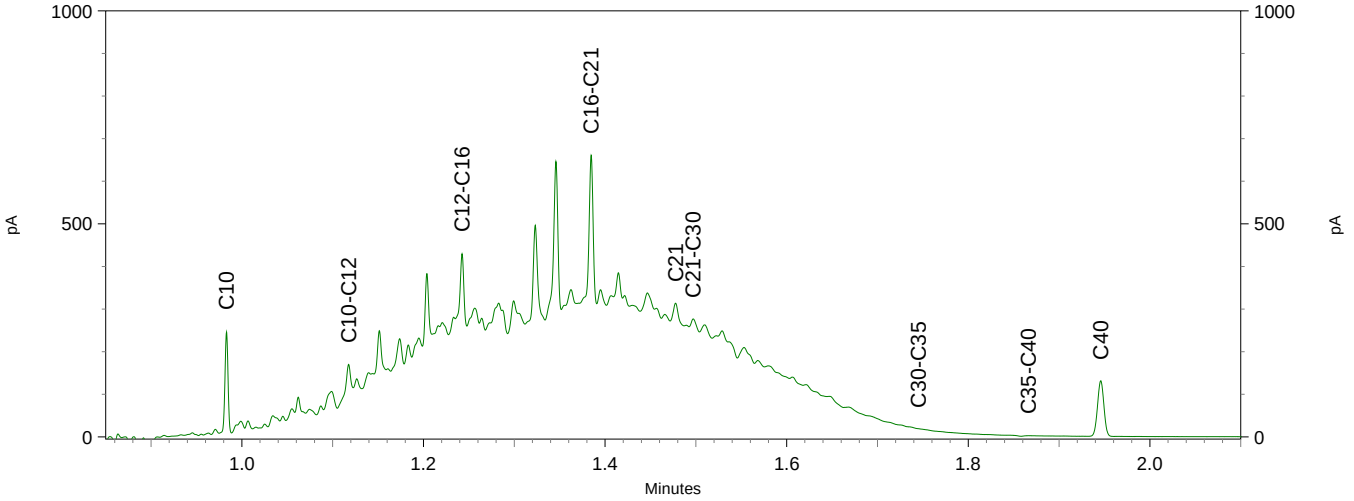
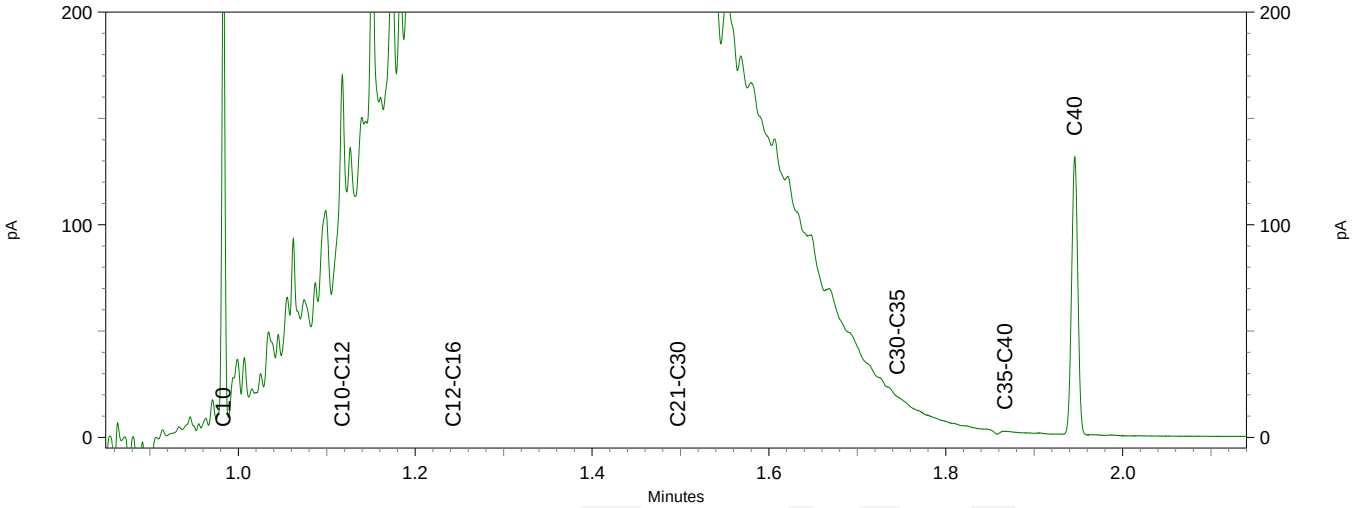
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11659307
Certificate no.: 2020167984
Sample description.: 501-1-1 501 (190-290)
V



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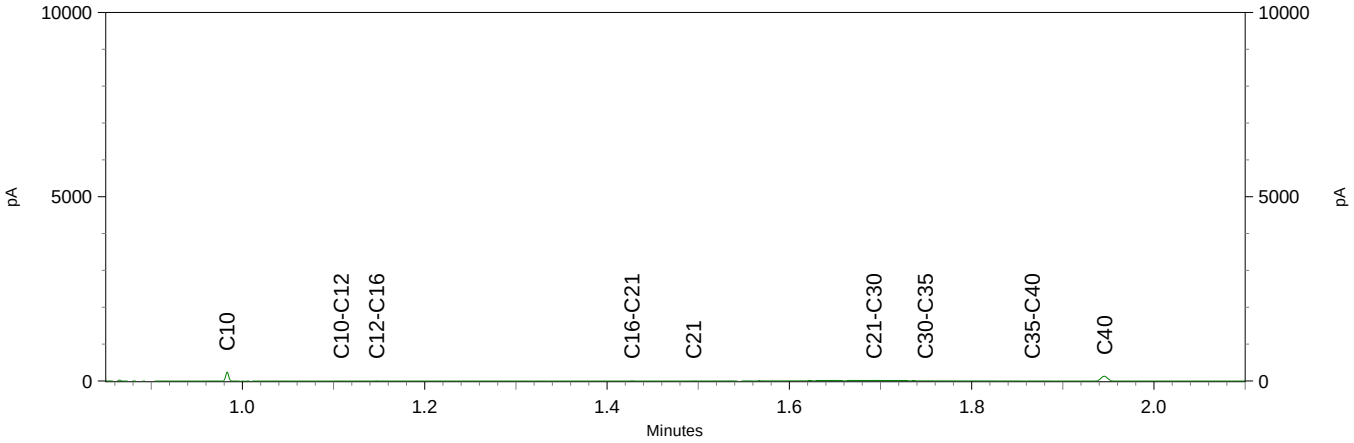
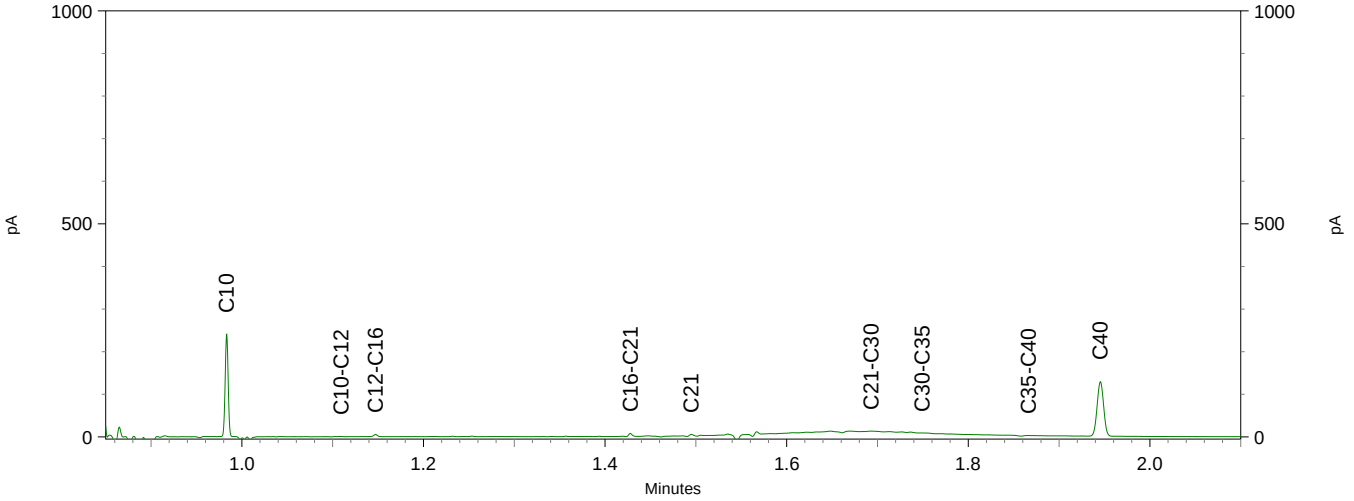
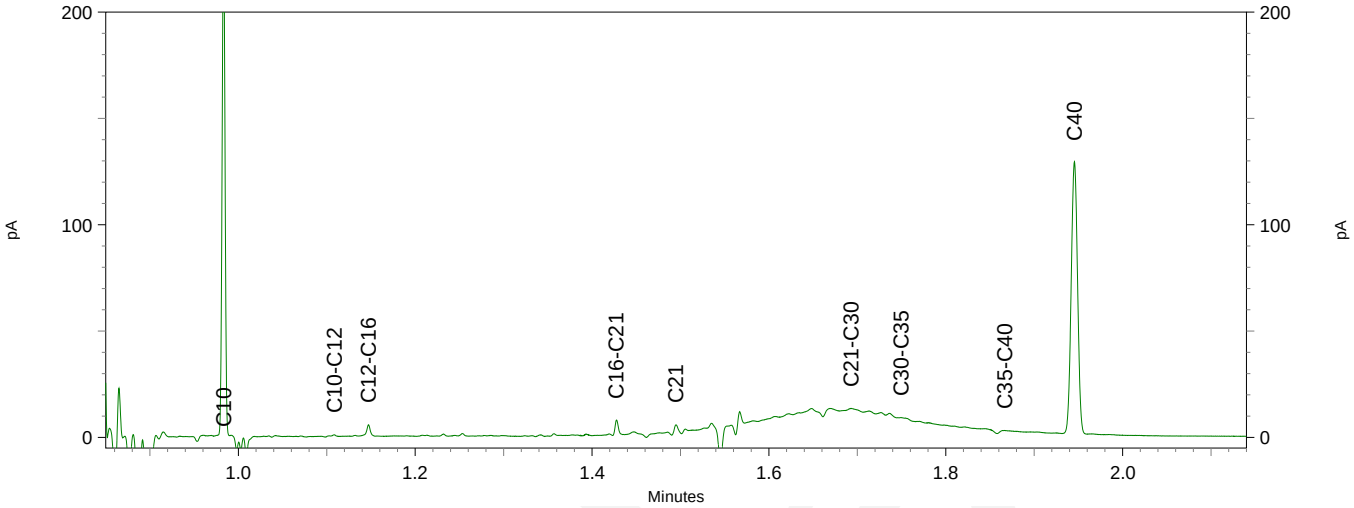
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11659310
Certificate no.: 2020167984
Sample description.: 504-1-1 504 (120-220)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020153093/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 02-Oct-2020 |

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Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020153093/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 02-Oct-2020 |
| Your order number | | End date analysis | 06-Oct-2020 |
| Your sample taker | | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | |
|---|---|---|---|---|
| | **Sample Pre-treatment** | | | |
| | Preperation AS3000 | | Executed | |
| | **Characteristics** | | | |
| S | Dry matter | % (w/w) | 84.1 | |
| S | Organic matter | % (w/w) dm | 2.0 | 1) |
| | Residue on ignition | % (w/w) dm | 98 | |
| | **Mono Aromatic Hydrocarbons** | | | |
| S | Benzene | mg/kg dm | <0.050 | |
| S | Toluene | mg/kg dm | <0.050 | |
| S | Ethylbenzene | mg/kg dm | <0.050 | |
| S | o-Xylene | mg/kg dm | <0.050 | |
| S | m,p-Xylene | mg/kg dm | <0.050 | |
| S | Xylenen (som) (factor 0,7) | mg/kg dm | 0.070 | 2) |
| | BTEX (sum) | mg/kg dm | <0.25 | |
| S | Naphtalene | mg/kg dm | <0.010 | |
| | **Petroleum Hydrocarbons** | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | |
| | EPH (C12-C16) | mg/kg dm | 14 | |
| | EPH (C16-C21) | mg/kg dm | 420 | |
| | EPH (C21-C30) | mg/kg dm | 9400 | |
| | EPH (C30-C35) | mg/kg dm | 2700 | |
| | EPH (C35-C40) | mg/kg dm | 560 | |
| S | EPH Sum (C10-C40) | mg/kg dm | 13000 | |
| | Chromatogram TPH (GC) | | See annex | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 504-6 504 (60-80) | Soil, AS3000 [redacted] | 11612917 |

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020153093/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11612917 | 504-6 504 (60-80) | | | | |
| 0550286026 | 504 | 60 | 80 | 01-Oct-2020 | 6 |

[redacted]

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**Annex (B) concerning remarks referring to certificate of analysis 2020153093/1**



**Remark 1)**
The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

**Remark 2)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

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## Annex (C) method references belonging to certificate of analysis 2020153093/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| **Mono Aromatic Hydrocarbons** | | | |
| Xylenen som AS/AP | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| Aromatics (BTEXN) | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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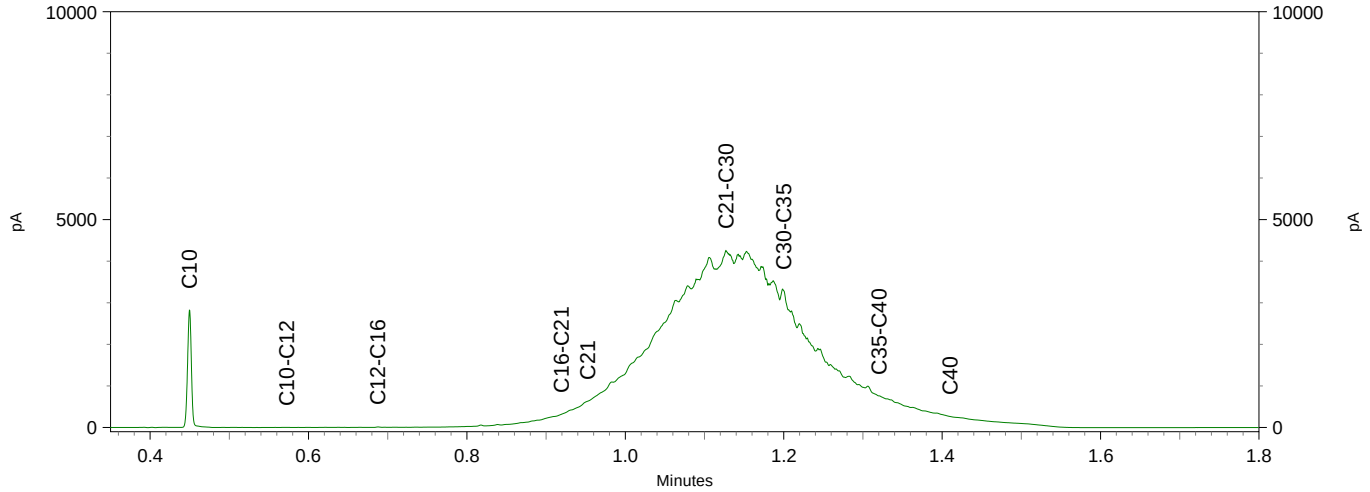
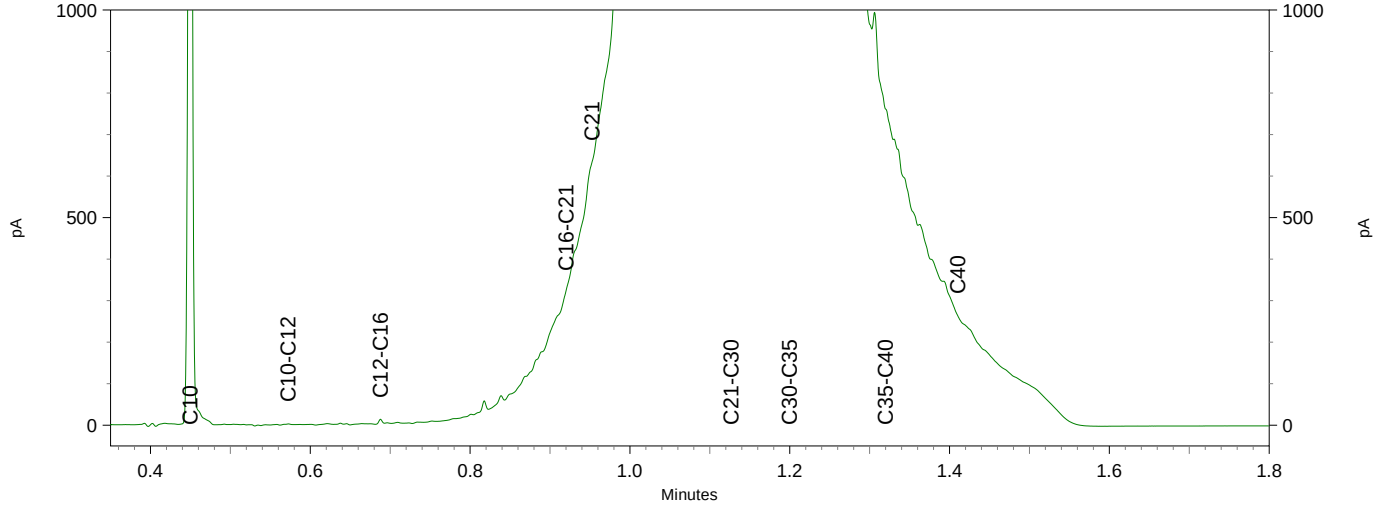
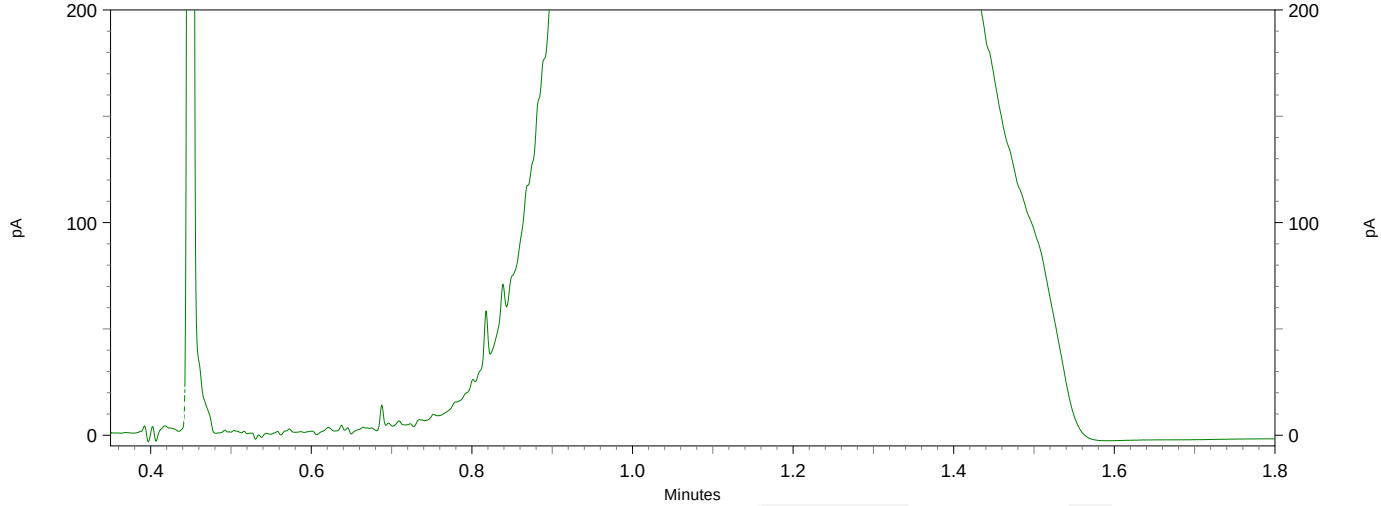
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11612917
Certificate no.:2020153093
Sample description.: 504-6 504 (60-80)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020155317/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 06-Oct-2020 |

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The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020155317/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 06-Oct-2020 |
| Your order number | | End date analysis | 13-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 1/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | 250 | 1.0 | <2.0 1) |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | 370 | 14 | <1.0 1) |
| S | 1,1-Dichloroethane | µg/L | <0.20 | 1.8 | 530 | 0.34 | 14 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 3600 | 0.81 | 770 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 12 | <0.10 | 0.50 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | 1.8 | 4700 | 16 | 790 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 3600 | 0.88 | 770 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 1011-2-1-1 1011-2 (500-600) | Water, AS3000 | 11619381 |
| 2 | 1011-3-1-1 1011-3 (900-1000) | Water, AS3000 | 11619382 |
| 3 | 1012-1-1-1 1012-2 (500-600) | Water, AS3000 | 11619383 |
| 4 | 1012-1-1-2 1012-1 (200-300) | Water, AS3000 | 11619384 |
| 5 | 1012-3-1-1 1012-3 (900-1000) | Water, AS3000 | 11619385 |

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Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020155317/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 06-Oct-2020 |
| Your order number | | End date analysis | 13-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 2/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | 58 | 76000 | 29000 | <0.20 | 1.0 |
| S | Tetrachloroethene | µg/L | 40 | 210000 | 91000 | 0.36 | 8.6 |
| S | 1,1-Dichloroethane | µg/L | 4.1 | <2000 1) | 93 | 2.4 | 0.25 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | 160 | 92000 | 23000 | 0.72 | 0.34 |
| S | trans 1,2-Dichloroethene | µg/L | 0.49 | 310 | 170 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | 260 | 370000 | 140000 | 3.5 | 10 |
| S | Vinyl chloride | µg/L | 20 | 6800 | | | |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 160 | 93000 | 23000 | 0.79 | 0.41 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 1013-1-1-1 1013-1 (200-300) | Water, AS3000 | 11619386 |
| 7 | 1013-2-1-1 1013-2 (500-600) | Water, AS3000 | 11619387 |
| 8 | 1013-3-1-1 1013-3 (900-1000) | Water, AS3000 | 11619388 |
| 9 | 1014-1-1-1 1014-1 (200-300) | Water, AS3000 | 11619389 |
| 10 | 1014-2-1-1 1014-2 (500-600) | Water, AS3000 | 11619390 |

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020155317/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 06-Oct-2020 |
| Your order number | | End date analysis | 13-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:17 |
| | | Annex | A,B,C,D |
| | | Page | 3/3 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | 3.5 | 11 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | 15 | 73 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | 1.5 | 2.8 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | 0.25 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | 1.7 | 5.5 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | 0.12 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | 20 | 92 | 2.8 | <1.6 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 1.7 | 5.7 | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 11 | 1014-3-1-1 1014-3 (900-1000) | Water, AS3000 | 11619391 |
| 12 | 1015-1-1-1 1015-1 (200-300) | Water, AS3000 | 11619392 |
| 13 | 1015-2-1-1 1015-2 (500-600) | Water, AS3000 | 11619393 |
| 14 | 1015-3-1-1 1015-3 (900-1000) | Water, AS3000 | 11619394 |

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W: Walloon region recognized test

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ASM



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BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020155317/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11619381 | 1011-2-1-1 1011-2 (500-600) | | | | |
| 0692004097 | 1011-2 | 500 | 600 | 05-Oct-2020 | 1 |
| 11619382 | 1011-3-1-1 1011-3 (900-1000) | | | | |
| 0692004090 | 1011-3 | 900 | 1000 | 05-Oct-2020 | 1 |
| 11619383 | 1012-1-1-1 1012-2 (500-600) | | | | |
| 0692004113 | 1012-2 | 500 | 600 | 05-Oct-2020 | 1 |
| 11619384 | 1012-1-1-2 1012-1 (200-300) | | | | |
| 0692004128 | 1012-1 | 200 | 300 | 05-Oct-2020 | 1 |
| 11619385 | 1012-3-1-1 1012-3 (900-1000) | | | | |
| 0692004096 | 1012-3 | 900 | 1000 | 05-Oct-2020 | 1 |
| 11619386 | 1013-1-1-1 1013-1 (200-300) | | | | |
| 0692004091 | 1013-1 | 200 | 300 | 05-Oct-2020 | 1 |
| 11619387 | 1013-2-1-1 1013-2 (500-600) | | | | |
| 0692004105 | 1013-2 | 500 | 600 | 05-Oct-2020 | 1 |
| 11619388 | 1013-3-1-1 1013-3 (900-1000) | | | | |
| 0692004121 | 1013-3 | 900 | 1000 | 05-Oct-2020 | 1 |
| 11619389 | 1014-1-1-1 1014-1 (200-300) | | | | |
| 0692004124 | 1014-1 | 200 | 300 | 05-Oct-2020 | 1 |
| 11619390 | 1014-2-1-1 1014-2 (500-600) | | | | |
| 0692004116 | 1014-2 | 500 | 600 | 05-Oct-2020 | 1 |
| 11619391 | 1014-3-1-1 1014-3 (900-1000) | | | | |
| 0692004106 | 1014-3 | 900 | 1000 | 05-Oct-2020 | 1 |
| 11619392 | 1015-1-1-1 1015-1 (200-300) | | | | |
| 0692004100 | 1015-1 | 200 | 300 | 05-Oct-2020 | 1 |
| 11619393 | 1015-2-1-1 1015-2 (500-600) | | | | |
| 0692004117 | 1015-2 | 500 | 600 | 05-Oct-2020 | 1 |
| 11619394 | 1015-3-1-1 1015-3 (900-1000) | | | | |
| 0692004125 | 1015-3 | 900 | 1000 | 05-Oct-2020 | 1 |

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IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020155317/1**



**Remark 1)**
Reporting limit increased due to dilution of sample.

**Remark 2)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

**Eurofins Analytico B.V.**

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020155317/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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**Annex (D) remarks concerning the sampling and preservation period 2020155317/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| During sample acceptance was established that the pH of the sample was not in accordance with the requirements. | |
| Volatiles (HS) preparation | 11619385 |

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020152882/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 02-Oct-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 1/6 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 0.14 2) | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 1002-1-1-1 1002-1 (200-300) | Water, AS3000 [redacted] | 11612066 |
| 2 | 1002-3-1-1 1002-3 (900-1000) | Water, AS3000 | 11612067 |
| 3 | 1003-1-1-1 1003-1 (200-300) | Water, AS3000 | 11612068 |
| 4 | 1003-2-1-1 1003-2 (500-600) | Water, AS3000 | 11612069 |
| 5 | 1003-3-1-1 1003-3 (900-1000) | Water, AS3000 | 11612070 |

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| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 2/6 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | 0.28 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | | <0.10 | <0.10 | 0.34 | |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 0.14 2) | 0.35 | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 1004-1-1-1 1004-1 (200-300) | Water, AS3000 [redacted] | 11612071 |
| 7 | 1004-2-1-1 1004-2 (500-600) | Water, AS3000 | 11612072 |
| 8 | 1004-3-1-1 1004-3 (900-1000) | Water, AS3000 | 11612073 |
| 9 | 1005-1-1-1 1005-1 (200-300) | Water, AS3000 | 11612074 |
| 10 | 1005-2-1-1 1005-2 (500-600) | Water, AS3000 | 11612075 |

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|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 3/6 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | | | <0.10 | <0.10 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 0.14 2) | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 11 | 1005-3-1-1 1005-3 (900-1000) | Water, AS3000 | 11612076 |
| 12 | 1006-1-1-1 1006-1 (200-300) | Water, AS3000 | 11612077 |
| 13 | 1006-2-1-1 1006-2 (500-600) | Water, AS3000 | 11612078 |
| 14 | 1006-3-1-1 1006-3 (900-1000) | Water, AS3000 | 11612079 |
| 15 | 1007-1-1-1 1007-1 (200-300) | Water, AS3000 | 11612080 |

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 4/6 |
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| | Analysis | Unit | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 0.23 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | <0.10 | <0.10 | <0.10 | 0.17 | <0.10 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 0.30 | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 16 | 1007-2-1-1 1007-2 (500-600) | Water, AS3000 | 11612081 |
| 17 | 1007-3-1-1 1007-3 (900-1000) | Water, AS3000 | 11612082 |
| 18 | 1008-1-1-1 1008-1 (200-300) | Water, AS3000 | 11612083 |
| 19 | 1008-2-1-1 1008-2 (500-600) | Water, AS3000 | 11612084 |
| 20 | 1008-3-1-1 1008-3 (900-1000) | Water, AS3000 | 11612085 |

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 5/6 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | <0.20 | <0.20 | 110 | <0.20 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 360 | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 0.24 | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | 460 | <1.6 | <1.6 |
| S | Vinyl chloride | µg/L | <0.10 | <0.10 | >500 1) | <0.10 | |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) | 360 | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 21 | 1009-1-1-1 1009-1 (200-300) | Water, AS3000 | 11612086 |
| 22 | 1009-2-1-1 1009-2 (500-600) | Water, AS3000 | 11612087 |
| 23 | 1009-3-1-1 1009-3 (900-1000) | Water, AS3000 | 11612088 |
| 24 | 1010-1-1-1 1010-1 (200-300) | Water, AS3000 | 11612089 |
| 25 | 1010-2-1-1 1010-2 (500-600) | Water, AS3000 | 11612090 |

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| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152882/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 08-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | pam | Report date | 18-Dec-2020/12:13 |
| | | Annex | A,B,C |
| | | Page | 6/6 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 26 | 27 |
|---|---|---|---|---|
| | **Volatile halogenated Hydrocarbons** | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 |
| S | 1,1-Dichloroethane | µg/L | 0.36 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 2) | 0.14 2) |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 26 | 1010-3-1-1 1010-3 (900-1000) | Water, AS3000 | 11612091 |
| 27 | 1011-1-1-1 1011-1 (200-300) | Water, AS3000 | 11612092 |

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

Verified
ASM
NV



Eurofins Analytico B.V. is ISO 14001: 2015 certified by TÜV and qualified by the Flemish Region (OVAM and Dep. Environment), the Brussels Region (IBGE/BIM), the Walloon Region (DGRNE-OWD) and by the Government of Luxembourg (MEV).

TESTING RvA L010

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BNP Paribas S.A. 227 9245 25
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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020152882/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11612066 | 1002-1-1-1 1002-1 (200-300) | | | | |
| 0692004085 | 1002-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612067 | 1002-3-1-1 1002-3 (900-1000) | | | | |
| 0692004093 | 1002-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612068 | 1003-1-1-1 1003-1 (200-300) | | | | |
| 0692004102 | 1003-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612069 | 1003-2-1-1 1003-2 (500-600) | | | | |
| 0692004094 | 1003-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612070 | 1003-3-1-1 1003-3 (900-1000) | | | | |
| 0692004101 | 1003-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612071 | 1004-1-1-1 1004-1 (200-300) | | | | |
| 0692004095 | 1004-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612072 | 1004-2-1-1 1004-2 (500-600) | | | | |
| 0692004111 | 1004-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612073 | 1004-3-1-1 1004-3 (900-1000) | | | | |
| 0692004110 | 1004-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612074 | 1005-1-1-1 1005-1 (200-300) | | | | |
| 0692004118 | 1005-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612075 | 1005-2-1-1 1005-2 (500-600) | | | | |
| 0692004103 | 1005-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612076 | 1005-3-1-1 1005-3 (900-1000) | | | | |
| 0692004109 | 1005-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612077 | 1006-1-1-1 1006-1 (200-300) | | | | |
| 0692004119 | 1006-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612078 | 1006-2-1-1 1006-2 (500-600) | | | | |
| 0692004099 | 1006-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612079 | 1006-3-1-1 1006-3 (900-1000) | | | | |
| 0692004107 | 1006-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612080 | 1007-1-1-1 1007-1 (200-300) | | | | |
| 0692004114 | 1007-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612081 | 1007-2-1-1 1007-2 (500-600) | | | | |
| 0692004115 | 1007-2 | 500 | 600 | 01-Oct-2020 | 1 |

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BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020152882/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| **Barcode** | **Drill-#** | **From** | **To** | **Your sampling date** | **Sample description/Sampling ID** |
| 11612082 | 1007-3-1-1 1007-3 (900-1000) | | | | |
| 0692004108 | 1007-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612083 | 1008-1-1-1 1008-1 (200-300) | | | | |
| 0692004127 | 1008-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612084 | 1008-2-1-1 1008-2 (500-600) | | | | |
| 0692054605 | 1008-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612085 | 1008-3-1-1 1008-3 (900-1000) | | | | |
| 0692054620 | 1008-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612086 | 1009-1-1-1 1009-1 (200-300) | | | | |
| 0692054611 | 1009-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612087 | 1009-2-1-1 1009-2 (500-600) | | | | |
| 0692054599 | 1009-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612088 | 1009-3-1-1 1009-3 (900-1000) | | | | |
| 0692004122 | 1009-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612089 | 1010-1-1-1 1010-1 (200-300) | | | | |
| 0692054586 | 1010-1 | 200 | 300 | 01-Oct-2020 | 1 |
| 11612090 | 1010-2-1-1 1010-2 (500-600) | | | | |
| 0692004112 | 1010-2 | 500 | 600 | 01-Oct-2020 | 1 |
| 11612091 | 1010-3-1-1 1010-3 (900-1000) | | | | |
| 0692004120 | 1010-3 | 900 | 1000 | 01-Oct-2020 | 1 |
| 11612092 | 1011-1-1-1 1011-1 (200-300) | | | | |
| 0692004104 | 1011-1 | 200 | 300 | 01-Oct-2020 | 1 |

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**Annex (B) concerning remarks referring to certificate of analysis 2020152882/1**



**Remark 1)**

The mentioned result is the upper limit of the method of analysis. The real value is higher.

**Remark 2)**

The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

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## Annex (C) method references belonging to certificate of analysis 2020152882/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020152900/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 02-Oct-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020152900/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 02-Oct-2020 |
| Your order number | | End date analysis | 07-Oct-2020 |
| Your sample taker | | Report date | 18-Dec-2020/12:14 |
| | | Annex | A,B,C |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | |
| | Preperation AS3000 | | Executed | Executed | Executed | Executed |
| | **Characteristics** | | | | | |
| S | Dry matter | % (w/w) | 77.0 | 85.0 | 82.7 | 80.2 |
| S | Organic matter | % (w/w) dm | 1.8 1) | <0.7 1) | 1.3 1) | 1.6 1) |
| | Residue on ignition | % (w/w) dm | 98 | 100 | 98 | 98 |
| | **Petroleum Hydrocarbons** | | | | | |
| | EPH (C10-C12) | mg/kg dm | <3.0 | <3.0 | <3.0 | <3.0 |
| | EPH (C12-C16) | mg/kg dm | 5.3 | <5.0 | <5.0 | <5.0 |
| | EPH (C16-C21) | mg/kg dm | 21 | <5.0 | <5.0 | <5.0 |
| | EPH (C21-C30) | mg/kg dm | 25 | <11 | <11 | <11 |
| | EPH (C30-C35) | mg/kg dm | 5.8 | <5.0 | <5.0 | <5.0 |
| | EPH (C35-C40) | mg/kg dm | <6.0 | <6.0 | <6.0 | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | 62 | <35 | <35 | <35 |
| | Chromatogram TPH (GC) | | See annex | | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 500-2 500 (60-100) | Soil, AS3000 | 11612151 |
| 2 | 501-2 501 (60-110) | Soil, AS3000 | 11612152 |
| 3 | 502-2 502 (60-100) | Soil, AS3000 | 11612153 |
| 4 | 503-2 503 (50-100) | Soil, AS3000 | 11612154 |

[redacted]

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

Verified
ASM

VA TESTING RvA L010



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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020152900/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11612151 | 500-2 500 (60-100) | | | | |
| 0538370820 | 500 | 60 | 100 | 01-Oct-2020 | 2 |
| 11612152 | 501-2 501 (60-110) | | | | |
| 0538370828 | 501 | 60 | 110 | 01-Oct-2020 | 2 |
| 11612153 | 502-2 502 (60-100) | | | | |
| 0538370829 | 502 | 60 | 100 | 01-Oct-2020 | 2 |
| 11612154 | 503-2 503 (50-100) | | | | |
| 0538370869 | 503 | 50 | 100 | 01-Oct-2020 | 2 |

[redacted]

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**Annex (B) concerning remarks referring to certificate of analysis 2020152900/1**



**Remark 1)**

The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

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## Annex (C) method references belonging to certificate of analysis 2020152900/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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BTW/VAT No. NL 8043.14.883.B01

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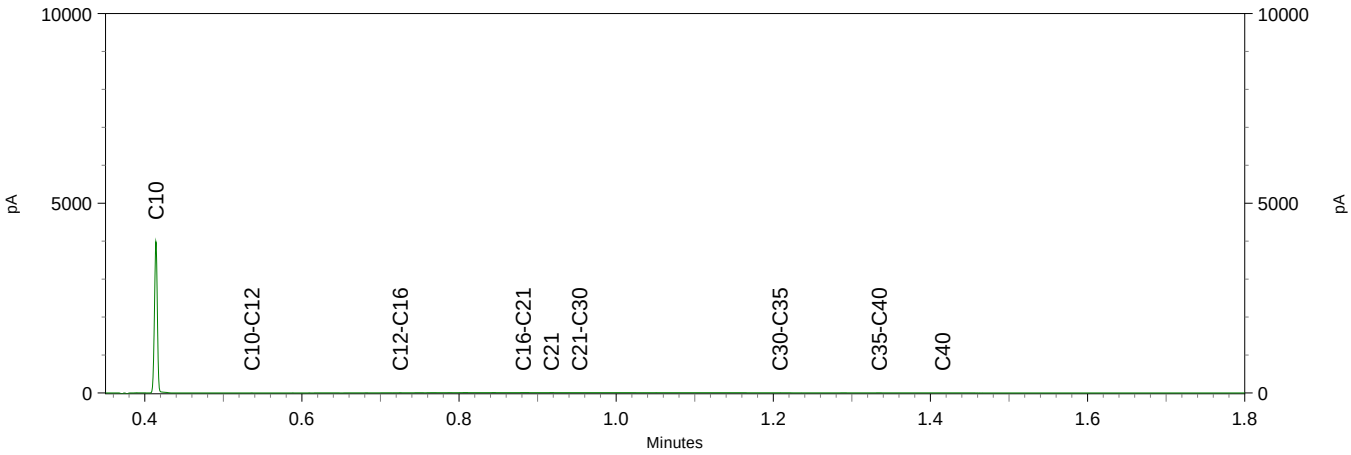
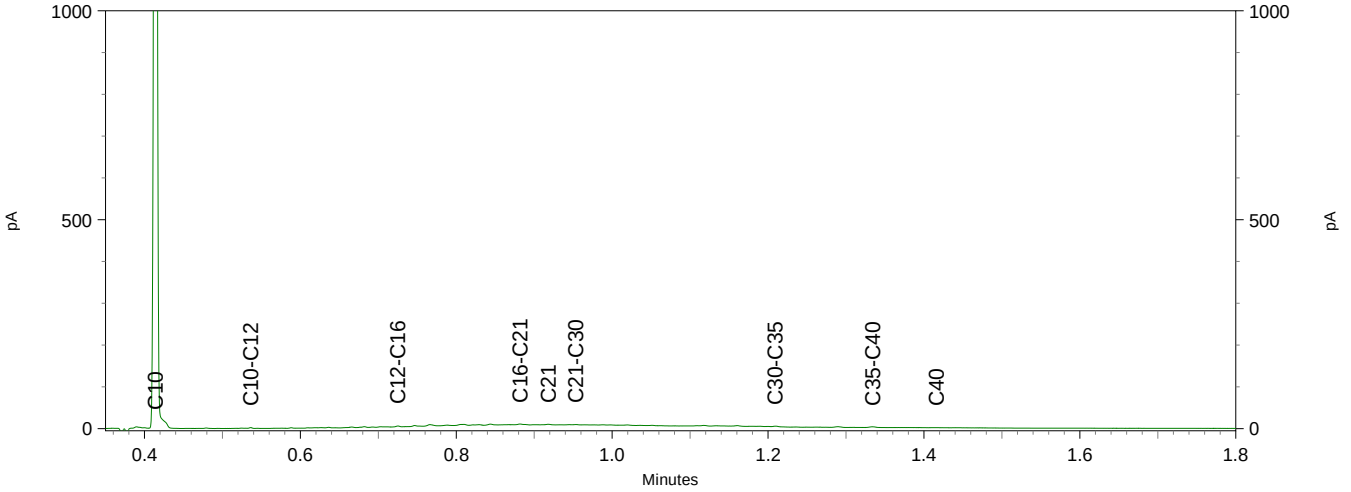
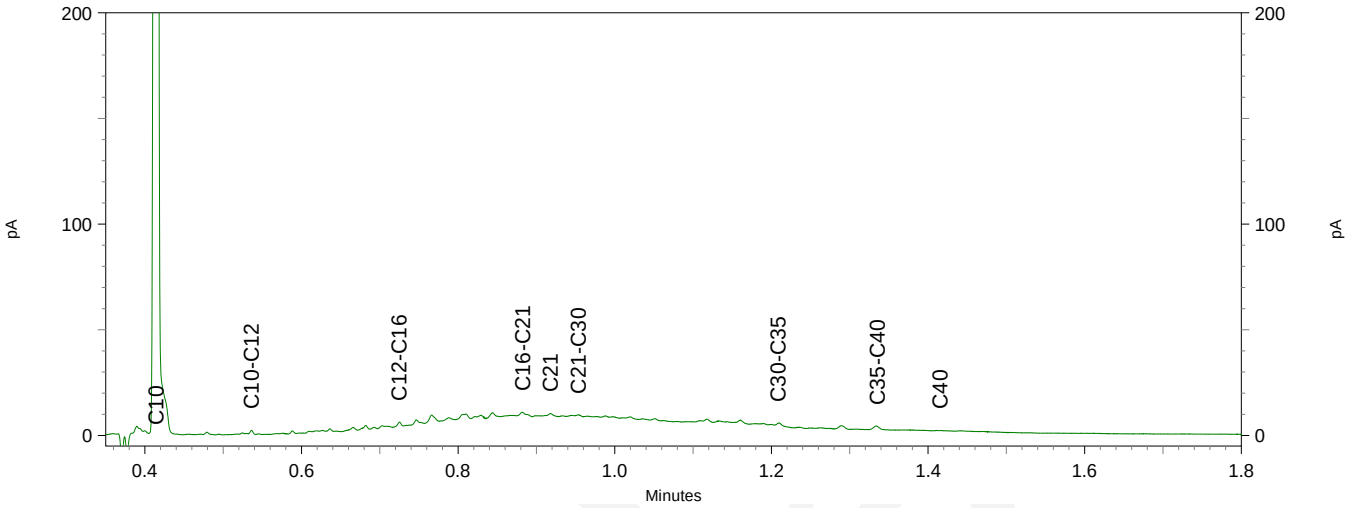
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11612151
Certificate no.: 2020152900
Sample description.: 500-2 500 (60-100)
V



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Antea Group
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Postbus 10044
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## Analysecertificaat

Datum: 09-Nov-2020

Hierbij ontvangt u de resultaten van het navolgende laboratoriumonderzoek.

| | |
|---|---|
| Certificaatnummer/Versie | 2020175760/1 |
| Uw project/verslagnummer | 0465250.100 |
| Uw projectnaam | Ringdijk 390, Ridderkerk |
| Uw ordernummer | |
| Monster(s) ontvangen | 05-Nov-2020 |

Dit certificaat mag uitsluitend in zijn geheel worden gereproduceerd.
De analyse resultaten hebben alleen betrekking op het beproefde object.

De grondmonsters worden tot 4 weken na datum ontvangst bewaard en watermonsters tot 2 weken na datum ontvangst. Zonder tegenbericht worden de monsters nadien afgevoerd.
Indien de monsters langer bewaard dienen te blijven verzoeken wij U dit exemplaar uiterlijk 1 werkdag voor afloop van de standaardbewaarperiode ondertekend aan ons te retourneren. Voor de kosten van het langer bewaren van monsters verwijzen wij naar de prijslijst.

Bewaren tot:
Datum: Naam: Handtekening:

Wij vertrouwen erop uw opdracht hiermee naar verwachting te hebben uitgevoerd, mocht U naar aanleiding van dit analysecertificaat nog vragen hebben verzoeken wij U contact op te nemen met de afdeling Verkoop en Advies.

Met vriendelijke groet,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Analysecertificaat

| | | | |
|---|---|---|---|
| Uw project/verslagnummer | 0465250.100 | Certificaatnummer/Versie | 2020175760/1 |
| Uw projectnaam | Ringdijk 390, Ridderkerk | Startdatum analyse | 05-Nov-2020 |
| Uw ordernummer | | Datum einde analyse | 09-Nov-2020 |
| Uw monsternemer | | Rapportagedatum | 09-Nov-2020/14:37 |
| | | Bijlage | A,B,C |
| | | Pagina | 1/1 |
| Projectcode | 3400 - Antea - Project Stedin/Vitens | | |

| Analyse | Eenheid | 1 |
|---|---|---|
| **Extern / Overig onderzoek** | | |
| Droge stof (Extern) | % (m/m) | 93.3 [1)] |
| In behandeling genomen hoeveelheid | kg | 66.8 [2)] |
| Asbest fractie 0,5-1mm | mg | 0.0 [2)] |
| Asbest fractie 1-2mm | mg | 0.0 [2)] |
| Asbest fractie 2-4mm | mg | 0.0 [2)] |
| Asbest fractie 4-8mm | mg | 0.0 [2)] |
| Asbest fractie 8-20mm | mg | 0.0 [2)] |
| Asbest fractie >20mm | mg | 0.0 [2)] |
| Asbest (som) | mg | <13.3 [2)] |
| Asbest in puin | mg/kg ds | <0.3 [2)] |
| Gemeten Asbestconcentratie | mg/kg ds | <0.3 [2)] |
| Gemeten concentratie Chrysotiel | mg/kg ds | <0.3 [2)] |
| Gemeten concentratie Amfibool | mg/kg ds | 0.0 [2)] |
| Totaal asbest hechtgebonden | mg/kg ds | 0.0 [2)] |
| Totaal asbest niet hechtgebonden | mg/kg ds | 0.0 [2)] |

| Nr. | Uw monsteromschrijving | Opgegeven monstermatrix | Monster nr. |
|---|---|---|---|
| 1 | AMM01 AMM1 (15-45) AMM2 (14-45) | Asbestverdachte grond [redacted] | 11683805 |

Q: door RvA geaccrediteerde verrichting
A: AP04 erkende en geaccrediteerde verrichting
S: AS SIKB erkende en geaccrediteerde verrichting
V: VLAREL erkende verrichting
W: Waals Gewest erkende verrichting

Akkoord
Pr.coörd.
VA



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**Bijlage (A) met de opgegeven deelmonsterinformatie behorende bij het analysecertificaat. 2020175760/1**



| Monster nr. | Uw monsteromschrijving | | | | |
|---|---|---|---|---|---|
| **Barcode** | **Boornr** | **Van** | **Tot** | **Uw datum monstername** | **Monsteromsch./Monstername ID** |
| 11683805 | AMM01 AMM1 (15-45) AMM2 (14-45) | | | | |
| 1638340MG | AMM2 | 14 | 45 | 04-Nov-2020 | 1 |
| 1633167MG | AMM2 | 14 | 45 | 04-Nov-2020 | 1 |
| 1638339MG | AMM1 | 15 | 45 | 04-Nov-2020 | 1 |
| 1638338MG | AMM1 | 15 | 45 | 04-Nov-2020 | 1 |

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Site www.eurofins.nl

BNP Paribas S.A. 227 9245 25
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Bijlage (B) met opmerkingen behorende bij analysecertificaat 2020175760/1**



**Opmerking 1)**

Deze bepaling is uitgevoerd bij Eurofins Omegam (L086).

**Opmerking 2)**

Deze bepaling is uitbesteed en uitgevoerd onder accreditatie L086.

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**Bijlage (C) met methodeverwijzingen behorende bij analysecertificaat 2020175760/1**



| Analyse | Methode | Techniek | Methode referentie |
|---|---|---|---|
| **Extern / Overig onderzoek** | | | |
| Droge stof (uitbesteed) | W0004 | Extern | Uitbesteding |
| Asbest Puin NEN5898 2016 | W0004 | Microscopie | NEN 5898 |

Nadere informatie over de toegepaste onderzoeksmethoden alsmede een classificatie van de meetonzekerheid staan vermeld in ons overzicht "Specificaties analysemethoden", versie juni 2020.

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**A N A L Y S E C E R T I F I C A A T**

**Projectcode** : **1110335**
**Uw project omschrijving** : **2020175760-0465250.100**
**Opdrachtgever** : **Eurofins Analytico B.V.**

**Monstercode** : **6512847**
**Uw referentie** : **AMM01 AMM1 (15-45) AMM2 (14-45)**
**Opgegeven bemonsteringsdatum** : **04/11/2020**

# Asbestonderzoek

Initialen analist : R.L.
Datum geanalyseerd : 09-11-2020

Analyse is uitgevoerd conform NEN 5898 (**Q**).

Massa aangeleverde monster : 66840 g
Droge massa aangeleverde monster : 62362 g
Percentage droogrest : **93,3 m/m %**
Type zeving : nat

| zeeffractie (mm) | massa zeeffractie (gram) | percentage zeeffractie (m/m %) | massa onderzocht (gram) | percentage onderzocht (m/m %) | aantal asbest (deeltjes) | massa asbest-houdend materiaal (mg) |
|---|---|---|---|---|---|---|
| <0,5 mm | 56280,7 | 90,7 | 18,2 | 0,03 | n.v.t. | n.v.t. |
| 0,5-1 mm | 290,0 | 0,5 | 84,0 | 28,97 | 0 | 0,0 |
| 1-2 mm | 678,4 | 1,1 | 224,8 | 33,14 | 0 | 0,0 |
| 2-4 mm | 843,8 | 1,4 | 441,2 | 52,29 | 0 | 0,0 |
| 4-8 mm | 1496,6 | 2,4 | 1496,6 | 100,00 | 0 | 0,0 |
| 8-20 mm | 2443,0 | 3,9 | 2443,0 | 100,00 | 0 | 0,0 |
| >20 mm | 2,7 | 0,0 | 2,7 | 100,00 | 0 | 0,0 |
| **Totaal** | **62035,2** | **100,0** | **4710,5** | | **0** | **0,0** |

| | asbest totaal | | | serpentijn asbest | | | amfibool asbest | | |
|---|---|---|---|---|---|---|---|---|---|
| zeeffractie (mm) | gehalte asbest (mg/kg ds) | ondergrens (mg/kg ds) | bovengrens (mg/kg ds) | gehalte asbest (mg/kg ds) | ondergrens (mg/kg ds) | bovengrens (mg/kg ds) | gehalte asbest (mg/kg ds) | ondergrens (mg/kg ds) | bovengrens (mg/kg ds) |
| <0,5 mm | - | | | | | | | | |
| 0,5-1 mm | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| 1-2 mm | 0,0 | 0,0 | 0,1 | 0,0 | 0,0 | 0,1 | 0,0 | 0,0 | 0,1 |
| 2-4 mm | 0,0 | 0,0 | 0,3 | 0,0 | 0,0 | 0,1 | 0,0 | 0,0 | 0,1 |
| 4-8 mm | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| 8-20 mm | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| >20 mm | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| **Totaal** | **<0,3** | **0,0** | **0,4** | **<0,3** | **0,0** | **0,2** | **0,0** | **0,0** | **0,2** |

Aangetroffen type asbest : Geen
Bijzonderheden waargenomen : Geen

Serpentijn asbest is chrysotiel.
Amfibool asbest is amosiet, crocidoliet, actinoliet, anthophylliet en tremoliet.

De bepalingsgrens is bepaald voor de zeeffracties kleiner dan 4 mm. De totale bepalingsgrens is verkregen door de bepalingsgrenzen van de afzonderlijke zeeffracties te sommeren.
Het materiaal is middels polarisatiemicroscopie onderzocht, de analyse is uitgevoerd conform NEN 5896.

| gebondenheid | serpentijn asbest | amfibool asbest | totaal afgerond |
|---|---|---|---|
| hecht | 0,0 | 0,0 | 0,0 |
| niet hecht | 0,0 | 0,0 | 0,0 |
| totaal afgerond | 0,0 | 0,0 | |

Gewogen concentratie (serpentijnasbestconcentratie vermeerderd met 10 maal de amfiboolasbestconcentratie) is: **<0,3 mg/kg ds**

De gewogen asbestconcentratie wordt berekend uit de niet-afgeronde gehalten aan serpentijn en amfibool asbest. De weergegeven resultaten zijn afgerond.

Verklaring kwalitatief onderzoek zeeffractie <0,5 mm:
- : geen asbest waargenomen

**A N A L Y S E C E R T I F I C A A T**

| | | |
|---|---|---|
| **Projectcode** | : | **1110335** |
| **Uw project omschrijving** | : | **2020175760-0465250.100** |
| **Opdrachtgever** | : | **Eurofins Analytico B.V.** |

# Opmerkingen m.b.t. analyses

**Opmerking(en) algemeen**

De volgende informatie is indien van toepassing verstrekt door de opdrachtgever:
Project omschrijving, Monsterreferentie(s), Opgegeven bemonsteringsdatum, Matrix, Monsterdiepte, Potnr (Barcode), Veldgegevens, Veldwaarnemingen en Bemonsteringsdata. De opgegeven bemonsteringsdatum kan van invloed zijn op de geldigheid van de resultaten.

**Asbest**
Individuele monsters van dit project zijn als asbest verdacht gekwalificeerd. De analysedeelmonsters zijn met beschermende maatregelen in het laboratorium in behandeling genomen.

| | | |
|---|---|---|
| Opmerking bij project: | - | Eurofins Omegam heeft het asbestonderzoek in dit/deze monster(s) uitgevoerd volgens de NEN 5898, en zoals beschreven in een aparte bijlage als onderdeel van dit analysecertificaat. Voor de analyseresultaten van het asbestonderzoek geldt dat Eurofins Omegam de analyse heeft uitgevoerd in de monsters die de opdrachtgever, zoals deze staan vermeld in de koptekst van dit analysecertificaat, zelf heeft genomen of laten nemen en aan Eurofins Omegam heeft aangeboden. Eurofins Omegam draagt geen verantwoordelijkheid inzake de herkomst en representativiteit alsmede de veiligheid tijdens de monsterneming. |

**A N A L Y S E C E R T I F I C A A T**

| | | |
|---|---|---|
| **Projectcode** | : | **1110335** |
| **Uw project omschrijving** | : | **2020175760-0465250.100** |
| **Opdrachtgever** | : | **Eurofins Analytico B.V.** |

# Barcodeschema's

| *Monstercode* | *Uw referentie* | *uw monsterref.* | *uw diepte* | *uw barcode* |
|---|---|---|---|---|
| 6512847 | AMM01 AMM1 (15-45) AMM2 (14-45) | AMM2 | .14-.45 | 1638340MG |
| | | AMM2 | .14-.45 | 1633167MG |
| | | AMM1 | .15-.45 | 1638339MG |
| | | AMM1 | .15-.45 | 1638338MG |

**A N A L Y S E C E R T I F I C A A T**

| | | |
|---|---|---|
| **Projectcode** | : | **1110335** |
| **Uw project omschrijving** | : | **2020175760-0465250.100** |
| **Opdrachtgever** | : | **Eurofins Analytico B.V.** |

# Analysemethoden in Puin

In dit analysecertificaat zijn de met 'Q' gemerkte analyses uitgevoerd volgens de onderstaande analysemethoden. De matrix puin is representatief voor bouw- en sloopafval, puin en granulaat. Deze analyses zijn vastgelegd in het geldende accreditatie-certificaat met bijbehorende verrichtingenlijst L086 van Eurofins Omegam BV.

| | | |
|---|---|---|
| Asbestonderzoek | : | Conform NEN 5898 |

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[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020195661/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 03-Dec-2020 |

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The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020195661/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 03-Dec-2020 |
| Your order number | | End date analysis | 09-Dec-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:23 |
| | | Annex | A,C |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 |
|---|---|---|---|
| | **Sample Pre-treatment** | | |
| | Preperation AS3000 | | Executed |
| | **Characteristics** | | |
| S | Dry matter | % (w/w) | 69.6 |
| S | Organic matter | % (w/w) dm | 2.0 |
| | Residue on ignition | % (w/w) dm | 97 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 8.1 |
| | **Metals** | | |
| S | Copper (Cu) | mg/kg dm | 36 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 528a-4 528a (125-175) | Soil, AS3000 [redacted] | 11745728 |

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Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020195661/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11745728 | 528a-4 528a (125-175) | | | | |
| 3731579AA | 528a | 125 | 175 | 18-Nov-2020 | 4 |

[redacted]

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## Annex (C) method references belonging to certificate of analysis 2020195661/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| Grainsize < 2 µm (clay) | W0171 | Sedimentation | pb 3010-4 & NEN 5753 |
| **Metals** | | | |
| Copper (Cu) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020188078/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 24-Nov-2020 |

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Date: Name: Signature:

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Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020188078/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 24-Nov-2020 |
| Your order number | | End date analysis | 26-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:23 |
| | | Annex | A,C |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 |
|---|---|---|---|
| | **Sample Pre-treatment** | | |
| | Preperation AS3000 | | Executed |
| | **Characteristics** | | |
| S | Dry matter | % (w/w) | 90.9 |
| S | Organic matter | % (w/w) dm | 1.1 |
| | Residue on ignition | % (w/w) dm | 99 |
| S | Fraction < 2 µm (Clay) | % (w/w) dm | 2.7 |
| | **Metals** | | |
| S | Copper (Cu) | mg/kg dm | 40 |
| S | Zinc (Zn) | mg/kg dm | 100 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 549 549 (0-15) 549 (15-50) | Soil, AS3000 [redacted] | 11721506 |

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020188078/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11721506 | 549 549 (0-15) 549 (15-50) | | | | |
| 3731558AA | 549 | 0 | 15 | 18-Nov-2020 | 1 |
| 3731575AA | 549 | 15 | 50 | 18-Nov-2020 | 2 |

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020188078/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| Grainsize < 2 µm (clay) | W0171 | Sedimentation | pb 3010-4 & NEN 5753 |
| **Metals** | | | |
| Copper (Cu) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |
| Zinc (Zn) | W0423 | ICP-MS | pb 3010-5 & NEN-EN-ISO 17294-2 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020143350/1 |
| Your project number | 460838.100 |
| Your project name | Ringdijk 390 |
| Your order number | |
| Samples received on | 17-Sep-2020 |

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The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 460838.100 | Certificate number/Version | 2020143350/1 |
| Your project name | Ringdijk 390 | Start date | 17-Sep-2020 |
| Your order number | | End date analysis | 23-Sep-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:30 |
| | | Annex | A,B,C,D |
| | | Page | 1/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | | |
| | Filtration 0.45 µm | | Executed | Executed | Executed | Executed | Executed |
| | **Metals** | | | | | | |
| | Iron (Fe) | mg/L | 64 | 21 | 30 | 0.14 | 5.1 |
| | Iron (II) | mg/L | 61 | 19 | 30 | 0.15 | 5.0 |
| | Iron (III) | mg/L | 2.9 | 2.4 | <0.050 | <0.050 | 0.053 |
| Q | Manganese (Mn) | mg/L | 1.8 | 2.3 | 1.6 | 0.060 | 2.0 |
| | S-total (S) | mg S/L | 2.6 | 1.9 | <1.0 | 13 | 2.0 |
| | S-total (S04) | mg S04/L | 7.9 | 5.6 | <3.0 | 38 | 6.0 |
| | **Volatile halogenated Hydrocarbons** | | | | | | |
| S | Dichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Trichloromethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | Tetrachloromethane | µg/L | <0.10 | <0.10 | <0.10 | 0.21 | <0.10 |
| S | Trichloroethene | µg/L | <0.20 | <0.20 | <0.20 | 2.0 | <0.20 |
| S | Tetrachloroethene | µg/L | <0.10 | <0.10 | <0.10 | 17 | 0.56 |
| S | 1,1-Dichloroethane | µg/L | 0.71 | <0.20 | <0.20 | 1.3 | <0.20 |
| S | 1,2-Dichloroethane | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| S | 1,1,1-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | 1.5 | <0.10 |
| S | 1,1,2-Trichloroethane | µg/L | <0.10 | <0.10 | <0.10 | 0.25 | <0.10 |
| S | cis1,2-Dichloroethene | µg/L | <0.10 | <0.10 | 0.11 | 4.9 | 1.6 |
| S | trans 1,2-Dichloroethene | µg/L | <0.10 | <0.10 | <0.10 | 0.25 | <0.10 |
| | Chlorinated Hydrocarbons (sum) | µg/L | <1.6 | <1.6 | <1.6 | 28 | 2.2 |
| S | cis+trans 1,2-Dichloroethenes (sum) | µg/L | 0.14 1) | 0.14 1) | 0.18 | 5.2 | 1.7 |
| | **Physical and chemical analyses** | | | | | | |
| | Dissolved Organic Carbon (DOC) | mg/L | 21 | 16 | 12 | 6.4 | 4.0 |
| | **Inorganic Compounds** | | | | | | |
| | Sulphide free | mg/L | <0.050 | <0.050 | 0.58 2) | <0.050 | <0.050 |
| | **Inorganic Compounds** | | | | | | |
| S | Chloride | mg/L | 230 | 230 | 8.4 | 7.3 | 9.1 |
| S | Nitrate equivalent N03-N | mg N/L | 1.6 | <0.40 | <0.40 | 0.42 | <0.40 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 009-1-2 009 (500-600) | Water, AS3000 | 11581366 |
| 2 | 019-1-2 019 (200-300) | Water, AS3000 [redacted] | 11581367 |
| 3 | 041a-1-2 041a (180-280) | Water, AS3000 | 11581368 |
| 4 | 154-1-2 154 (80-280) | Water, AS3000 | 11581369 |
| 5 | a4-1-2 a4 (200-300) | Water, AS3000 | 11581370 |

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A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test



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BNP Paribas S.A. 227 9245 25
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 460838.100 | Certificate number/Version | 2020143350/1 |
| Your project name | Ringdijk 390 | Start date | 17-Sep-2020 |
| Your order number | | End date analysis | 23-Sep-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:30 |
| | | Annex | A,B,C,D |
| | | Page | 2/2 |

Project agreement 3400 - Antea - Project Stedin/Vitens

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| S | Nitrate (N03) | mg/L | 6.9 | <0.90 | <0.90 | 1.9 | <0.90 |
| Q | Nitrite as N02-N | mg N/L | 0.043 | <0.010 2) | 0.74 | <0.010 | <0.010 |
| Q | Nitrite (N02) | mg/L | 0.14 | <0.030 2) | 2.4 | <0.030 | <0.030 |
| | **Miscellaneous Organic compounds** | | | | | | |
| | Methane | µg/L | 4500 | 1900 | 1400 | <2 | 1300 |
| | Ethane | µg/L | 870 | <2 | <2 | <2 | 10 |
| | Ethene | µg/L | 370 | <2 | <2 | <2 | <2 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 009-1-2 009 (500-600) | Water, AS3000 | 11581366 |
| 2 | 019-1-2 019 (200-300) | Water, AS3000 [redacted] | 11581367 |
| 3 | 041a-1-2 041a (180-280) | Water, AS3000 | 11581368 |
| 4 | 154-1-2 154 (80-280) | Water, AS3000 | 11581369 |
| 5 | a4-1-2 a4 (200-300) | Water, AS3000 | 11581370 |

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S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

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BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020143350/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11581366 | 009-1-2 009 (500-600) | | | | |
| 0630140172 | 009 | 500 | 600 | 14-Sep-2020 | 1 |
| 0692004028 | 009 | 500 | 600 | 14-Sep-2020 | 2 |
| 0620381366 | 009 | 500 | 600 | 14-Sep-2020 | 3 |
| 0680428207 | 009 | 500 | 600 | 14-Sep-2020 | 4 |
| 0680428208 | 009 | 500 | 600 | 14-Sep-2020 | 5 |
| 0800873730 | 009 | 500 | 600 | 14-Sep-2020 | 6 |
| 11581367 | 019-1-2 019 (200-300) | | | | |
| 0680476748 | 019 | 200 | 300 | 16-Sep-2020 | 4 |
| 0620381335 | 019 | 200 | 300 | 16-Sep-2020 | 5 |
| 0800873572 | 019 | 200 | 300 | 16-Sep-2020 | 6 |
| 0692004006 | 019 | 200 | 300 | 16-Sep-2020 | 1 |
| 0630140190 | 019 | 200 | 300 | 16-Sep-2020 | 2 |
| 0680476745 | 019 | 200 | 300 | 16-Sep-2020 | 3 |
| 11581368 | 041a-1-2 041a (180-280) | | | | |
| 0692004005 | 041a | 180 | 280 | 16-Sep-2020 | 1 |
| 0630140188 | 041a | 180 | 280 | 16-Sep-2020 | 2 |
| 0680428215 | 041a | 180 | 280 | 16-Sep-2020 | 3 |
| 0680428203 | 041a | 180 | 280 | 16-Sep-2020 | 4 |
| 0800873556 | 041a | 180 | 280 | 16-Sep-2020 | 5 |
| 0620381369 | 041a | 180 | 280 | 16-Sep-2020 | 6 |
| 11581369 | 154-1-2 154 (80-280) | | | | |
| 0630140189 | 154 | 80 | 280 | 16-Sep-2020 | 1 |
| 0692004020 | 154 | 80 | 280 | 16-Sep-2020 | 2 |
| 0620381360 | 154 | 80 | 280 | 16-Sep-2020 | 3 |
| 0680428202 | 154 | 80 | 280 | 16-Sep-2020 | 4 |
| 0680428196 | 154 | 80 | 280 | 16-Sep-2020 | 5 |
| 0800873563 | 154 | 80 | 280 | 16-Sep-2020 | 6 |
| 11581370 | a4-1-2 a4 (200-300) | | | | |
| 0630140177 | a4 | 200 | 300 | 14-Sep-2020 | 1 |
| 0680428201 | a4 | 200 | 300 | 14-Sep-2020 | 2 |
| 0692004033 | a4 | 200 | 300 | 14-Sep-2020 | 3 |
| 0680428214 | a4 | 200 | 300 | 14-Sep-2020 | 4 |
| 0620381349 | a4 | 200 | 300 | 14-Sep-2020 | 5 |
| 0800873622 | a4 | 200 | 300 | 14-Sep-2020 | 6 |

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**Annex (B) concerning remarks referring to certificate of analysis 2020143350/1**



**Remark 1)**

The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

**Remark 2)**

Indicative value(s) due to interfering matrix.

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## Annex (C) method references belonging to certificate of analysis 2020143350/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Metals** | | | |
| Iron (II) | W0566 | Spectrometry | NEN-ISO 15923-1 |
| Iron (III) | W0510 | Calculation | NEN 6482 |
| Manganese (Mn) | W0421 | ICP-MS | NEN-EN-ISO 17294-2 |
| Sulphate total (analysed as S) | W0421 | ICP-MS | NEN-EN-ISO 17294-2 |
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3130-1 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3130-1 |
| **Physical and chemical analyses** | | | |
| DOC | W0590 | Element analysis | NEN-EN 1484 |
| **Inorganic Compounds** | | | |
| Sulphide free | W0564 | Spectrometry | NEN 6608 |
| **Inorganic Compounds** | | | |
| Chloride | W0566 | Spectrometry | Cf. pb 3140-2 en cf.NEN-ISO 15923-1 |
| Nitrate | W0566 | Spectrometry | Cf. pb 3140-2 en cf.NEN-ISO 15923-1 |
| Nitrite | W0566 | Spectrometry | NEN-ISO 15923-1 |
| **Miscellaneous Organic compounds** | | | |
| Methane, ethane and ethene | W7204 | GC/FID | In house method |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

**Annex (D) remarks concerning the sampling and preservation period 2020143350/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| The preservation term for this parameter has been expired. | |
| Nitrate (N03) | 11581366 |
| | 11581368 |
| | 11581370 |
| Nitrite (N02) | 11581366 |
| | 11581368 |
| | 11581370 |
| Iron (II) | 11581366 |

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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020182483/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 16-Nov-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020182483/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 16-Nov-2020 |
| Your order number | | End date analysis | 17-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:58 |
| | | Annex | A,C |
| | | Page | 1/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| | **Petroleum Hydrocarbons** | | | | | | |
| | TPH (C10-C12) | µg/L | <10 | <10 | <10 | <10 | <10 |
| | TPH (C12-C16) | µg/L | <10 | <10 | <10 | <10 | <10 |
| | TPH (C16-C21) | µg/L | <10 | <10 | <10 | <10 | <10 |
| | TPH (C21-C30) | µg/L | 56 | <15 | <15 | <15 | <15 |
| | TPH (C30-C35) | µg/L | 34 | <10 | <10 | <10 | <10 |
| | TPH (C35-C40) | µg/L | 12 | <10 | <10 | <10 | <10 |
| S | TPH Sum (C10-C40) | µg/L | 100 | <50 | <50 | <50 | <50 |
| | Chromatogram | | See annex | | | | |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 506-1-1 506 (170-270) | Water, AS3000 | 11703651 |
| 2 | 508-1-1 508 (170-270) | Water, AS3000 [redacted] | 11703652 |
| 3 | 509-1-1 509 (170-270) | Water, AS3000 | 11703653 |
| 4 | 510-1-1 510 (170-270) | Water, AS3000 | 11703654 |
| 5 | 511-1-1 511 (150-250) | Water, AS3000 | 11703655 |

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S: AS SIKB recognized test
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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020182483/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 16-Nov-2020 |
| Your order number | | End date analysis | 17-Nov-2020 |
| Your sample taker | [redacted] | Report date | 18-Dec-2020/12:58 |
| | | Annex | A,C |
| | | Page | 2/2 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 6 | 7 |
|---|---|---|---|---|
| | **Petroleum Hydrocarbons** | | | |
| | TPH (C10-C12) | µg/L | <10 | 12 |
| | TPH (C12-C16) | µg/L | <10 | <10 |
| | TPH (C16-C21) | µg/L | <10 | <10 |
| | TPH (C21-C30) | µg/L | <15 | <15 |
| | TPH (C30-C35) | µg/L | <10 | <10 |
| | TPH (C35-C40) | µg/L | <10 | <10 |
| S | TPH Sum (C10-C40) | µg/L | <50 | <50 |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 6 | 513-1-1 513 (150-250) | Water, AS3000 | 11703656 |
| 7 | 515-1-1 515 (160-260) | Water, AS3000 | 11703657 |

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V: VLAREL recognized test
W: Walloon region recognized test

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020182483/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11703651 | 506-1-1 506 (170-270) | | | | |
| 0692021845 | 506 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316016 | 506 | 170 | 270 | 04-Nov-2020 | 2 |
| 11703652 | 508-1-1 508 (170-270) | | | | |
| 0692054630 | 508 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316036 | 508 | 170 | 270 | 04-Nov-2020 | 2 |
| 11703653 | 509-1-1 509 (170-270) | | | | |
| 0692054670 | 509 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316067 | 509 | 170 | 270 | 04-Nov-2020 | 2 |
| 11703654 | 510-1-1 510 (170-270) | | | | |
| 0692054645 | 510 | 170 | 270 | 04-Nov-2020 | 1 |
| 0670316032 | 510 | 170 | 270 | 04-Nov-2020 | 2 |
| 11703655 | 511-1-1 511 (150-250) | | | | |
| 0670316000 | 511 | 150 | 250 | 04-Nov-2020 | 2 |
| 0377858YA | 511 | 150 | 250 | 04-Nov-2020 | 1 |
| 11703656 | 513-1-1 513 (150-250) | | | | |
| 0377852YA | 513 | 150 | 250 | 04-Nov-2020 | 1 |
| 0670316088 | 513 | 150 | 250 | 04-Nov-2020 | 2 |
| 11703657 | 515-1-1 515 (160-260) | | | | |
| 0377837YA | 515 | 160 | 260 | 04-Nov-2020 | 1 |
| 0670316089 | 515 | 160 | 260 | 04-Nov-2020 | 2 |

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## Annex (C) method references belonging to certificate of analysis 2020182483/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0215 | GC/FID | pb 3110-5 |
| Chromatogram oil (GC) | W0215 | GC/FID | In house method |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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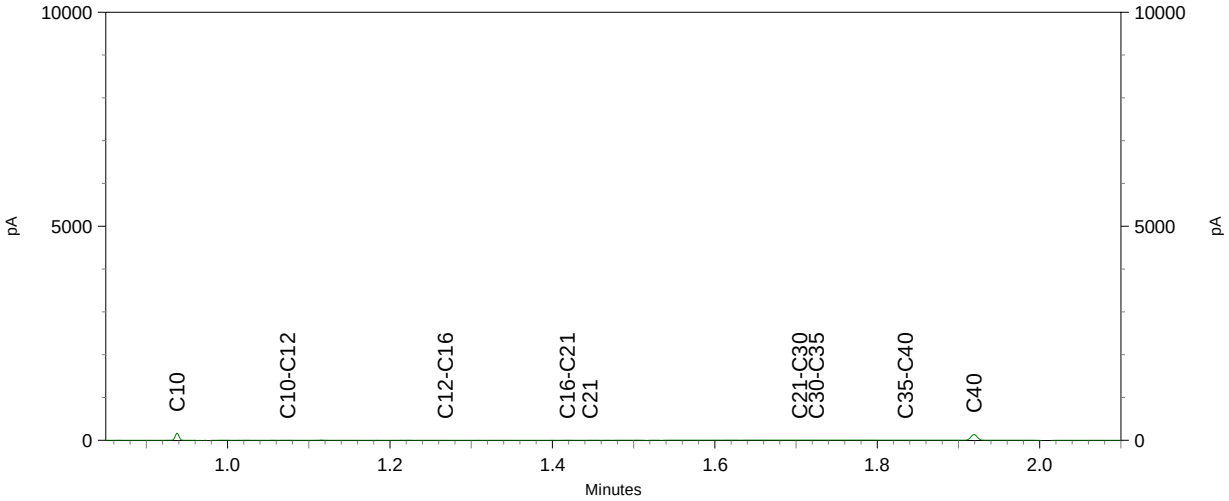
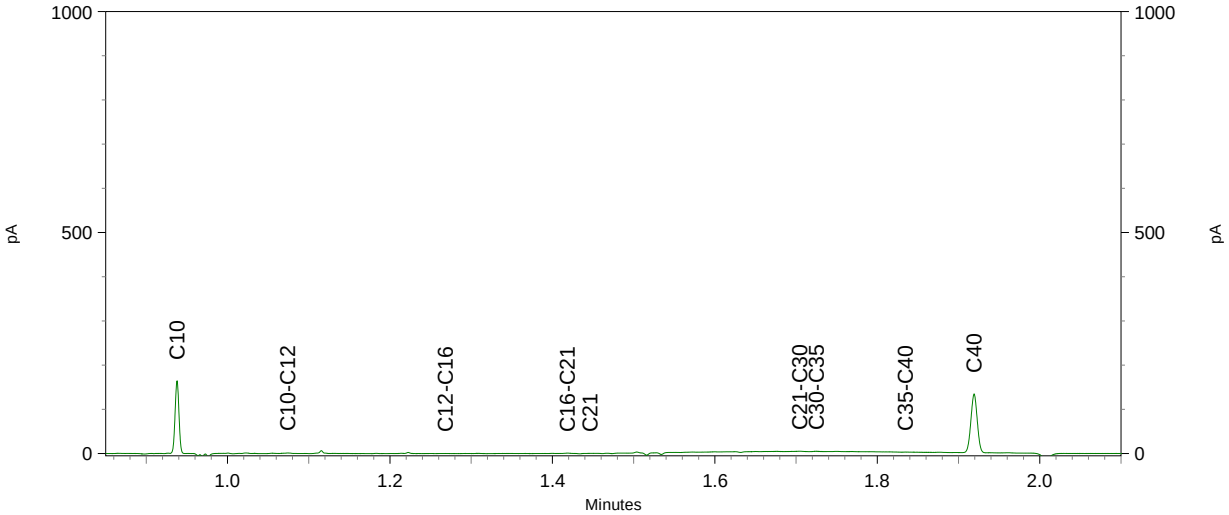
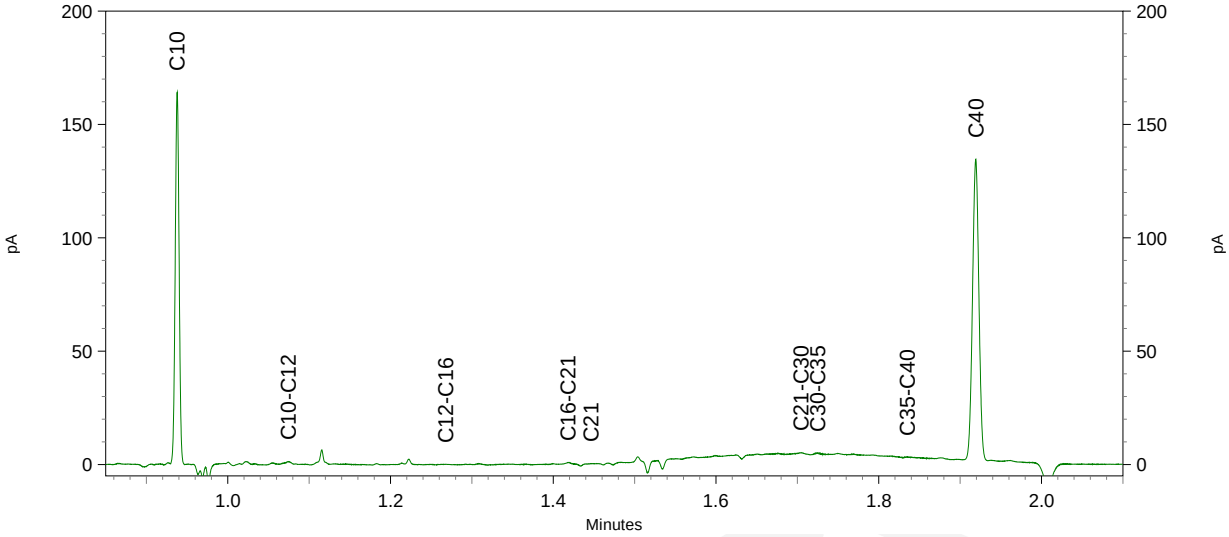
# Chromatogram TPH/ Mineral Oil

Sample ID.: 11703651
Certificate no.: 2020182483
Sample description.: 506-1-1 506 (170-270)
V



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Antea Group
[redacted]
PO Box 10044
1301 AA ALMERE

## Certificate of analysis

Date: 18-Dec-2020

Please find enclosed the analytical results of the test carried out for the project.

| | |
|---|---|
| Certificate number/Version | 2020176498/1 |
| Your project number | 0465250.100 |
| Your project name | Ringdijk 390, Ridderkerk |
| Your order number | |
| Samples received on | 06-Nov-2020 |

This Certificate of Analysis shall not be reproduced except in full, without written approval of the laboratory. Interpretations and opinions are outside the scope of our accreditation, and all results relate only to samples supplied.

Soil samples will be stored for a period of 4 weeks and water samples for a period of 2 weeks after receipt of the samples at our laboratory. Without any additional request, samples will be disposed when the above mentioned periods have expired. If you require Eurofins Analytico to store the samples for a longer period, please complete this page and return it to Eurofins Analytico at least one businessday before the period is due to expire.
The costs of prolonged storage periods may be found in our pricelist.

Storage period:
Date: Name: Signature:

We are confident that we have performed the order in accordance with your expectations. If you have any remaining questions concerning this Certificate of Analysis, please don't hesitate to contact our Customer Service.

Yours sincerely,

Eurofins Analytico B.V.

Ing. [redacted]
Technical Manager

**Eurofins Analytico B.V.**

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BNP Paribas S.A. 227 9245 25
IBAN: NL71BNPA0227924525
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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## Certificate of analysis

| | | | |
|---|---|---|---|
| Your project number | 0465250.100 | Certificate number/Version | 2020176498/1 |
| Your project name | Ringdijk 390, Ridderkerk | Start date | 06-Nov-2020 |
| Your order number | | End date analysis | 09-Nov-2020 |
| Your sample taker | V Hoogendoorn | Report date | 18-Dec-2020/12:59 |
| | | Annex | A,B,C,D |
| | | Page | 1/1 |
| Project agreement | 3400 - Antea - Project Stedin/Vitens | | |

| | Analysis | Unit | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| | **Sample Pre-treatment** | | | | | |
| | Preperation AS3000 | | Executed | | | Executed |
| | **Characteristics** | | | | | |
| S | Dry matter | % (w/w) | 75.3 | 76.6 | 73.0 | 79.2 |
| S | Organic matter | % (w/w) dm | 1.9 [1)] | 1.3 [1)] | 4.0 [1)] | <0.7 [1)] |
| | Residue on ignition | % (w/w) dm | 98 | 98 | 96 | 99 |
| | **Volatile halogenated Hydrocarbons** | | | | | |
| S | Dichloromethane | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | Trichloromethane | mg/kg dm | <0.020 | <0.020 | <0.020 | <0.020 |
| S | Tetrachloromethane | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | Trichloroethene | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | Tetrachloroethene | mg/kg dm | <0.010 | <0.010 | <0.010 | <0.010 |
| S | 1,1-Dichloroethane | mg/kg dm | <0.020 | <0.020 | <0.020 | <0.020 |
| S | 1,2-Dichloroethane | mg/kg dm | <0.020 | <0.020 | <0.020 | <0.020 |
| S | 1,1,1-Trichloroethane | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | 1,1,2-Trichloroethane | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | cis1,2-Dichloroethene | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| S | trans 1,2-Dichloroethene | mg/kg dm | <0.050 | <0.050 | <0.050 | <0.050 |
| | Chlorinated Hydrocarbons (sum) | mg/kg dm | <0.42 | <0.42 | <0.42 | <0.42 |
| S | Vinyl chloride | mg/kg dm | <0.010 | <0.010 | <0.010 | <0.010 |
| S | 1,2-Dichloorethenen (som) (factor 0,7) | mg/kg dm | 0.070 [2)] | 0.070 [2)] | 0.070 [2)] | 0.070 [2)] |
| | **Petroleum Hydrocarbons** | | | | | |
| | EPH (C10-C12) | mg/kg dm | 310 | | | <3.0 |
| | EPH (C12-C16) | mg/kg dm | 140 | | | <5.0 |
| | EPH (C16-C21) | mg/kg dm | 68 | | | 11 |
| | EPH (C21-C30) | mg/kg dm | 190 | | | 25 |
| | EPH (C30-C35) | mg/kg dm | 82 | | | 11 |
| | EPH (C35-C40) | mg/kg dm | 35 | | | <6.0 |
| S | EPH Sum (C10-C40) | mg/kg dm | 810 [3)] | | | 54 |
| | Chromatogram TPH (GC) | | See annex | | | See annex |

| No. | Your sample description | Specified sample matrix | Sample nr. |
|---|---|---|---|
| 1 | 1016_N-4 1016_N (150-200) | Soil, AS3000 | 11686400 |
| 2 | 1016_N-16 1016_N (750-800) | Soil, AS3000 | 11686401 |
| 3 | 1017-19 1017 (900-950) | Soil, AS3000 | 11686402 |
| 4 | 1018-3 1018 (100-150) | Soil, AS3000 | 11686403 |

[redacted]

kwaliteitswaarborg bodembeheer SIKB

Q: Dutch Accreditation Council (RvA) accredited test
A: AP04 accredited test
S: AS SIKB recognized test
V: VLAREL recognized test
W: Walloon region recognized test

Verified
ASM



Eurofins Analytico B.V. is ISO 14001: 2015 certified by TÜV and qualified by the Flemish Region (OVAM and Dep. Environment), the Brussels Region (IBGE/BIM), the Walloon Region (DGRNE-OWD) and by the Government of Luxembourg (MEV).

VA TESTING RvA L010

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BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

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**Appendix (A) with the specified sub-sample information belonging to the analysis certificate. 2020176498/**



| Sample nr. | Your sample description | | | | |
|---|---|---|---|---|---|
| Barcode | Drill-# | From | To | Your sampling date | Sample description/Sampling ID |
| 11686400 | 1016_N-4 1016_N (150-200) | | | | |
| 0538412963 | 1016_N | 150 | 200 | 04-Nov-2020 | 4 |
| 11686401 | 1016_N-16 1016_N (750-800) | | | | |
| 0538441983 | 1016_N | 750 | 800 | 05-Nov-2020 | 16 |
| 11686402 | 1017-19 1017 (900-950) | | | | |
| 0538441916 | 1017 | 900 | 950 | 05-Nov-2020 | 19 |
| 11686403 | 1018-3 1018 (100-150) | | | | |
| 0538412955 | 1018 | 100 | 150 | 04-Nov-2020 | 3 |

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

**Annex (B) concerning remarks referring to certificate of analysis 2020176498/1**



**Remark 1)**
The organic matter content is corrected for the clay content of 5.4 % m/m (SIKB 3010 pb 3).

**Remark 2)**
The reported value for the limit check is the sum of 0.7 times the reporting limits of the individual components.

**Remark 3)**
Volatile oil fraction present.

**Eurofins Analytico B.V.**

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KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

## Annex (C) method references belonging to certificate of analysis 2020176498/1



| Analysis | Method | Technique | Method reference |
|---|---|---|---|
| **Sample Pre-treatment** | | | |
| Preparation Samplemate | W0106 | Pre-treatment | AS3000 |
| **Characteristics** | | | |
| Dry matter | W0104 | Gravimetry | pb 3010-2 en NEN-EN 15934 |
| **Volatile halogenated Hydrocarbons** | | | |
| VOC (11) | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| Vinyl chloride | W0254 | HS-GC/MS | pb 3030-1 & NEN-EN-ISO 22155 |
| Sum 1,2-Dichloroethenes | W0254 | HS-GC/MS | pb 3030-2 & NEN-EN-ISO 22155 |
| **Petroleum Hydrocarbons** | | | |
| EPH (C10-C40) | W0202 | GC/FID | pb 3010-7 & to NEN-EN-ISO 16703 |
| Chromatogram TPH (GC) | W0202 | GC/FID | NEN-EN-ISO 16703 |

Additional information about the applied methods as well as the classification of the accuracy, are listed in our supplement: "Specification of methods of analyses", version June 2020.

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**Annex (D) remarks concerning the sampling and preservation period 2020176498/1**



Non compliance(s) of the criteria is(are) observed that may have influenced the accuracy of the test results of samples mentioned below.

| Analysis | Sample nr. |
|---|---|
| Monsterhouder voor vluchtige stoffen ongeschikt en/of mengmonster uit ongeschikte monsterhouder genomen. | |
| | 11686400 |
| | 11686401 |
| | 11686402 |
| | 11686403 |

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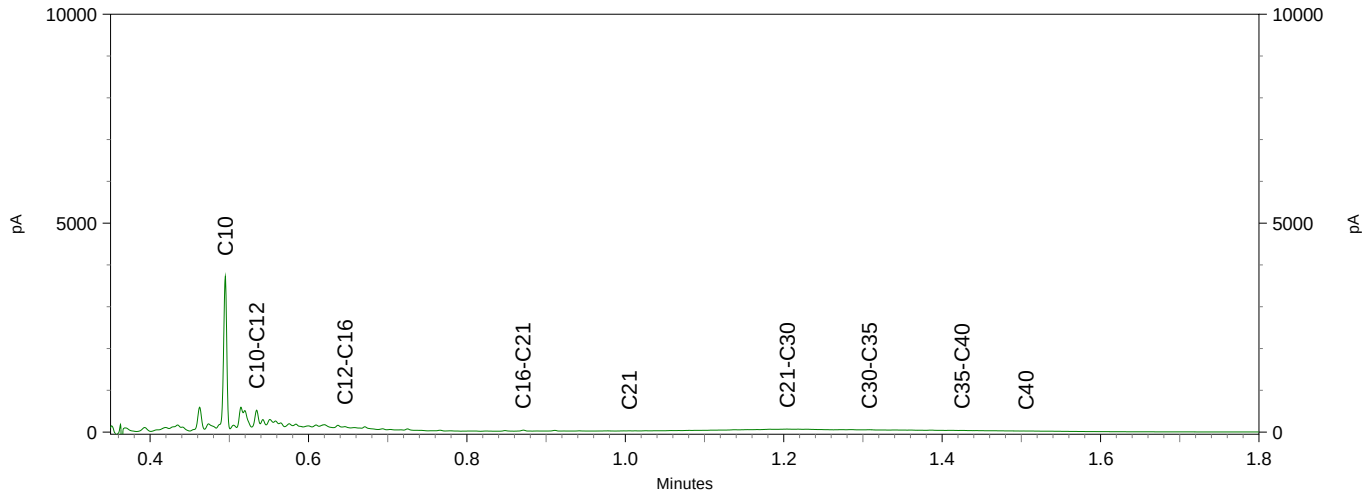
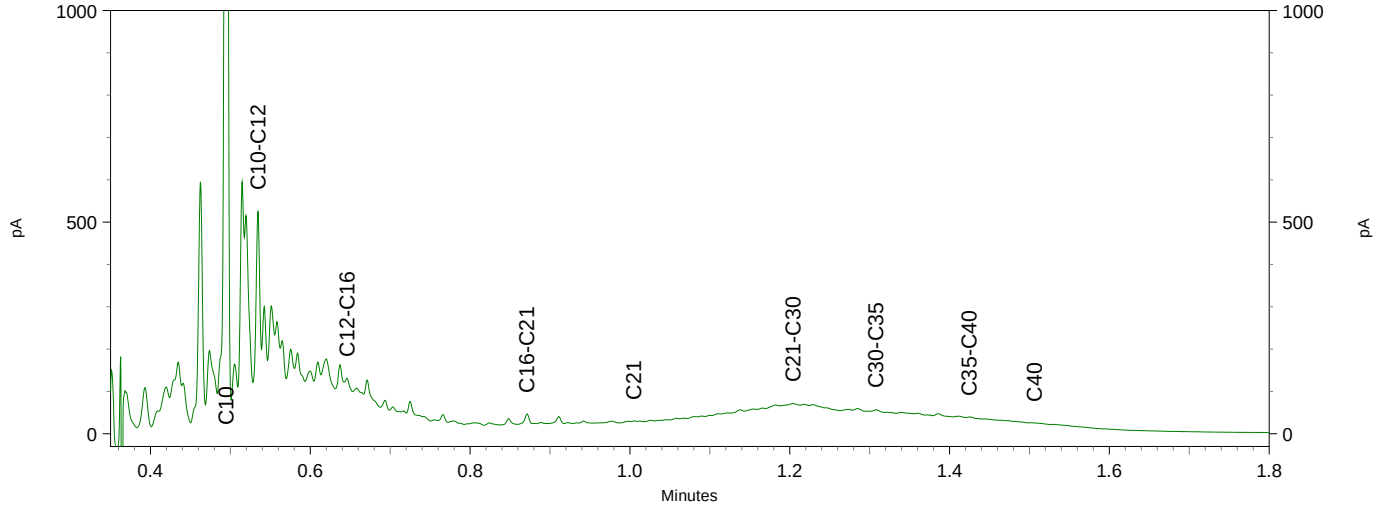
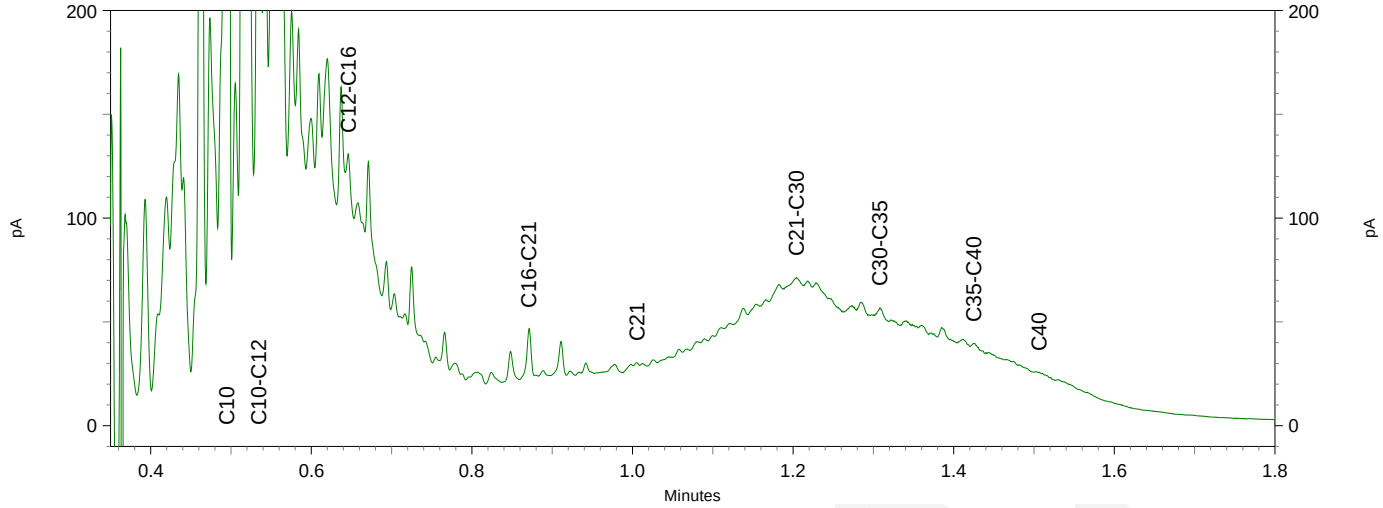
BIC: BNPANL2A
KvK/CoC No. 09088623
BTW/VAT No. NL 8043.14.883.B01

# Chromatogram TPH/ Mineral Oil

Sample ID.: 11686400
Certificate no.: 2020176498
Sample description.: 1016_N-4 1016_N (150-200)
V

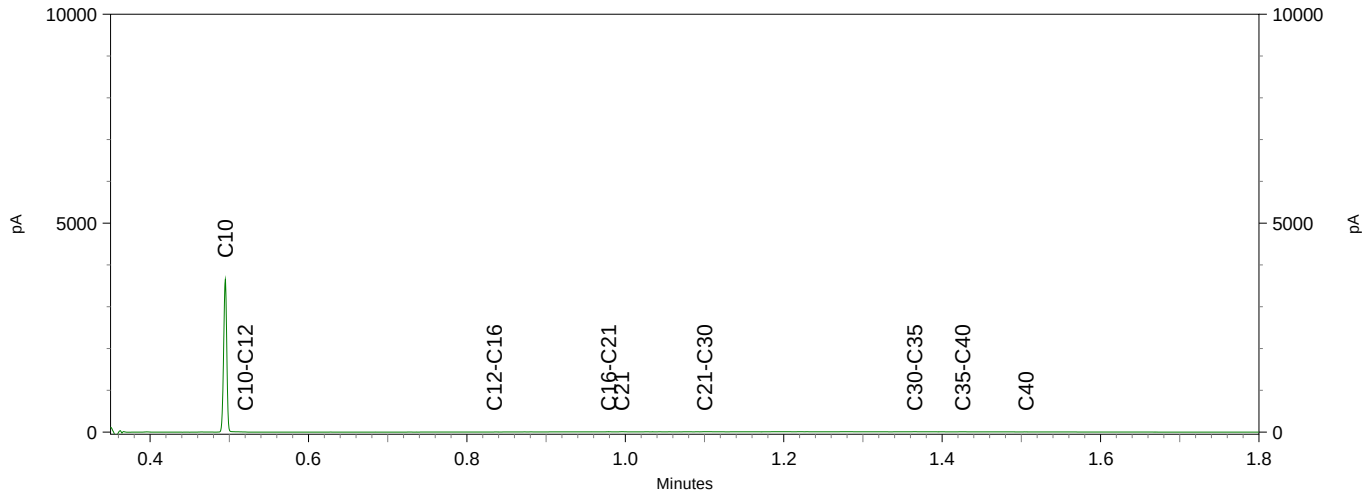


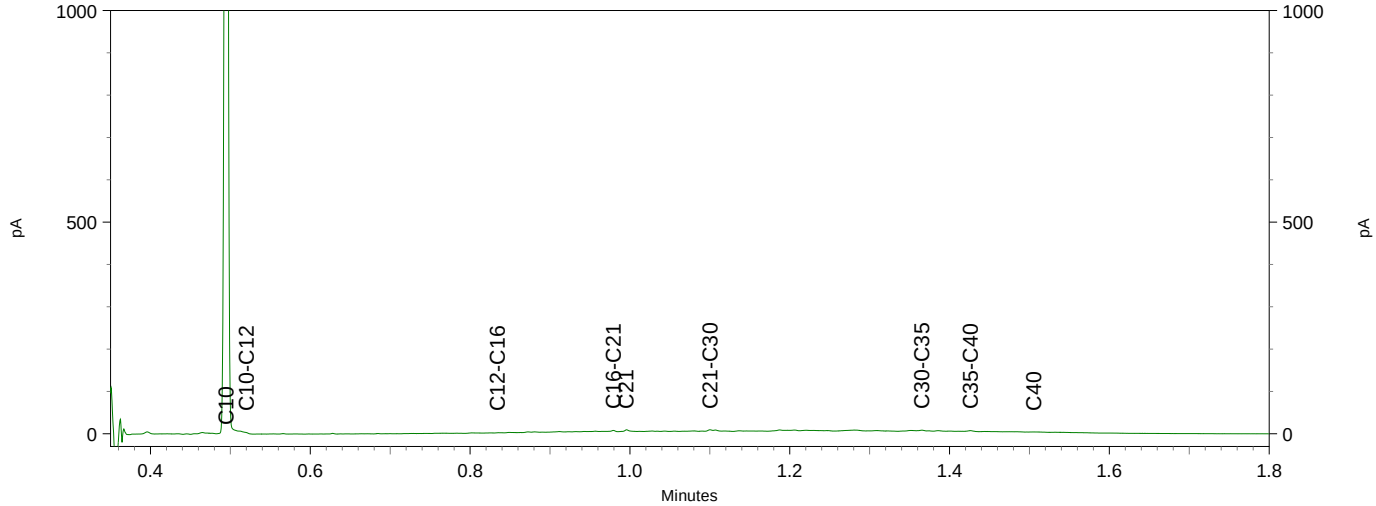



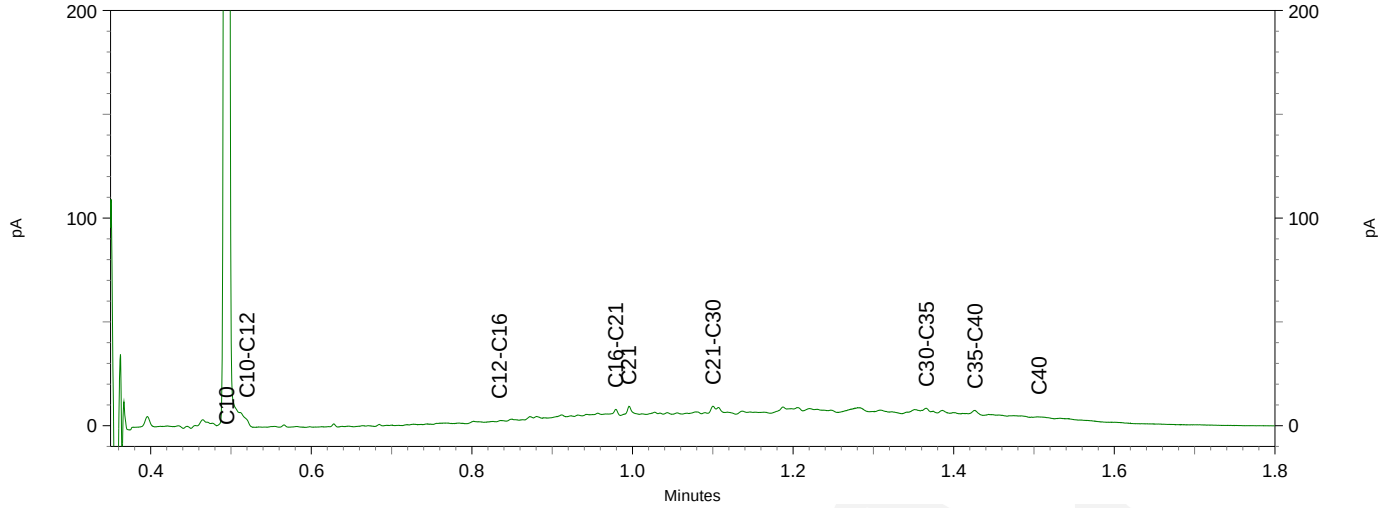



# Chromatogram TPH/ Mineral Oil

Sample ID.: 11686403
Certificate no.: 2020176498
Sample description.: 1018-3 1018 (100-150)
V



# Appendix 9 Accountability for implemenatation of BRL 2000

# Colofon

| Verantwoording |
|---|
| Project: Aanvullend onderzoek Ringdijk 390 |
| Projectnummer: 460838 |
| Het onderzoek is uitgevoerd volgens certificatiesschema BRL SIKB 2000. De uitvoerende organisatie is hiervoor gecertifceerd volgens het procescertificaat 'Veldwerk bij milieuhygienisch bodemonderzoek'. |
| Bij het onderzoek zijn de volgende protocollen gevolgd *(aankruisen door projectleider/projectmedewerker):*<br><br>☐ Plaatsen van handboringen en peilbuizen (protocol 2001)<br><br>☐ Nemen van grondwatermonsters (protocol 2002)<br><br>☐ Milieuhygiënisch onderzoek waterbodems (protocol 2003)<br><br>☐ Maaiveldinspectie en monsterneming van asbest in bodem (protocol 2018) |
| **Verklaring functiescheiding**<br>Ik verklaar dat het veldwerk onafhankelijk van de opdrachtgever is uitgevoerd conform de eisen van de BRL 2000 en het vermelde protocol |

| Protocol | Datum/Periode | Naam veldwerker* | Naam veldwerkbureau** | Handtekening |
|---|---|---|---|---|
| 2002 | 16-9-20 | [redacted] | Bureau:<br>Cert.nr.***: | [redacted] |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |

* Naam invullen van de eerstverantwoordelijke veldwerker die op de betreffende datum/periode de werkzaamheden heeft uitgevoerd.

** Alleen invullen als het veldwerk niet door Antea Group is uitgevoerd.

*** Het veldwerkbureau dient hier het nummer van het BRL2000-certificaat te noteren, zoals vermeld op de site van Bodemplus

# Colofon

## Verantwoording

Project: Aanvullend onderzoek Ringdijk 390

Projectnummer: 465250

Het onderzoek is uitgevoerd volgens certificatiesschema BRL SIKB 2000. De uitvoerende organisatie is hiervoor gecertifceerd volgens het procescertificaat 'Veldwerk bij milieuhygienisch bodemonderzoek'.

Bij het onderzoek zijn de volgende protocollen gevolgd *(aankruisen door projectleider/projectmedewerker):*

- ☒ Plaatsen van handboringen en peilbuizen (protocol 2001)
- ☒ Nemen van grondwatermonsters (protocol 2002)
- ☐ Milieuhygiënisch onderzoek waterbodems (protocol 2003)
- ☐ Maaiveldinspectie en monsterneming van asbest in bodem (protocol 2018)

**Verklaring functiescheiding**
Ik verklaar dat het veldwerk onafhankelijk van de opdrachtgever is uitgevoerd conform de eisen van de BRL 2000 en het vermelde protocol

| Protocol | Datum/Periode | Naam veldwerker* | Naam veldwerkbureau** | Handtekening |
|---|---|---|---|---|
| 2001 | 18-11-202[redacted] | [redacted] | Bureau: Bmlu<br>Cert.nr.***: VB-076/6 | [redacted] |
| 2002 | 18-11-202[redacted] | [redacted] | Bureau: Bmlu<br>Cert.nr.***: VB-076/6 | [redacted] |
| | | | Bureau:<br>Cert.nr.***: | [redacted] |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |

* Naam invullen van de eerstverantwoordelijke veldwerker die op de betreffende datum/periode de werkzaamheden heeft uitgevoerd.

** Alleen invullen als het veldwerk niet door Antea Group is uitgevoerd.

*** Het veldwerkbureau dient hier het nummer van het BRL2000-certificaat te noteren, zoals vermeld op de site van Bodemplus

# Colofon

## Verantwoording

Project: Aanvullend onderzoek Ringdijk 390

Projectnummer: 465250

Het onderzoek is uitgevoerd volgens certificatiesschema BRL SIKB 2000. De uitvoerende organisatie is hiervoor gecertifceerd volgens het procescertificaat 'Veldwerk bij milieuhygienisch bodemonderzoek'.

Bij het onderzoek zijn de volgende protocollen gevolgd *(aankruisen door projectleider/projectmedewerker):*

- [x] Plaatsen van handboringen en peilbuizen (protocol 2001)
- [ ] Nemen van grondwatermonsters (protocol 2002)
- [ ] Milieuhygiënisch onderzoek waterbodems (protocol 2003)
- [ ] Maaiveldinspectie en monsterneming van asbest in bodem (protocol 2018)

**Verklaring functiescheiding**
Ik verklaar dat het veldwerk onafhankelijk van de opdrachtgever is uitgevoerd conform de eisen van de BRL 2000 en het vermelde protocol

| Protocol | Datum/Periode | Naam veldwerker* | Naam veldwerkbureau** | Handtekening |
|---|---|---|---|---|
| 2001 | 5/11/20 | [redacted] | Bureau: S-R<br>Cert.nr.***: K41104/09 | [redacted] |
| 2100 | 5-11-20 | | Bureau: Ground Research<br>Cert.nr.***: K41104-09 | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
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| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |

* Naam invullen van de eerstverantwoordelijke veldwerker die op de betreffende datum/periode de werkzaamheden heeft uitgevoerd.

** Alleen invullen als het veldwerk niet door Antea Group is uitgevoerd.

*** Het veldwerkbureau dient hier het nummer van het BRL2000-certificaat te noteren, zoals vermeld op de site van Bodemplus

# Colofon

## Verantwoording

Project: Aanvullend onderzoek Ringdijk 390

Projectnummer: 465250

Het onderzoek is uitgevoerd volgens certificatiesschema BRL SIKB 2000. De uitvoerende organisatie is hiervoor gecertifceerd volgens het procescertificaat 'Veldwerk bij milieuhygienisch bodemonderzoek'.

Bij het onderzoek zijn de volgende protocollen gevolgd *(aankruisen door projectleider/projectmedewerker):*

- ☐ Plaatsen van handboringen en peilbuizen (protocol 2001)
- ☐ Nemen van grondwatermonsters (protocol 2002)
- ☐ Milieuhygiënisch onderzoek waterbodems (protocol 2003)
- ☐ Maaiveldinspectie en monsterneming van asbest in bodem (protocol 2018)

**Verklaring functiescheiding**

Ik verklaar dat het veldwerk onafhankelijk van de opdrachtgever is uitgevoerd conform de eisen van de BRL 2000 en het vermelde protocol

| Protocol | Datum/Periode | Naam veldwerker* | Naam veldwerkbureau** | [redacted] |
|---|---|---|---|---|
| BRL2100 | 14-9-2020 | [redacted] | Bureau: Ground Research<br>Cert.nr.***: K56942/10 | [redacted] |
| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |
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| | | | Bureau:<br>Cert.nr.***: | |
| | | | Bureau:<br>Cert.nr.***: | |

* Naam invullen van de eerstverantwoordelijke veldwerker die op de betreffende datum/periode de werkzaamheden heeft uitgevoerd.

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# Appendix 12 Drawings

## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1988 (IGF)
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek oktober 2019 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 08-12-2020 | CONCEPT | - |

Panattoni

-
-
-

Overzicht boringen en peilbuizen

Tekeningnummer
0465250.100-S1

Schaal
1:1000

Formaat
A2

1 IN 1

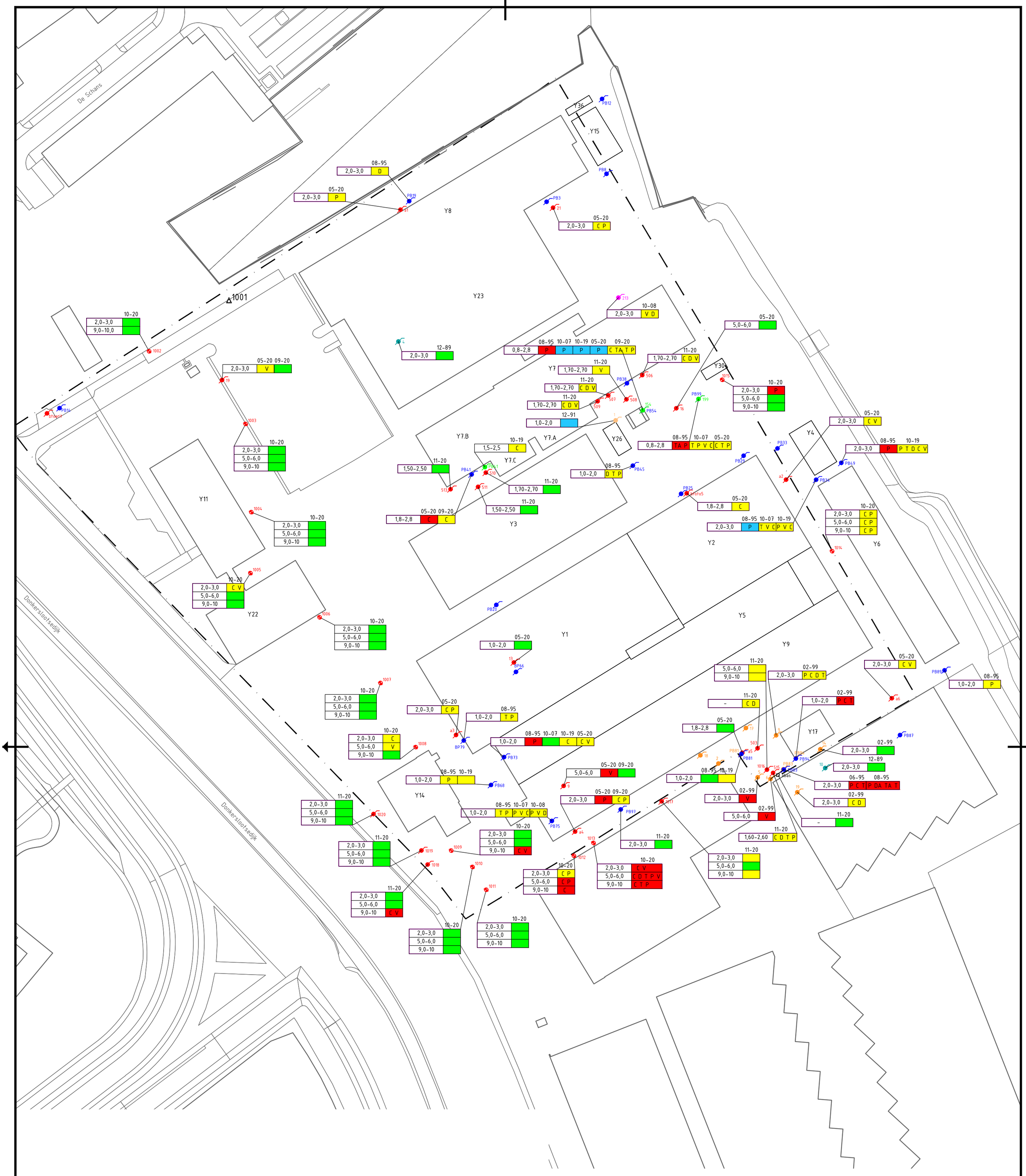
Status
INTERN

Wijz.nr.
C0

www.anteagroup.nl

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S1.dwg




## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated

| | |
|---|---|
| C | cis + trans-1,2-Dichlooretheen |
| V | Vinylchloride |
| D | 1,1-Dichloorethaan |
| P | Tetrachlooretheen (Per) |
| T | Trichlooretheen |
| TA | Tetrachloormethaan |
| DA | Dichloormethaan |

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 18-12-2020 | CONCEPT | M.H. |

Panattoni

Tekenaar [redacted]

Schaal 1:1000

Formaat A2

1 IN 1

Status INTERN

Wijz.nr. C0

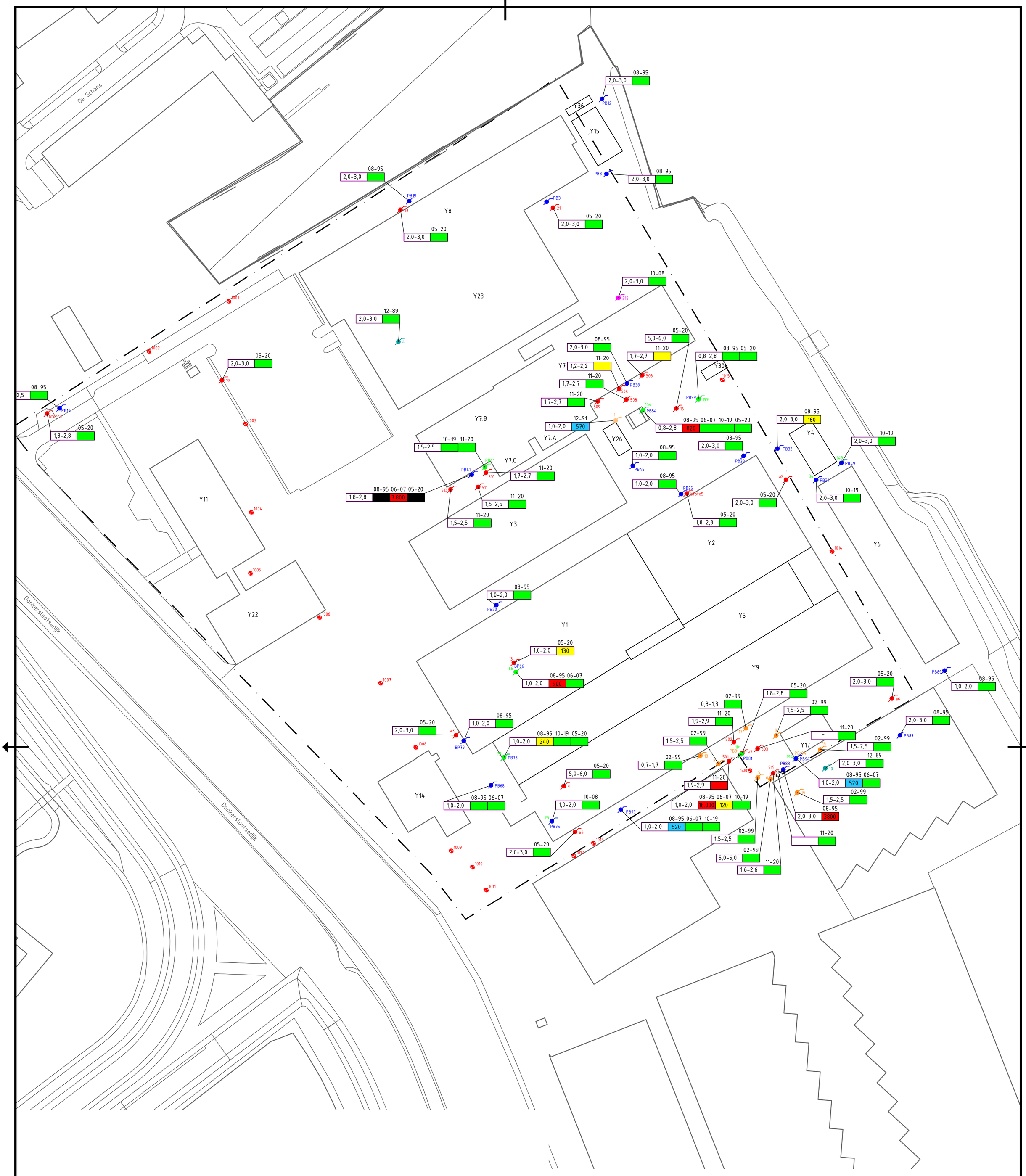
Overview VOCL groundwater

www.anteagroup.nl

Tekeningnummer 0465250.100-S2

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S2.dwg




## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | 800 |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated
- Floating layer
- 800 Concentration (ug/l)

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 08-12-2020 | CONCEPT | M.H. |

Panattoni

Tekenaar [redacted]

Schaal 1:1000

Formaat A2

1 IN 1

Status INTERN

Wijz.nr. C0

Overview groundwater contaminations with mineral oil

www.anteagroup.nl

Tekeningnummer 0465250.100-S3

anteagroup

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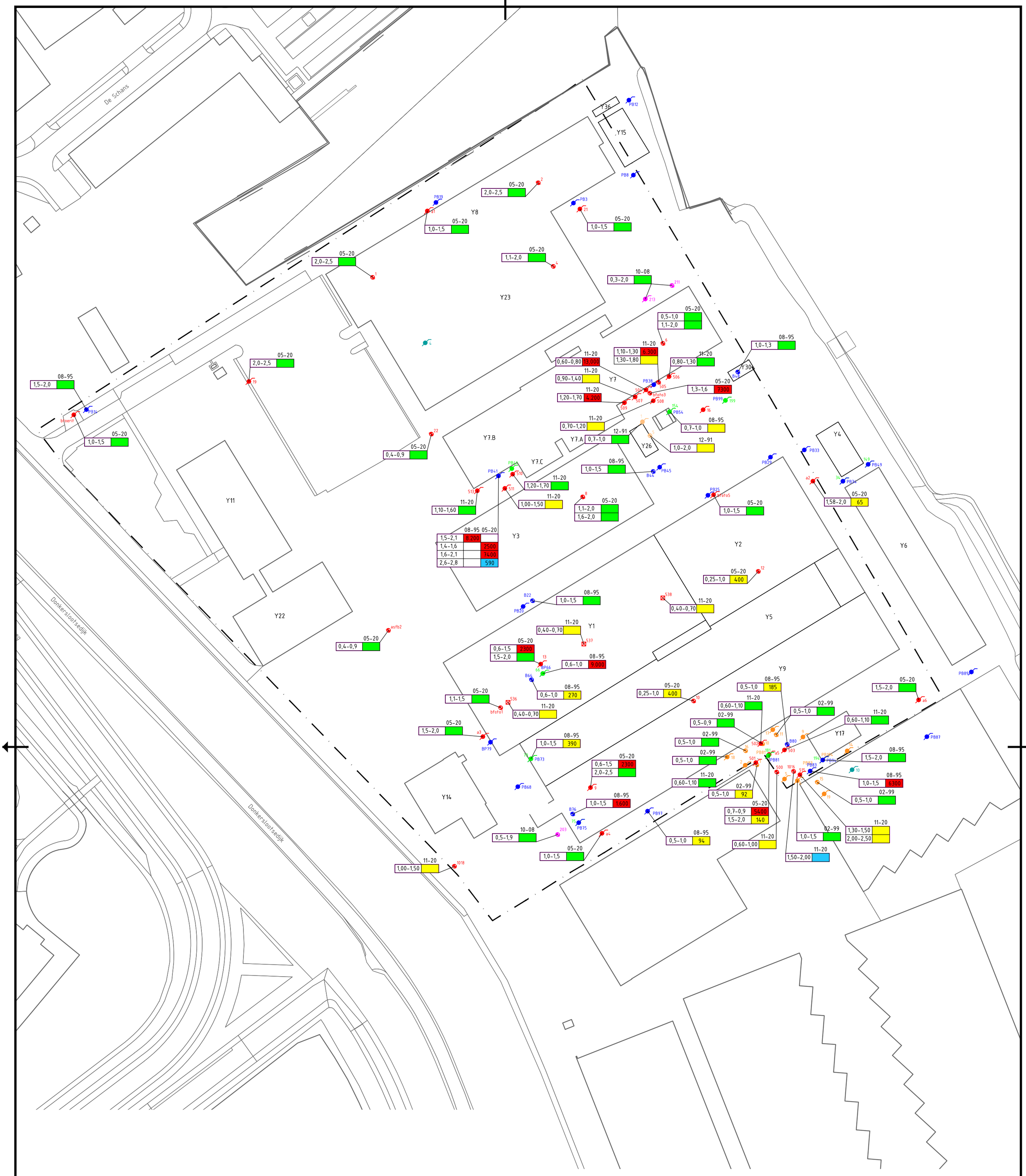


## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1991
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | 92 |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated
- Floating layer
- 92 Concentration (mg/kg d.s.)

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 10-12-2020 | CONCEPT | M.H. |

Panattoni

[redacted]

Schaal 1:1000

Formaat A2

1 IN 1

Overview Subsoil contaminations with mineral oil

Status INTERN

Wijz.nr. C0

www.anteagroup.nl

Tekeningnummer 0465250.100-S4

anteagroup

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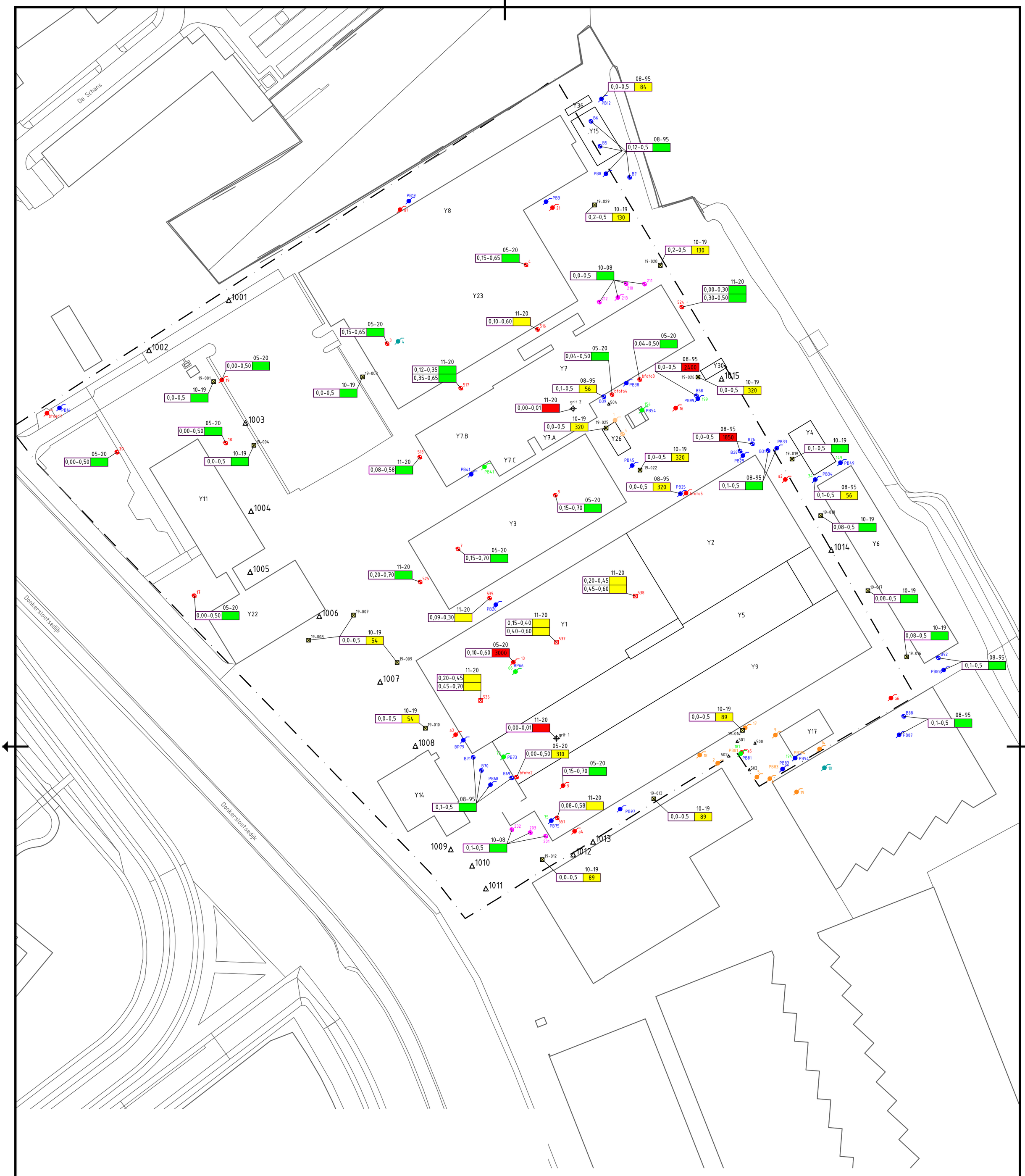


## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek oktober 2019 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | 2400 |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated
- Floating layer
- 2400 Concentration (mg/kg d.s.)

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 08-12-2020 | CONCEPT | M.H. |

Panattoni

[redacted]

Schaal 1:1000

Formaat A2

1 IN 1

Status INTERN

Wijz.nr. C0

Topsoil contaminations with mineral oil

www.anteagroup.nl

Tekeningnummer 0465250.100-S5

anteagroup

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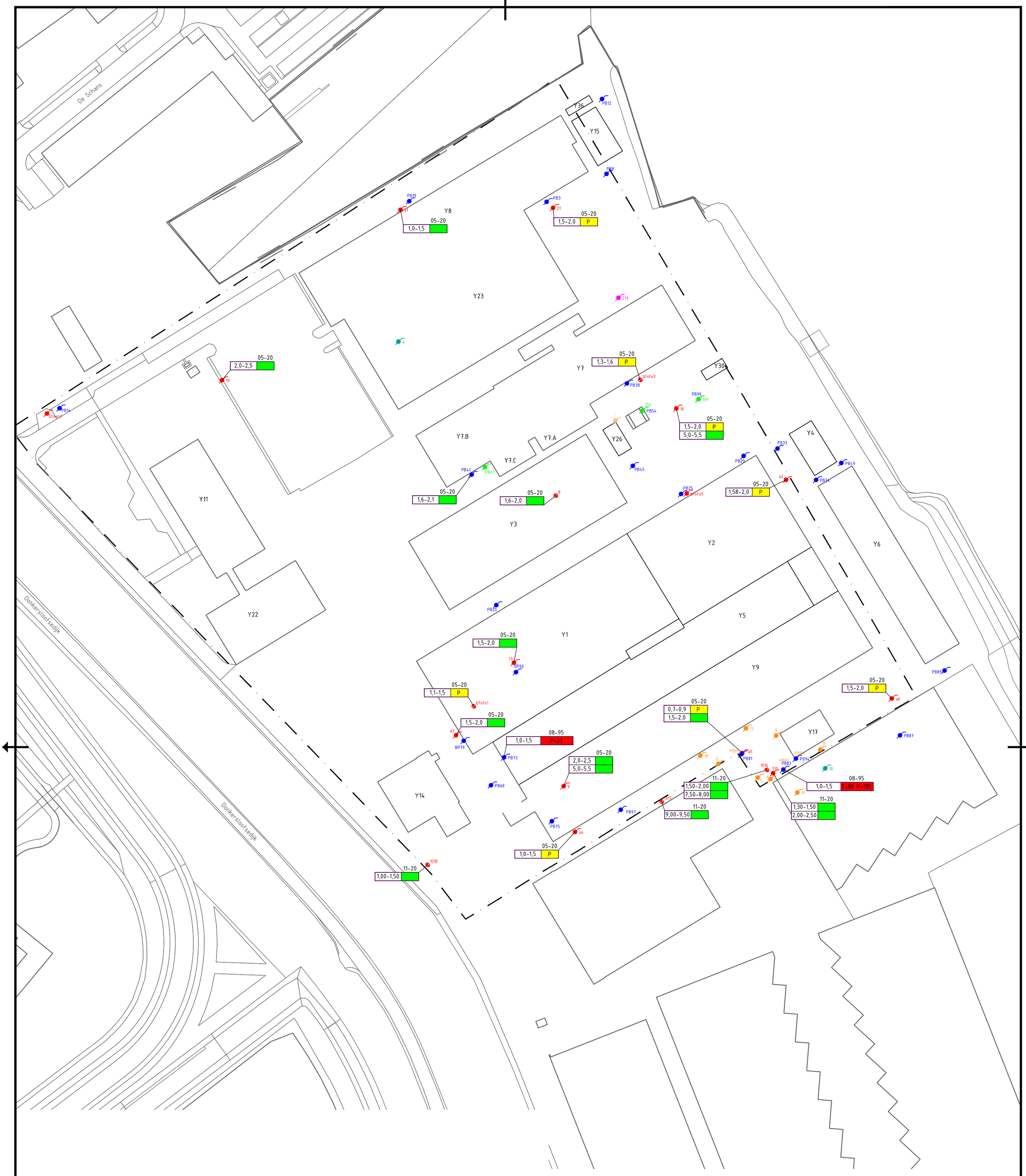


## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | 2400 |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated
- Floating layer
- 2400 Concentration (mg/kg d.s.)

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 18-11-2020 | CONCEPT | M.H. |

Panattoni

-
-
-

Overview Subsoil contaminations with VOCL

Tekeningnummer
0465250.100-S6

Schaal 1:1000
Formaat A2
1 IN 1
Status INTERN
Wijz.nr. C0

www.anteagroup.nl

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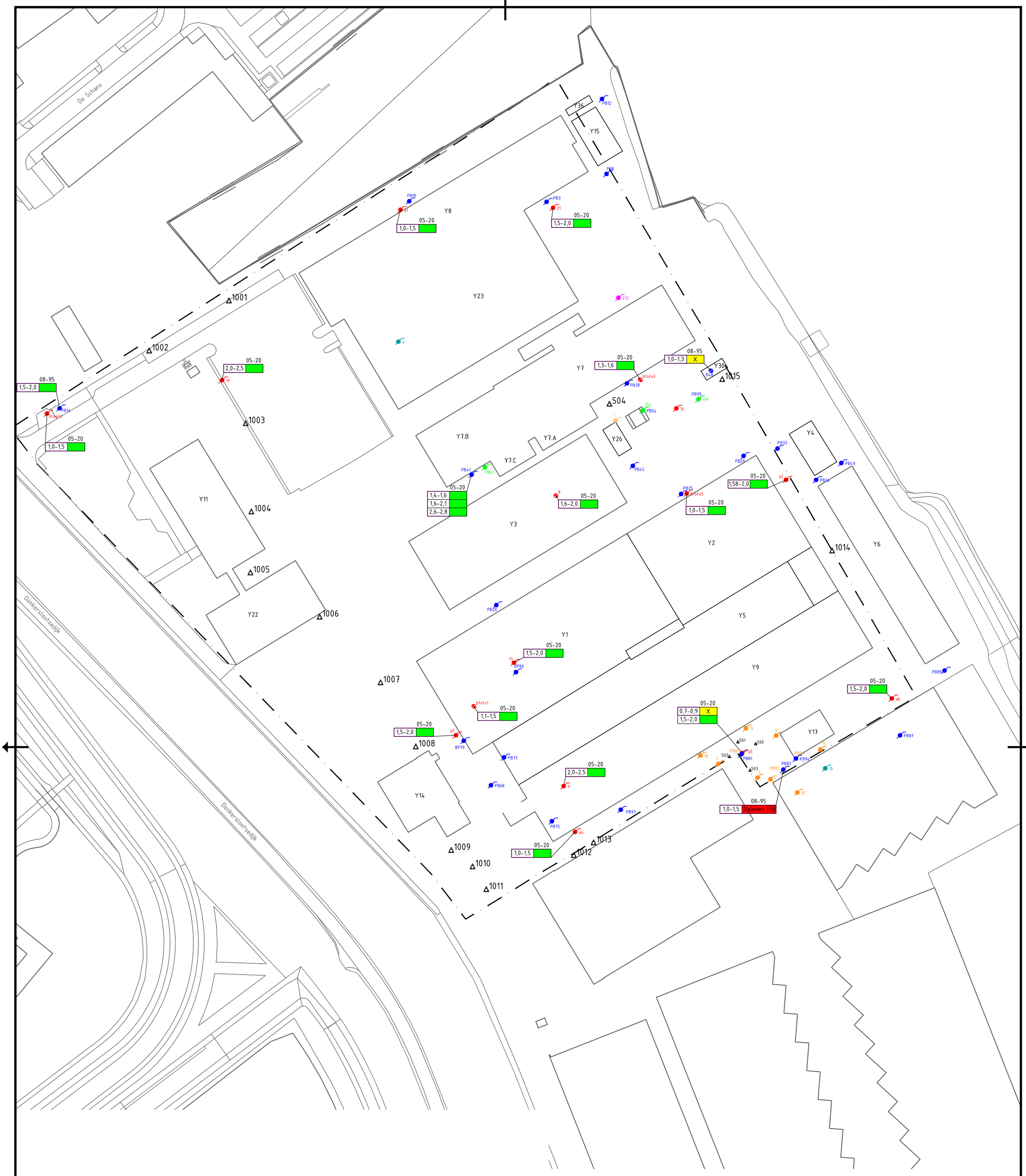


## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | X |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated
- Floating layer
- X Xylenen

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 22-10-2020 | CONCEPT | M.H. |

Panattoni

[redacted]

Schaal 1:1000

Formaat A2

1 IN 1

Overview subsoil contaminations with BTEXN

Status INTERN

Wijz.nr. C0

www.anteagroup.nl

Tekeningnummer 0465250.100-S7

anteagroup

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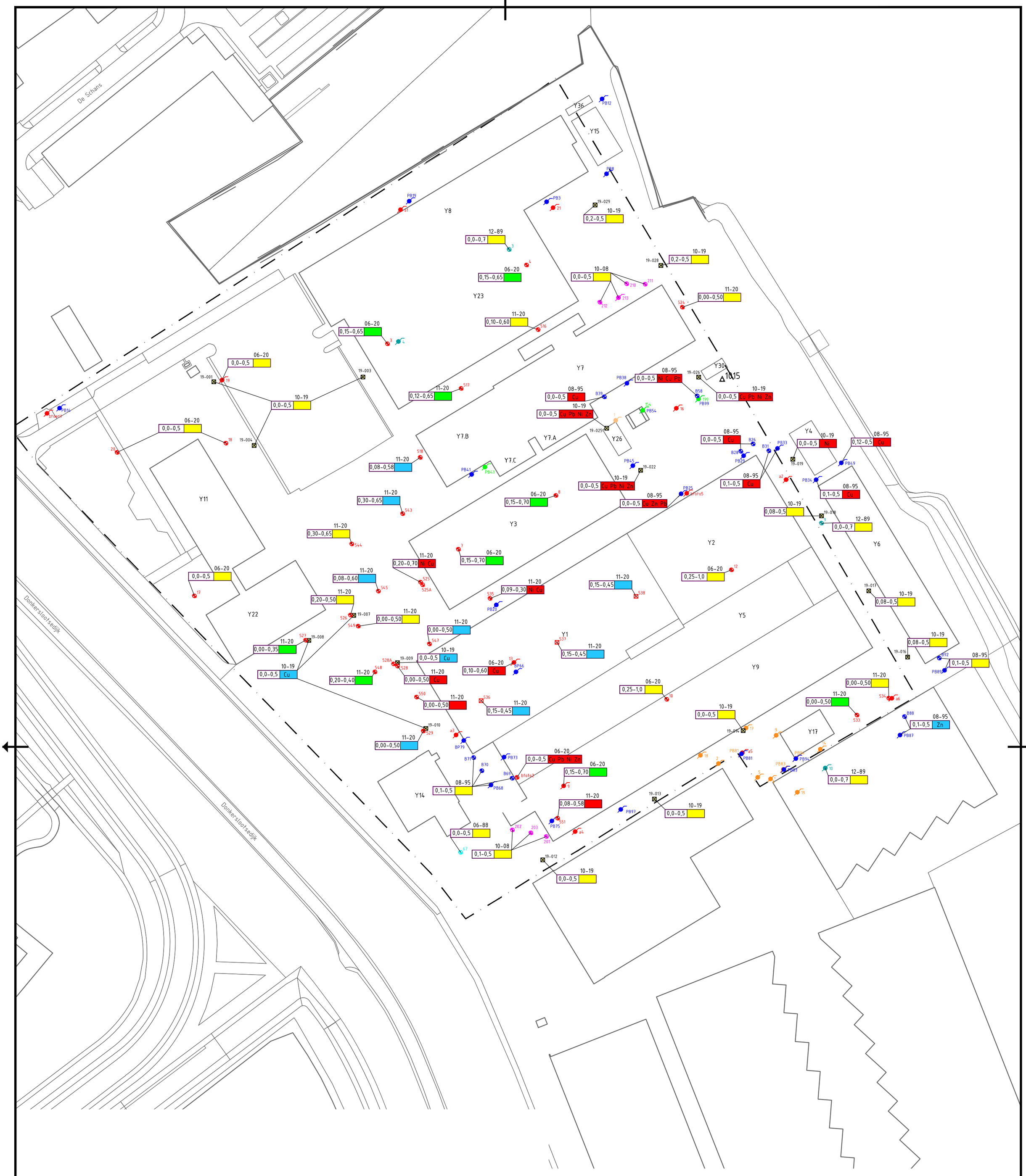



## Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1988 (IGF)
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek oktober 2019 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

datum

| filterdiepte | Cu |
|---|---|
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated

Cu Koper
Pb Lood
Ni Nikkel
Zn Zink

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 08-12-2020 | CONCEPT | M.H. |

Panattoni

[redacted]

Schaal 1:1000
Formaat A2
1 IN 1

Overview Topsoil contaminations with metals

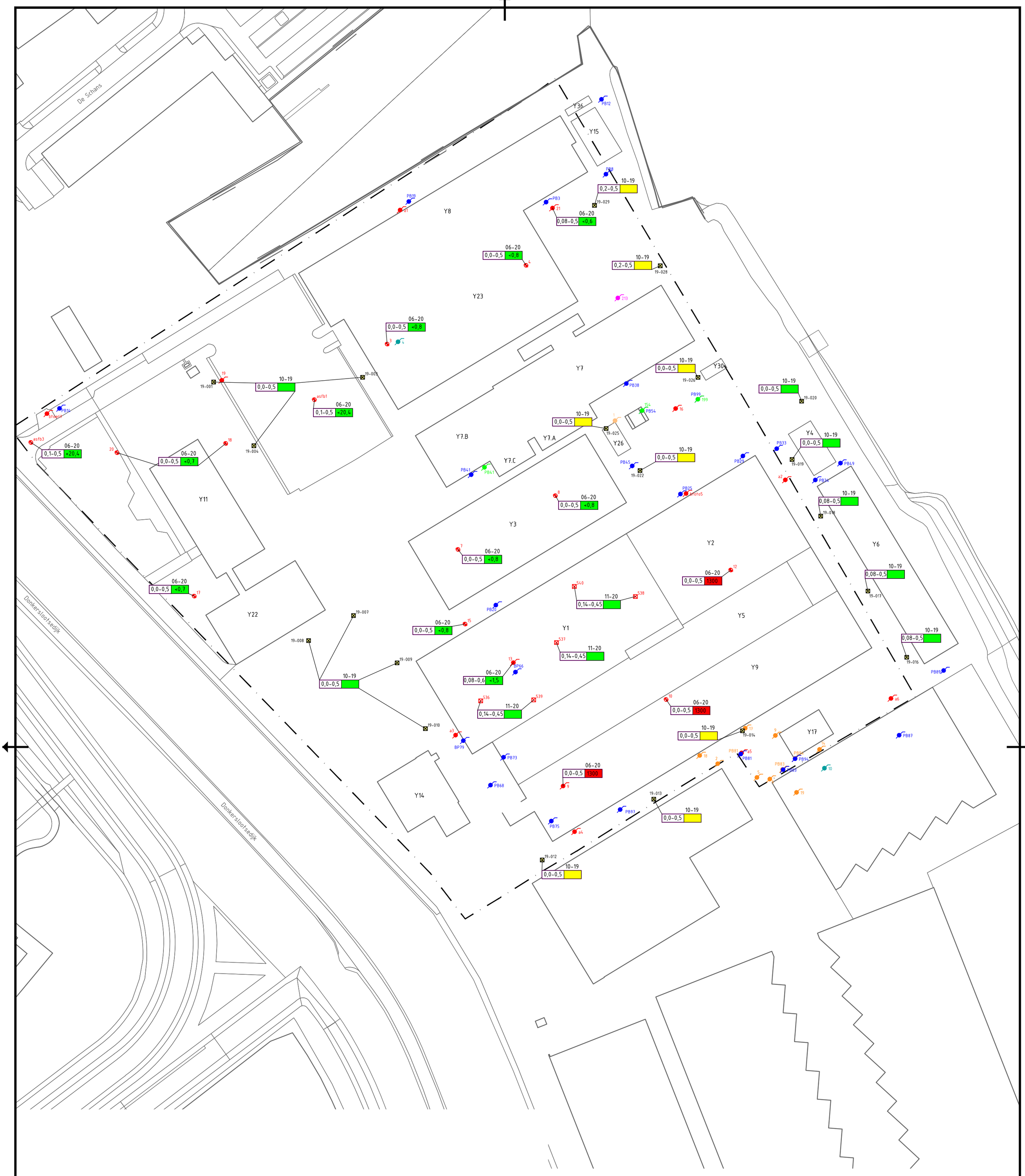
Status INTERN
Wijz.nr. C0

www.anteagroup.nl

Tekeningnummer
0465250.100-S8

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S8.dwg




# Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek oktober 2019 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 17-11-2020 | CONCEPT | M.H. |

Panattoni

Overview Soil contaminations with asbestos

Schaal 1:1000

Formaat A2

1 IN 1

Status INTERN

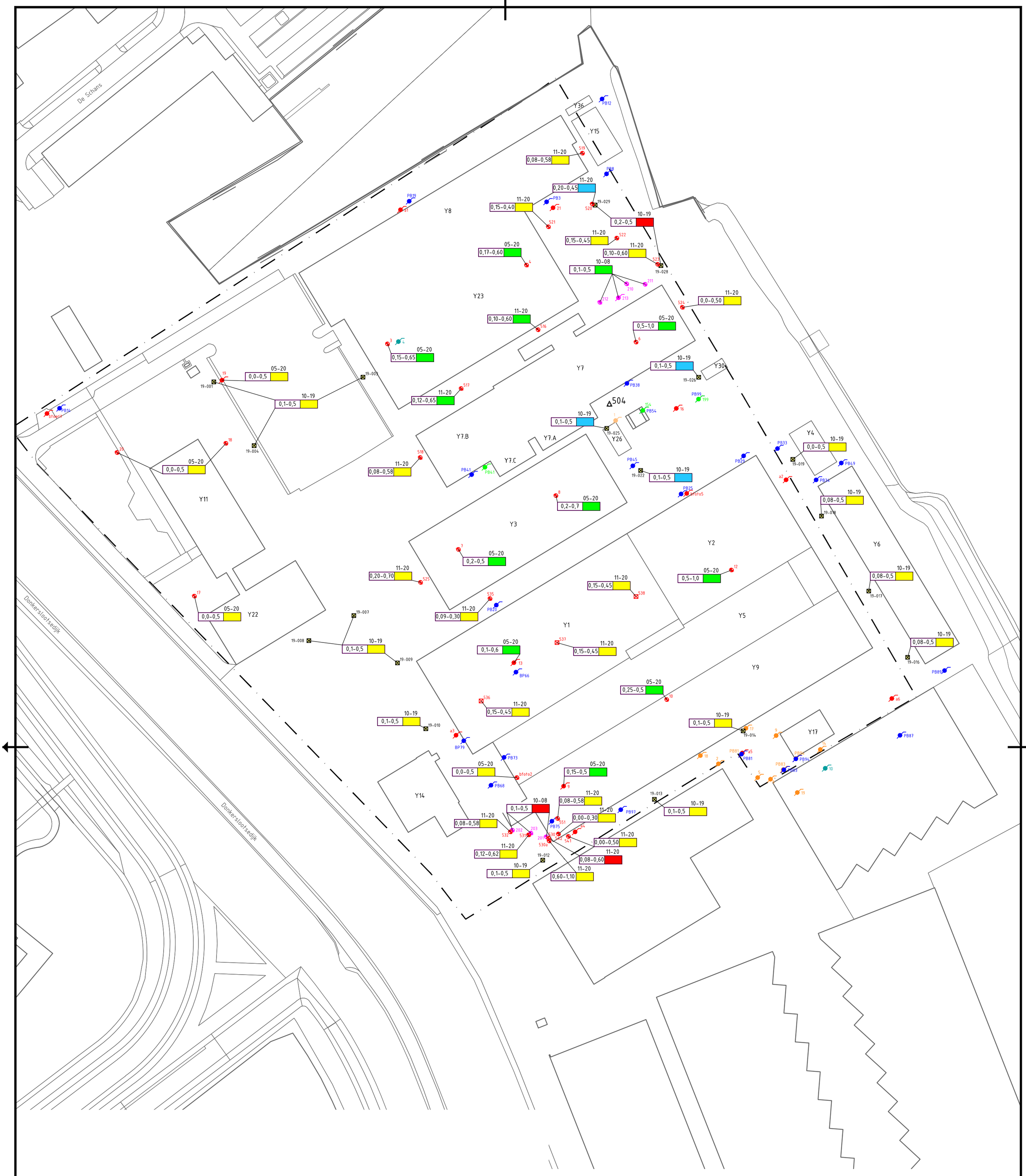
Wijz.nr. C0

www.anteagroup.nl

Tekeningnummer 0465250.100-S9

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S9.dwg




# Verklaring

- Grens onderzoeksgebied
- Bodemonderzoek 1989 (Dienst Centraal Milieubeheer Rijnmond)
- Bodemonderzoek 1991
- Bodemonderzoek 1995 (Geotechnisch en milieukundig advies- en onderzoeksburo)
- Bodemonderzoek februari 1999 (Oranjewoud)
- Bodemonderzoek 2007 (Royal Haskoning)
- Bodemonderzoek 2008 (Royal Haskoning)
- Bodemonderzoek oktober 2019 (Royal Haskoning)
- Bodemonderzoek juni 2020 (Anteagroup)

| | datum |
|---|---|
| filterdiepte | |
| | |
| | |

- Clean
- Lightly contaminated
- Moderately contaminated
- Strongly contaminated

0 10 20 30 40m

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 03-12-2020 | CONCEPT | M.H. |

Panattoni

Tekenaar: [redacted]

Schaal: 1:1000

Formaat: A2

1 IN 1

Overview topsoil contamination with PCB

Status: INTERN

Wijz.nr.: C0

www.anteagroup.nl

Tekeningnummer: 0465250.100-S10

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S10.dwg


## Verklaring

- Grens onderzoeksgebied
- Strongly contaminated
- Moderately contaminated
- Lightly contaminated
- Clean

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 08-12-2020 | CONCEPT | - |

Panattoni

Tekenaar: [redacted]d

Projectleider: [redacted]

Schaal: 1:1000

Formaat: A2

1 IN 1

Overview Topsoil contamination with metals, oil, asbestos and PCB

Status: INTERN

Wijz.nr.: C0

www.anteagroup.nl

Tekeningnummer: 0460838.100-S11

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S11.dwg


## Verklaring

- Grens onderzoeksgebied
- Strongly contaminated
- Moderately contaminated
- Lightly contaminated
- Clean

| NR | DATUM | WIJZIGING | GET. |
|---|---|---|---|
| C0 | 15-12-2020 | CONCEPT | - |

Panattoni

-
-
-

Overview supsoil contaminations with immobile components, metals, PAH, PCB

Tekeningnummer
0460838.100-S14

Tekenaar
[redacted]

Schaal
1:1000

Formaat
A2

1 IN 1

Status
INTERN

Wijz.nr.
C0

www.anteagroup.nl

anteagroup

R:\00465000\00465250\Milieuonderzoek\Acad\0465250.100-S14.dwg

## About Antea Group

From city to countryside, from air to water: Antea Group's engineers and consultants have been contributing to our living environment in the Netherlands for years now. We design bridges and roadways, and create residential neighborhoods and water structures. But we are also involved in areas such as the environment, safety, asset management and energy. Under the name Oranjewoud, we expanded into an all-round, independent partner for companies and government bodies. As the Antea Group, we also apply this knowledge at a global level. By combining valuable knowledge, including on technical matters, with a pragmatic approach, we make solutions attainable and workable. Goal-oriented, with an eye for sustainability. In this way, we anticipate today's questions and tomorrow's answers. Just as we have been for over 60 years now.

## Contact information

29, Monitorweg
1322 BK ALMERE
P.O. Box 10044
1301 AA ALMERE

[redacted]

**www.anteagroup.nl**