

APPENDIX 1

Tab. S1 - Lithological classes.

Cod.	Geological unit	Lithological class
Da	Alluvial deposits (Quaternary)	Loose deposits
Dd	Colluvial and detritic deposits (Quaternary)	
Dm	Moraine (Quaternary)	
Dol	Dolomite rock (Upper Triassic)	Calcareous and dolomitic rocks
CD	Cassiana, Sciliar and Serla Sup.dolostones, Marmolada limestone (Upper Triassic)	
DC	Serla dolostone, Werfen formation (Lower-Middle Triassic)	
Co	S. Vigilio group, Grey limestone, Norico dolostone (Lower Dogger-Upper Lias)	
Ds	Soverzene formation, Dolomia della Schiara (Middle-Upper Lias)	
Cco	Vajont limestone, S. Boldo dolostone (Dogger)	
CCc	M. Cavallo limestone, Calcarenite di Col Palù (Cretaceous)	
Ar	Auronzo, del Fernazza, di La Valle (Wengen Group) formations (Middle Triassic)	Arenitic rocks
AC	Acquatona, Livinallongo formation, Zoppè sandstones (La Valle Group) (Middle Triassic)	
ACc	S. Cassiano formation (Upper Triassic)	
CA	Agordo, dell'Ambata, A Gracilis, Di Dont formations (Upper Triassic)	Evaporite rocks
Ar	Raibl Group (Upper Triassic)	
Cas	Biancone, Calcare di Soccher (Cretaceous – Malm)	Argillaceous -limestone rocks
Cs	Igne fomation (Lower Dogger-Upper Lias)	
Cn	Rosso Ammonitico, Campotorondo limestone, Fonzaso formation (Dogger)	
Cam	Scaglia Rossa, Scaglia Cinerea, Marna della Vena d'Oro (Lower Eocene-Upper Cretaceous)	

Tab. S2 - Permeability classes.

Cod.	Permeability class
High	Rock with high permeability (primary permeability related to the capacity of rock to transmit fluid through intergranular pore space).
Medium	Rock with medium permeability (primary permeability related to the capacity of rock to transmit fluid through intergranular pore space).
Medium (f)	Rock with medium permeability (secondary permeability related to the capacity of rock to transmit fluid through openings and fractures formed after consolidation).
Low	Rock with low primary permeability (primary permeability related to the capacity of rock to transmit fluid through intergranular pore space).
Low (f)	Rock with low secondary permeability (secondary permeability related to the capacity of rock to transmit fluid through openings and fractures formed after consolidation) results from fracturing of the intact rock).

Tab. S3 - Soil types.

Cod.	Soil type
GA2	Soils in morphologically lower areas of the alluvial plain. Soils with pedogenetic structure in depth and weakly differentiated profiles (<i>Calcaric Cambisols</i>).
DA1	Soils on limestone with organic matter accumulation on the surface. Shallow, weakly-developed soils predominate on rocky slopes and plateau surfaces (<i>Rendzic Leptosols</i>).
DB1	Somewhat shallow soils on limestone with pedogenetic structure in depth and weakly differentiated profiles. Soil of medium and high slopes on mountains. (<i>Calcaric Leptosols</i>).
DB2	Shallow soil on stable surfaces. These soils are moderately deep soils, gravel and moderate differentiation of the profile (<i>Calcaric Cambisols</i>). On steep surfaces and/or eroded and very gravelly, low differentiation of the profile (<i>Calcaric Leptosols</i>).
DB3	Soils derived from silicate materials located on stable slopes. Soils with moderately differentiated profiles with a pedogenetic structure and aluminium and/or iron oxide accumulation in depth. (<i>Sesquic Cambisols</i>)
DB4	Soils with moderately deep, gravelly, moderate differentiation of the profile (<i>Calcaric Cambisols</i>) and, secondarily, deep soil, gravel, high differentiation of the profile with leaching of clays (<i>Skeleti-Cutanic Luvisols</i>).
DB5	Soils with moderate-to-deep, gravelly, high-profile differentiation with leaching of clays (<i>Cutanic Luvisols</i>)
VB1	Soils of valley floors in the prevalence of fluvial deposits and with vast local quantities of glacial deposits. Soils are thin and gravelly with low differentiation of the profile (<i>Calcaric Leptosols</i>). The soils are moderately deep, gravelly with a moderate differentiation of the profile (<i>Calcaric Cambisols</i>) on stable surfaces.