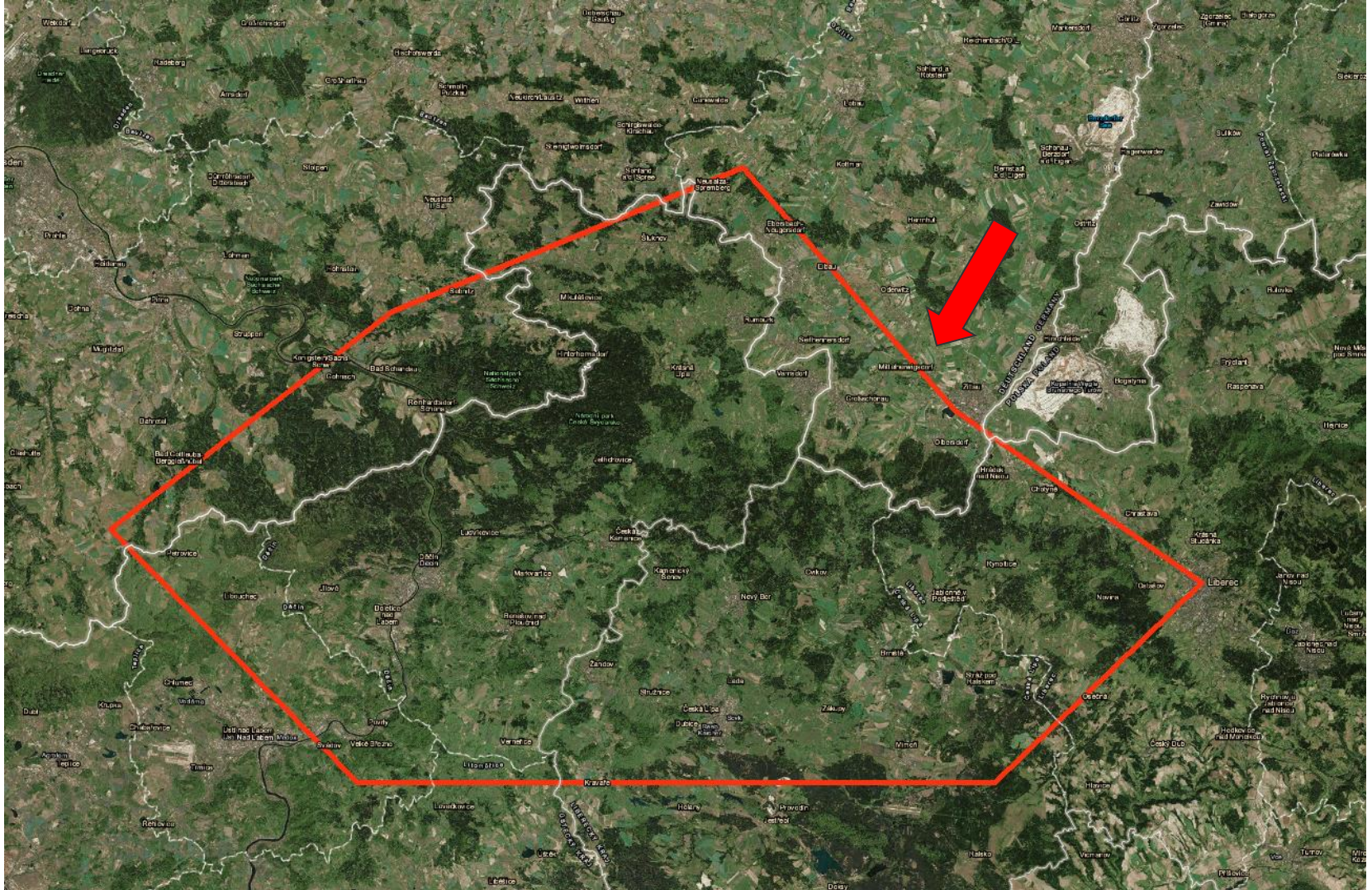


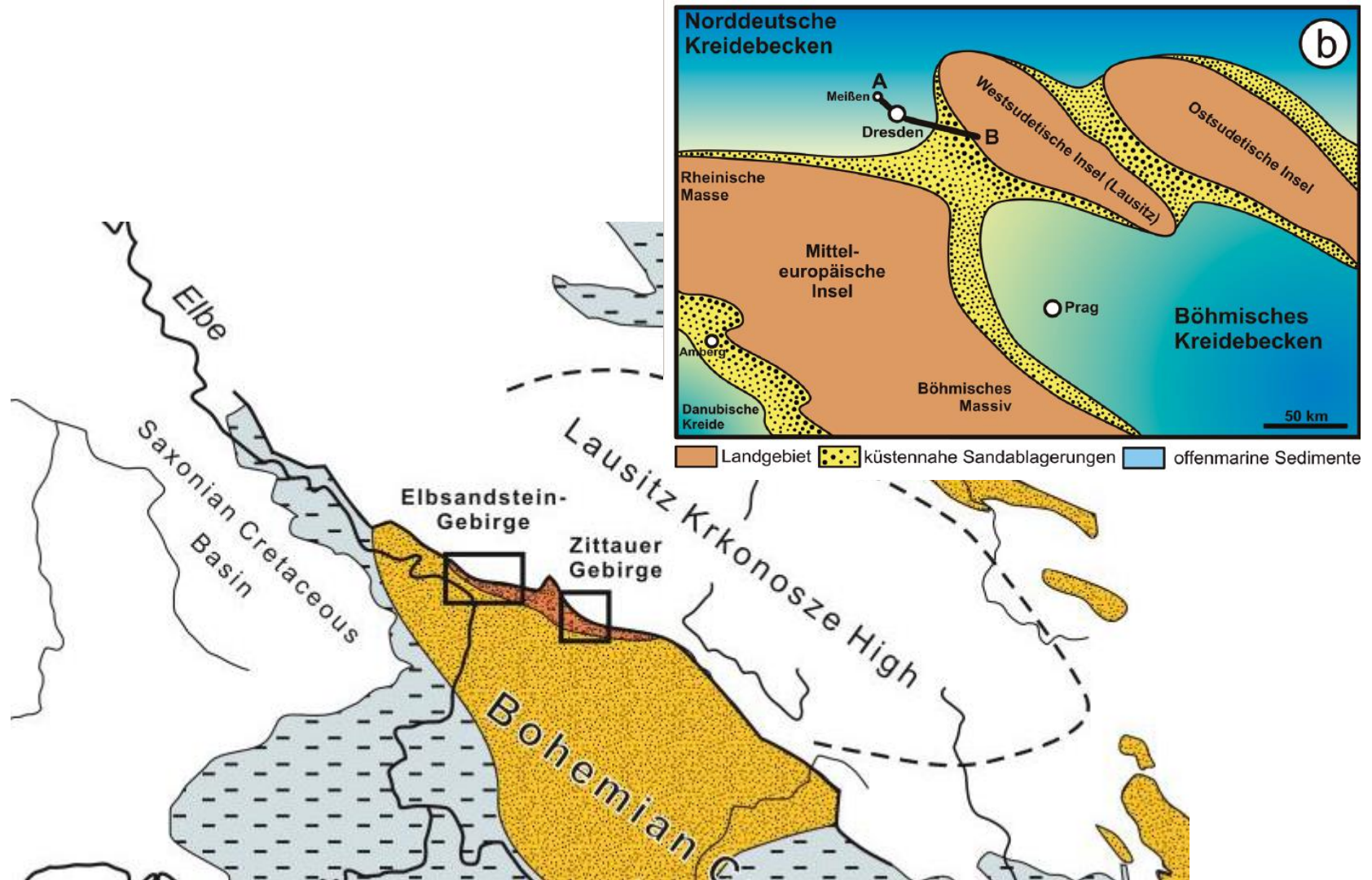
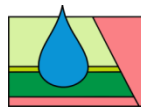


ResiBil - Balance vodních zdrojů ve východní části česko-saského pohraničí a hodnocení možnosti jejich dlouhodobého užívání

ResiBil - Wasserressourcenbilanzierung und -resilienzbewertung im Ostteil des sächsisch-tschechischen Grenzraumes

- Geology of the pilotarea Lückendorf / Zittau Mountains -







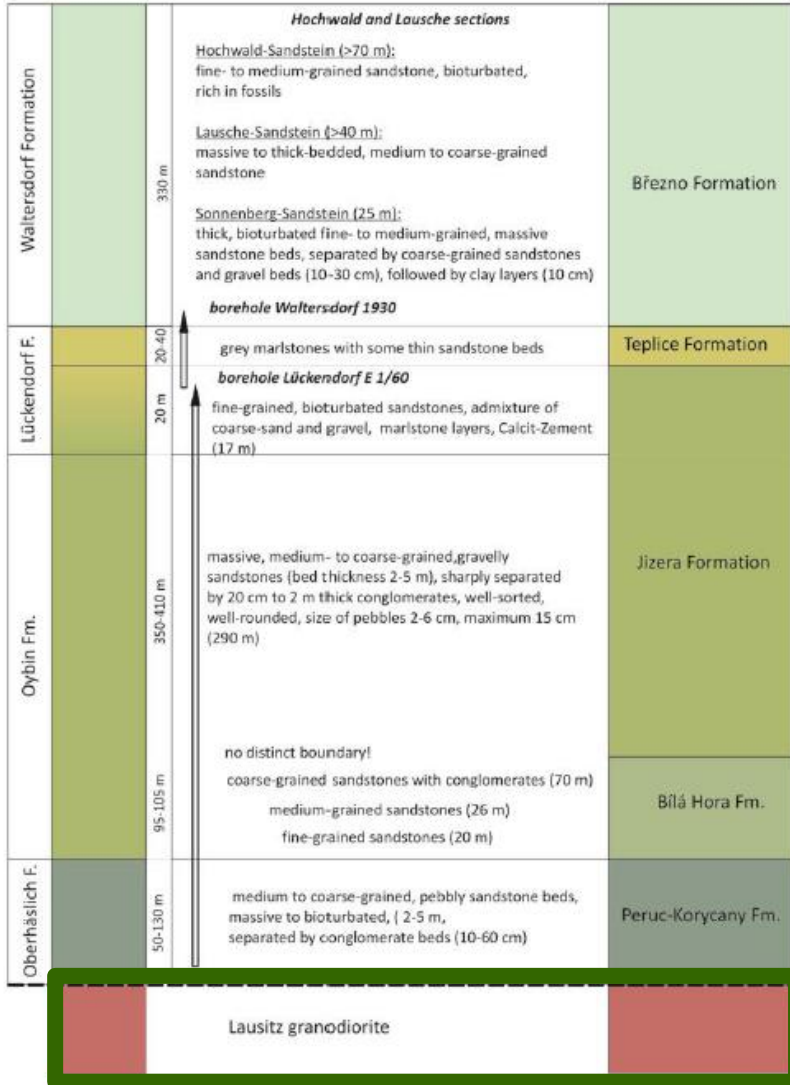
Lithostratigraphy of the Zittau Mountains

- (pre-)cambrian Granitoids → Cenomanian, Turonian and Coniacian sediments → tertiary volcanites and sediments → quaternary sediments
- mostly sandstones and conglomerates → aquifer
- few marls and silts → aquiclude (to aquitard)
- **problems:**
 - few significant boreholes → difficult stratigraphic correlation with Elbsandsteingebirge and the Czech stratigraphy
 - complex tectonic setting and vulcanism



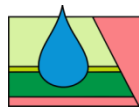
Zittau Mountains
(Oybin, Lückendorf, Waltersdorf)

Dolní Podluží



Lusatian Granodiorite:

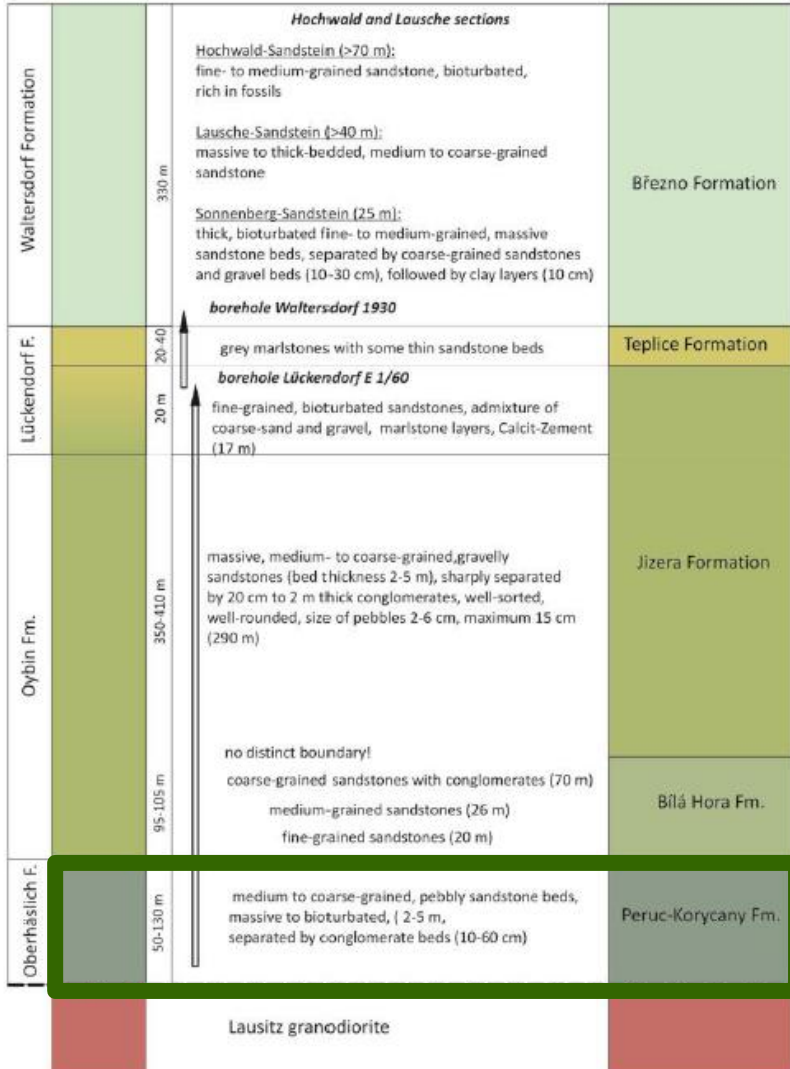
- basement
- granite – granodiorite
- **aquitard**



Zittau Mountains

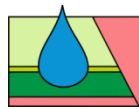
(Oybin, Lückendorf, Waltersdorf)

Dolní Podluží



Oberhäslich Fm / Peruc-Korycany Fm:

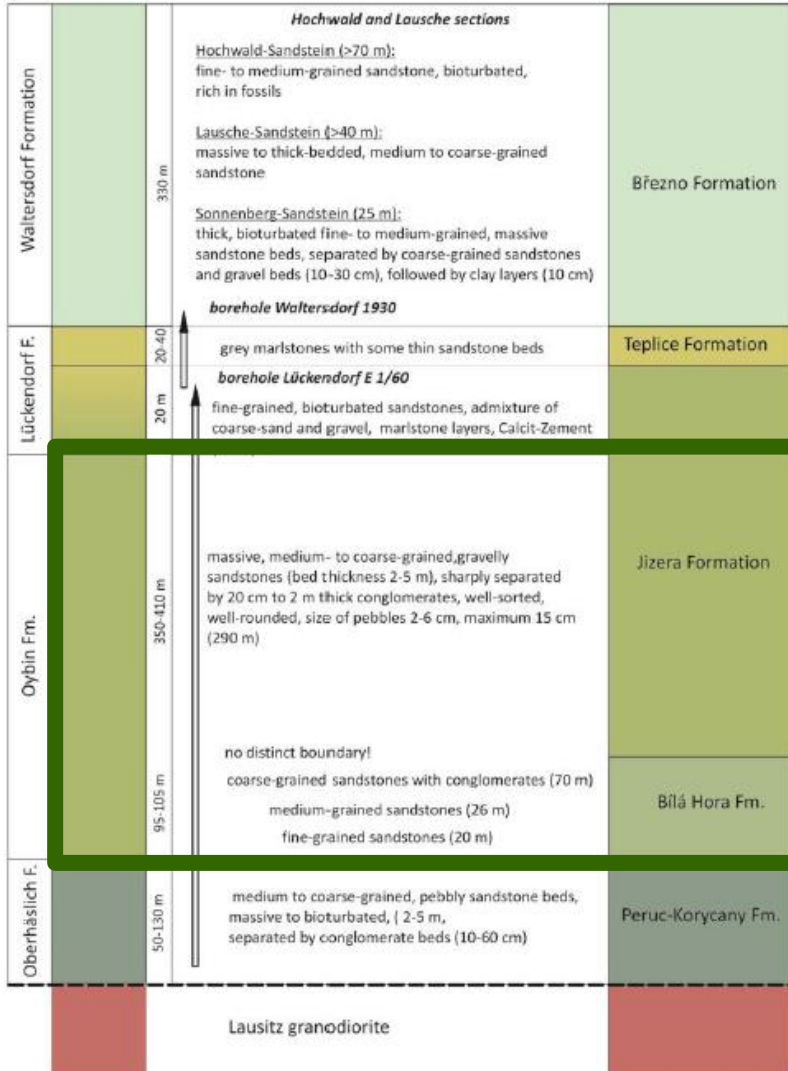
- Upper Cenomanian
- massive sandstones, pebbly
- **Aquifer A**



Zittau Mountains

(Oybin, Lückendorf, Waltersdorf)

Dolní Podluží



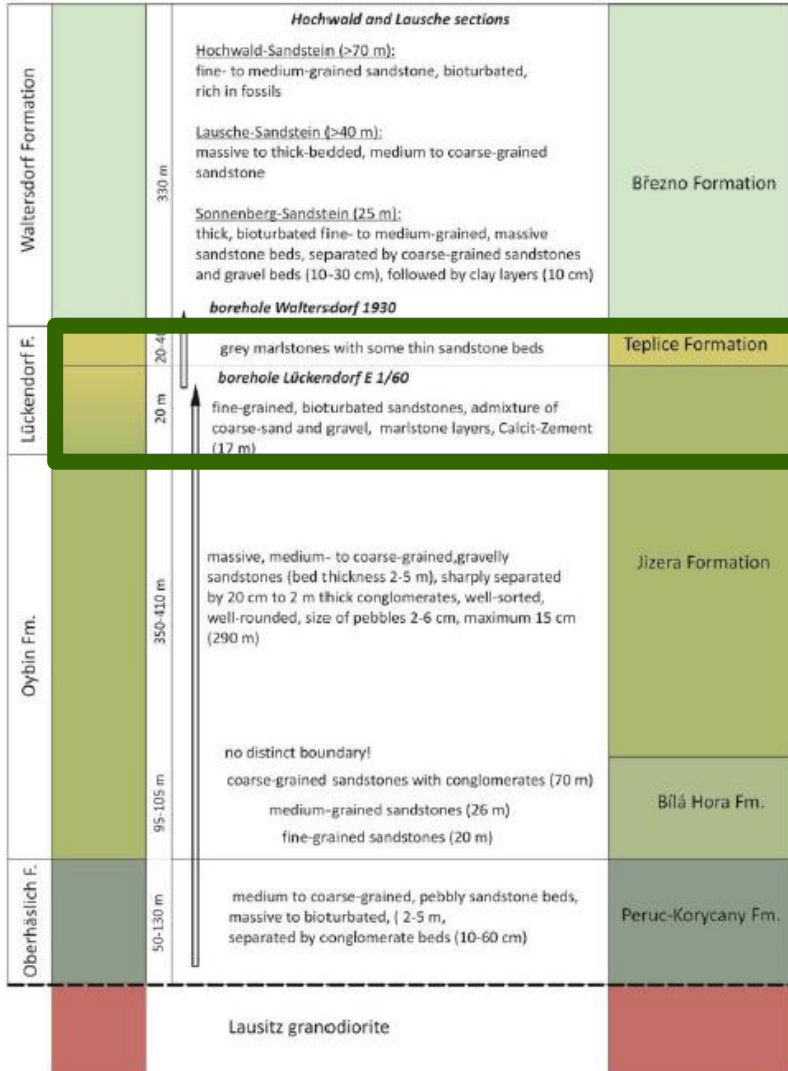
Oybin Fm / Bila Hora and Jizera Fm:

- Lower - Upper Turonian
- massive sandstones and conglomerate banks
- basis: marls
- **Aquiclude A/B** (marls of the basal Bila-Hora Fm)
- **Aquifer BC** (Middle – Upper B-H Fm. and Jizera Fm.)



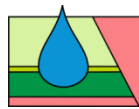
Zittau Mountains
(Oybin, Lückendorf, Waltersdorf)

Dolní Podluží



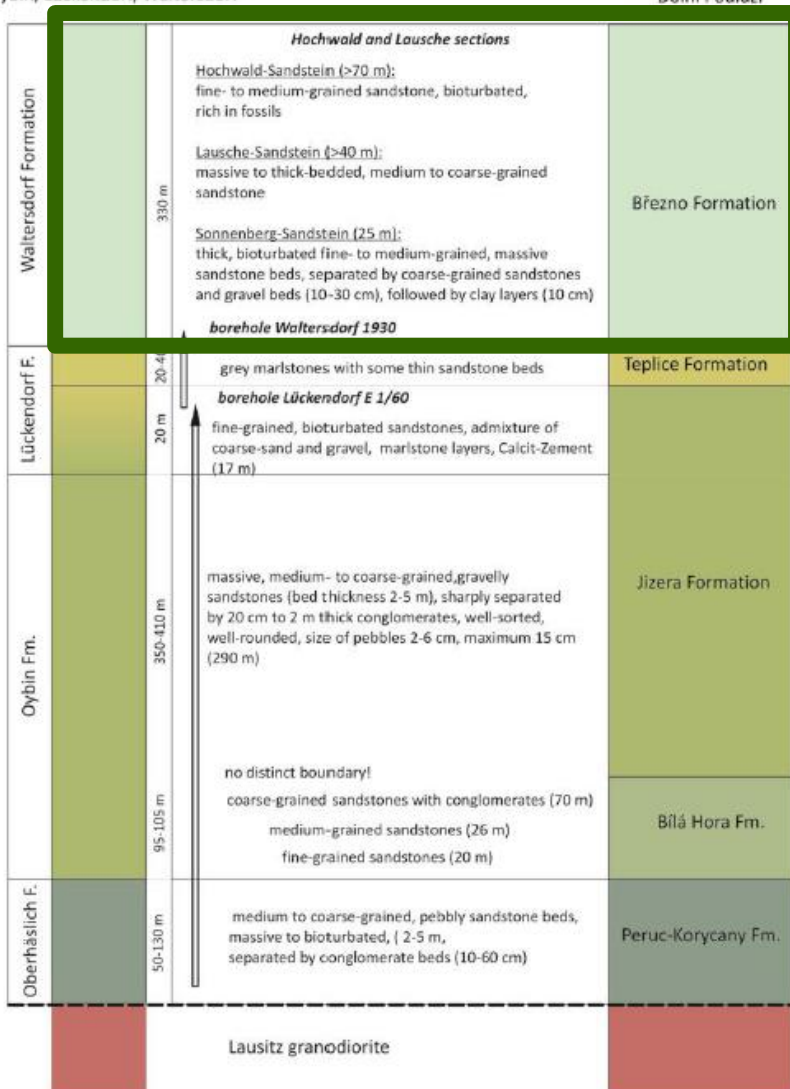
Lückendorf Fm / Jizera and Teplice Fm:

- Upper Turonian
- sandstone and gravel
- marlstone layers and calcite-cement
- **Aquiclude C/D (aquitard)**



Zittau Mountains
(Oybin, Lückendorf, Waltersdorf)

Dolní Podluží



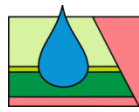
Waltersdorf Fm / Brezno Fm:

- Upper Turonian to Lower Coniacian
- can be found on the surface
- separated in 3 members
- massive sandstones and gravel
- **Aquifer D**, but low importance

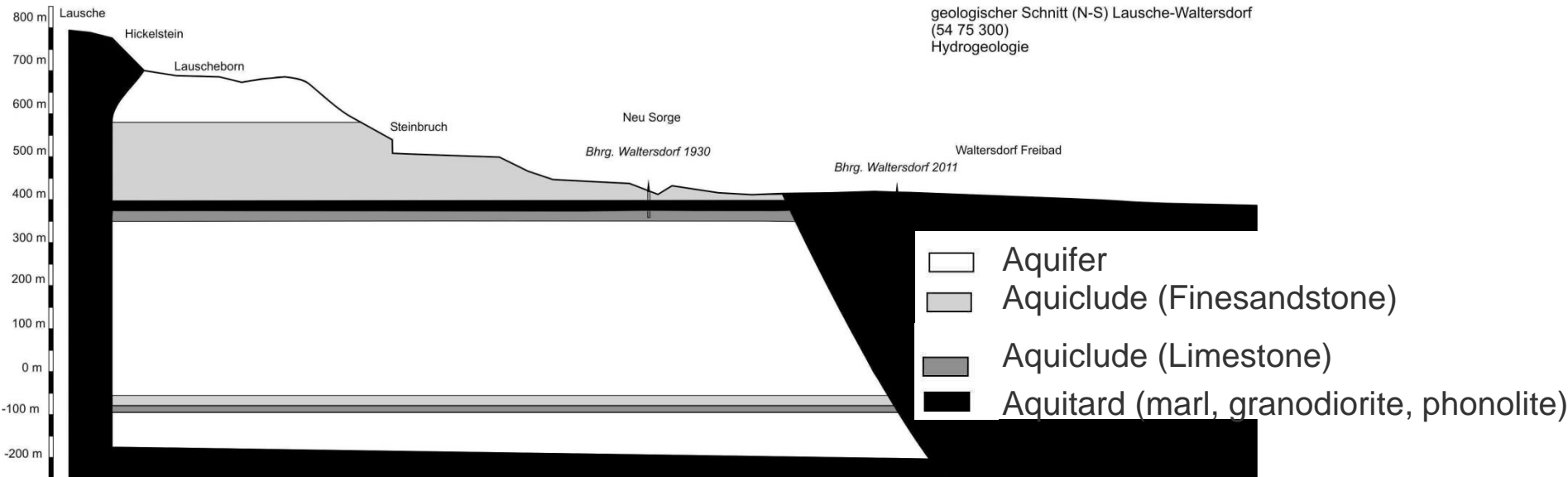
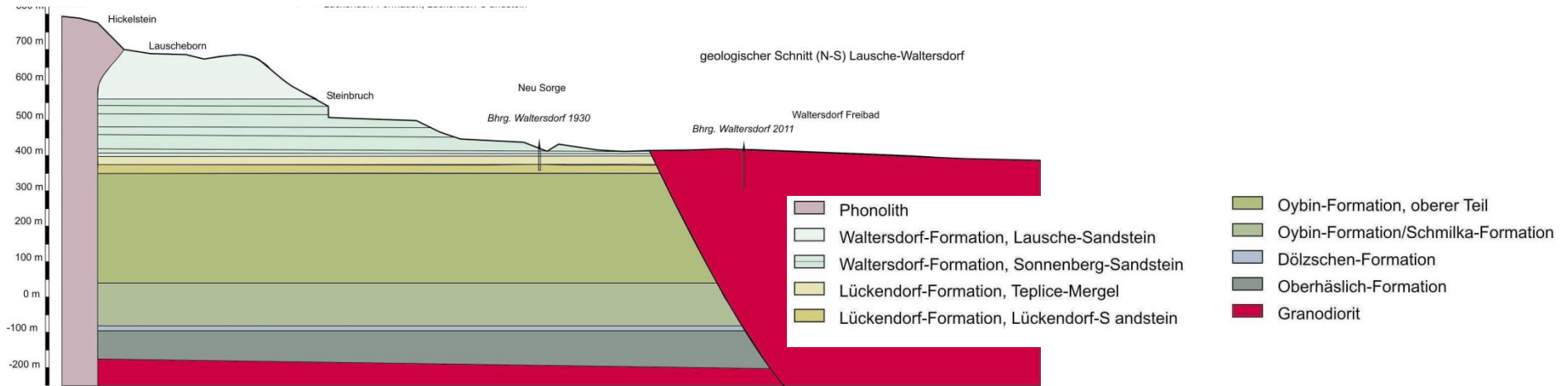
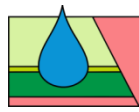


Hydrogeology

- dominant massive sandstone and conglomerate layers → **aquifers**
- few marls and silts → **aquiclude**
- complex tectonic setting and structure
- difficult interpretation of the hydraulic reaction of the faults
 - Lusatian Thrust is just partly hydraulic active
 - smaller faults are mainly hydraulic active



Lusatian Thrust
Ohre fault system
Line of profile





Europäische Union. Europäischer
Fonds für regionale Entwicklung.
Evropská unie. Evropský fond pro
regionální rozvoj.



LANDESAMT FÜR UMWELT,
LANDWIRTSCHAFT
UND GEOLOGIE



Questions?