

SVENSK STANDARD

SS-ISO 18400-202:2021

Markundersökningar – Provtagning – Del 202: Preliminära undersökningar (ISO 18400-202:2018, IDT)

Soil quality – Sampling – Part 202: Preliminary investigations (ISO 18400-202:2018, IDT)



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Den internationella standarden ISO 18400-202:2018 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 18400-202:2018.

Denna standard ersätter SS-ISO 10381-4, utgåva 1

The International Standard ISO 18400-202:2018 has the status of a Swedish Standard. This document contains the official English version of ISO 18400-202:2018.

This standard supersedes the SS-ISO 10381-4, edition 1

LÄSANVISNINGAR FÖR STANDARDER

I dessa anvisningar behandlas huvudprinciperna för hur regler och yttre begränsningar anges i standardiseringsprodukter.

Krav

Ett krav är ett uttryck i ett dokumentets innehåll som anger objektivet verifierbara kriterier som ska uppfyllas och från vilka ingen avvikelse tillåts om efterlevnad av dokumentet ska kunna åberopas. Krav uttrycks med hjälpverbet ska (eller ska inte för förbud).

Rekommendation

En rekommendation är ett uttryck i ett dokumentets innehåll som anger en valmöjlighet eller ett tillvägagångssätt som bedöms vara särskilt lämpligt utan att nödvändigtvis nämna eller utesluta andra. Rekommendationer uttrycks med hjälpverbet bör (eller bör inte för avrådanden).

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Instruktioner anges i imperativ form och används för att ange hur något görs eller utförs. De kan underordnas en annan regel, såsom ett krav eller en rekommendation. De kan även användas självständigt, och är då att betrakta som krav.

Förklaring

En förklaring är ett uttryck i ett dokumentets innehåll som förmedlar information. En förklaring kan uttrycka tillåtelse, möjlighet eller förmåga. Tillåtelse uttrycks med hjälpverbet får (eller motsatsen behöver inte). Möjlighet och förmåga uttrycks med hjälpverbet kan (eller motsatsen kan inte).

READING INSTRUCTIONS FOR STANDARDS

These instructions cover the main principles for the use of provisions and external constraints in standardization deliverables.

Requirement

A requirement is an expression, in the content of a document, that conveys objectively verifiable criteria to be fulfilled, and from which no deviation is permitted if conformance with the document is to be claimed. Requirements are expressed by the auxiliary shall (or shall not for prohibition).

Recommendation

A recommendation is an expression, in the content of a document, that conveys a suggested possible choice or course of action deemed to be particularly suitable, without necessarily mentioning or excluding others. Recommendations are expressed by the auxiliary should (or should not for dissuasion).

Instruction

An instruction is expressed in the imperative mood and is used in order to convey an action to be performed. It can be subordinated to another provision, such as a requirement or a recommendation. It can also be used independently and is then to be regarded as a requirement.

Statement

A statement is an expression, in the content of a document, that conveys information. A statement can express permission, possibility or capability. Permission is expressed by the auxiliary may (its opposite being need not). Possibility and capability are expressed by the auxiliary can (its opposite being cannot).

Contents

Page

Foreword	vi
Introduction	vii
1 Scope.....	1
2 Normative references	1
3 Terms and definitions.....	1
4 General/principle	2
5 Phases of investigation	2
6 Objectives of preliminary investigations.....	4
7 Scope of preliminary investigations	5
7.1 General/strategy	5
7.2 Desk study.....	8
7.2.1 General.....	8
7.2.2 Information on past and present use	10
7.2.3 Information on geology, pedology, geomorphology, hydrology and hydrogeology	11
7.2.4 Ecology and archaeology	12
7.3 Consultations.....	12
7.4 Site reconnaissance	13
8 Development of the preliminary conceptual site model.....	14
8.1 Overall conceptual site model.....	14
8.2 Characteristic distributions of the physico-chemical properties.....	16
8.3 Formulation of contamination-related hypotheses.....	17
8.4 Preliminary qualitative risk assessment for potentially contaminated sites	17
8.5 Further investigations	18
9 Reporting the preliminary investigation and the conceptual site model.....	18
Annex A (informative) Contaminants of potential concern and industry/contaminant matrix	21
Bibliography.....	35

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 2, *Sampling*.

This first edition of ISO 18400-202, together with ISO 18400-104, ISO 18400-203 and ISO 18400-205, cancels and replaces the first editions of ISO 10381-4:2003 and ISO 10381-5:2005, which have been technically and structurally revised.

The new ISO 18400 series is based on a modular structure and cannot be compared to the ISO 10381 series clause by clause.

A list of all parts in the ISO 18400 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

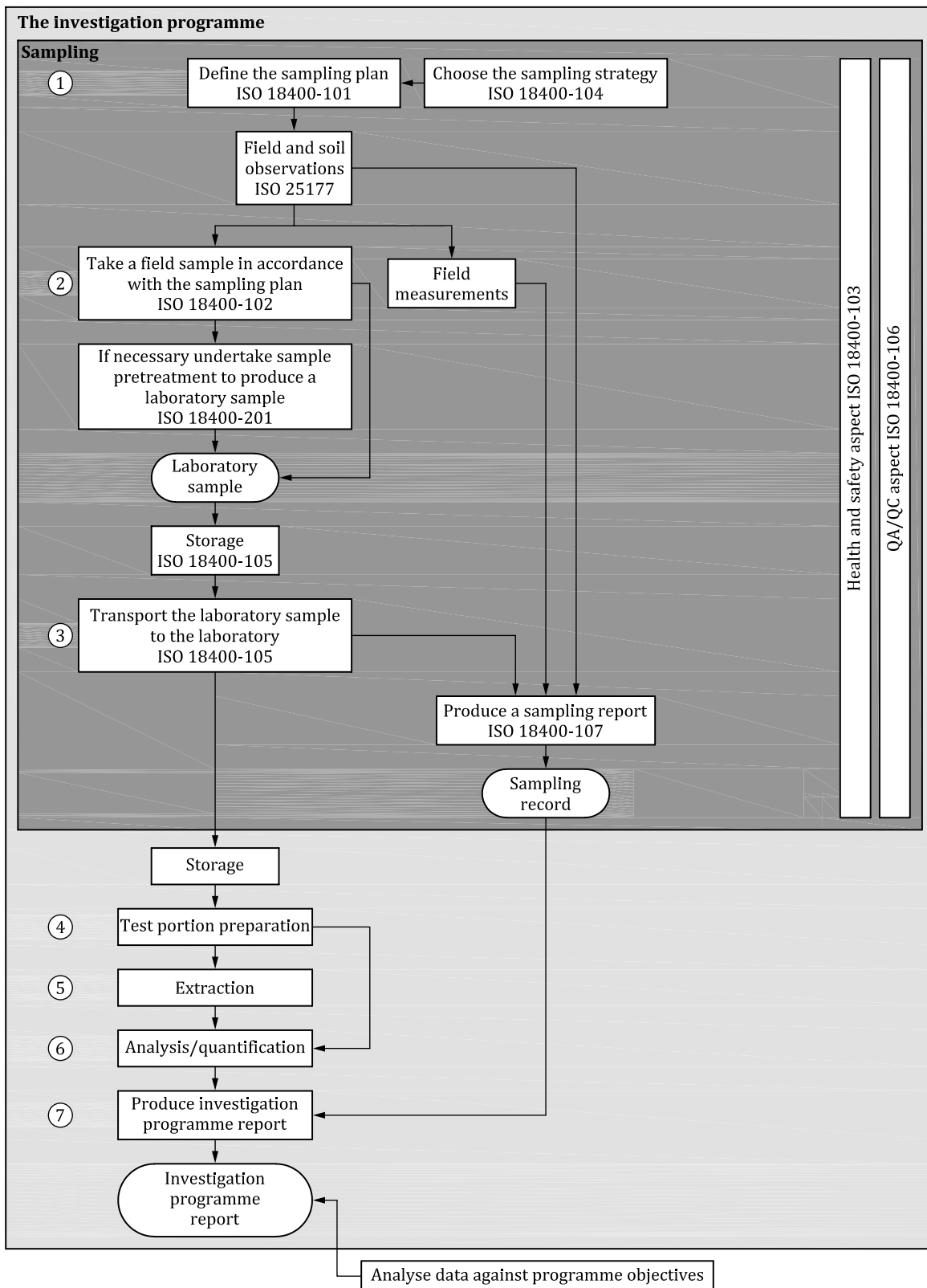
All investigation programmes to gather information about soil quality need some basic information about the subject site and its environmental setting to allow appropriate planning of the field work. To collect this information, a preliminary investigation is carried out comprising desk studies, retrieval of data from archives and databases, interviews and a site reconnaissance. From the information gathered, and the observations made, a conceptual site model can be developed including hypotheses about soil characteristics and their possible spatial distribution.

It is for the user of this document to decide the extent and nature of information required in any particular case taking into account the nature of the site and the objectives of the overall investigation: however, some preliminary information will always be needed. Detailed guidance is provided in the document based mainly on the need to obtain detailed information on many aspects of a site in the more complex cases, e.g. a potentially contaminated site, but the guidance is intended to be helpful when preparing to investigate all types of site.

The sources of information available for use in preliminary investigations will vary from country to country and jurisdiction to jurisdiction and, thus, the guidance given about sources of information in this document is of necessity generic in character. The user will find it useful to prepare detailed information about local sources for their own use. National standards providing guidance on the design and execution of geotechnical investigations often contain a requirement that a desk study and site reconnaissance should be carried out and thus could provide useful guidance about potential sources of information. Similarly, standards covering the demolition and dismantling of old buildings and industrial plant could provide useful information and guidance.

This document deals only with the investigation of the ground. It should be recognized that there could be derelict buildings and/or industrial plants awaiting demolition, dismantling or refurbishment on old urban and industrial sites, but that buildings in a poor state and containing potentially hazardous materials could also be present on farms and similar sites. Failure to investigate these buildings before demolition could put the safety of workers at risk or lead to the spread of contamination on and around the site^{[Z][8]}. The investigation of derelict buildings or remnant foundations is outside the scope of this document.

This document is part of a series on sampling standards for soil. The role/position of the standards within the total investigation programme is shown in [Figure 1](#).



NOTE 1 The numbers in circles in Figure 1 define the key elements (1 to 7) of the investigation programme.

NOTE 2 Figure 1 displays a generic process which can be amended when necessary.

Figure 1 — Links between the essential elements of an investigation programme

Soil quality — Sampling —

Part 202: Preliminary investigations

1 Scope

This document provides guidance on the design and execution of preliminary investigations comprising desk studies and site reconnaissance, and where appropriate, preliminary risk assessment. It is applicable whenever sampling exercises or investigations are to be carried out to determine soil quality.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 11074, *Soil quality — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11074 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

conceptual site model

synthesis (mental representation) of all information about a site relevant to the task at hand including interpretation of the information as necessary, and recognition of uncertainties in the information including identification of what is known to be unknown

Note 1 to entry: A conceptual site model can be presented in narrative, tabular and/or diagrammatic form.

3.2

conceptual site model

<potentially contaminated site> synthesis (mental representation) of all information about a site relevant to the task at hand with interpretation as necessary and recognition of uncertainties in the information, including, as appropriate, information regarding the ground, groundwater, surface water, soil quality, and surrounding environment, and if the occurrence of contamination is likely, the nature and potential sources of hazardous substances that could be present including soil gases and volatile organic compounds (VOCs), potential migration pathways, and potential receptors, taking into account, when appropriate, planned changes of use and anticipated changes in the environmental setting such as in groundwater levels or propensity to flood

Note 1 to entry: A conceptual site model can be presented in narrative, tabular and/or diagrammatic form.

Note 2 to entry: The future use or uses will not always be known and could also be the subject of client confidentiality.

4 General/principle

A preliminary investigation (Phase I investigation) should always be carried out prior to any intrusive sampling exercise or site investigation. It should be a two-step process involving data collection followed by interpretation and reporting. Data collection should always comprise

- a desk study (including when appropriate consultations), and
- a site reconnaissance (walk-over survey, site inspection).

The assessor should decide the extent and nature of information required in any particular case taking into account the nature of the site, the purpose and the objectives of the overall investigation, the availability of existing information, the size and complexity of the site, known or projected future land uses and other relevant site-specific factors: the investigation needs to be no more detailed than the task at hand requires. However, some preliminary information will always be needed.

It will often be appropriate for a site investigation to be iterative with several stages of investigation within each phase. The objectives should be reconsidered at each stage, and the requirements for further investigation reviewed as the investigatory and assessment processes are developed.

When an investigation is carried out in a number of phases or stages, the preliminary investigation would ordinarily only be undertaken prior to the initial phase or stage. However, the results should be reviewed on completion of the first stage or phase, and after each subsequent stage or phase to determine whether the conclusions, including any preliminary risk assessment require amendment.

The results of the preliminary investigation enable a preliminary conceptual site model to be developed (see [Clause 8](#)).

In the case of potentially contaminated sites, the possibility of contamination can be deduced, and hypotheses can be formulated on the nature, location and distribution of the contamination ([8.2](#)). These hypotheses form part of the overall preliminary conceptual site model that should be developed, encompassing not only the contamination aspects but also the geology, pedology, hydrogeology, geotechnical properties and the environmental setting. The current and planned site uses are also important aspects of the conceptual site model.

NOTE Although the conceptual site model is usually first formally prepared following a preliminary investigation, it first comes into existence the moment the question is asked whether the site needs to be investigated. At that stage, for example, it could be recognized that the site is agricultural land or is industrial land and the assessor will immediately form an initial picture about what the site might be like and act accordingly. Thus, it is this initial conceptual site model and the purpose of the overall investigation that guide decisions about the scope and depth of the preliminary investigation required.

5 Phases of investigation

A phased approach as described in ISO 18400-104:2018, Clause 4 should always be taken to site investigation. The principal phases are

- preliminary investigation (this document),
- exploratory investigation, and
- detailed site investigation.

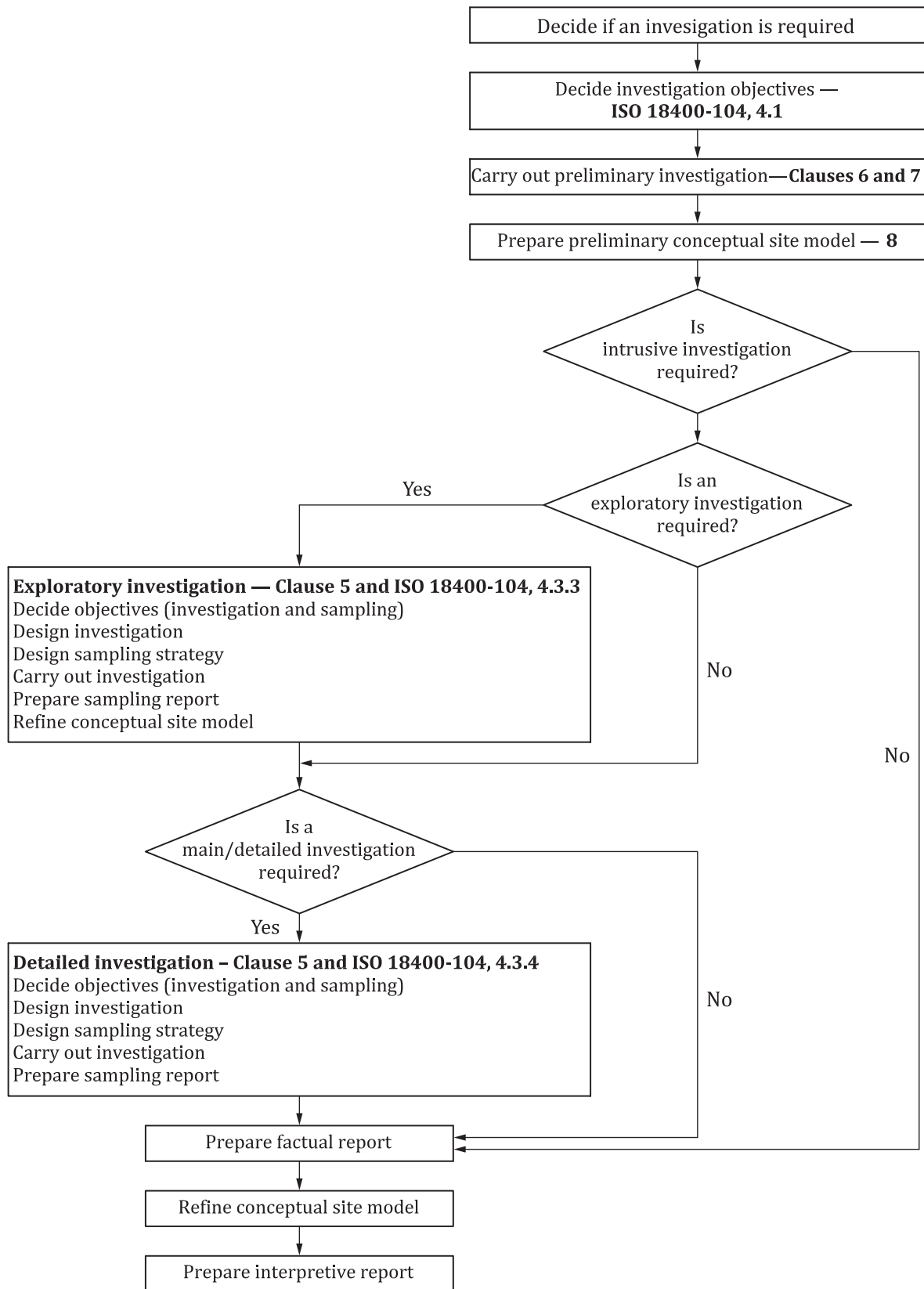


Figure 2 — Flow-chart of phases of site investigation for a potentially contaminated site