

Title Lithogeochemistry of rocks from southeast Ireland ITM

Purpose

Rock samples were collected in southeast Ireland from 1972 to 1994. These rock samples were tested using different methods to provide data on the chemistry of the rocks. The chemical data can be used to improve knowledge of the nature and source of the rocks that form the bedrock of southeast Ireland.

Version 1.0

Summary

This data release includes data for 518 rock samples collected in southeast Ireland from 1972 to 1994. They were all analysed for 33 elements by neutron activation analysis (INAA) and 10 elements by atomic absorption spectrophotometry (AAS). Five elements were common to both INAA and AAS analyses so the analyses include data for 38 unique elements. Some samples were also analysed for 10 major elements by X-ray fluorescence spectrometry (XRFS). The data show the variation in the chemistry of the bedrock across the region. The samples are classified according to rock type, geological unit and age.

It is a vector dataset. Vector data portray the world using points, lines, and polygons (areas). The lithogeochemistry data are represented as points. For each point the data file gives information about the identity of the sample, where the sample was collected, the concentration of elements in the sample and information about the geology of the sample. The information includes:

- Sample_ID = GSI sample number
- SiO2_XRFS = Silicon Dioxide (SiO2) (%) analysed by XRFS
- TiO2_XRFS = Titanium Dioxide (TiO2) (%) analysed by XRFS
- Al2O3_XRFS = Aluminium Oxide (Al2O3) (%) analysed by XRFS
- Fe2O3_XRFS = Iron (III) Oxide (Fe2O3) (%) analysed by XRFS
- FeO_XRFS = Iron (II) Oxide (FeO) (%) analysed by XRFS
- MnO_XRFS = Manganese Oxide (MnO) (%) analysed by XRFS
- MgO_XRFS = Magnesium Oxide (MgO) (%) analysed by XRFS
- CaO_XRFS = Calcium Oxide (CaO) (%) analysed by XRFS
- Na2O_XRFS = Sodium Oxide (Na2O) (%) analysed by XRFS
- K2O_XRFS = Potassium Oxide (K2O) (%) analysed by XRFS
- P2O5_XRFS = Phosphorus Pentoxide (P2O5) (%) analysed by XRFS
- Ag_INAA = Silver (Ag) (ppm) analysed by INAA
- As_INAA = Arsenic (As) (ppm) analysed by INAA
- Au_INAA = Gold (Au) (ppb) analysed by INAA
- Ba_INAA = Barium (Ba) (ppm) analysed by INAA
- Br_INAA = Bromine (Br) (ppm) analysed by INAA
- Cd_INAA = Cadmium (Cd) (ppm) analysed by INAA
- Ce_INAA = Cerium (Ce) (ppm) analysed by INAA
- Co_INAA = Cobalt (Co) (ppm) analysed by INAA
- Cr_INAA = Chromium (Cr) (ppm) analysed by INAA
- Cs_INAA = Caesium (Cs) (ppm) analysed by INAA
- Eu_INAA = Europium (Eu) (ppm) analysed by INAA
- Fe_INAA = Iron (Fe) (%) analysed by INAA
- Hf_INAA = Hafnium (Hf) (ppm) analysed by INAA
- La_INAA = Lanthanum (La) (ppm) analysed by INAA
- Lu_INAA = Lutetium (Lu) (ppm) analysed by INAA
- Mo_INAA = Molybdenum (Mo) (ppm) analysed by INAA

- Na_INAA = Sodium (Na) (%) analysed by INAA
- Ni_INAA = Nickel (Ni) (ppm) analysed by INAA
- Rb_INAA = Rubidium (Rb) (ppm) analysed by INAA
- Sb_INAA = Antimony (Sb) (ppm) analysed by INAA
- Sc_INAA = Scandium (Sc) (ppm) analysed by INAA
- Se_INAA = Selenium (Se) (ppm) analysed by INAA
- Sm_INAA = Samarium (Sm) (ppm) analysed by INAA
- Sn_INAA = Tin (Sn) (ppm) analysed by INAA
- Ta_INAA = Tantalum (Ta) (ppm) analysed by INAA
- Tb_INAA = Terbium (Tb) (ppm) analysed by INAA
- Te_INAA = Tellurium (Te) (ppm) analysed by INAA
- Th_INAA = Thorium (Th) (ppm) analysed by INAA
- U_INAA = Uranium (U) (ppm) analysed by INAA
- W_INAA = Tungsten (W) (ppm) analysed by INAA
- Yb_INAA = Ytterbium (Yb) (ppm) analysed by INAA
- Zn_INAA = Zinc (Zn) (ppm) analysed by INAA
- Zr_INAA = Zirconium (Zr) (ppm) analysed by INAA
- Co_AAS = Cobalt (Co) (ppm) analysed by AAS
- Cr_AAS = Chromium (Cr) (ppm) analysed by AAS
- Cu_AAS = Copper (Cu) (ppm) analysed by AAS
- Fe_AAS = Iron (Fe) (%) analysed by AAS
- Li_AAS = Lithium (Li) (ppm) analysed by AAS
- Mn_AAS = Manganese (Mn) (ppm) analysed by AAS
- Ni_AAS = Nickel (Ni) (ppm) analysed by AAS
- Pb_AAS = Lead (Pb) (ppm) analysed by AAS
- V_AAS = Vanadium (V) (ppm) analysed by AAS
- Zn_AAS = Zinc (Zn) (ppm) analysed by AAS

Geological information:

- Lithological Group = General lithological grouping
- Code_100K = GSI 1:100,000 bedrock map code
- Description_100K = GSI 1:100,000 bedrock map description of rock types in formation / unit
- UnitName_100K = GSI 1:100,000 bedrock map lithological formation / unit
- UnitName_500K = GSI 1:500,000 bedrock map unit
- MapCode_500K = GSI 1:500,000 bedrock map code (national map code)
- Formation_500K = GSI 1:500,000 bedrock map formation
- Age Bracket = GSI 1:500,000 bedrock map unit age
- Lithology_HS = Field / hand specimen rock description
- Reference 1 = Relevant published reference
- Reference 2 = Relevant published reference
- Reference 3 = Relevant published reference
- Reference 4 = Relevant published reference
- Reference 5 = Relevant published reference

Location information for the sample site:

- X_ING = Easting (Irish National Grid coordinate system)
- Y_ING = Northing (Irish National Grid coordinate system)
- X_ITM = Easting (Irish Transverse Mercator coordinate system)
- Y_ITM = Northing (Irish Transverse Mercator coordinate system)

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Extent	West	-7.469866
	East	-6.021302
	North	53.268383
	South	52.135751

Survey start date:	1972
Survey finish date:	1994

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