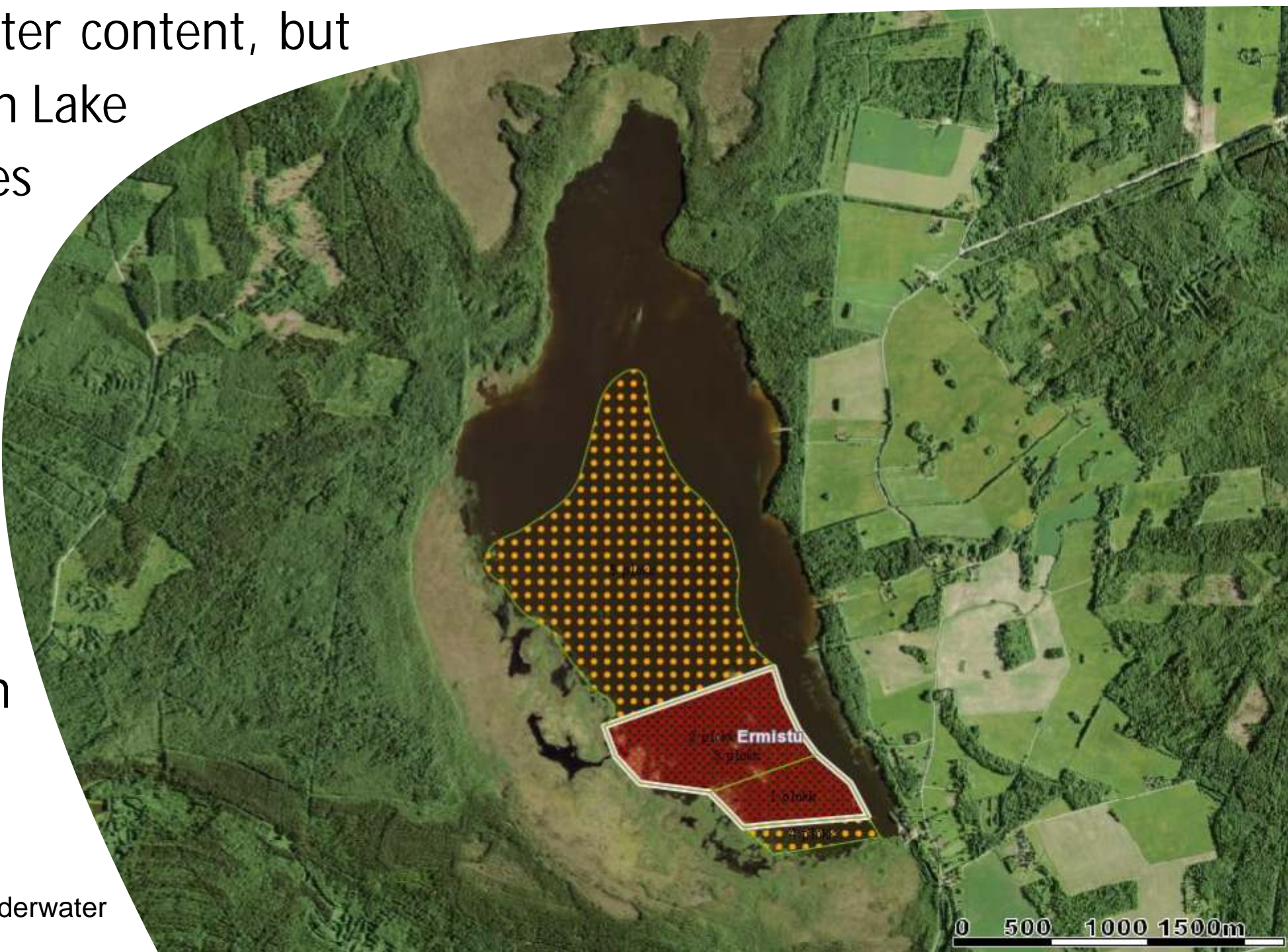


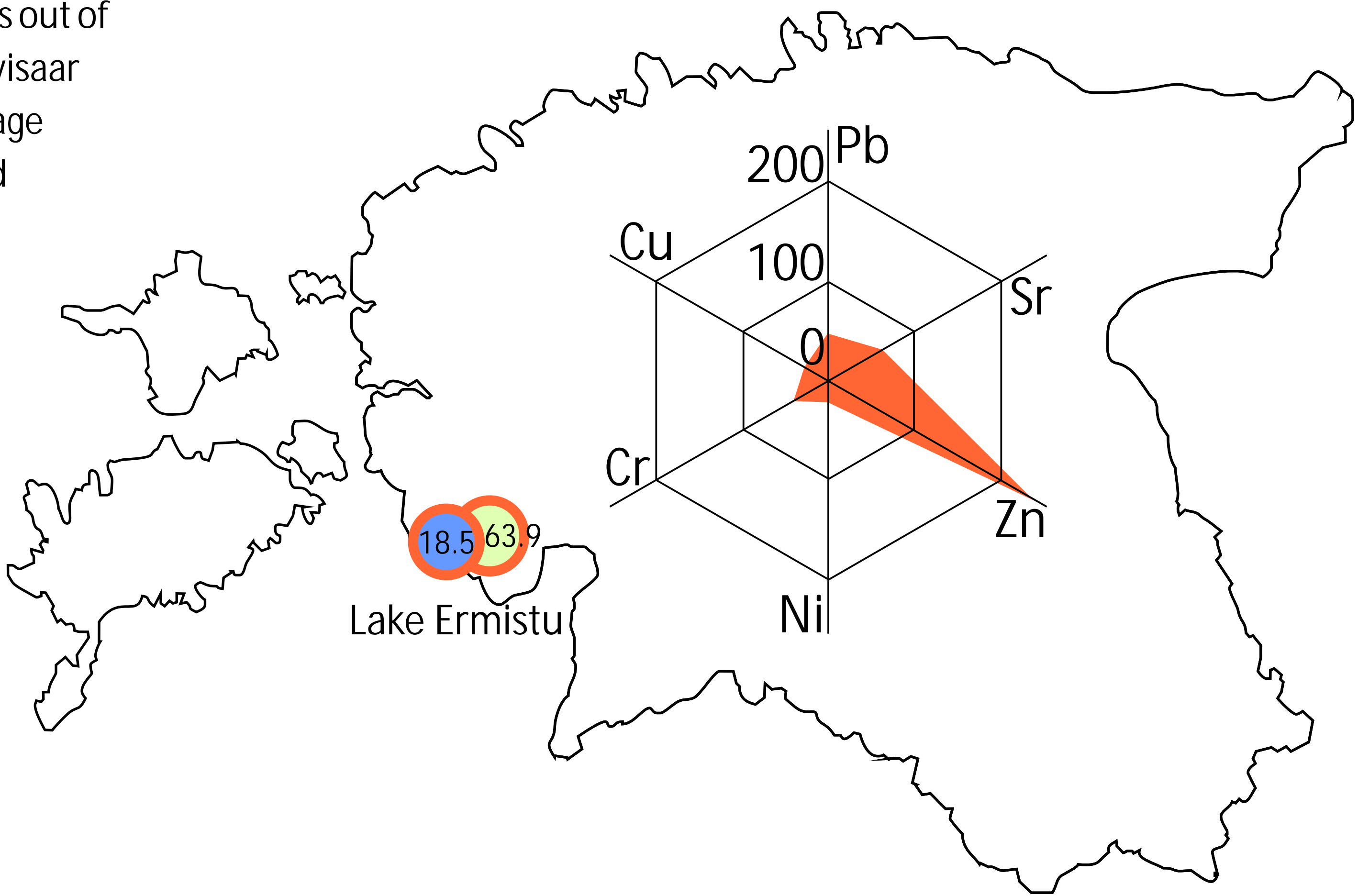
Curative mud in Estonia 2013-2014: Lake Ermistu

Jaanus Terasmaa, Galina Kapanen, Agata Marzecova, Sander Rautam

Ermistu (Lake Ermistu) is located in Southwest Estonia in Pärnu County. The river Tõstamaa flows out of the lake, water exchange takes place twice a year. In the northern part of the lake there is Kivisaar Island, in the southwest there are several small peat islets. The lake area is 450 ha, the average depth is 1.3 m, and the maximum depth is 2.9 m. It is considered a macrophyte lake. Lake Ermistu mud is organic-rich - on average 44.4% of the dry matter, while the mineral content is 55.6% and the carbonate content is 1.5%. The spatial distribution of heavy metals is not statistically related to sediment organic or mineral matter content, but correlates only with carbonates. In Lake Ermistu lead (Pb) has highest values among heavy metals, also zinc (Zn) values are very high - above the soil's target number. Copper (Cu) content is very limited. During the last 20 years, the average organic content of the mud has decreased by more than 15% (61.9% -> 44.4%).

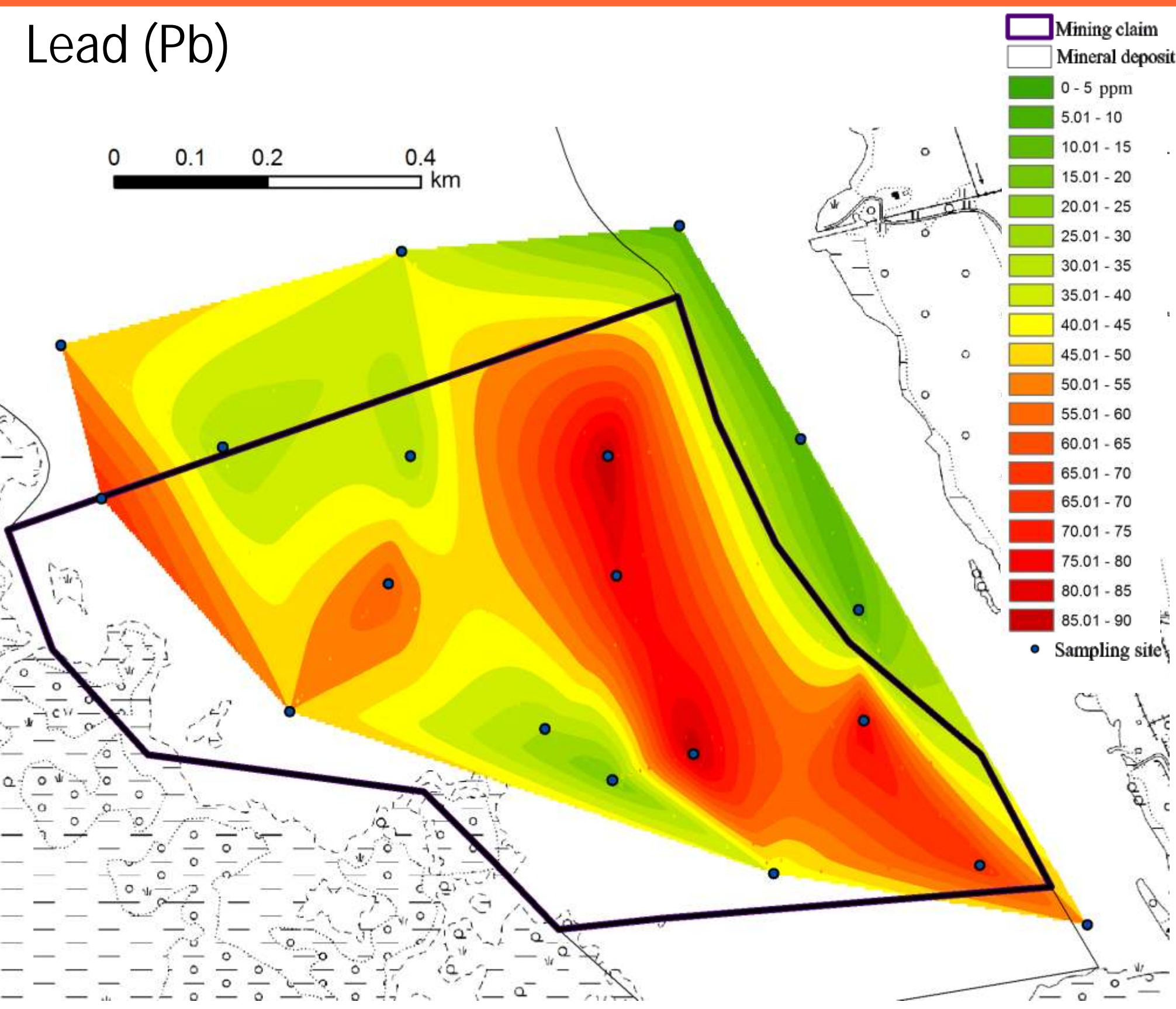


- Mining claim
- Economic reserves underwater
- Mine service plot
- Potentially economic reserves underwater
- Lake mud
- Reconnaissance resources
- Sea mud

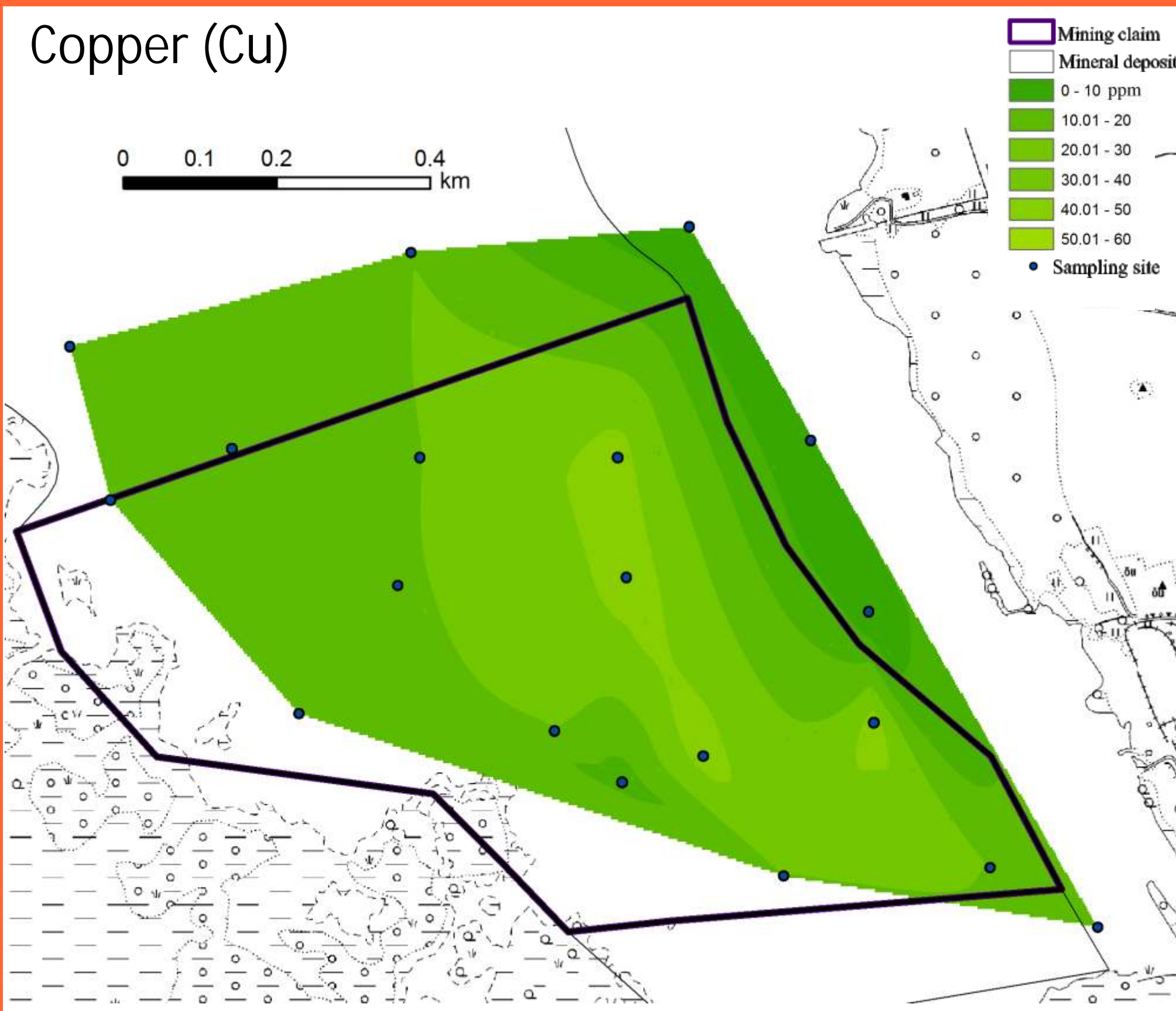


Surface area (ha) and volume (in 1000 tons) of economic proved reserves of curative mud.

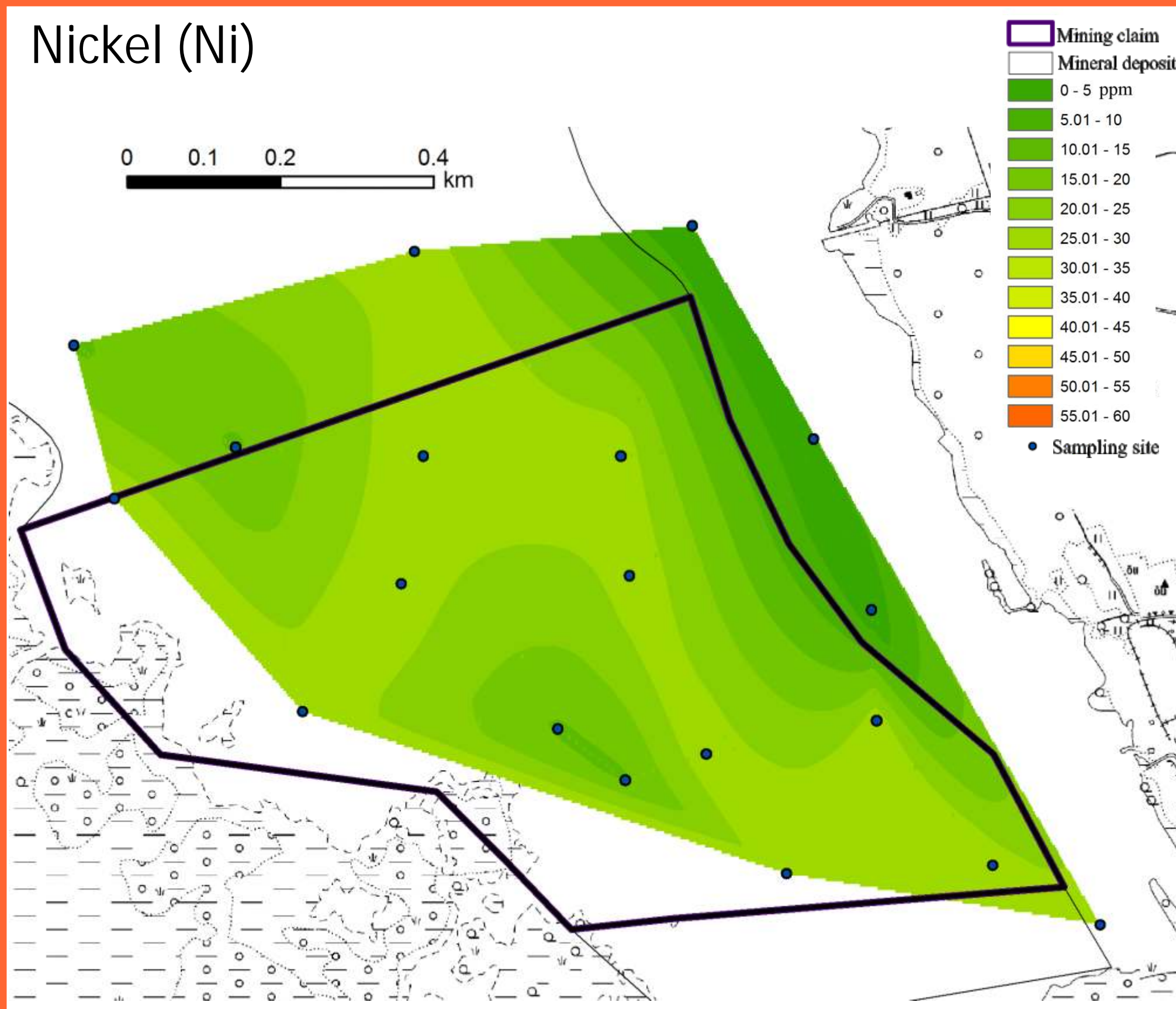
Lead (Pb)



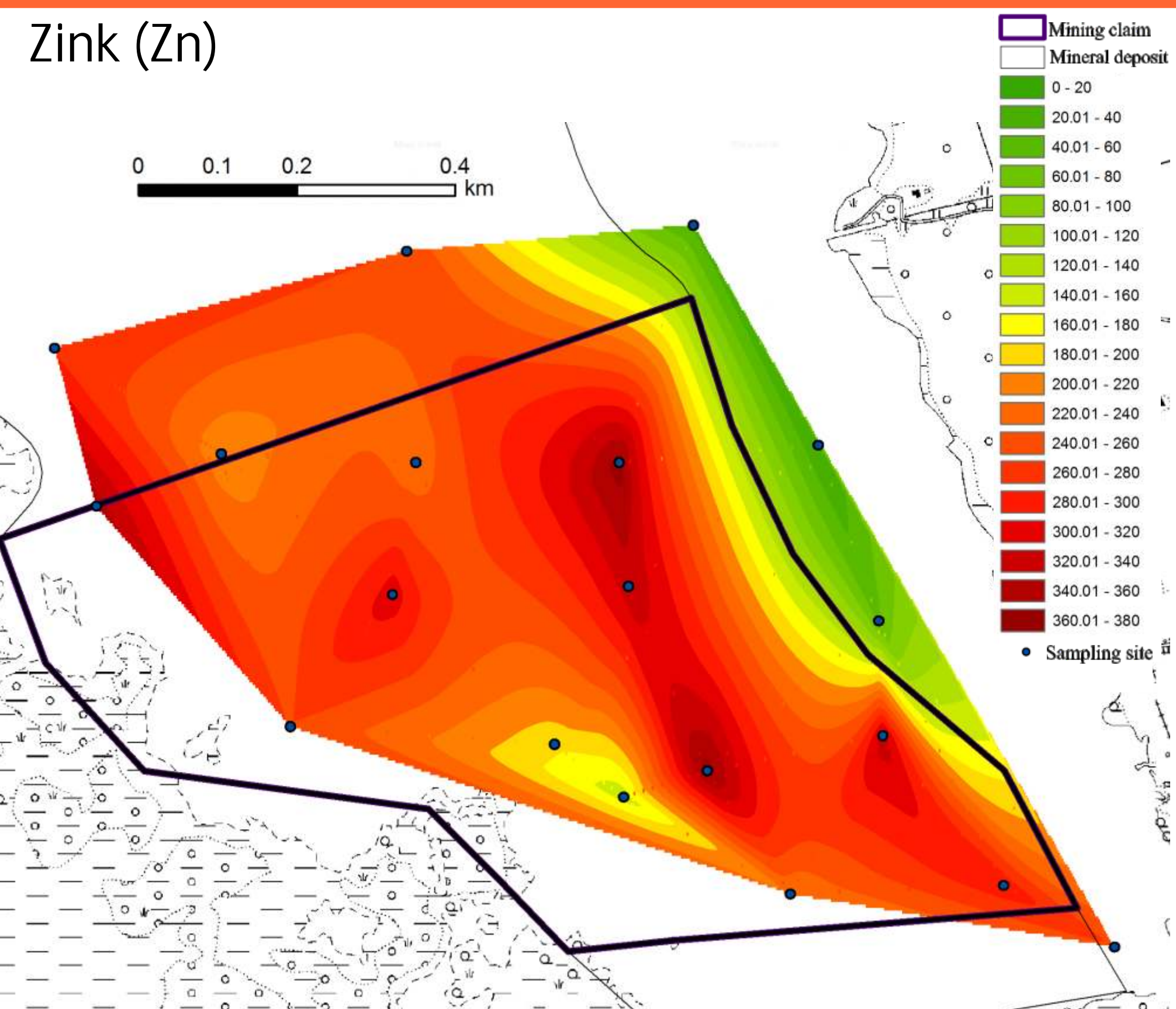
Copper (Cu)



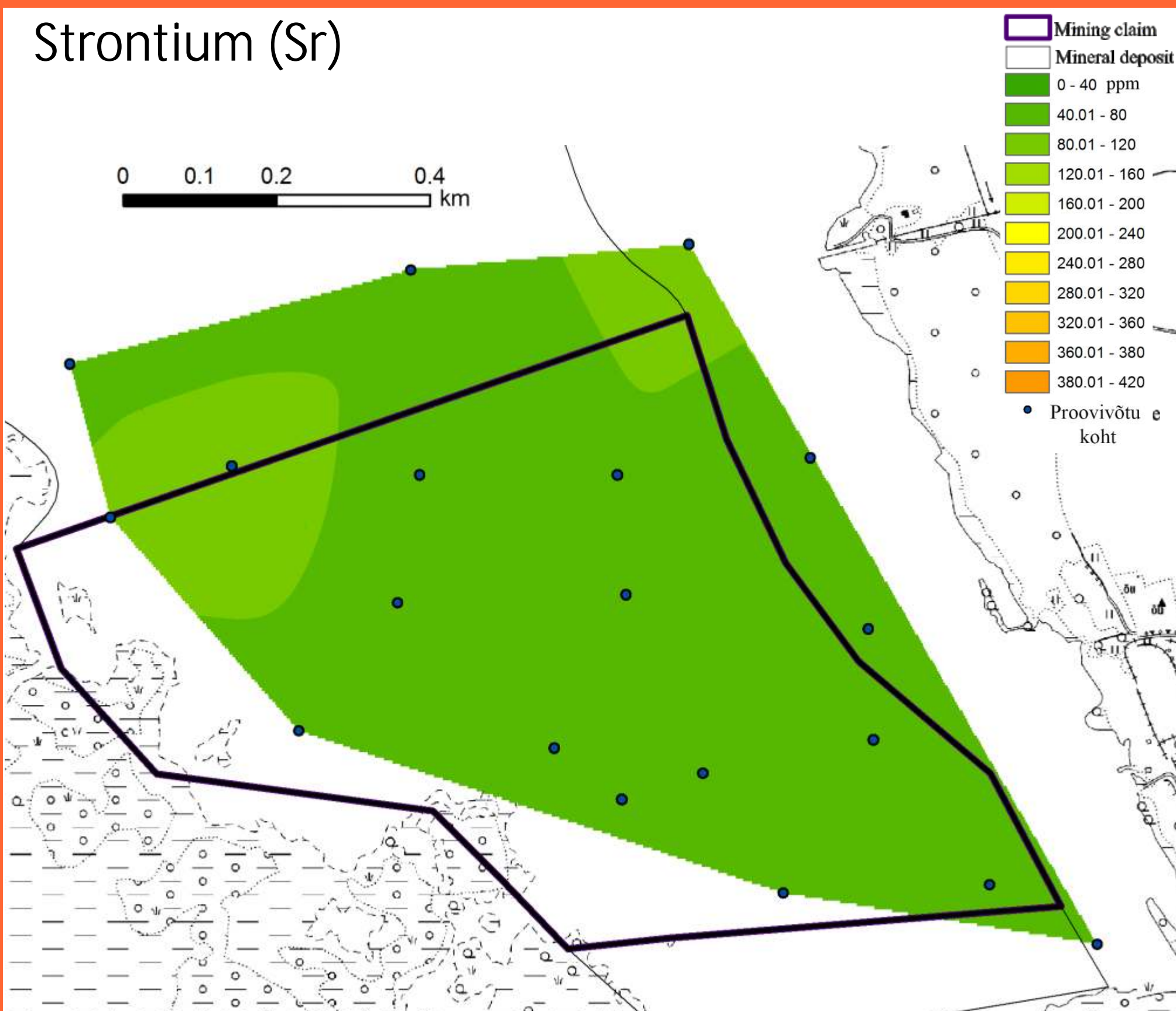
Nickel (Ni)



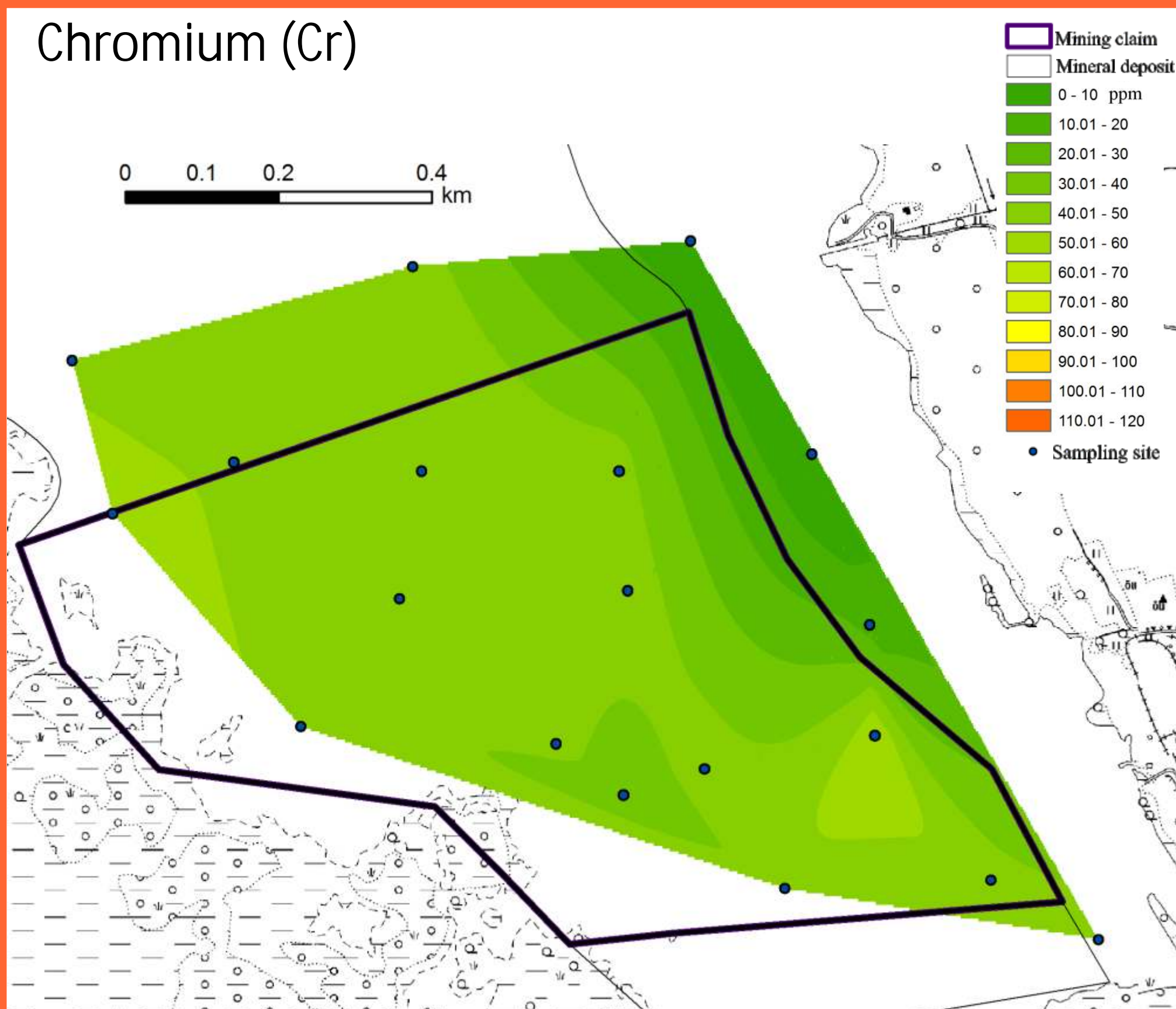
Zink (Zn)



Strontium (Sr)



Chromium (Cr)



Mud composition

	Mineral matter (%)	Organic matter (%)	Carbonates (%)	Pb (ppm)	Cu (ppm)	Ni (ppm)	Zn (ppm)	Sr (ppm)	Cr (ppm)	Zr (ppm)	Al (%)	Ca (%)	Fe (%)	K (%)	Mg (%)	Cl (mg/g)	P (mg/g)	S (mg/g)
Average	55.6	44.4	1.5	47.9	27.5	21.0	237	62.9	39.8	78.4	2.4	2.3	3.3	1.7	0.2	0.1	2.5	7.4
Minimum	43.8	1.4	0.2	10.0	0.0	0.0	18.5	51.9	0.0	33.1	1.8	1.1	0.6	1.3	0.1	0.0	2.3	0.0
First quartile	46.9	49.7	1.3	30.0	29.9	14.3	194	51.9	45.3	66.2	2.3	2.1	3.2	1.6	0.2	0.1	2.5	6.0
Median	48.6	51.4	1.6	50.0	29.9	28.5	259	51.9	45.3	82.8	2.4	2.3	3.8	1.7	0.2	0.1	2.6	7.4
Third quartile	50.3	53.1	2.1	70.0	29.9	28.5	323	60.6	45.3	91.0	2.5	2.5	4.0	1.8	0.3	0.2	2.6	8.8
Maximum	98.6	56.2	2.3	90.0	44.8	28.5	369	121	60.4	116	2.7	2.9	4.6	1.8	0.3	0.2	2.7	14.5

Lithological composition

