

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, Jessy Mathew (jessy.mathew@bsigroup.com) for more information.

Mike Smith



ISO TC190 and CEN TC444 MEETINGS, MAY/JUNE 2022

The Covid situation permitting, CEN TC444 and its seven active Working Groups will meet during the week 16-20 May. A Workshop on validation will also be held during this week.

However, if pandemic restrictions do not permit face-to-face meetings, the WGs will meet on-line between 16 May and mid-June and the TC on 22/23 June. The Workshop on validation will be held on a date yet to be confirmed between 16 May and 21 June.

UK participation is likely to be very limited if only face-to-face meetings are held. We are always in need of experts to represent the UK on the various WGs. Contact the Committee Manager, Jessy Mathew (jessy.mathew@bsigroup.com) for more information.

ASBESTOS

ISO TC190/SC3 Chemical and physical characterization and *CEN/TC 444/WG3* both have an interest in production of standards related to the determination of asbestos concentrations in granular materials including sampling and analysis.

CEN TC351-Construction products (shadowed by BSI B557 - *Construction products - Assessment of dangerous substances*) held webinars on asbestos in construction materials (this includes bulk materials such as aggregates from wastes) on 3 May and 14 June. TC 351/WG5 started work on production of a draft document at a dedicated Working Group meeting on 1 December. TC351/WG5 held a further meeting during the week starting 7 March 2022. The UK was represented by Stephen Forster.

This project will be dealt with in the UK by BSI committee B557. However, liaison has been established with EH4 with the intent of trying to ensure wider UK participation in the work than might otherwise be the case.

BS1377

BS 1377-3:2018+A1:2021- Methods of test for soils for civil engineering purposes. Chemical and electro-chemical testing has been published.

The laboratory soil tests in BS 1377:1990 Parts 2, 4, 5, 6, 7 and 8 are consolidated in the draft British Standard *BS 1377-2 Methods of test for soils for civil engineering purposes, Part 2-Classification tests and determination of physical properties*) which is scheduled for publication by 15 March.

This work is part of the programme of BSI committee B536/3-*Ground investigation and ground testing*. B526/3 is responsible for the UK input to national, European and international standards, in particular Eurocode 7 parts 2 and 3, along with Eurocodes related material including the extensive series of testing standards developed by CEN/TC 341 and ISO/TC 182. BSI provides the Secretariat for both of these international committees.

CEN TC 444 WORKING GROUP ON SAMPLING

CEN TC444 WG7-Sampling, which held its first meeting on December 2nd, will focus on maintenance of European standards (ENs) on sampling wastes inherited from CEN TC292. These standards support implementation of the European Directive on wastes (and the UK equivalent). The WG will not concern itself with standards for sampling soils: these are provided by the ISO 18400 series. Any revised standards will become British Standards.

There is considerable experience of sampling soils and soil-like materials among the members of the WG. However, it would benefit if there were more members with direct experience of sampling wastes including from relevant professional bodies, waste producers and the waste disposal and recycling industries. Contact the Committee Manager, Jessy Mathew (jessy.mathew@bsigroup.com) if you think you might like to volunteer.

The WG will probably next meet in May 2022.

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).

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/>

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.

KEY
<i>Drafts - New or amended entries – 1 January to 31 December 2021</i>
<i>Drafts - New or amended entries – 1-January to 28 February 2022</i>
<i>Drafts - New or amended entries – 1-11 March 2022</i>
<i>Published standards – 1 January – 28 February 2022</i>
<i>Published standards – 1-11 March 2022</i>

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)

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 some cases I can supply copies for review. The BSI Committee Manager might also be willing to supply a copy.

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RECENTLY PUBLISHED STANDARDS		
BS EN 16166:2021	Soil, treated biowaste and sludge – Determination of adsorbed organically bound halogens (AOX)	Published January 2022
BS ISO 23646:2022	Soil quality – Determination of organochlorine pesticides by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electron—capture detection (GC-ECD)	Published January 2022
BS EN ISO 24032:2021	Soil quality - In-situ caging of snails to assess bioaccumulation of contaminants	Published March 2022

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BSI PROJECTS		
DPC BS 1377-2	Will cover those tests in Parts 2-8 of BS 1377:1990 that have not been replaced by Parts 1 to 12 of BS EN ISO 17892 or BS 1377-3:2018.	Comment period on Draft for Public Comment ended 23 October 2021. Publication expected by 15 March.
PAS 128 (revision)	Underground utility detection, verification and location – Specification	Publication delayed to unknown date.
DRAFT ISO/CEN GEOTECHNICAL STANDARDS		
<i>These standards form part of the programme of work of BSI committee B526/3.</i>		
ISO 17892-1:2018/DAM1	Geotechnical investigation and testing – Laboratory testing of soil – Determination of water content – AMENDMENT 1	Comment period ended 10 January 2022
NWIP EN ISO 18674-7	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 7: Measurement of strains: Strain gauges	Approved to proceed by ISO TC 182 & CEN TC351 in June 2021
ISO CD 18674-8	Geotechnical investigation and testing – Geotechnical monitoring by field instrumentation – Part 8: Measurement of forces: Load cells	Comment period has ended
ISO DIS 22476-1	Geotechnical investigation and testing – Field testing – Part 1: Electrical cone and piezocone penetration test	Comment period ended on 7 July 2021
ISO CD 22477-2	Geotechnical investigation and testing – Testing of geotechnical structures – Part 2: Testing of piles: static tension load test	Comment period ended August 2021
ISO DIS 24057	Array measurement of microtremors to estimate shear wave velocity profile	Comment period on DIS ended on 22 January 2022

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DRAFT ANALYTICAL AND BIOLOGICAL TESTING STANDARDS etc. <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	Comment period ends on 6 April 2022
ISO DIS 5120	Soil quality – Determination of perchlorate in soil using liquid chromatography-tandem mass spectrometry (LC-MS/MS)	Comment period ends on 5 March 2022
ISO CD TS 5594	Guidance document on designing interlaboratory trial for validation of biotests	Comment period ended 7 June 2021
ISO FDIS 10390 CEN FprEN 10390	Soil, sludge and treated biowaste – Determination of pH <i>(will replace certain other ENs including EN 15933:2012)</i>	Proceeding to publication
ISO CD 11267	Soil quality – Inhibition of reproduction of <i>Collemba (Folsomia candida)</i> by soil contamination <i>(will replace BS EN ISO 11267:2014)</i>	Comment period ended 28 August
ISO DIS 11268-2	Soil quality – Effects of pollutants on earthworms – Part 2: Determination of effects on reproduction of <i>Eisenia fetida/Eisenia andrei</i> <i>(will replace [BS] EN ISO 11268-2:2015)</i>	Comment period ended 8 January 2022
ISO DIS 13914	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)	Comment period ended 30 November 2021
CEN FprEN 15936	Sludge, treated biowaste, soil and waste – Determination of total organic carbon (TOC) by dry combustion	Comment period ended 4 November 2021
ISO DIS 16387	Soil quality – Effects of pollutants on <i>Enchytraeidae (Enchytraeus sp.)</i> – Determination of effects on survival reproduction <i>(revision of BS EN ISO 16387:2014)</i>	Comment period ends on 2 April 2022
CEN FprEN 17503	Environmental solid matrices – Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC) <i>(will supersede EN 15527:2008 & EN16181:2018)</i>	Comment period ended 22 November 2021
CEN prEN 17505	Soil and waste characterization – Temperature dependent differentiation of total carbon (TOC400, ROC, TIC900)	2 nd enquiry completed. Proceeding to next stage

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CEN prEN 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>	Closing date for comments on prEN 19 April 2022
CEN prEN 17813	Environmental matrices – Halogens and sulfur by oxidative pyrohydrolytic combustion followed by ion chromatography detection and complementary determination methods	Comment period ended 7 March 2022
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
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 NP 22036	Soil treated biowaste and sludge – Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	Subject to approval by CEN
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 ends 12 April 2022
ISO DIS 23611-4	Soil quality - Sampling of soil invertebrates – Part 4: Sampling, extraction and identification of soil-inhabiting nematodes	Comment period ended 27 November 2021
ISO DIS 23265	Soil quality – Test for estimating organic matter decomposition in contaminated soil	Comment period ended 11 February 2022
ISO DIS 23992	Soil quality – Framework for the recording and monitoring of changes in dynamic soil properties	Proceeding to FDIS
ISO CD 24212	Remediation techniques applied at contaminated sites	Comment period on first CD ended March 2021. Second CD to be prepared.
ISO FDIS 23400	Guidelines for the determination of organic carbon and nitrogen stocks and their variations in mineral soil at plot scale	Proceeding to publication

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NEW WORK ITEM PROPOSALS SUBJECT TO APPROVAL BY CEN TC444 and/or ISO TC190		
CEN NWIP	Characterization of environmental solid matrices – Halogen and sulfur by oxidative pyrohydrolytic combustion followed by ion chromatography detection and complementary determination methods	Approved by CEN, June 2021
CEN NWIP 444044	Characterization of waste - Determination of the content of elements and substances in waste	Approved by CEN, May 2021
ISO NWIP 7303	Soil quality – Simplified method for oral bioaccessibility of metal(loids) in soils <i>Will complement BS ISO 17924 – see also NWIP 8529</i>	Second ballot closed 2 March 2022. BSI will vote to approve.
ISO NWIP 8529	Soil quality – Bioaccessibility of organic and inorganic pollutants from contaminated soil and soil-like material <i>Will be based on DIN 19738 and complement BS ISO 17924 – see also NWIP 7303</i>	Approved September 2021
ISO NP 10382	Environmental solid matrices – Determination of polychlorinated biphenyls (PCB) by gas chromatography – Mass selective detection (GC-MS) or electron-capture detection (GC-EC)	Awaiting approval
CEN NWIP	Environmental characterization of leachates from waste and soil using reproductive and toxicological gene expression in <i>Daphnia magna</i>	Approved March 2021
ISO PWI 16965.2	Environmental solid matrices – Determination of elements using inductively coupled mass spectrometry (ICP-MS) <i>Includes merger of ISO TS16965 & EN 16171</i>	Subject to CEN & ISO approval ISO deadline for voting/comment 21 March 2022
ISO PWI 18227.2	Environmental soil matrices – Determination of elemental composition by X-ray fluorescence spectrometry <i>Includes merger of ISO 18277 and EN 15309</i>	Subject to CEN & ISO approval ISO deadline for voting/comment 21 March 2022
CEN WI 444239	Characterization of waste – Determination of selected low boiling point alcohols using gas chromatography with flame ionization detection after static head-space extraction (HS_GC_FID)	Subject to approval by CEN TC444

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.

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 has recently assumed responsibility for European standards (ENs) for analysis and testing of wastes produced by CEN TC444.

EH4 is also responsible for BS10175 (investigation of contaminated sites), BS 8576 (ground gas investigations), BS8454 (protection of buildings against gas) and BS 1076 (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 (e.g. Paul Nathanail, Mike Ramsey). 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. BSI makes a contribution towards the costs of UK experts attending ISO and CEN meetings.

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, University of Glasgow, Water UK, Yorkshire & Lincolnshire Pollution Advisory Group.