

GEOENVIRONMENTAL STANDARDS FOR SOIL & SITE ASSESSMENT – 4 March 2020
An Occasional Newsletter

To:

SCI Environment, Health & Safety Group, National Brownfield Forum, Geol Soc CLG

Introduction

The meeting of CEN TC444 (*Environmental characterization of solid matrices*), its Sub-committees and Working Groups, that was to have been held in Milan in May has been cancelled because of the CoronaVirus situation.

CEN TC444 has now taken over the work of TC 292 which dealt with all aspects of waste characterization including analysis, testing and sampling. BSI Technical Committee EH4 which shadows CEN TC 444 needs to strengthen its expertise relating to waste by recruiting relevant organisations and experts knowledgeable about the production, disposal and characterization of wastes. Any volunteers should contact the Secretary of EH4, Jessy Mathew (Jessy.Mathew@bsigroup.com).

2020 will mark 40 years of BSI national and international activity relating to soil quality including natural and near-natural sites and contaminated sites. Work started on preparation of a code of practice for investigation of potentially contaminated sites in 1980 but the Department of the Environment objected to the publication of the Draft for Public comment in 1981 and to the technical committee even considering what other standards (e.g. analytical) might be required. DD175, the predecessor of BS10175, was eventually published in 1988. ISO TC190 Soil Quality began work in 1986 with BSI participating fully across all the technical sub-committee: sampling (SC2) physical methods (SC5), chemical methods (SC4), biological methods (SC4) and terminology etc. (SC1). SC7 on soil and site assessment was set up a few years later.

Proposed BS10176 - Sampling soils for VOCs

This new standard is on schedule for publication in about May 2020.

BS ISO EN 21365 - Conceptual site models for potentially contaminated sites

ISO 21365 was published in October 2019. Unfortunately, there was a three-month delay starting the approval process for the EN so that the comment period on the EN does not close until the end of April 2020. BSI will not adopt ISO 21365 as a BS until a decision has been made within CEN about whether to adopt. ISO 21365 as an EN. There is no reason to expect that it will not be adopted as an EN.

Proposed ISO 18400-301 Sampling Soils for Volatiles

This new ISO project has been approved and will be handled by a new Working Group (TC190/SC7/WG13) under French leadership. The proposed guidance document will differ in scope than BS10176. A draft of the standard will be discussed at a meeting to be held in Paris in April. It is unlikely that the ISO document will be adopted as a BS because of the overlap with BS 10176.

Proposed ISO EN 24212 Remediation techniques applied at contaminated sites

The proposal for a guidance document on the selection and application of remediation techniques has been accepted by ISO and CEN. A draft of the standard will be discussed at a meeting to be held in Paris in April.

Future of BS1377

The twelve standards in the BS EN ISO 17892 series supersede the equivalent test methods in BS 1377 which should no longer be specified. The corresponding parts, or sub-parts of BS 1377:1990 have been withdrawn. Work has started to revise and consolidate the remnants of BS Parts 1, 2 and 4 to 9 (BS 1377-3 has been recently revised).

Note: This is not a complete listing of on-going projects. At any one time there are also a number of chemical analytical, biological testing, geotechnical and ground engineering standards, progressing through the ISO/CEN/BS system.

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Copies of draft standards are available from the representatives of organisations that are members of BSI Technical Committee EH4 (e.g. AGS, EIC, SCI). 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.

Mike Smith



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| BSI PROJECTS | | |
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| New British Standard BS10176 | Taking soil samples for determination of volatile organic compounds (VOCs) - Specification | On route to publication in about May 2020. |
| BS 5930:2015 + A1:2020 Amendment of BS 5930 | Code of practice for ground investigations | Proceeding to publication |
| PAS 128 (revision) | Underground utility detection, verification and location - Specification | Public comment period ends 16 March. |
| ISO/CEN GEOTECHNICAL STANDARDS | | |
| prEN 1997-1 | Geotechnical design – General Rules | Comment period ended 8 January 2020 |
| prEN 1997-2 | Geotechnical design – Ground properties | Comment period ended 8 January 2020 |
| prEN 1997-3 | Geotechnical design – Geotechnical structures | Comment period ended 8 January 2020 |
| BS ISO DIS 18674 -4: | Geotechnical investigation and testing – Geotechnical monitoring by field instruments – Part 4: Measurement of pore water pressure: Piezometers | FDIS being prepared |
| BS EN ISO FDIS 22475 | Geotechnical investigation and testing – Sampling of soil, rock and groundwater – Technical principles | FDIS ballot launched 25 February |
| BS ISO DIS 22476-9 | Geotechnical investigation and testing – Field testing – Part 9: Field vane test (FVT and FVT-F) | FDIS being prepared |
| BS ISO 22476-14 | Geotechnical investigation and testing – Field testing – Part 14: Borehole dynamic probing | FDIS comment period ended 29 January 2020 Proceeding to publication |
| ISO CD 24283-1 | Geotechnical investigation and testing – Qualification criteria and assessment – Part 1: Qualified technician | Comment period ended 21 January 2020. |
| ISO CD 24283-2 | Geotechnical investigation and testing – Qualification criteria and assessment – Part 2: Responsible expert | Not approved to proceed to DIS. UK voted against approval. |
| ISO CD 24283-3 | Geotechnical investigation and testing – Qualification criteria and assessment – Part 3: Qualified enterprise | Future will be decided at meeting of ISO TC182 in March |
| <p><i>ISO terminology: CD = Committee Draft, DIS = Draft International Standard, FDIS = Final Draft International Standard, NWIP = New Work Item Proposal, WD = Working Draft</i> <i>CEN terminology: prEN =enquiry stage (equivalent of DIS), FprEN = for Final Vote (equivalent of FDIS)</i></p> | | |

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| OTHER ISO STANDARDS ON SOIL & SITE ASSESSMENT Etc. | | |
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| BS ISO DIS 11063 (revision of 11063:2012) | Direct extraction of soil DNA | Proceeding to FDIS |
| ISO CD 12404 (revision of BS EN ISO 12404: 2015) | Soil & Waste - Selection & application of analytical screening methods for on-site use | DIS awaited for comment |
| ISO DIS 16751 | Environmental availability of non-polar organic compounds – Determination of the potentially bioavailable fraction and the non-bioavailable fraction using a strong adsorbent or complexing agent | Proceeding to publication |
| ISO WD 18400-301 | Sampling and measuring of volatiles in soil quality field investigations | ISO project initiated |
| BS EN ISO 21365 | Conceptual site models for potentially contaminated sites | ISO 21365 published October 2019, EN voting to end of April 2020 |
| BS ISO 22190 | Soil quality – Use of extracts for the assessment of bioavailability of trace elements in soils | Proceeding to publication |
| ISO DIS 23400 | Guidelines for the determination of organic carbon and nitrogen stocks and their variations in mineral soil at plot scale | DIS to be launched March 2020 |
| ISO CD 24032 | In-situ caging of snails to assess bioaccumulation of contaminants | Comment period ended 26 September |
| ISO NP 24212 | Remediation techniques applied at contaminated sites | Project approved in ISO and CEN |

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SELECTED DRAFT ANALYTICAL STANDARDS etc.

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|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| ISO FDIS 10390 | Soil, sludge and treated biowaste – Determination of pH | Comment period ended 1 March 2020 |
| ISO FDIS 11277 | Soil quality – Determination of particle size distribution in mineral soil material – Method by sieving and sedimentation | Comment period ended 12 February 2020 |
| ISO DIS 11916-3 | Soil quality – Determination of selected explosives and related compounds – Part 3: Method using liquid chromatography-tandem mass spectrometry (LC-MS/MS) | Comments required by 12 April 2020 |
| prEN ISO DIS 54321 | Soil, treated biowaste, sludge and waste – Digestion of aqua regia soluble fractions of elements | Comment period ended 20 December |
| CEN prEN 15216 | Environmental matrices – Determination of dissolved solids (TDS) in water and eluates – Complementary element | Comment period ended 9 December |

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| ISO FDIS 23266 | Soil quality - A Test for measuring the inhibition of reproduction in oribatid mites (<i>Oppia nitens</i>) exposed to contaminated soil | Comment period ends 20 April 2020 |
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RECENTLY PUBLISHED ANALYTICAL AND OTHER TESTING SOIL QUALITY STANDARDS

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| BS EN ISO 21268-4: 2019 | Soil quality– Leaching procedures for subsequent chemical and ecotoxicological testing of soil and soil-like materials: Part 4 – Influence of pH on leaching with initial acid/base addition | December 2019 |
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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) and BS8454 (protection of buildings against gas). Work is in progress on a BS on sampling soil for determination of VOCs (proposed BS 10176).

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 Civil Engineers, 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.

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