



**Reference sheet**  
Main study,  
Sunne Dry-cleaners

**Time of assignment**

2019-2020

**Client**

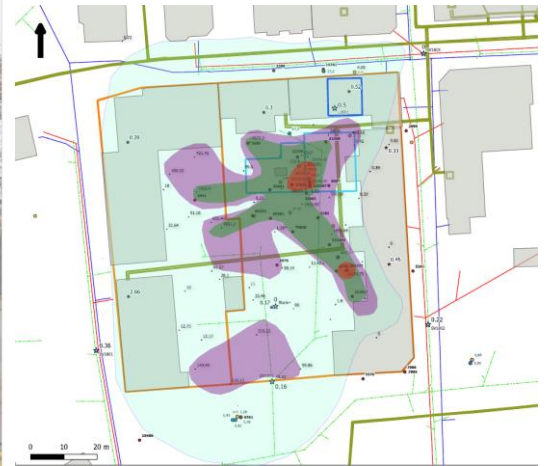
SGU

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**Main study, Sunne Dry-cleaners**

At Sunne Chemical Laundry and Suit Press, dry cleaning operations were conducted from the 1930s to the 1970s. The property is located in Sunne, and the soil on the property is contaminated with chlorinated solvents and petroleum products, classified as risk class 1 according to the Swedish Environmental Protection Agency's MIFO methodology.

NIRAS, on behalf of the Geological Survey of Sweden (SGU), has conducted a main study which included compiling data from previous environmental technical soil investigations carried out on the property, as well as supplementary environmental technical investigations. The investigations included sampling of soil, pore gas, indoor air, air in pipes, drinking water, and groundwater. In the area, numerous pore gas samples were taken for analysis of chlorinated solvents and oil. Groundwater was investigated, among other things, regarding levels and flow direction and the presence of free-phase oil. Groundwater samples were taken both from installed groundwater pipes (certified sampling) and as level-specific samples during probing. MiHPT probing was used in soil investigations. The work was carried out in accordance with industry practice, and relevant guidelines from, among others, SGF were followed. The investigations were conducted to delineate the spread of contamination and the extent of its spread to the surroundings. In the risk assessment, risks to human health and the environment were evaluated. As a basis for the risk assessment, a comprehensive problem description was made with a summary in a conceptual model. Site-specific guideline values were developed based on the conditions at the site. NIRAS also developed a remediation investigation with a subsequent risk evaluation. In the remediation investigation, three alternatives were described regarding technical feasibility, plan for practical implementation in relation to site-specific conditions and surrounding activities, efficiency, time required, project risks, health risks for workers and the public, environmental impact, and the need for preparatory investigations. The cost of various elements was estimated, and the total cost of the different methods was compared. The risk evaluation was conducted as a workshop with stakeholders, i.e., the client, supervisory authority, representatives of surrounding activities, consultants, etc. The SAMLA tool for contaminated areas was used in the risk evaluation. In addition to the zero alternative, three remediation alternatives were assessed.