D David Norbury Engineering Geologist **N**

FIELD DESCRIPTION OF SOILS in accordance with BS5930:2015

SOIL GROUP	Very Coarse soils			Coarse soils						Fine soils					
PRINCIPAL SOIL TYPE	**BOULDERS**		**COBBLES**	**GRAVEL**			**SAND**			**SILT**			**CLAY**		
Particle size (mm)	Large boulder	Boulder	Cobble	Coarse	Medium	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine			
	>630	630 - 200	200 - 63	63 - 20	20 - 6.3	6.3 – 2.0	2.0 - 0.63	0.63 - 0.2	0.2 - 0.063	0.063 - 0.02	0.02 - 0.0063	0.0063 - 0.002	<0.002		
Visual identification	Only seen complete in pits or exposures. Difficult to recover whole from boreholes.			Easily visible to naked eye; particle shape can be described; grading can be described.			Visible to naked eye; no cohesion when dry; grading can be described.			Only coarse silt visible with hand lens; exhibits little plasticity and marked dilatancy; slightly granular or silky to the touch; disintegrates in water; lumps dry quickly; possesses cohesion but can be powdered easily between fingers.			Dry lumps can be broken but not powdered between the fingers; dry lumps disintegrate under water but more slowly than silt; smooth to the touch; exhibits plasticity but no dilatancy; sticks to the fingers and dries slowly; shrinks appreciably on drying usually showing cracks		
Density/ Consistency	No terms defined. Qualitative description of packing by inspection and ease of excavation.			Classification of relative density on the basis of N value (Table 10), or field assessment using hand tests may be made (Table 11).						**Term**	Very soft	Soft	Firm	Stiff	Very stiff
										Field test	Finger easily pushed in up to 25 mm. Exudes between fingers	Finger pushed in up to 10 mm. Moulded by light finger pressure	Thumb makes impression easily. Cannot be moulded by fingers. Rolls to thread	Can be indented slightly by thumb. Crumbles in rolling thread. Remoulds	Can be indented by thumb nail. Cannot be moulded, crumbles
Discontinuities	Describe spacing of features such as fissures, shears, partings, isolated beds or laminae, desiccation cracks, rootlets etc. Fissured: Breaks into blocks along unpolished discontinuities. Sheared: Breaks into blocks along polished discontinuities.						**Scale of spacing of discontinuities**	**Term**		very widely	widely	medium	closely	very closely	extremely closely
								Mean spacing (mm)		>2000	2000 - 600	600 - 200	200 - 60	60 - 20	<20
Bedding	Describe thickness of beds in accordance with geological definition. Alternating layers of materials are Inter-bedded or Inter-laminated and should be described by a thickness term if in equal proportions, or by a thickness of and spacing between subordinate layers where unequal.						**Scale of bedding thickness**	**Term**		very thickly bedded	thickly bedded	medium bedded	thinly bedded	very thinly bedded	thickly laminated	thinly laminated
								Mean thickness (mm)		>2000	2000 - 600	600 - 200	200 - 60	60 - 20	20 - 6	<6
Colour	**HUE** can be preceded by **LIGHTNESS** and/or **CHROMA**			Red / Pink / Orange / Yellow / Cream / Brown / Green / Blue / White / Grey / Black Light / - / Dark Reddish / Pinkish / Orangish / Yellowish / Brownish / Greenish / Bluish / Greyish						Colours may be mottled More than 3 colours is multi-coloured					
Secondary constituents	For mixtures involving very coarse soils see **33.4.4.2**			**Term in coarse soils**	slightly (sandy) Note 2	(sandy) Note 2	very (sandy) Note 2	SAND AND GRAVEL		**Term in fine soils**	slightly (sandy) Note 4	(sandy) Note 5	very (sandy) Note 5	Silty CLAY Clayey SILT	Terms used to reflect secondary fine constituents where this is important
				Proportion secondary Note 1	<5%	5-20% Note 3	>20% Note 3	About 50% Note 3		**Proportion secondary** Note 1	<35%	35 – 65% Note 6	>65% Note 6		
Mineralogy	Terms can include: glauconitic / micaceous / shelly / organic / calcareous Carbonate content: carbonate free = no reaction to HCl / slightly calcareous = weak or sporadic effervescence / calcareous = clear but not sustained effervescence / highly calcareous = strong, sustained effervescence. Organic soils contain secondary finely divided or discrete particles of organic matter, often with distinctive smell, may oxidise rapidly.									For example: slightly (glauconitic) / (glauconitic) / very (glauconitic) For example: slightly organic – grey / organic – dark grey / very organic – black					
Particle shape	Very angular / Angular / Sub-angular / Sub-rounded / Rounded / Well rounded A dominant shape can be described, for example: Cubic / Flat / Elongate														
PRINCIPAL SOIL TYPE	LARGE BOULDERS	BOULDERS	COBBLES	GRAVEL			SAND			SILT			CLAY		
Tertiary constituents	Example terms include: shell fragments / pockets of peat / gypsum crystals / pyrite nodules / calcareous concretions / flint gravel / brick fragments / rootlets / plastic bags Qualitative proportions can be given: with rare / with occasional / with numerous/ frequent/ abundant. Proportions are defined on a site or material specific basis, or subjectively														
Geological Unit	Name in accordance with published geological maps, memoirs or sheet explanations.														

Notes: 1) Percentage coarse or fine soil constituents excludes cobbles and boulders. 2) gravelly or sandy and/or silty or clayey. 3) Or described as fine soil depending on mass behaviour.
4) gravelly and/or sandy. 5) gravelly or sandy. 6) Or described as coarse soil depending on mass behaviour