Geochemical Atlas – Erzgebirge and Vogtland

Beryllium in stream sediments

Beryllium (Be) shows a right skewed log distribution. The maximum concentration is 50 mg/kg, the minimum 0.1 mg/kg. The arithmetic average is 2.1 mg/kg, the median 1.4 mg/kg. Stream sediments derived from granitoids yield higher Be contents than those from other rock units. The element can be attributed to two major provinces: the eastern Erzgebirge south of Dippoldiswalde and the western Erzgebirge west of the Gera-Jachymov fault zone. The highest concentrations of the western Erzgebirge occur at the Bergen granite with Be > 6 mg/kg over an area of 6 km. Smaller spots appear at the Kirchberg granite, at the northern Sn deposits of the Eibenstock granite up to Johanngeorgenstadt. In the eastern Erzgebirge, comparable Be contents are related to the Sn-Li greisen of the Zinnwald-Cínovec district. Concentrations of Be > 4 mg/kg characterize the Sn deposit of Sadisdorf, adjacent occurrences south and west of Dippoldiswalde, and in the northern Tharandt Volcanic Complex, in the Western Erzgebirge the surroundings of the granites of Bergen and Kirchberg as well as the SW rim of the Eibenstock granite. A clearly visible area of Be > 2.5 mg/kg forms an oval structure south of Dippoldiswalde with a western branch via Sadisdorf and the Pb-Zn deposit of Hermsdorf-Rehefeld, an eastern branch reaching the Zinnwald-Cinovec deposit, and an almost barren central region. Further spots coincide with Cambro-Ordovician phyllites north of the Augustusburg and Grünberg deposits and with the Ehrenfriedersdorf Sn-deposit. Minimum contents of Be < 0.4 mg/kg occur southwest of the Eibenstock granite and in gneisses northeast of Marienberg.

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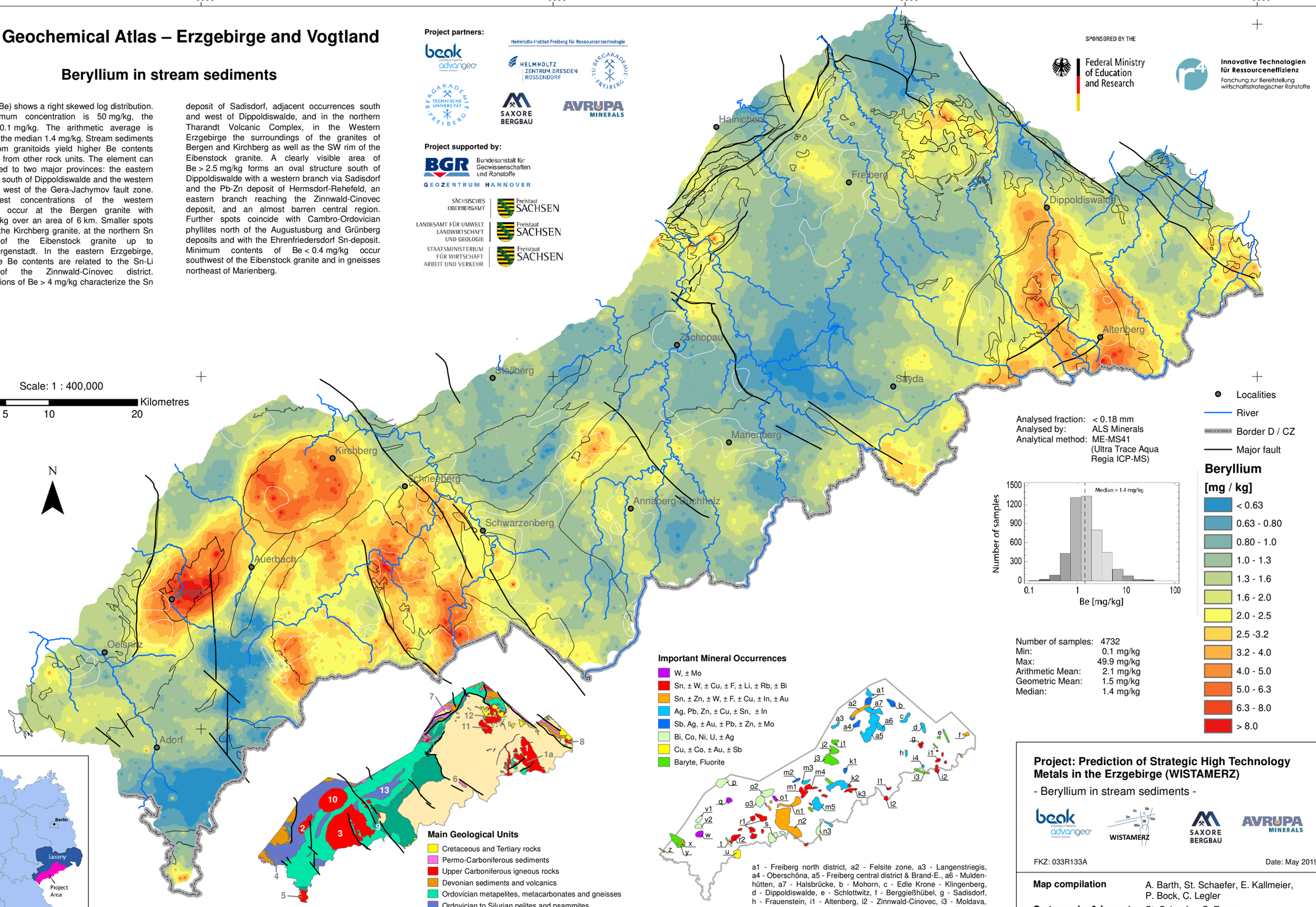

1 – Altenberg-Teplice-Caldera (incl. 1a - Schellerhau granite), 2 – Bergen Pluton 3 – Eibenstock Pluton, 4 – Eichigt Pluton (concealed), 5 – Fichtelgebirge Pluton, 6 – Flöha Fault Zone, 7 – Frankenberg Crystalline Complex, 8 – Markersbach Pluton, 9 – Gera-Jachymov Fault Zone, 10 – Kirchberg Pluton, 11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

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 Krone - Klingenberg, d - Dippoldiswalde, e - Schlottwitz, 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 - Pobershau, l1 - Seiffen, l2 - St. Katharinaberg, m1 - Geyer, m2 - Hormersdorf, 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 - Pechtelsgrün, r1 - Sn Deposits of the Eibenstock Granite, r2 - Gottesberg-Mühlleiten, s - Johanngeorgenstadt, t - Brunndöbra & 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)

- Beryllium in stream sediments -

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