

Meeting Minutes: 9/10/2018

Agenda → Jake

Meeting minutes → Emily → keep in mind who said what, whose task is whose and what the tasks are (and Whose responsibility it is)

Report → Emily

Client communication → Jakob

Info from Ray →

- We must sign agreement (Re said already sent)
- most important is to tour IPAT industrial park Centralia WA
lpatlusa.com a- website where the pilot plant will be
we're in charge of feasibility → next stop is to make prototype

↳ we should Meet site director I

↳ Re pointed out class conflicts for continued visitation

↳ Ray suggested mine near New Meadows / Riggins area

- We Should go there to see scale of mine to storage possibilities

- can be as much as 2000 ft deep 3km x 2 km wide → like gold mines in NV

↳ Not dug down but almost inverse corkscrew, Sometimes back filling as well

Question: Can We use the rock for heat storage (could be 100 KW hrs / ton)

- put the energy anywhere the heat can be stoned, presumably under ground w/ ground to insulate a refill hole

Re -Need to figure out insulation for hole?

Jake and Emily

↳ What is scope?

- Ray- Can We take rays of Sunlight a coral it into the ground

If we can do that w/ 50 % to 60% efficiency

Like Ivan Pah. solar thermal power plant

↳ they are hitting boiler w/ mirrors

System that would move w/ sun → heliostat is best?

↳ these do exist in the market → We are looking
for 2 axis heliostat.

Need to find money-Maybe from arista → currently have \$3000

Ray has ideas for What to do for distribution under ground

- fiber optics might work

- many parabolas w/ many focal points & have fiber
optics move the energy

- Ultimate goal: to translate energy underground to store e.

- Re-we can send solar to one spot using mirrors

Re- Why are We not heating at Surface then bringing it down?

We want to way higher than water (temp. wise). We Want red hot rocks

↳ collect move in the summer to be ready for winter

Want about 500°C

- Want about 3m of surface → in practice: 40M

- wanting to meet goal for full 40M by extrapolating out for longer distance

- If we can get the solar underground then afterwards it doesn't matter as much because lost heat could be used

- we can superheat the air for the final use of the heat into e.

- Not scope: Want to make insulater where air can't escape (from coal ash) to power

Re → instead of air use CO₂

Ra- Min. heat is 200°C for the rock for at least OT = 50°C from max . min temp of stone as we use it

Re-Why not geothermal system?

Ra → When we got mine the area we dont get the pressure for the overheat

Re - Meet tomorrow@2 for papers to read for research

We want a paper design Validated by Smaller prototype

↳ Re We can't try smaller version on Rays property but we can rebuild

We need information on how to get 2- axis heliostat (preferably 5)