

Meeting Minutes 10-23

Present:

- Emily
- Jake
- Dr. Rezaie

Notes:

Thermal Analysis questions:

- J-Current Processes:
 - Used Packed Bed Equations
 - $\dot{Q} = \dot{h}AT$
 - ➔ Re- This is for convection heat rate, but we will have forced convection
 - Used packed sphere function (assuming 1 cm sphere) on EES, which gives convection rate based off Reynolds #
 - Check with ray to verify porosity of rock
 - Assumed 3/4" pipe -> Re- pipe size can change
 - Re- Issues
 - h is a constant
 - mass flow too high
 - Use volumetric flow rate (b/c a sensor can be used)
 - We could consider storage as a heat exchanger
- To Do- J and E-Make presentation with visuals, methodology, and sources
 - Search for similar papers "forced convection" "porosity" "gas"

Pump Questions

- E- Most pumps for higher temperatures use only fluids or are quite expensive
- Re- Search pneumatic pumps system
- Re- Don't worry about flow rate, can be adjusted via globe valve