

Supplementary Material for

Lithium Potential Mapping Using Artificial Neural Networks: A Case Study from Central Portugal

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Supplemental Figure S1

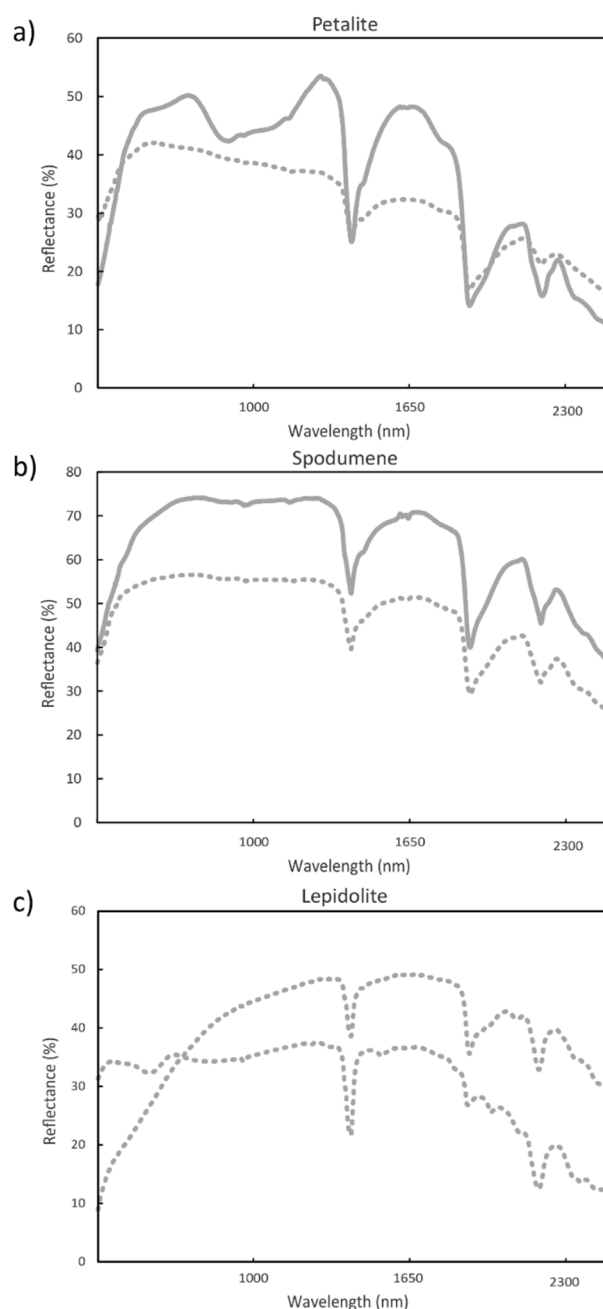


Figure S1. Reference spectral signatures of (a) petalite samples from Bajoca mine, (b) spodumene samples from the Alberto mine, and (c) lepidolite samples from the Feli mines [45]. Dotted curves correspond to fresh samples. Full curves represent weathered samples.

Supplemental Figure S2

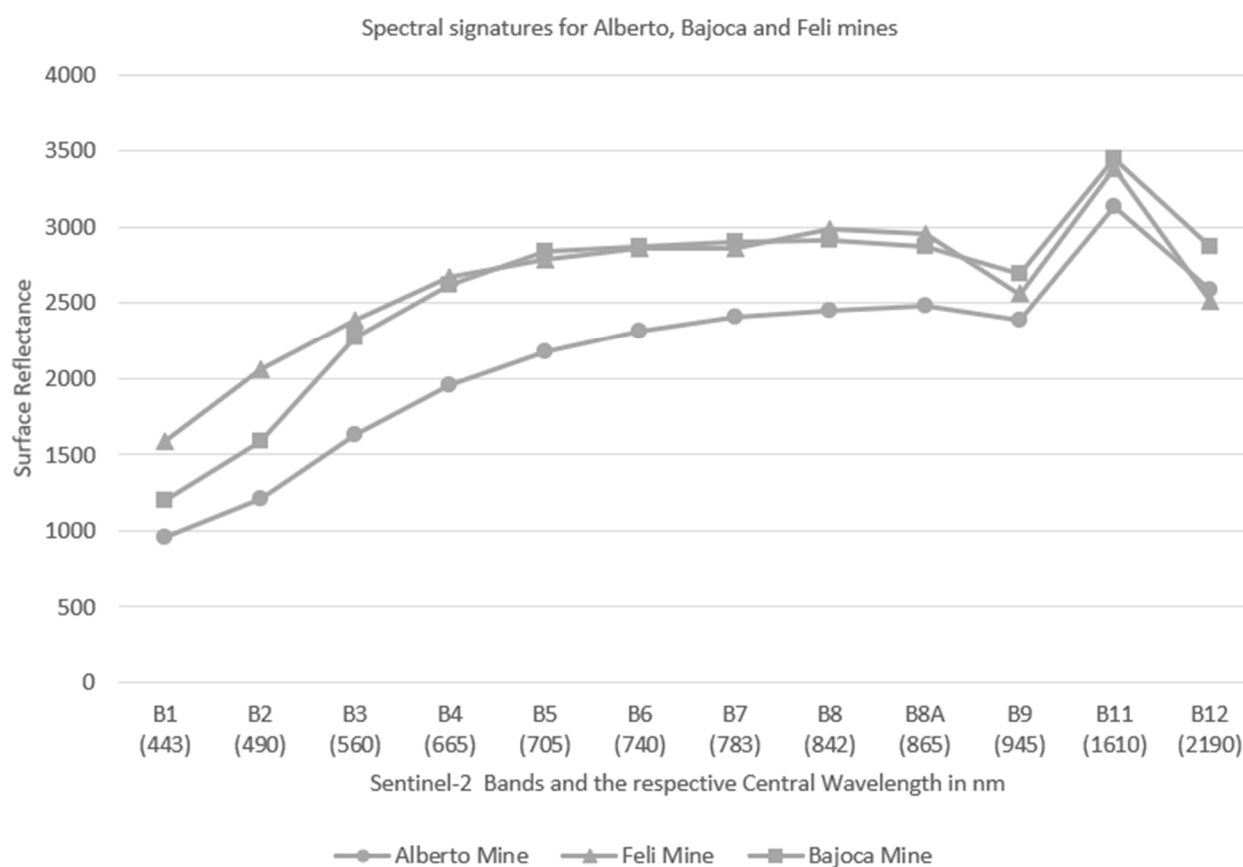
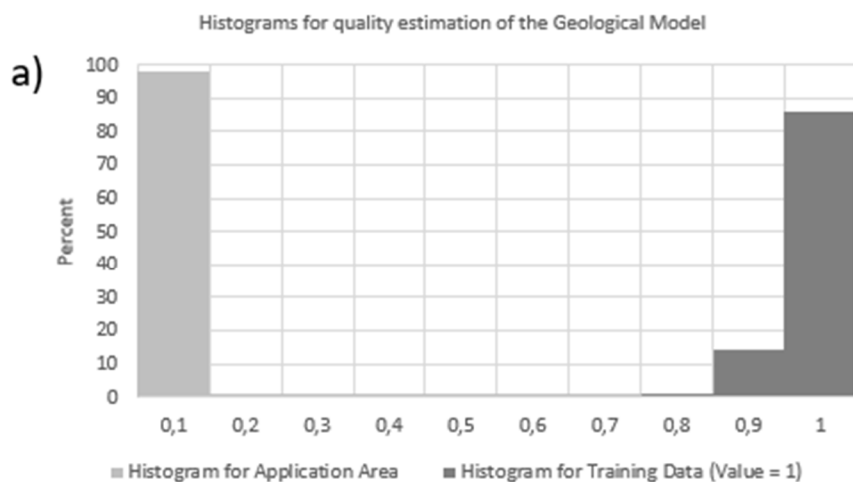
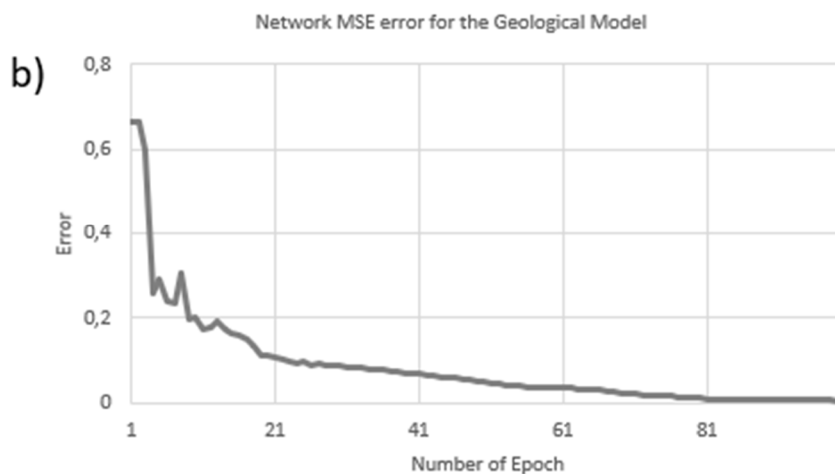


Figure S2. Spectral signatures for Alberto, Bajoca and Feli mines based on Sentinel-2 data.

Supplemental Figure S3



Histograms for the quality estimation of the Geological Model indicating that the ANN is able to identify >80% of the pixels in the training patterns with a scale better than 0.9, resulting in a reliable model.



Network MSE error for the Geological Model indicating a stable ANN able to find correlations between the controlling parameters and the training data. The final Network MSE error is 0,0054175.

Figure S3. Histogram (a) and Network MSE error (b) for the Geological Model.

Supplemental Figure S4

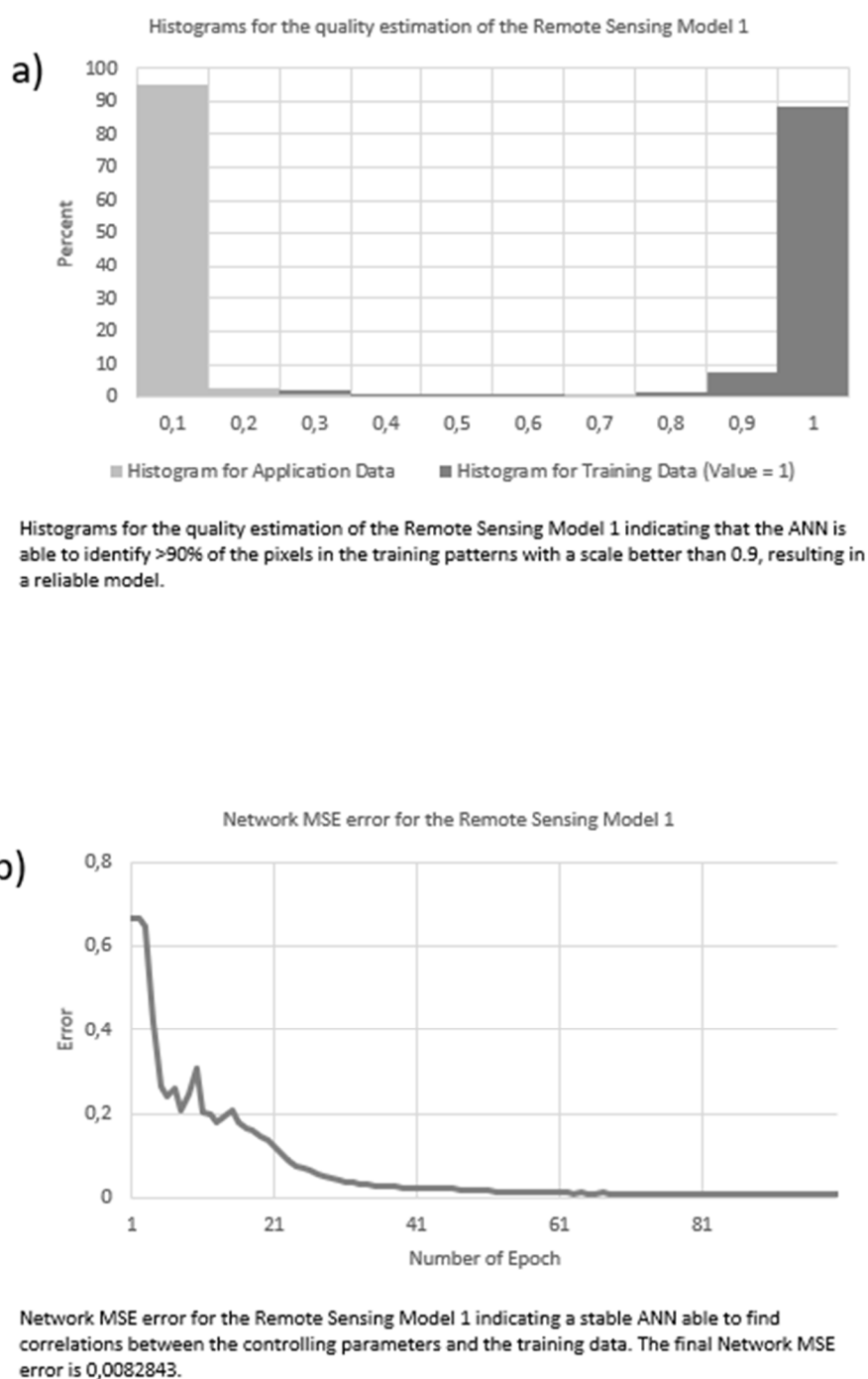


Figure S4. Histogram (a) and Network MSE error (b) for the Remote Sensing Model 1.

Supplemental Figure S5

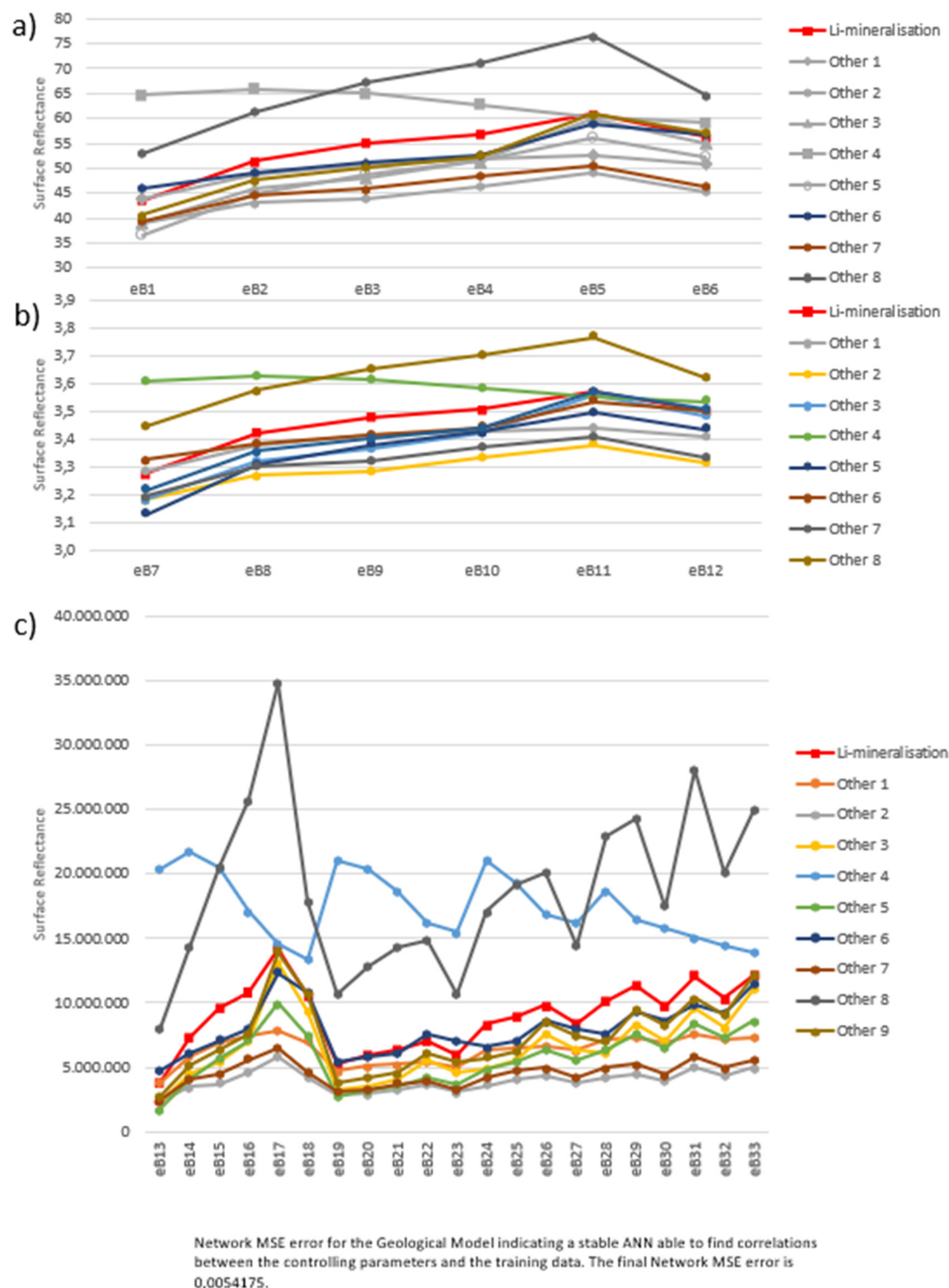


Figure S5. Spectral signatures for the extended spectral bands: (a) 1–6, (b) 7–12, (c) 13–32.

Supplemental Figure S6

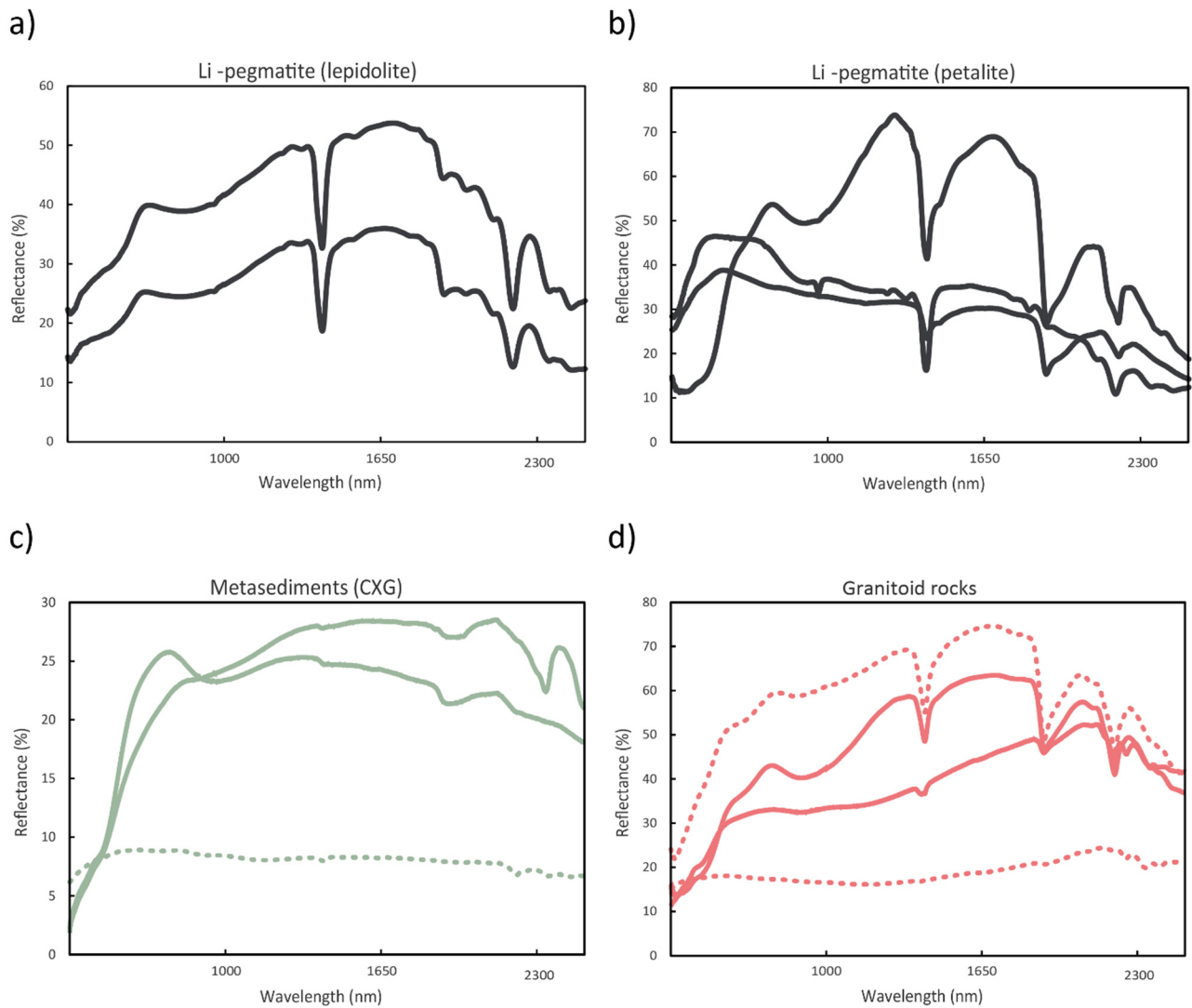


Figure S6. Reference spectral signatures of (a) lepidolite-bearing pegmatites, (b) petalite-bearing pegmatites (Bajoca mine), (c) schist-metagreywacke complex (CXG) metasediments, and (d) granitoid rocks [45]. Dotted curves correspond to fresh samples. Full curves represent weathered samples.

Supplemental Figure S7

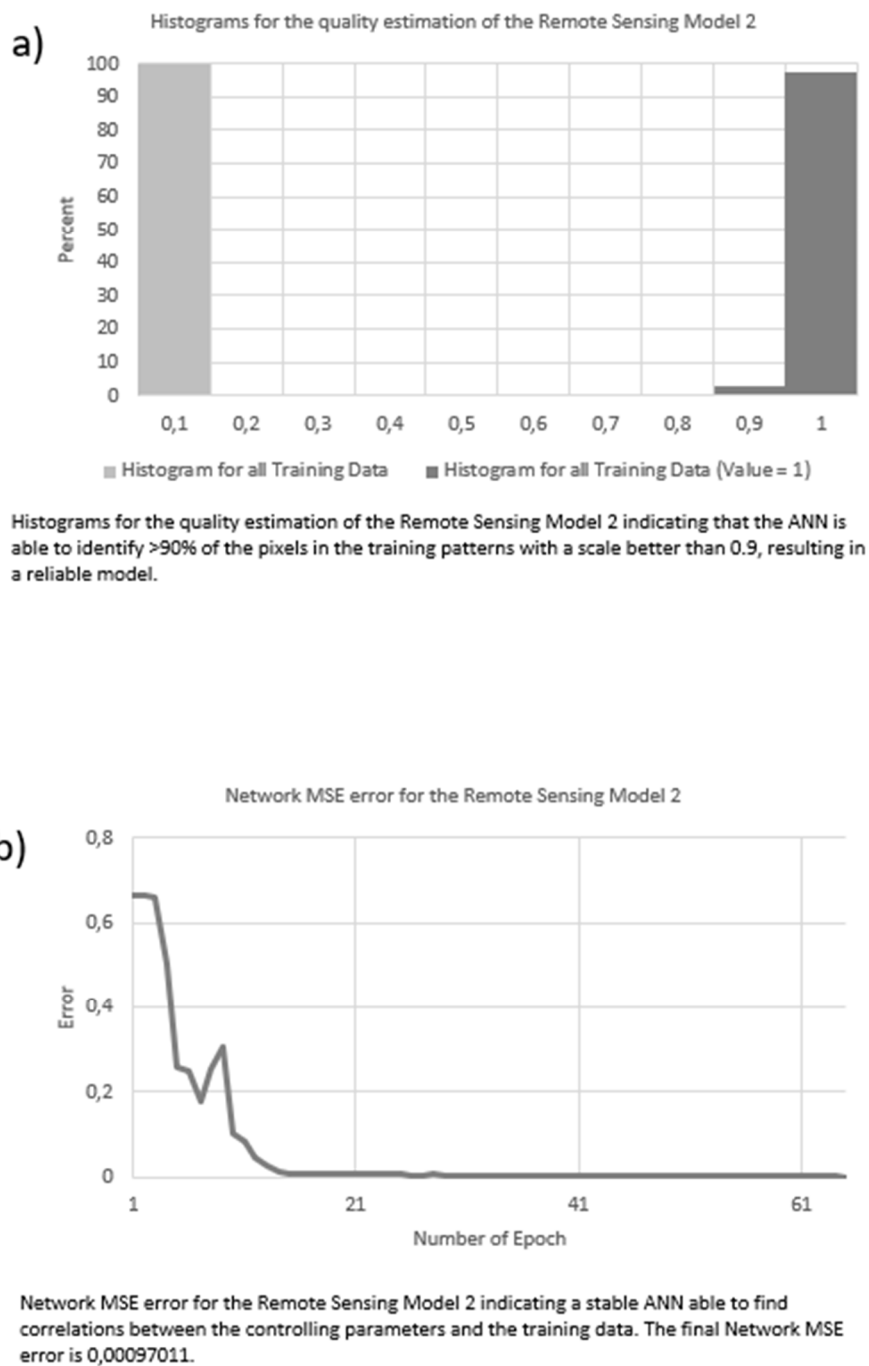


Figure S7. Histogram (a) and Network MSE error (b) for the Remote Sensing Model 2.