

First edition
2005-10-01

Soil quality — Sampling —

Part 5:

Guidance on the procedure for the investigation of urban and industrial sites with regard to soil contamination

Qualité du sol — Échantillonnage —

Partie 5: Lignes directrices pour la procédure d'investigation des sols pollués en sites urbains et industriels



Reference number
ISO 10381-5:2005(E)

© ISO 2005

This is a preview of "ISO 10381-5:2005". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2005

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a preview of "ISO 10381-5:2005". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Terms and definitions.....	2
4 Objectives	2
4.1 General.....	2
4.2 Definitions of objectives	2
5 General strategy of site investigation.....	3
5.1 General.....	3
5.2 Scope of preliminary investigation	5
5.3 Scope of exploratory investigation.....	5
5.4 Scope of main site investigation.....	6
6 Preliminary investigation	6
6.1 Introduction	6
6.2 Information on past and present use.....	7
6.3 Information on geology, pedology, hydrology and hydrogeology	7
6.4 Methodology.....	8
6.5 Development of the conceptual model.....	9
6.6 Reporting the preliminary investigation and the conceptual model	12
7 Design of intrusive investigations	14
7.1 Introduction	14
7.2 General aspects of field work.....	14
7.3 Overall design aspects.....	15
7.4 Sampling patterns and spacing for sampling soils	16
7.5 Analytical and testing strategies.....	21
8 Exploratory investigation.....	23
8.1 General.....	23
8.2 Sampling strategy.....	24
8.3 Interpretation of the exploratory investigation	25
8.4 Reporting the exploratory investigation.....	27
8.5 Determination of the need for a main site investigation.....	28
9 Main site investigation	28
9.1 General.....	28
9.2 Objectives and scope	29
9.3 Investigation design	30
9.4 Sampling strategy.....	30
9.5 Evaluation of the main site investigation	31
9.6 Reporting	32
Annex A (informative) Objectives of soil sampling	34
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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO/IEC 10381-5 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 2, *Sampling*.

ISO/IEC 10381 consists of the following parts, under the general title *Soil quality — Sampling*:

- *Part 1: Guidance on the design of sampling programmes,*
- *Part 2: Guidance on sampling techniques,*
- *Part 3: Guidance on safety,*
- *Part 4: Guidance on the procedure for investigation of natural, near-natural and cultivated sites,*
- *Part 5: Guidance on the procedure for the investigation of urban and industrial sites with regard to soil contamination,*
- *Part 6: Guidance on the collection, handling and storage of soil for the assessment of aerobic microbial processes in the laboratory,*
- *Part 7: Guidance on sampling of soil gas,*
- *Part 8: Guidance on sampling of stockpiles.*

This is a preview of "ISO 10381-5:2005". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This part of ISO 10381 is one of a group of standards dealing with various aspects of site investigation and sampling. It should be used in conjunction with the other parts of ISO 10381 (see Foreword).

Whilst serious cases of soil contamination mostly occur at urban and industrial sites, serious contamination of agricultural land can also occur (for example, due to pesticides usage, long-term irrigation and application of organic wastes). In such cases, a combination of the methodologies of ISO 10381-4 and ISO 10381-5 may be appropriate. When the objective of an investigation is related to plant growth, reference should be made to ISO 10381-4.

The general terminology used is in accordance with that established in ISO/TC 190 "Soil quality" and more particularly with the terminology given in ISO 11074.

The investigation of ground water, soil gas and surface water falls outside the scope of (this part of) ISO 10381. For more information on ground water and surface water sampling, see ISO 5667. Information on the sampling of soil gas is provided in ISO 10381-7.