

GENERAL INFORMATION	
Parameter name	Geological cross-sections
Name of the layer in EGD Map Viewer	Geological cross-section, Cardiff
Original name of the layer uploaded to EGD database	PP02_BGS_cross_sections
Category	Geology
Definition	<a href="#">A geological cross-section is a graphic representation of the intersection of the geological bodies in the subsurface with a vertical plane of a certain orientation.</a>
Harmonized unit	none
Relevance for shallow geothermal energy	Geological cross sections provide information about the lithostratigraphic units composing the subsurface.
Data type	Discrete labels
Data format	vector: polylines
Projection	EPSG: 3034
Dataset selected for pilot area	Glasgow, <b>Cardiff</b> , Linkoping, Brussels, Cork (TBC), Zaragoza, Aarhus

ATTRIBUTES	
Cross_Section_Type	Discrete data classes based on a joint legend:
1.	lithological cross-section
2.	stratigraphic cross-section
Cross_Section_Type_URI	Link to definitions, e.g., INSPIRE, project vocabulary, etc.
Link_to_cross_section	Link to the cross section.
linkdataurl	Link to national database where these data are archived
remark	Free text for additional information
repositoryurl	Link to this factsheet.

DATA SOURCE	
Pilot area	Cardiff
Data source	<b>Kendall, R.S.; Williams, L.R.; Patton, A.M.; Thorpe, S.</b> 2020 <i>Metadata report for the Cardiff superficial deposits 3D geological model</i> . Nottingham, UK, British Geological Survey, 19pp. (OR/16/031) (Unpublished)
Contact data owner	David Boon ( <a href="mailto:dboon@bgs.ac.uk">dboon@bgs.ac.uk</a> or <a href="mailto:enquiries@bgs.ac.uk">enquiries@bgs.ac.uk</a> )
Last Update	28 May 2021

Explanatory text English
Five geological cross sections drawn through the 3D superficial (Quaternary) deposits model illustrating general thicknesses and relations of litho-stratigraphic units in Cardiff, UK. Bedrock (grey) is generally Triassic Mercia Mudstone Group (MMG) mudstones, siltstone, sandstone, thin gypsum bands and nodules, with limestone conglomerate at base (Marginal facies). Note the

detail of bedrock geology is not provided and base of model is cut off at 50m below local ordnance datum (mean sea level). Shallow water table in the superficial deposits typically 3-4 m below surface in the low-lying area and where saturated, the Glaciofluvial Sheet Deposits (GFSDD) constitute a minor unconsolidated (dense) gravel aquifer with yields of 10l/s proven (Pers. Comm. Cardiff Harbour Authority) which is a potential target for small-medium capacity (10 - 100kW) Open loop ground source heating and cooling systems. Tidal Flat Deposits are typically soft-stiff compressible soils comprised of variable quantities of Organic Clay, Silt, Sand, commonly with a gravel lag at base. Made Ground is artificial or man-made (anthropogenic) deposits of variable composition, strength, and thickness.

### Explanatory text national language

Language	Welsh
	<p>Cymerwyd y pum croestoriad daearegol o fodel daearegol arwynebol (Quaternary) Caerdydd 3D. Y creigwely (a ddangosir mewn llwyd) yw Triassic Mercia Mudstone Group (MMG) ac mae'n cynnwys cerrig llaid, carreg silt, tywodfaen, a bandiau a modylau gypswm tenau, gyda clymfaen calchfaen yn y gwaelod (Marginal Facies). Ni ddangosir gwybodaeth am ddaeareg creigwely. Mae gwaelod y model yn 50 metr o dan lefel y môr. Mae'r tabl dŵr yn 3-4 metr o dan lefel y ddaear. Mae'r ddyfrhaen yn cynnwys graean trwchus (Glaciofluvial Sheet Deposits (GFSDD)) a gall gynhyrchu llifau o 10 litr yr eiliad. Mae hyn yn ei gwneud yn darged posib ar gyfer systemau ynni geothermol capasiti bach i ganolig (10 - 100kW). Mae'r Tidal Flat Deposits yn cynnwys meintiau amrywiol o Glai Organig, Silt a Thywod, gyda graean yn y gwaelod. Mae Made Ground wedi'i wneud gan ddyn ac mae ganddo gyfansoddiad amrywiol.</p>