



# Traveling Molten Zone Refining Process Development for Innovative Fuel Cycle Solutions

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*Changing the World's Energy Future*

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**<http://www.inl.gov>**

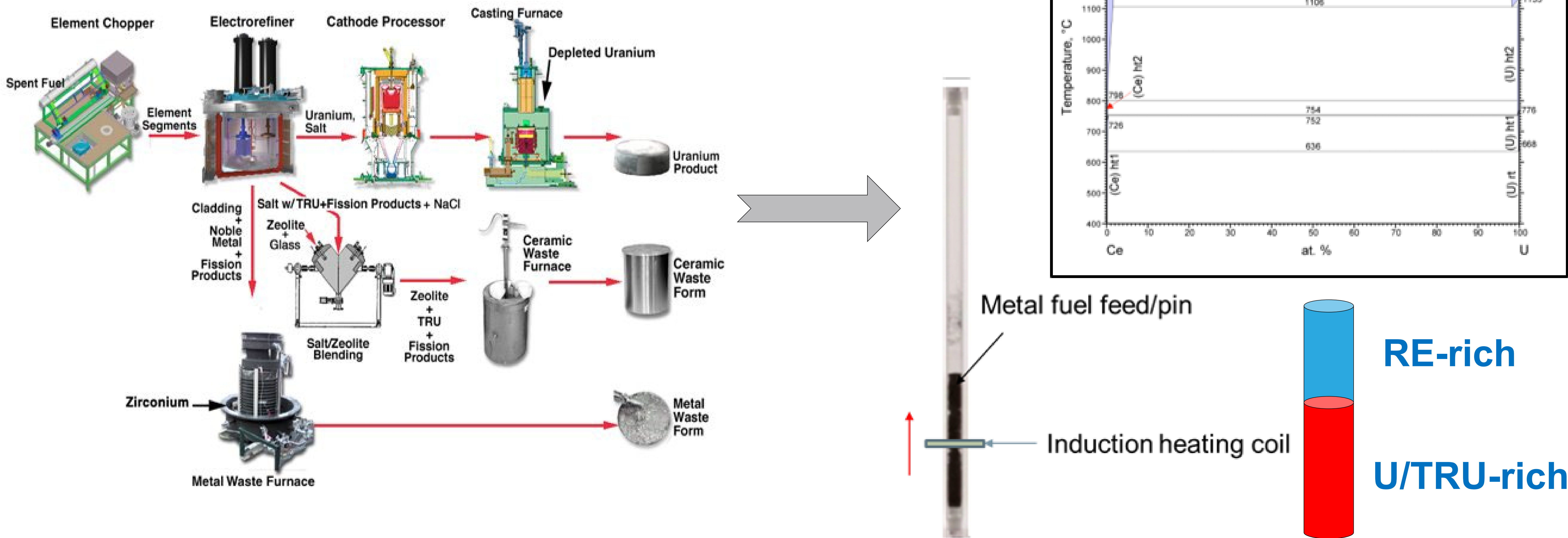
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# Traveling Molten Zone Refining Process Development for Innovative Fuel Cycle Solutions

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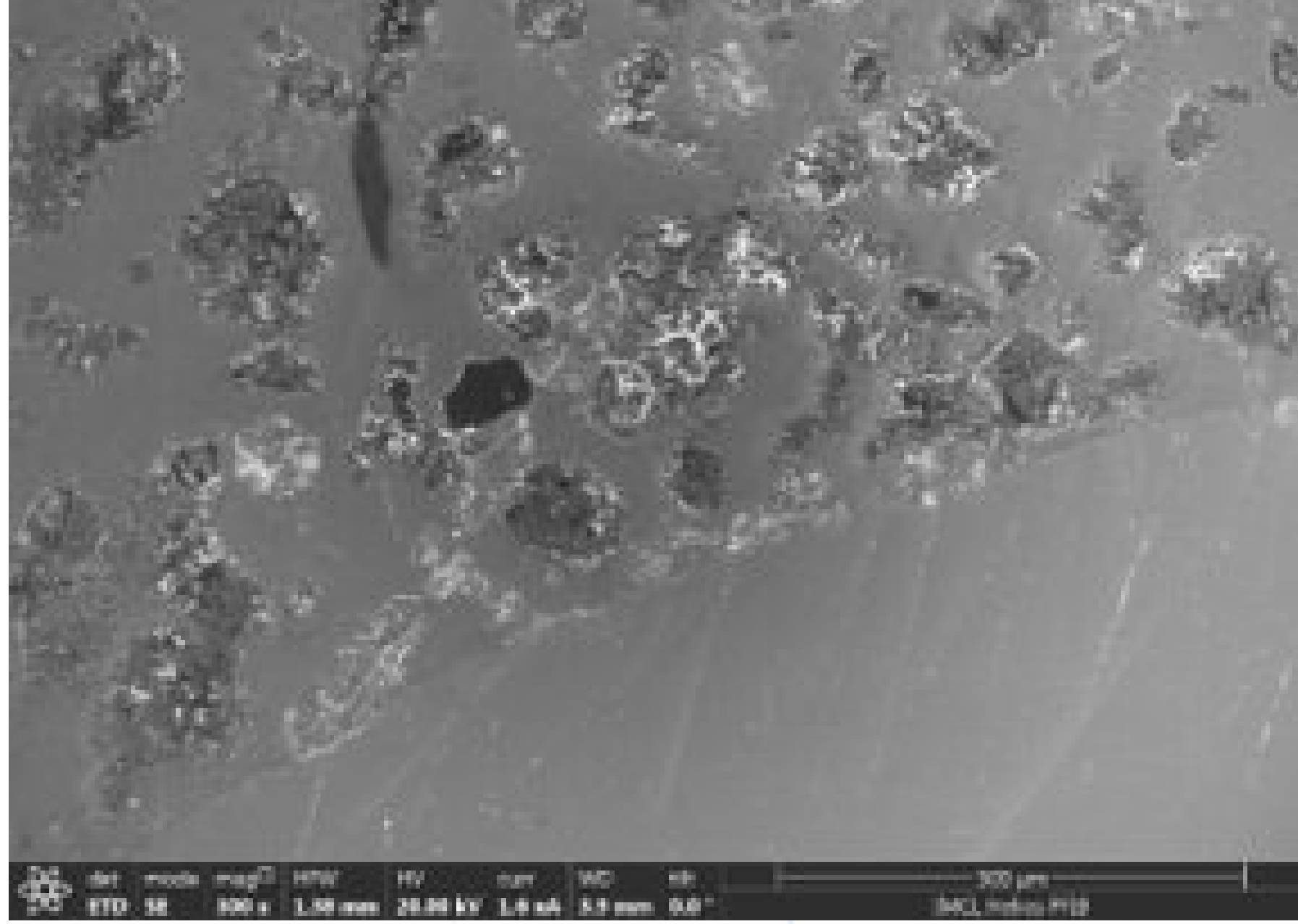
## Envisioning Metal Fuel Cycle Simplification



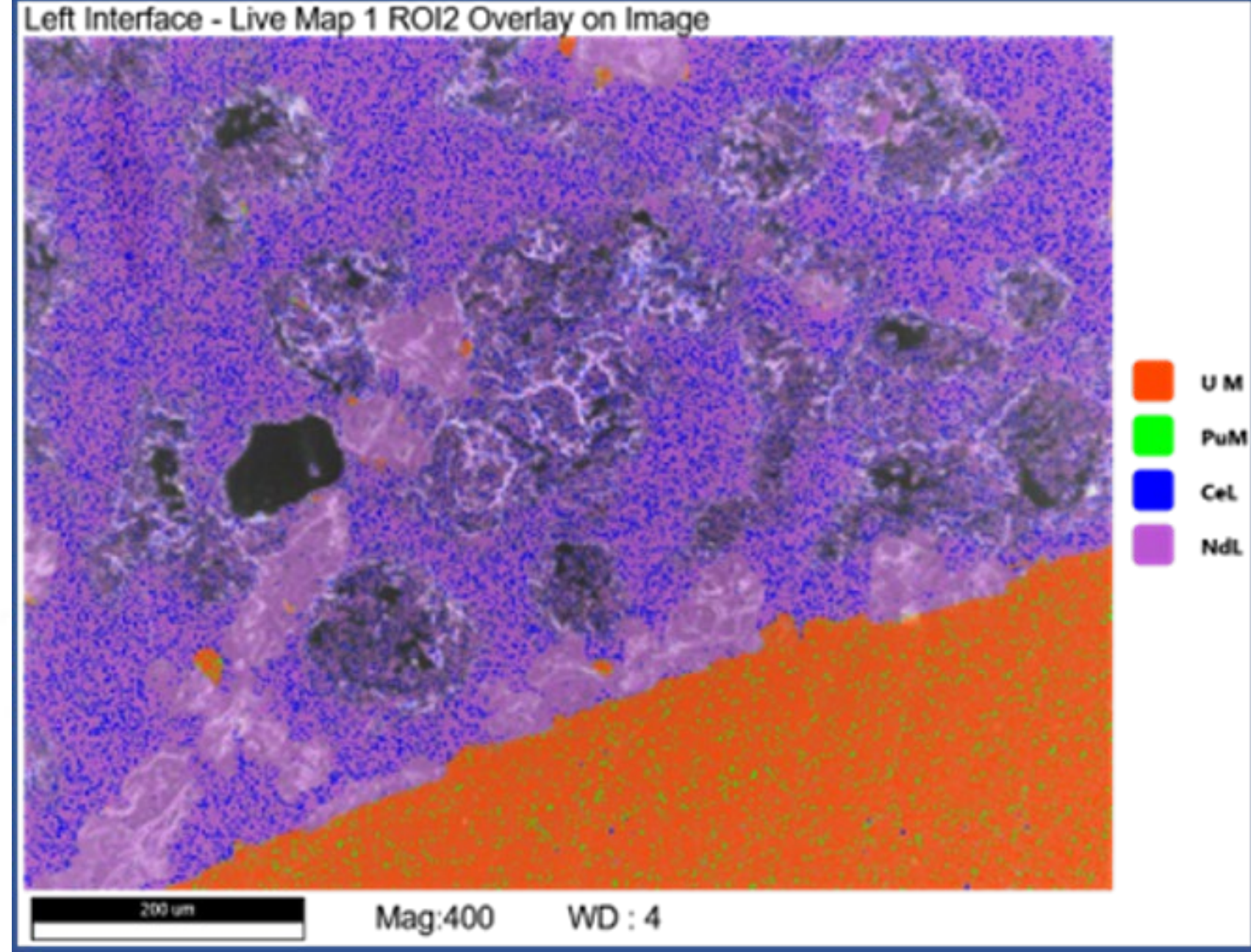
## Proof of Concept: Annealing Uranium-Plutonium-Rare Earth Metal Mixture



Visual 2 phase separation!

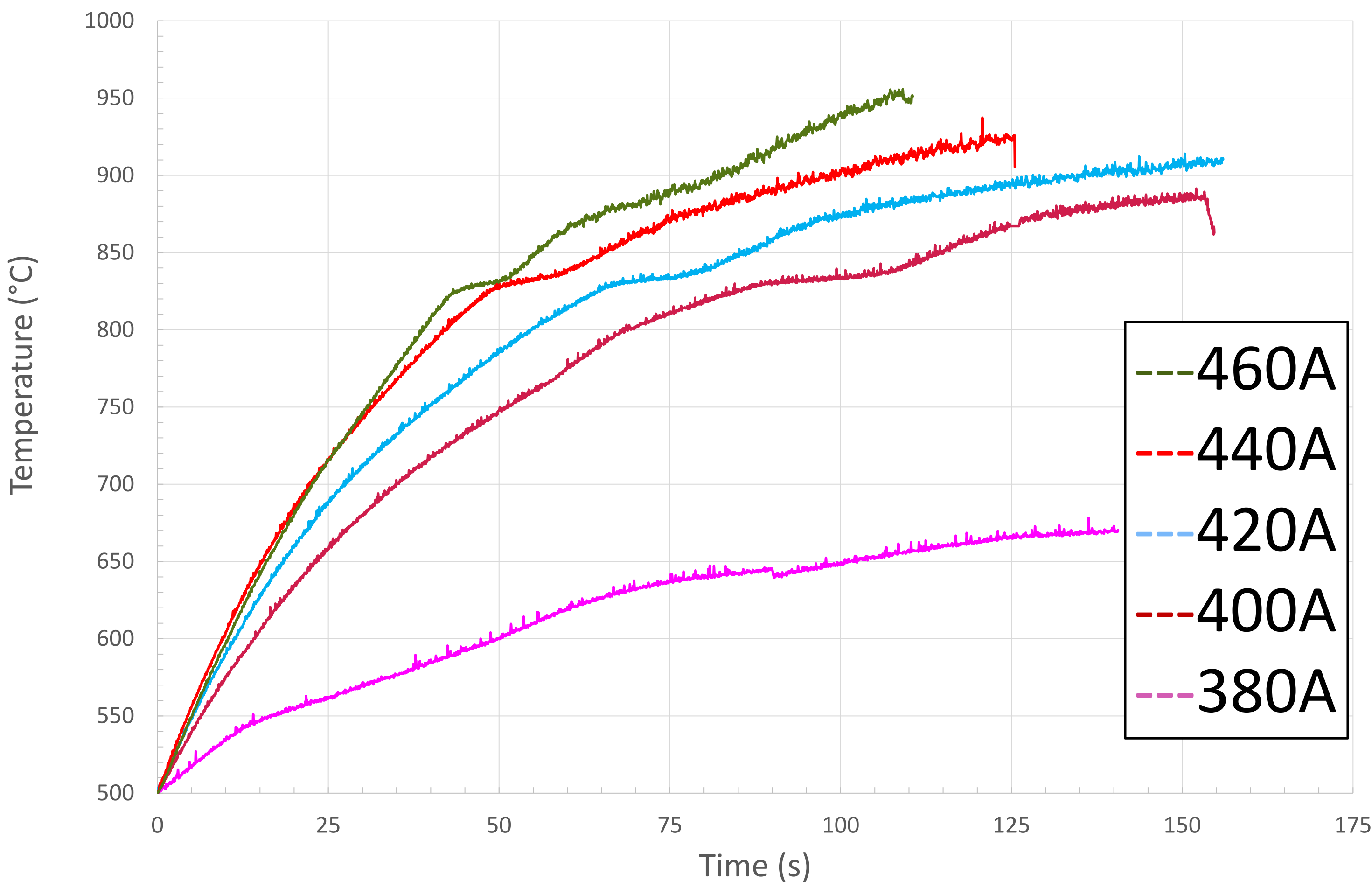


Morphology Difference



SEM analysis

## Proof of Process Feasibility: Zone Refining DU/Rare Earths/Group II Metals



Measured thermographic data with induction heating