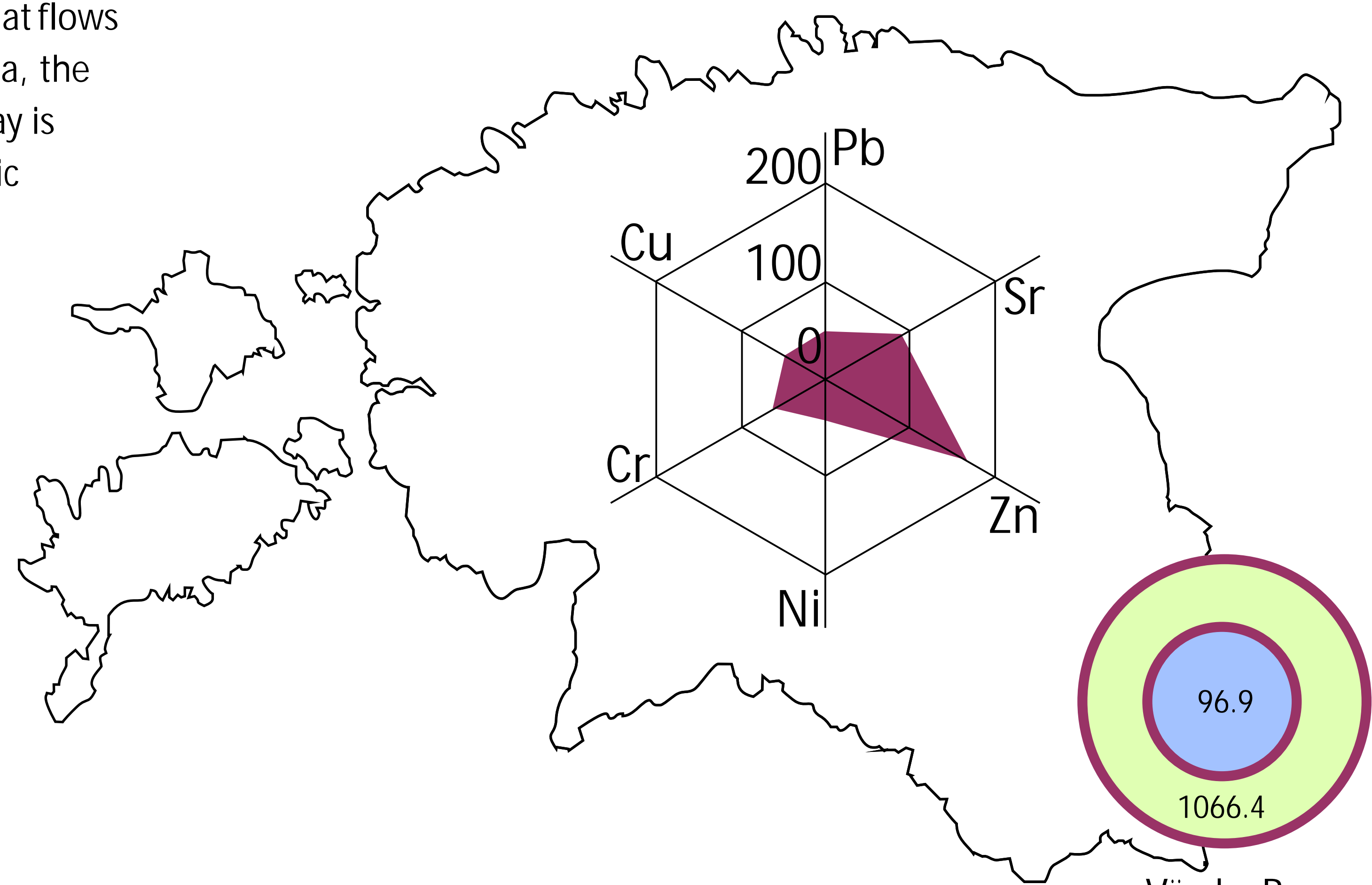
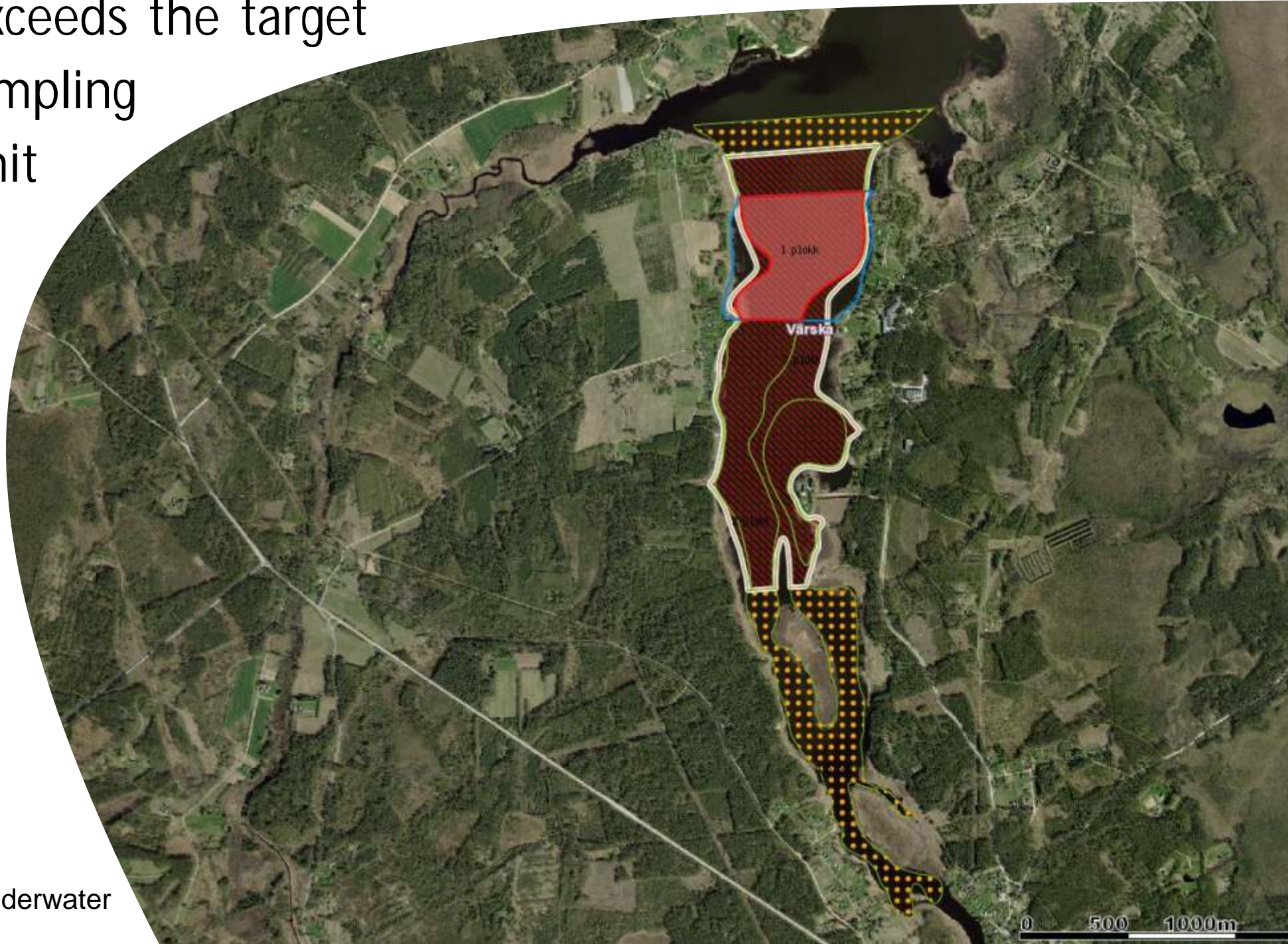


Curative mud in Estonia 2013-2014: Värskä Bay

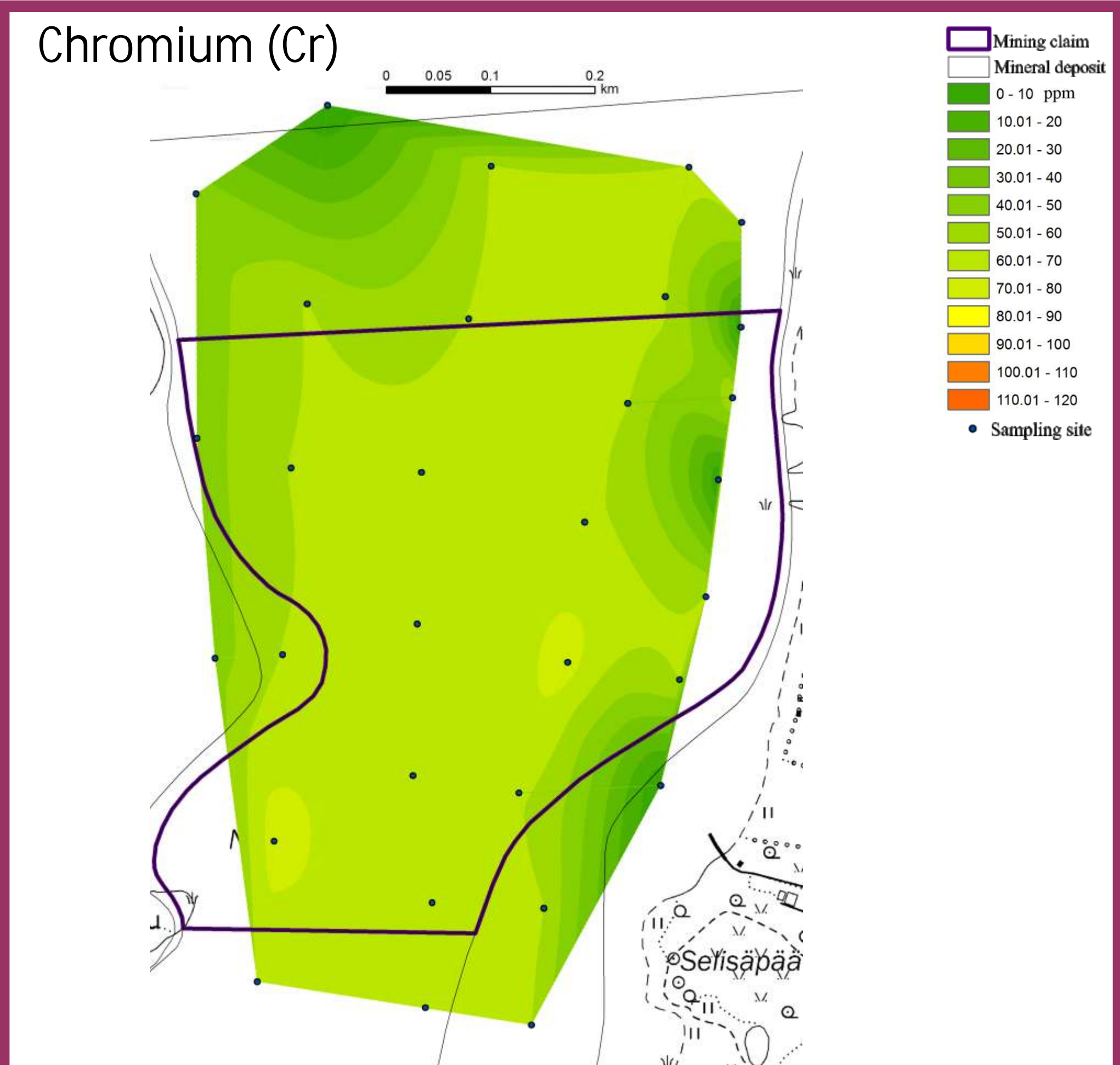
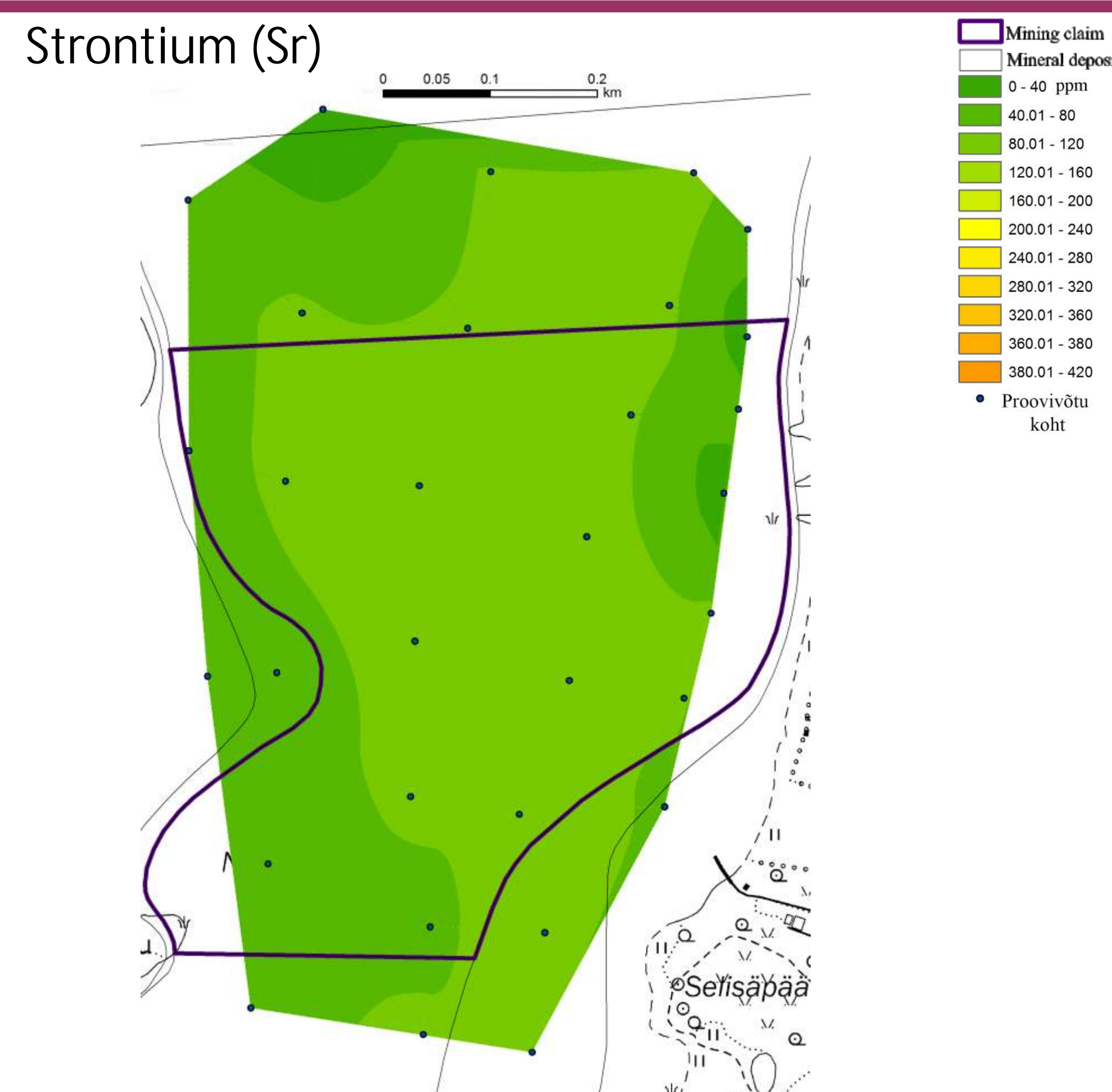
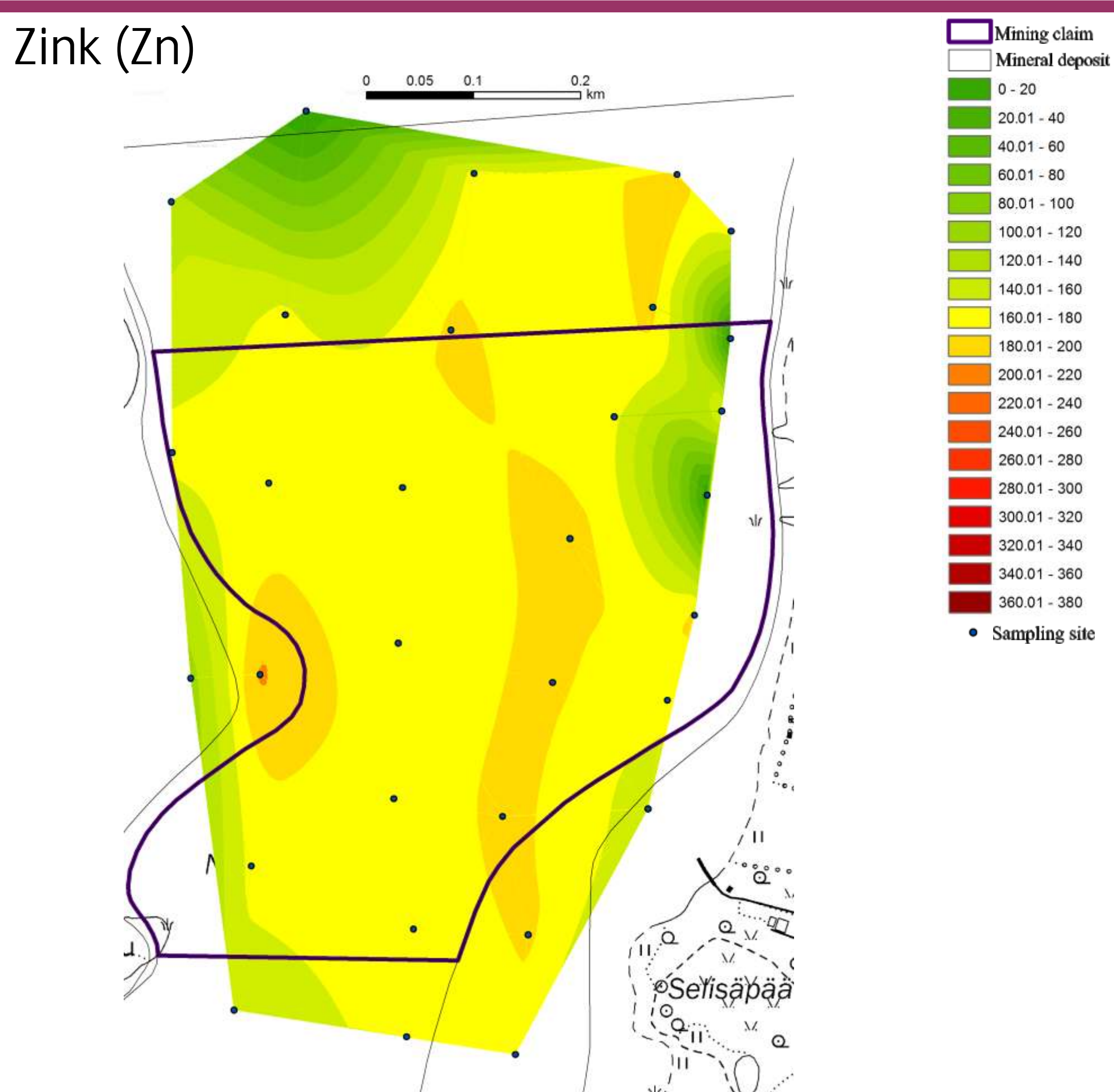
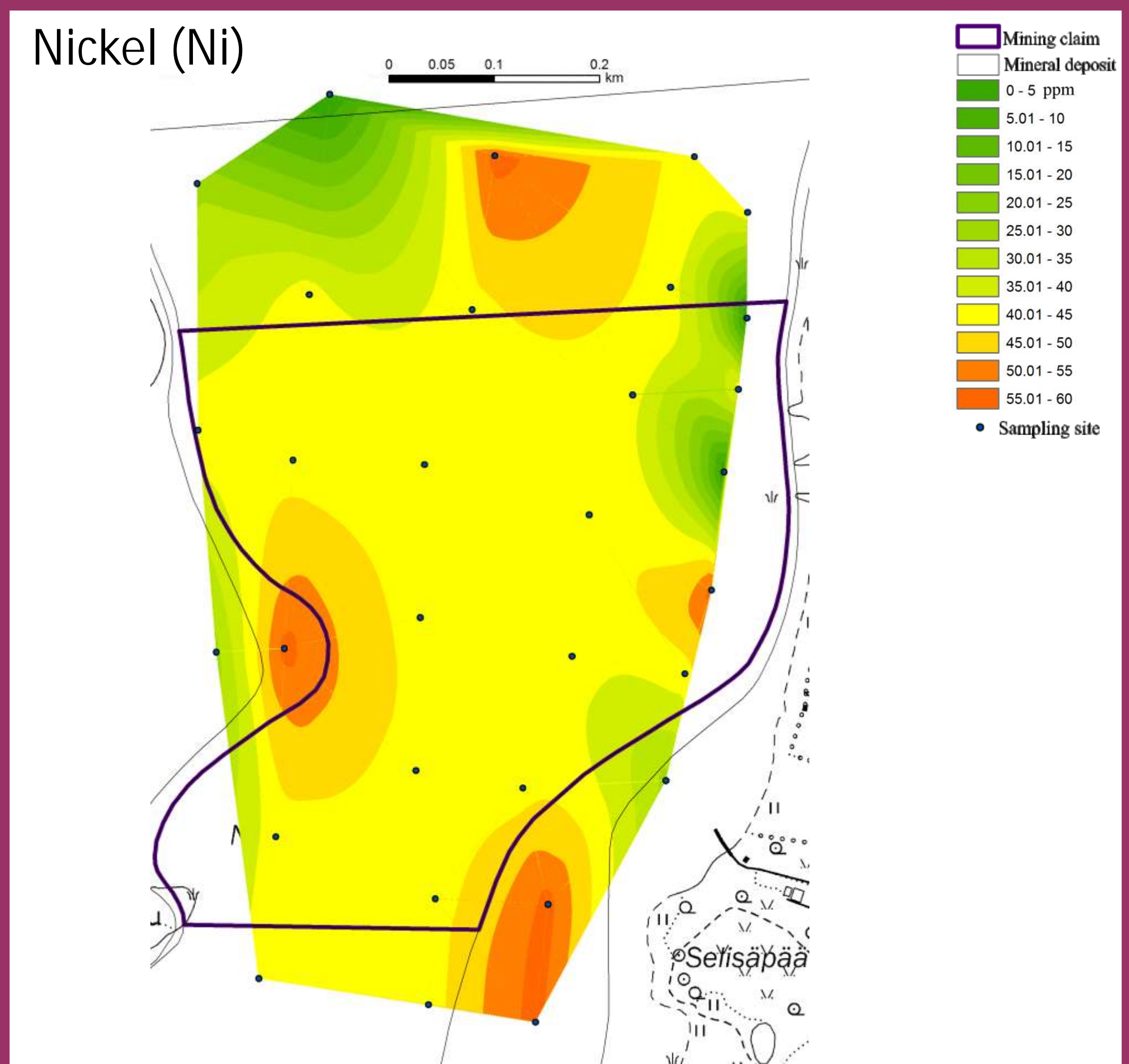
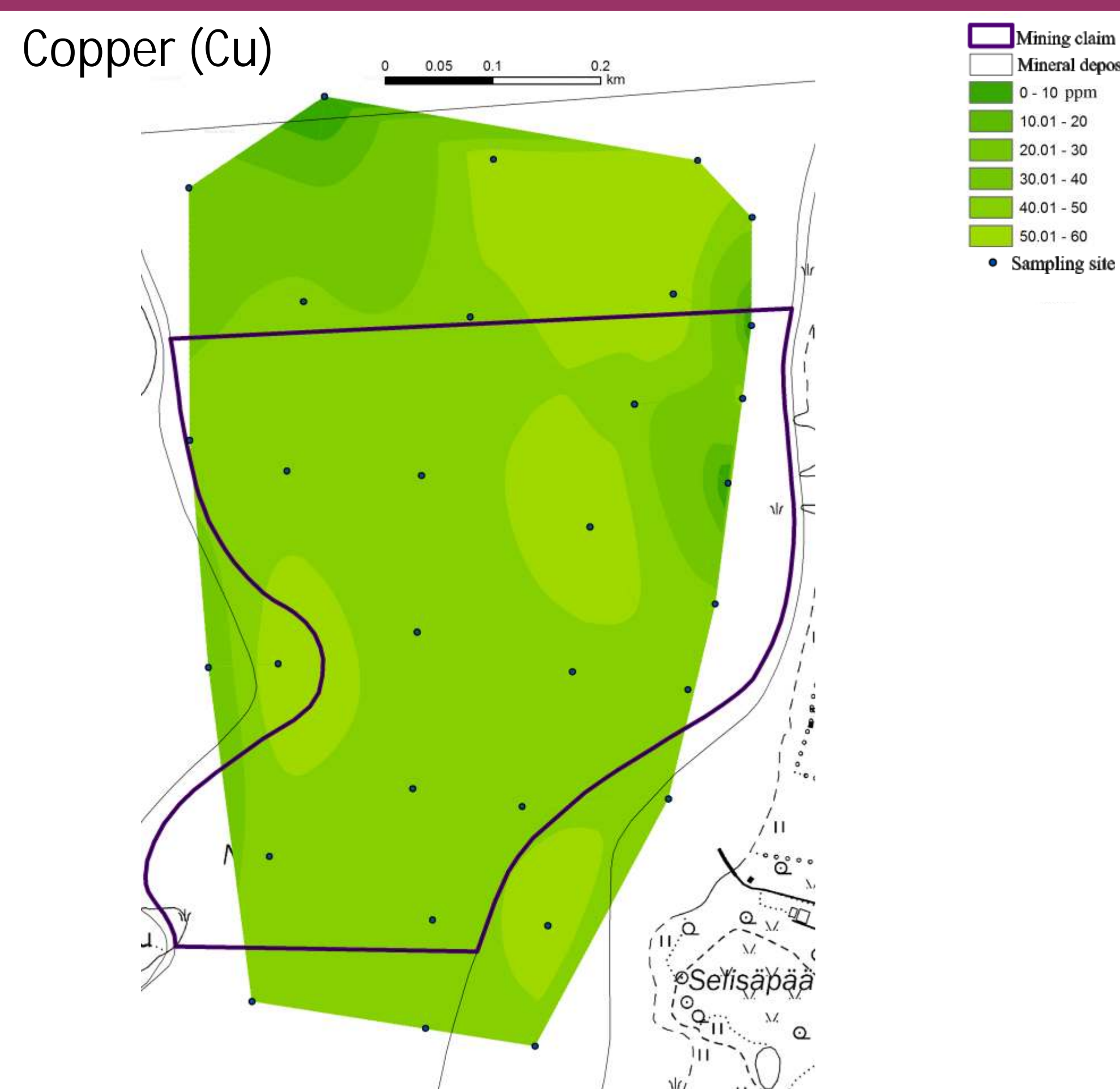
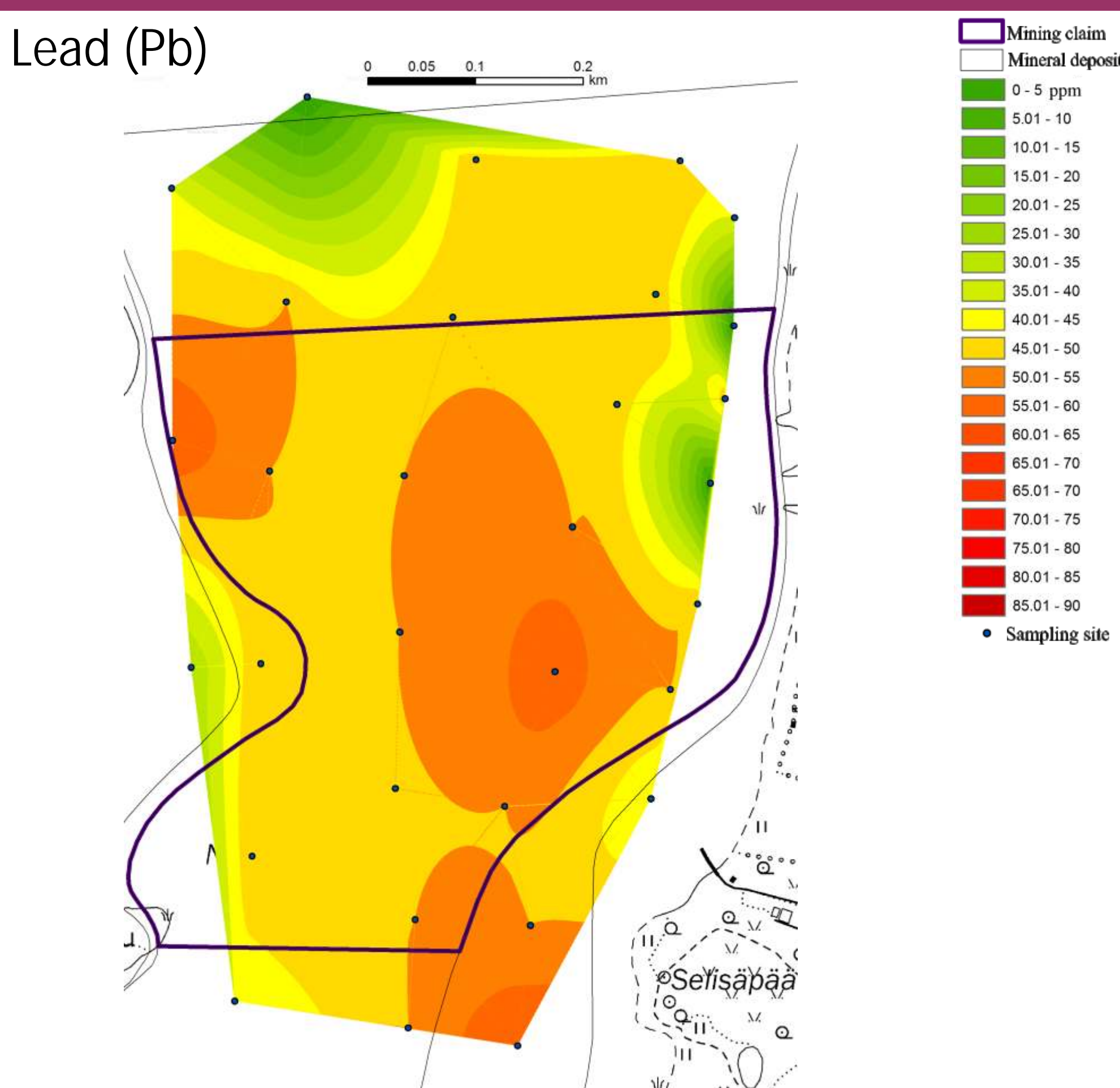
Jaanus Terasmaa, Galina Kapanen, Agata Marzecova, Sander Rautam

Värskä Bay is located in the south-eastern part of Estonia, in the mouth of the Värskä stream that flows into the Lake Pihkva (the bay is 1.3 km wide in the mouth). The area of the bay is 157 ha, the average depth is 1.4-1.7 meters and the maximum depth is 3 m. Near the mouth of the bay is Kolpin Island which belongs to Russia. For a lake ecosystem, the mud in Värskä Bay is very minerogenic - on average of 59.6%. The content of the organic matter is 38.7% and the carbonate content is 1.7%. In Värskä Bay, there is no statistically significant correlation between lithology and heavy metals. The lead (Pb) content exceeds the target values set for soil at several sampling points, but remains below limit values. Compared to other deposits, zinc (Zn) and nickel (Ni) have the highest values. Since the 1990s, the average organic matter content has decreased slightly, but the maximum value has increased (41.6% -> 45.7%).

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



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



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	59.6	38.7	1.7	48.9	46.9	43.8	168	82.2	57.7	145	4.2	2.4	9.4	2.4	0.4	0.2	3.0	5.3
Minimum	53.0	35.9	0.9	30.0	29.9	28.5	111	51.9	0.0	116	3.7	1.7	5.0	2.2	0.3	0.0	2.3	0.0
First quartile	59.0	37.6	1.4	50.0	44.8	42.8	166	69.2	60.4	132	4.1	2.2	9.0	2.3	0.4	0.0	2.9	4.7
Median	59.8	38.4	1.6	50.0	44.8	42.8	166	86.5	60.4	149	4.2	2.3	9.9	2.4	0.4	0.0	3.0	5.3
Third quartile	60.7	39.3	1.8	50.0	44.8	42.8	185	86.5	60.4	149	4.3	2.6	10.4	2.4	0.5	0.2	3.2	5.9
Maximum	63.1	45.7	3.0	60.0	59.7	57.0	203	121	75.5	166	4.9	3.5	11.0	2.8	0.6	1.7	3.6	14.3

Lithological composition

