INTERNATIONAL STANDARD

ISO 18400-206

First edition
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Soil quality — Sampling —

Part 206: Collection, handling and storage of soil under aerobic conditions for the assessment of microbiological processes, biomass and diversity in the laboratory

Qualité du sol — Échantillonnage —

Partie 206: Collecte, manipulation et conservation de sols destinés à l'évaluation de paramètres biologiques fonctionnels et structurels en laboratoire

Reference number
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Contents

Page

Foreword

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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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological characterization*.

This first edition of ISO 18400-206 cancels and replaces ISO 10381-6:2009, which has been technically revised.

A list of all the 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

Soils are both complex and heterogeneous because they consist of both living and non-living components occurring in different combinations. Therefore, the condition of the soil, from collection to completion of an experiment, is considered in this document in relation to effects on the soil organism community (i.e. microorganisms, plants and invertebrates). Temperature, water content, availability of oxygen and duration of storage are all known to affect these organisms, and thus the processes they mediate.

Soils can however be used effectively in the laboratory to investigate effects on soil organisms. In this context a distinction is made between microbial communities on the one side and plants and invertebrates on the other side, since the former are sampled as part of a soil sample, while the latter are added to a soil sample (usually only a few selected species which have been identified as test species beforehand). Therefore, this document covers two different issues:

a) It provides guidance on the collection, handling and storage of soil for laboratory use where aerobic microbial activity is the main component of the study. It describes how to minimize the effects of differences in temperature, water content and availability of oxygen on aerobic processes to facilitate reproducible laboratory determinations[1][2].

b) It also provides guidance on the collection, handling and storage of soil for laboratory use where the survival, reproduction, behaviour or growth of invertebrates or plants is the main components of the study. It describes how to minimize the effects of differences in temperature, and the water content as well as the fractionation of soil particles to facilitate reproducible laboratory determinations[1][2].

This document is one of a group of standards dealing with various aspects of site investigation and sampling. It needs to be used in conjunction with the other parts of ISO 18400. The role/position of the standards within the total investigation programme is shown in Figure 1.

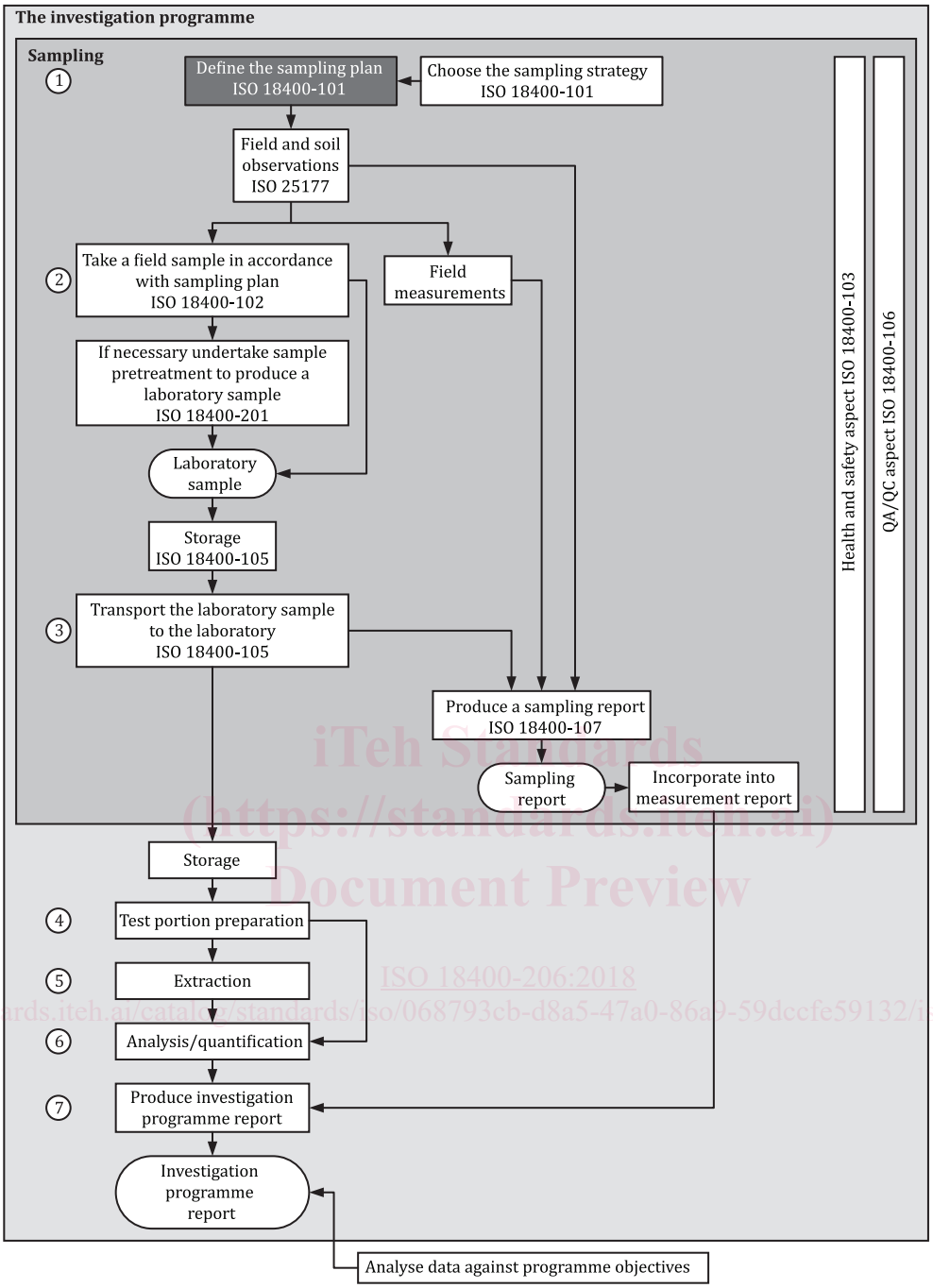

Figure 1 — Links between the essential elements of an investigation programme

NOTE 1 The numbers in circles in Figure 1 define the single steps of the investigation programme.

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

