

**To: National Brownfield Forum**

*Please feel free to pass on to any of your contacts who might be interested.*

**INTRODUCTION**

*BSI EH4 Soil Quality* is the BSI technical committee responsible for the production of standards relating to soil quality including contaminated land and natural and near-natural sites (e.g. farm land). Standards cover sampling, chemical analysis, physical testing, biological testing, and soil and site assessment. EH4 also deals with standards for the analysis and testing of wastes, standards relating to soil and climate change, and ecosystem services.

*BSI EH4* shadows ISO (International Organization for Standardization) Technical Committee *TC 190-Soil Quality* and CEN *TC444-Environmental characterization of solid matrices*. CEN is the European standards organisation.

EH4 actively seeks to broaden its membership. The wider the membership, the greater the confidence that the standards produced are technically sound and known about by potential users from a wide variety of backgrounds. Participation in BSI, CEN and ISO committees can contribute to CPD. Contact the Committee Manager, Joanna Macnamara ([joanna.macnamara@bsigroup.com](mailto:joanna.macnamara@bsigroup.com)) for more information.

**Mike Smith**



### **REVISION OF BS10175:2011+A2:2017**

BSI has agreed to a Minor Revision project for BS 10175. A Drafting Panel has been set up under my Chairmanship (I chaired the development of Amendments 1 & 2). Members come from consultancies and regulators. The Drafting Panel will involve others as necessary for help on particular topics. The first meeting of the Panel was held on 9 May and a second meeting on 8 June. No overall timetable has yet been set but it is hoped to have a Draft for Public Consultation by the end of the year.

### **ASBESTOS**

*ISO TC/190/SC3 Chemical and physical characterization,*

*CEN/TC 444/WG3 Environmental characterization of solid matrices – Inorganic analysis, and*

*CEN TC/351/WG5 – Assessment of release of dangerous substance -Content and eluate analysis in construction products,*

all have an interest in production of standards related to the determination of asbestos concentrations in granular materials including sampling and analysis.

**CEN/TC 351/WG5** started work on production of a draft document in December 2021. Stephen Forster is a member of the Task Group (CEN/TC351/WG5/TG51) set up to complete preparation of the draft document. A draft Technical Specification (*Construction products: Assessment of release of dangerous substances — Sampling and quantitative determination of asbestos in construction products*) has been prepared and after final editing and checking (Stephen is involved in this process) will be sent to CEN for formal circulation for comment and voting by National Standards Bodies such as BSI.

This project is being dealt with in the UK by BSI committee B/557 *Construction products - Assessment of dangerous substances* which “shadows” CEN TC/351. Liaison has been established with EH/4 with the intent of trying to ensure wider UK participation in the work than might otherwise be the case.

**Standards Relating to Investigation, Assessment, Remediation and Development of Potentially Contaminated and Contaminated Sites**

This AGS document provides key information required for a proper understanding and use of Standard Guidance documents and Standard Specifications. It also provides information about in which Standards guidance on various topics such as investigation, reporting and remediation can be found. It can be downloaded from:

<https://www.ags.org.uk/item/standards-relating-to-investigation-assessment-remediation-and-development-of-potentially-contaminated-and-contaminated-sites/>

**SOIL HUB**

The on-line hub for 'all things soil' ([uksoils](http://uksoils.org)) brings together the best available resources, including educational information and school activities, books and films, data and maps, plus guidance for farmers and land managers on how to support healthy soils. It is also a forum to enable the sharing of knowledge and experiences, encouraging people to link up and carry out initiatives to improve soil health and share locations around the country where soil health pioneers are trying out new technologies and management practices.

The hub is supported by a partnership comprising the UK Centre for Ecology & Hydrology (UKCEH), the Sustainable Soils Alliance, Earthwatch, the University of Sheffield, the British Soil Science Society and Scotland's Rural College (SRUC).

**LEACHING OF SOILS, WASTES AND CONSTRUCTION PRODUCTS**

A web-site concerning leaching tests supported among others by CEN TC444/WG1 and is now available at:  
<http://www.leachingtests.com/>

*This website aims to inform the reader about the availability and suitability of standardized leaching tests to solve their questions. It focusses on interrelationships between existing leaching tests to improve understanding of the meaning of a test result. In addition, it provides information on characteristic leaching behaviour of a range of bulk material streams, for which leaching information may be sought to compare one's own material of product.*

*Note that the web-site, which is largely funded by the Dutch government, is still under development.*

## **LISTINGS**

**Note:** This is not necessarily a complete listing of on-going projects in ISO TC190 and CEN TC444 and, in the case of geotechnical standards, ISO TC182 and CEN TC341. At any one time there are also likely to be a number of other chemical analytical, biological testing, geotechnical and ground engineering standards, progressing through the ISO/CEN/BS system.

<b>KEY</b>
<b>Drafts - New or amended entries – 1 January to 31 December 2021</b>
<b>Drafts - New or amended entries – 1-January to 31 December 2022</b>
<b>Drafts - New or amended entries – 1 January to 31 March 2023</b>
<b>Drafts - New or amended entries – 1 to 30 April 2023</b>
<b>Drafts - New or amended entries – 1 to 31 May 2023</b>
<b>Drafts - New or amended entries – 1 to 30 June 2023</b>
<b>Published standards – 1 January to 31 March 2023</b>
<b>Published standards – 1 to 30 April 2023</b>
<b>Published standards – 1 to 31 May 2023</b>
<b>Published standards – 1 to 30 June 2023</b>

*ISO terminology: NWIP = New Work Item Proposal, WD = Working Draft, CD = Committee Draft, DIS = Draft International Standard, FDIS = Final Draft International Standard.*

*CEN terminology: prEN =enquiry stage (equivalent of DIS), FprEN = for Final Vote (equivalent of FDIS)*

*Draft International Standards (DISs) and their CEN equivalents are publically available documents. Some are posted for comment on the standards development area of BSI's web-site. Committee Drafts and their CEN equivalents are not publically available but can be distributed within organisations represented on the relevant BSI committee.*

*Copies of draft standards are available from the representatives of organisations that are members of the BSI Technical Committee concerned. In the case of EH4, these include for example, AGS, EIC, SCI (see "background" note at the end of this Newsletter for other members). If you do not know who represents an organisation to which you belong, you need to ask the organisation – this is not information that BSI is permitted to supply. However, in most cases I can supply copies for review. The BSI Committee Manager might also be willing to supply a copy.*

**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
*An Occasional Newsletter*

---

<b>RECENTLY PUBLISHED STANDARDS</b>		
<b>BS ISO 13914:2023</b>	Soil, treated biowaste and sludge – Determination of dioxins and furans and dioxin-like polychlorinated biphenyls by gas chromatography with high resolution mass selective detection (HR GC-MS)  <i>Replaces [BS] ISO 13914:2013</i>	Published March 2023
<b>BS EN ISO 16387:2023</b>	Soil quality – Effects of pollutants on Enchytraeidae ( <i>Enchytraeus sp.</i> ) – Determination of effects on reproduction  <i>(Replaces BS EN ISO 16387:2014)</i>	Published April 2023
<b>BS EN ISO 19204:2022</b>	Soil quality – Procedure for site-specific ecological risk assessment of soil contamination (soil quality TRIAD approach)	Published March 2023
<b>BS EN ISO 22476-5:2023</b>	Geotechnical investigation and testing – Field testing –Part 5: Prebored pressuremeter test	Published April 2023

**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
*An Occasional Newsletter*

<b>DRAFT ISO/CEN GEOTECHNICAL STANDARDS</b>		
<i>These standards form part of the programme of work of BSI committee B526/3.</i>		
CEN EN 1997-1	Eurocode 7 - Geotechnical design – General Rules  <i>Will partially replace BS EN 1997-1: 2004 + A1: 2013</i>	<b>Comment period ended 22 November 2022</b>
CEN EN 1997-2	Eurocode 7 - Geotechnical design – Ground properties  <i>Will replace BS EN 1997-2: 2007</i>	<b>Comment period ended 22 November 2022</b>
CEN EN 1997-3	Eurocode 7 - Geotechnical design – Geotechnical structures  <i>Will partially replace BS EN 1997-1: 2004</i>	<b>Comment period ended 22 November 2022</b>
ISO CD 18674-7	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 7: Measurement of strains: Strain gauges	ISO commenting period ends 17 April 2023
ISO FDIS, CEN FprEN 18674-8	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 8: Measurement of forces: Load cells	Comment period ends 4 July 2023
ISO DIS 22476-16	Geotechnical investigation and testing – Field testing – Part 16: Borehole shear test	Comment period ends 13 May 2023
CEN FprEN 22477-2 ISO FDIS 22477-2	Geotechnical investigation and testing – Testing of geotechnical structures – Part 2: Testing of piles: static tension load test	Comment period ends 18 May 2023

**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
**An Occasional Newsletter**

<b>DRAFT ANALYTICAL AND BIOLOGICAL TESTING STANDARDS etc.</b> <i>These standards form part of the programme of work of BSI committee EH4</i>		
ISO DIS 4974	Soil quality – Guidance on soil temperature measurement	Proceeding to FDIS.
ISO FDIS 5120	Soil quality – Determination of perchlorate in soil using liquid chromatography-tandem mass spectrometry (LC-MS/MS)	Comment period ends 29 May 2023
ISO CD 7303	Soil quality – Simplified method for oral bioaccessibility of metal(loids) in soils <i>Will complement BS ISO 17924 – see also NWIP 8259</i>	BSI Comment period ended 8 April 2023
ISO CD 8259	Soil quality – Bioaccessibility of organic and inorganic pollutants from contaminated soil and soil-like material  <i>Based on DIN 19738. Will complement BS ISO 17924 – see also NWIP 7303</i>	BSI Comment period ended 25 September 2022
ISO CD 11265	Environmental solid matrices – Determination of the specific electrical conductivity	BSI comment period ends 19 June 2023
ISO FDIS 11267 CEN FprEN 11267	Soil quality – Inhibition of reproduction of <i>Collemba (Folsomia candida)</i> by soil contamination <i>(will replace BS EN ISO 11267:2014)</i>	BSI comment period ends 17 June 2023
ISO CD 13196	Soil quality – Screening soils for selected elements by energy dispersive X-ray fluorescence spectrometry using a handheld or portable instrument <i>(Revision of BS ISO 13196:2013)</i>	BSI comment period ends 13 July 2023
ISO CD 15192	Soil and waste – Determination of chromium (VI) in solid material by alkaline digestion and ion chromatography with spectrometric detection  <i>Will replace ISO 15192:2010</i>	Comment period ends 13 May 2023
CEN prEN ISO 16965	Environmental solid matrices – Determination of elements using inductively coupled plasma spectrometry (ICP-MS)	Proceeding to enquiry
ISO CD 17126	Soil quality – Determination of the effects of pollutants on soil flora – Screening test for emergence of lettuce seedlings ( <i>Lactuca sativa</i> L.) <i>Will replace ISO 17126:2005</i>	Comment period ended 16 January 2023
CEN FprEN 17505	Soil and waste characterization – Temperature dependent differentiation of total carbon (TOC400, ROC, TIC900)	Comment period ends 3 June 2023

**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
***An Occasional Newsletter***

CEN FprEN 17516:2022	Waste – Characterization of granular solids with potential for use as construction material – Compliance leaching test – Up-flow percolation test <i>(Text will be the same as EN 16637-3 on leaching of construction products)</i>	BSI comment period ends 17 June 2023
CEN FprEN 17813	Environmental matrices – Halogens and sulfur by oxidative pyrohydrolytic combustion followed by ion chromatography detection and complementary determination methods	Comment period end 10 June 2023
FprCEN/TS 17943	Characterization of waste - Determination of the content of elements and substances in waste	Comment period ended 15 April 2023
ISO CD 18187	Soil quality – Contact test for solid samples using the dehydrogenase activity of <i>Arthrobacter globiformis</i>  <i>(will replace [BS] ISO 16187:2016)</i>	Comment period ended 18 February 2023
ISO CD 18386	Soil quality – Screening method for soil temperature	Comment period ended 23 March 2023
ISO FDIS 18400-301	Soil quality – Sampling – Part 301: Sampling and on site semi-quantitative determinations of volatile organic compounds in field investigations	Comment period ends 22 July 2023
ISO NP 18718	Assessment of soil functions and related ecosystem services: definitions	Approved to progress October 2022
ISO NP18721	Assessment of soil functions: indicators and methods	Approved to progress October 2022
ISO NP 18227	Environmental soil matrices – Determination of elemental composition by X-ray fluorescence spectrometry  <i>Includes merger of ISO 18277 and EN 15309</i>	Approved to progress October 2022
ISO CD 18745	Environmental solid matrices – Determination of polychlorinated biphenyls (PCB) by gas chromatography – Mass selective detection (GC-MS) or electron-capture detection (GC-EC)  <i>Involves adoption by ISO of EN 17322. Will replace</i>  <ul style="list-style-type: none"> <li>• <i>ISO 10382:2002, Soil quality – Determination of organochlorine pesticides and polychlorinated biphenyls – Gas-chromatographic method with electron capture detection and</i></li> <li>• <i>ISO 13876:2013, Soil quality – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection</i></li> </ul>	



**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
**An Occasional Newsletter**

	<i>(GC-MS) and gas chromatography with electroncapture detection (GC-ECD)</i>	
ISO DIS 18400-301	Soil quality – Sampling - Sampling for volatiles and on site semi-quantitative determination in field investigations	Comment period on DIS ended 16 February 2022. Proceeding to FDIS
ISO DIS 21268-5	Soil quality — Leaching procedures for subsequent chemical and ecotoxicological testing of soil and soil-like materials — Part 5: Batch test with forced aerobic or anaerobic conditions	Comment period ended 12 January 2022
ISO DIS 22036 CEN prEN 22036	Environmental solid matrices – Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	Comment period ended 6 August 2022 <b>Proceeding to FDIS</b>
ISO DIS 22171	Soil quality – Determination of potential cation exchange capacity (CEC) and exchangeable cations buffered at pH 7 using a molar ammonium acetate solution	Comment period on DIS ended 12 April 2022
ISO DIS 23611-2	Soil quality-Sampling of soil invertebrates - Part 2: Sampling and extraction of micro-arthropods (Collembola and Acarina)	Comment period ends 21 July
ISO DIS 23611-5	Soil quality — Sampling of soil invertebrates — Part 5: Sampling and extraction of soil macro-invertebrates	Comment period ends 21 July
ISO FDIS 23992	Soil quality – Framework for the recording and monitoring of changes in dynamic soil properties	Comment period on FDIS ended 21 June 2022
ISO DIS 24212 CEN prEN 24212	Remediation techniques applied at contaminated sites	Comment period ends 8 June 2023

<b>NEW WORK ITEM PROPOSALS</b> <b>SUBJECT TO APPROVAL BY CEN TC444 and/or ISO TC190</b>		
CEN NWIP TS 17883	Environmental characterization of leachates from waste and soil using reproductive and toxicological gene expression in <i>Daphnia magna</i>	CEN TS17883:2022 requires technical changes.  Comments on NWIP ended 12 April 2023
ISO PWI 19254	Simultaneous determination of multi-class pesticide residues in soil using GC-MS/MS and LC-MS/MS analysis	Comments on NWIP required by <b>X June 2023</b>

**GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 13 June 2023**  
*An Occasional Newsletter*



ISO PWI 21744 CEN NWIP 21744	Sludge, sediment, waste, treated biowaste and soil – Guidance for sample pretreatment	
---------------------------------	--	--

## **BACKGROUND**

*BSI EH4 Soil Quality* is the BSI technical committee responsible for the production of standards relating to soil quality including contaminated land and natural and near-natural sites (e.g. farm land). Standards cover sampling, chemical analysis, physical testing, biological testing, and soil and site assessment. EH4 also deals with standards for the analysis and testing of wastes produced by CEN TC444.

*BSI EH4* shadows ISO (International Organization for Standardization) Technical Committee *TC 190 Soil Quality* and *CEN TC444 (Environmental characterization of solid matrices)*. CEN is the European standards organisation.

EH4 is also responsible for BS10175 (investigation of contaminated sites), BS 8576 (ground gas investigations), BS8454 (protection of buildings against gas) and BS 10176 (soil sampling for VOC determination of VOCs).

There are about twenty organisations (e.g. trade bodies, learned societies, professional bodies, quasi-government bodies etc.) represented on the committee at present together with a handful of individual experts who represent the UK on various ISO and CEN Working Groups. To find out who represents a particular organisation, the organisation should be contacted.

Nominated representatives of member organisations receive copies of formal drafts of standards, known in the case of ISO as Committee Drafts (CDs), Draft International Standards (DISs) and Final Draft International Standards (FDISs); and in the case of BSI as Drafts for Public Comment. They also receive copies of published standards for personal use.

Those representing an organisation are expected to circulate papers to, and consult, those they represent. Draft standards can be posted on “members-only” sections of web-sites for downloading or can be e-mailed to all members of the organisation that is represented.

EH4 actively seeks to broaden its membership. The wider the membership of EH4, the greater the confidence there can be that the standards produced are technically sound and known about by potential users from a wide variety of backgrounds. It also increases the pool of people from which it might be possible to draw on from time to time to represent the UK in ISO and CEN Working Groups. BSI can nominate one or more experts to each of the numerous Working Groups in ISO TC190 and CEN TC444. Whilst experts will hopefully attend meetings of the WGs, in practice this is not always possible and participation is limited to receipt and review of papers.

Member organisations of EH4 include:

Association of Geotechnical and Geoenvironmental Specialists (AGS), British Society of Soil Science, Centre for Ecology & Hydrology, Chartered Institute of Environmental Health, Environment Agency, Environmental Industries Commission (EIC) , EIC Contaminated Land Working Group, Environmental Services Association, Institution of Environmental Sciences, Ministry of Defence, National House Building Council (NHBC), Royal Society of Biology, Society of Brownfield Risk Assessment (SOBRA), Society of Chemical Industry (SCI), the James Hutton Institute, Water UK, Yorkshire & Lincolnshire Pollution Advisory Group.

**Note (03.03.23):** *A number of the organisations listed above are currently unrepresented on EH/4 as a result of replacement representatives not being named by the organisations concerned.*