

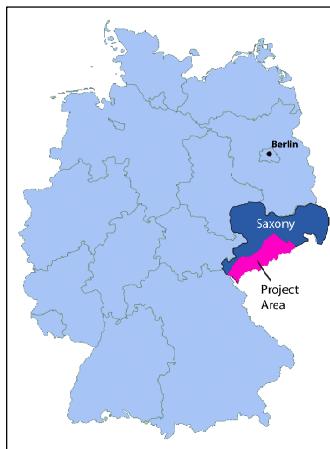
Geochemical Atlas – Erzgebirge and Vogtland

Uranium in stream sediments

Uranium (U) shows a right skewed log distribution with a maximum of 724 mg/kg and a minimum of 0.27 mg/kg. The arithmetic average of 4.8 mg/kg clearly exceeds the median of 1.9 mg/kg. Areas of elevated U coincide partially with known U deposits on the one hand and with Upper Carboniferous granitoids on the other hand. Compared to the rest of the study area, the western Erzgebirge hosts more and higher concentrated uraniferous areas than the eastern Erzgebirge. Interestingly, some of the known U mining sites (Schneeberg, Johanngeorgenstadt and Neumark) show only faint elevations in stream sediment. The area between the Schneckenstein U deposit and the Sn-greisen deposit of Gottesberg yields the highest continuous elevations with $U > 40$ mg/kg over 3.5 km. It is surrounded by a 10 km N-S striking zone of $U > 16$ mg/kg, mainly in the western Eibenstock granite area. Only small zones match with the SW adjacent Schneckenstein deposit. Furthermore, in the eastern Eibenstock granite, three major areas

with elevated U coincide with Sn mining and U prospection sites. Also the eastern contact of the Bergen granite presents elevated U. In conclusion, U levels > 6 mg/kg match significantly with large proportions of the Kirchberg, Bergen, Eibenstock and Fichtelgebirge granites, and in small spots with the BiCoNi and U districts of Schneeberg and Bad Schlema-Alberoda. In contrast, in the eastern Erzgebirge, similar U concentrations only occur at the Schellerhau granite, including the adjacent Teplice rhyolite in the south and a rhyolite east of the Sadisdorf Sn deposit. The polymetallic mining areas of the central Erzgebirge and the Neumark U deposit only exhibit low contents with $U < 2.5$ mg/kg. Minima with $U < 1.0$ mg/kg occur in basic and ultrabasic rocks NE of Hainichen and in Cambro-Ordovician metasediments SW of the Eibenstock granite.

Scale: 1 : 400,000
0 5 10 Kilometres



1 – Altenberg-Teplice-Caldera (incl. 1a - Schellerhau granite), 2 – Bergen Pluton 3 – Eibenstock Pluton, 4 – Eichigt Pluton (concealed), 5 – Fichtelgebirge Pluton, 6 – Flöha Fault Zone, 7 – Frankenberg Crystalline Complex, 8 – Markersbach Pluton, 9 – Gera-Jachymov Fault Zone, 10 – Kirchberg Pluton, 11 – Niederbobritzscha Pluton, 12 – Tharandt Volcanic Complex, 13 – Lößnitz-Zwönitz Syncline

Project partners:

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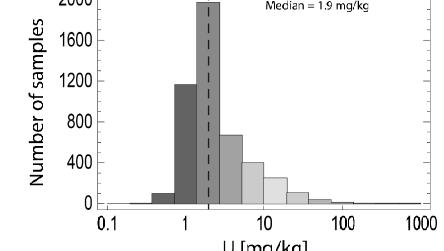


Federal Ministry
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Innovative Technologien
für Ressourceneffizienz
Forschung zur Bereitstellung
wirtschaftsstrategischer Rohstoffe

Analysed fraction: < 0.18 mm
Analysed by: ALS Minerals
Analytical method: ME-MS41
(Ultra Trace Aqua Regia ICP-MS)



Locality
River
Border D / CZ
Major fault

Uranium

[mg / kg]

< 1.0
1.0 - 1.6
1.6 - 2.5
2.5 - 4.0
4.0 - 6.3
6.3 - 10
10 - 16
16 - 25
25 - 40
> 40

Important Mineral Occurrences

- W, ± Mo
- Sn, ± W, ± Cu, ± F, ± Li, ± Rb, ± Bi
- Sn, ± Zn, ± W, ± F, ± Cu, ± In, ± Au
- Ag, Pb, Zn, ± Cu, ± Sn, ± In
- Sb, Ag, ± Au, ± Pb, ± Zn, ± Mo
- Bi, Co, Ni, U, ± Ag
- Cu, ± Co, ± Au, ± Sb
- Baryte, Fluorite

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a1 - Freiberg north district, a2 - Felsite zone, a3 - Langenstriegis, a4 - Oberschöna, a5 - Freiberg central district & Brand-E, a6 - Muldenhütten, a7 - Halsbrücke, b - Mohorn, c - Edle Kronen - Klingenberg, d - Dippoldiswalde, e - Schletzwitz, f - Berggießhübel, g - Sadisdorf, h - Frauenstein, i1 - Altenberg, i2 - Zinnwald-Cinovec, i3 - Moldava, i4 - Rehefeld, j1 - Grünberg, j2 - Augustusburg, j3 - Zschopau, k1 - Lengefeld, k2 - Marienberg - Wolkenstein, k3 - Pöbershau, l1 - St. Katharinaberg, m1 - Geyer, m2 - Hornerdorf, m3 - Thum, m4 - Ehrenfriedersdorf, m5 - Annaberg-B., n1 - Lauter-Elterlein, n2 - Westerzgebirge complex deposit, n3 - Niederschlag-Bärenstein, o1 - Aue-Bärengrund, o2 - Bad Schlema-Alberoda, o3 - Schneeberg, p - Neumark (U), q - Pechtschigrün, r1 - Sn Deposits of the Eibenstock Granite, r2 - Gottesberg-Mühlenite, s - Johanngeorgenstadt, t - Brunnröhra & Schneckenstein, u - Klingenthal-Kraslice, v1 - Zobes, v2 - Bergen, w - Tirpersdorf, x - Oelsnitz, y - Schönbrunn, z - Wiedersberg

Project: Prediction of Strategic High Technology Metals in the Erzgebirge (WISTAMERZ)

- Uranium in stream sediments -

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Map compilation

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Transverse mercator (UTM Zone 33N)

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