

## Meeting Minutes 10/30/2018

Present:

- Emily
- Jake
- Dr. Rezaie
- Melissa

System Diagram:

To do:

- Change energy plant to consumer
- Add color key
- Clarify it is old mine/gravel storage
- Include pump, valves

Heat Exchanger:

- Must determine what kind of heat exchanger you want (need to determine the heat transfer across needed to choose)

Hints:

- Gasket and ? gives you information on heat exchanger when you indicate the fluid and heat transfer needed
- Check market for second hand pumps (but we need smaller pumps for both because we are doing small scale). Very costly, depends on the size and the type

Ja-could we use evaporator

Re- Evaporator would change the state, which we don't want to do. Evaporator is a type of heat exchanger, but you can't do that

Solar Collector design issues/state:

- Ja- need to contact ray and ask about solar collector. Ask him what sort of sizes he has and if we can customize for smaller
- M-don't need to have specific design numbers, come up with options and general information based off the bottle necks
- R- we are missing even the scale

Thermal Analysis:

Re-

- We need to calculate the Reynolds number of the fluids through the pipe
- We can calculate the heat loss, do not need to give the generalities
- Heat storage depends on how you get the energy in, the size of the heat storage, etc
- Underground will be constant temperature

- Outside temperature will have effect on top

#### Current State of Analysis

- Ja- current analysis is the heat in, without including the heat loss
- Re- Stick with the less complicated functions
- Old method didn't have time component assumed steady temperature across the entire storage

To do General Presentation: (be ready by next Tuesday)

Complete the figure, add reference page, figures number

m-is it helpful to have examples available