Tuesday Sept 8, 2020, 3:30pm

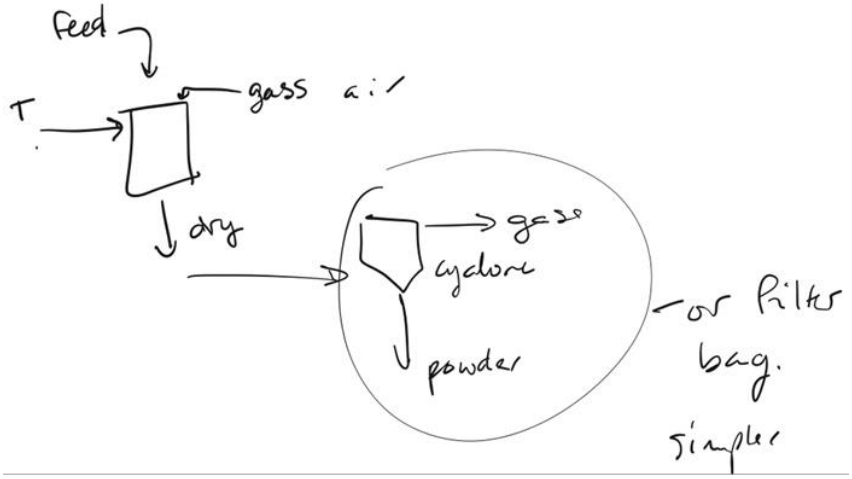
- Leslie Hurtado
    - Hurt5760@vandals.uidaho.edu
- Sophia Bowen
    - Bowe5722@vandals.uidaho.edu
- Brian He
    - bhe@uidaho.edu
- Bishal Bhattarai (mentor)
    - Fluid dynamics and machine shop help
    - Gauss Johnson 113 Office
    - Bhat7152@vandals.uidaho.edu
- Will meet us on Thursdays Normal Capstone Times (4ish after the other team)
    - Will send us a zoom link (if we don't do it first)
        - Make a zoom link for thursdays
    - A video of the dehydrator
- Have onedrive sync folder for project that everyone can access (including Dr. He)
- Shop is on first floor of Gauss Johnson
- Share project information with Bishal
- Going to meet as team members on thursday @ 9:30
- Sophia provided notes from meeting with Popova

Dehydrating Mustard extract

- soils to water systems
- Mustard is pesticide
  - ↳
- Turning mustard meal into dried extract
  - methods used Oven dry

current use → freeze dry
takes days. spray dry.) are interested in this

- product is thermally stable



Sept 10, 2020. 9:30am

- Going over contract, finishing the details.
- Upload logbook once a week (before team meeting)
- Figuring out what needs to be done within the next week
    - Team meeting with lead instructor on Tuesday, Sep 15
    - Draft budget Due Thursday Sep 17
        - Figure out how much is in budget
        - Meet with Popova if necessary
    - Establish meeting with Popova by Tuesday, Sep 22
- Email Popova for dehydrator diagrams

- Upload previous google drive things to OneDrive - Sophia
- Create Google calendar of project milestones and capstone due dates - Sophia
- ~~Upload contract to OneDrive - Leslie~~
    - Figure out if we need to send to Dev through BBL - Leslie

Do things by tuesday (but contract by end of day)

Meeting Minutes

September 17, 2020

Meeting Start Time: 9:30am

Open Action Items:

- 20 Questions to ask Dr. Popova (Does Dr. He have any that he thinks will be good questions?)
    1. Preference to be called Dr. Popova or Ina?
    2. How much faster does she want the process to be?
        - Faster than three days
    3. Same quantity as freeze drying? (10 gallon/batch per 3 days)
        - What are the min/max yields
    4. At what temperature does glucosinolate degrade?
    5. How hot does the dryer need to get to start drying the extract?
        - Evaporation of the water/ethanol
        - Concentrated heat gradient vs evenly heated system
    6. How much of the budget is already allocated?
    7. Can we see the current set-up
    8. How many test runs do we get? How much extract can we burn/waste
- System for to do lists, tasks, organization etc.?
    - Use an excel spreadsheet with provided templates, edit to needs.

Schedule/To-Do Items:

- Draft Budget Due to Dr. He (ask about this, Do we need to talk to Dr. Popova first?)
    - September 17, 2020
    - Figure out Budget ($1000) and rough dates
        - Barrel/container system ($70~$100 for a 10-55 gallon uline.com)
        - Spray nozzle
        - Heat supply
            - Heat guns or heat strips? Heat concentrated in one spot vs all over?
        - Control system (Budget under Dev Shrestha for BE 441)
        - Shop costs (welding, cutting, etc.)
        - Excess will be for error correction
        - Cyclone/drying chamber (sounded like a if possible want)
        - Collection system (maybe the cyclone drying)
- Meeting with Dr. Popova
    - September 22, 2020 at 9:30 am
    - Come up with questions
    - Due on Sept. 22
- PRD to Dr. He

    - September 24, 2020
    - Can work on after meeting with Dr. Popova?

New Action Items:

- Sophia will keep things to do list organized in an excel doc and integrated with gCal
    - Update weekly, daily if new items show up
    - Excel sheet, last updated cell, uploaded to OneDrive
- Leslie will work on Budget on excel
    - Upload to OneDrive
- Continue to think of questions about the dehydrator

Review Minutes:

- Brainstormed ideas and questions to ask to both Dr. He and Dr. Popova.
- Concluded who's going to do what.
- Some discussion over heat supply.

Meeting Ending Time: 10:07 a.m.

Meeting Minutes

September 17, 2020

Meeting Start Time: 4:00pm

Open Action Items:

- Talk about Budget
- Questions for Dr. Popova, what should we be asking.

Schedule/To-Do Items:

- Budget ($1000)
    - Pump
    - Heat magnets?
    - Aluminum vs Stainless steel container
    - Storage chamber
    - Control system
    - Spray nozzle
    - Insulation - fiberglass types vs water jacket
- Questions
    - What is the solvent that is being used?
        - Ex. high ethanol content, what is flash temp? May have to up the budget to provide explosion protection
    - Do you want a continuous flow or a batch process?
        - A continuous process may require a pump operation
    - Do you have any specific material or measurement requirements?
        - Preference for steel>aluminum
            - Steel: willing to increase budget?
            - Aluminum: rigid factor? Thin sheet vs self-supporting?
        - Imperial? Metric? What sizes?
    - Spray nozzle preference?
        - Testing different types may increase budget
        - Flat, cone, flood
    - Do you want the system to be manual or to operate on a control system?
        - Addition of a control system may increase budget
            - Also Sophia wants to do it for BE 441
    - Insulation preferences around the system?
        - Jacket (water pumped)
        - Blanket wrapped
    - Portable system?
        - Size limit?
    - Floor standing or on a platform?

    - Moisture content of finished product? Starting product
        - How do we measure moisture content
    - Product storage
        - Input - can it be preheated or would that impact the desired product
        - Output - storage preference
            - Size of storage chamber for finished product?
    - Heating sources?
        - Specific requirements (specific heat ranges?)

Issues & Risks (if applicable):

- Rough draft budget was technically due today. Get uploaded by tomorrow

New Action Items:

- Make rough budget and put in OneDrive, revise after client interview September 18, 2020
- Revise questions we would like to ask. September 21, 2020
    - Make client interview doc to record answers to questions.
- JML rm 72 has a vacuum evaporator that we might take a look at

Review Minutes:

- Dr. He advised us on budgeting and some pitfalls to avoid
    - Asked to get these in to him by September 18, 2020
- Dr. He provided some questions that he thinks might be useful to ask

Meeting Ending Time: 4:47pm

Client Meeting #1 Meeting Minutes

September 22, 2020

Meeting Start Time: 9:32 am

Open Action Items:

- Opening Floor to Dr. Popova
  - Wants
    - Progress! Thoughts behind progress. More interested in process than final product
    - Trial and errors, negative results prevent repeating results
    - What's working and what's not working
    - By the end of fall semester, what are we doing and what supplies we have/need; next semester build!
  - Expectations (quality, dimensions, etc)
    - As much progress as possible under pandemic
    - A few designs and adjustments
    - Spray dryer may be the best option, but we might find something better!
    - Literature reviews for the next two weeks
    - 6 weeks to actually come up with ideas/look into ordering supplies
    - End of fall semester: solid plan of what we will be doing/building in the spring
    - In spring, buy supplies, assemble, and start testing
    - If assembled and works as expected, get data (consistent drying time, concentrations, etc.)
    - Double expected timeline
    - Understands that we're students, plan accordingly
    - Wants us to understand that project will take time, it does not come together over night and there will be a lot of trial and error
      - Not feasible to do everything fast
    - Work with other people when it comes to some parts of the project
      - Such as welding (asking friends who know how to weld, or people in the shop)
  - Hopes (If time wants additional)
    - Build it, great!. If not, that's fine too
- Our budget expectations vs Dr. Popova's Budget expectations
  - **How much of the budget is already allocated?**
  - See if anybody already has supplies in JML
    - Forward budget of expected items to Popova
- Questions for Dr. Popova
  - **Other connections within the lab?**

        - **Lab techs/assistants. Tried to include Mark in emails to schedule but received system error: wrong address**
        - Mark is gone. Looking for a new tech currently. He used to run the JML set up, she can still bug him through facetime or Zoom. Can still be reached if needed
- **Portable system?**
    - **Size limit?**
    - Staying in JML, no other place for it. Stationary (or whatever is more feasible (cheaper/easier))
- **Floor standing or on a platform?**
    - No wheels, floor standing, doesn't have to be that easy to move
- **Do you have any specific material or measurement requirements?**
    - **Material**
        - No corrosion, so no preference in material
        - Does not need to be food or pharmaceutical grade
            - Going to back into field as pesticide
        - Easy to clean
            - Will be cleaning in between batches
    - **Preference for steel>aluminum**
        - No preference, however, stainless steel makes sense
            - Stainless steel is more expensive, will have to talk with Dr. Popova closer to buying material
        - **Steel: willing to increase budget?**
        - **Aluminum: rigid factor? Thin sheet vs self-supporting?**
    - **Imperial? Metric? What sizes?**
        - No preference between metric/imperial.
- **Spray nozzle preference?**
    - **Testing different types may increase budget**
    - **Flat, cone, flood**
    - Depends on material. Test a few samples. Not working with viscous liquid
        - Will be given samples to test before determining what spray nozzle works best
    - A general purpose spray nozzle should work
- **What kind of control system are you wanting? Do you want the system to be manual or to operate with some automation?**
    - **Addition of a control system may increase budget**
        - **Also Sophia wants to do it for BE 441**
    - Concerns that an automation system will raise prices - would be cool
    - Broken electronics will remove manual ability
    - if somebody doesn't know how it works, they can't use it
        - Somebody that knows how it works always has to be present
    - Everyone can do manual

        - Anyone can have access to dryer and use it
    - Someone will do it during the day, clean, and leave
    - Manual is fine for now
        - Wants to look at budget and if it can be done
- **Same quantity as freeze drying? (10 gallon/batch per 3 days)**
    - **Current input from the rest of the system? What are the min/max outflow expectations**
    - Can potentially reach 10 gal/day
- **How much faster does she expect the process to be?**
    - **Assumably faster than three days**
    - At least 50% increase in speed.
    - Viable, 50% dry (50% more concentrated) in about 3 hours and putting into freeze dryer
        - Thus, reducing the freeze drying process to 1.5 days
    - What is the flow rate?
        - Might not be super fast since we have droplets
            - If too fast, it won't dry
        - Probably need to calculate: water is worst case scenario
- **Do you want a continuous flow or a batch process?**
    - **A continuous process may require a pump operation**
    - Continuous - ideal, and makes sense. Extract is still warm out of press. But understandable if this is not possible
    - Sometimes have to manually stop process to clean system
        - To prevent too much clogging
    - Batch - nobody works 24/7, focus here for now
        - Better for our timeline
- **Heating sources?**
    - **Specific requirements (specific heat ranges?)**
    - No preference in heating styles. Steamer available in JML to check out
- **At what temperature does glucosinolate degrade?**
    - Degrades at roughly 100°C for a loooong time.
        - Temperature and time both play a factor
        - Four hours they will fall apart
- **What is the solvent that is being used?**
    - **Ex. high ethanol content, what is flash temp? May have to up the budget to provide explosion protection**
    - Just water, no ethanol.
        - Can never get rid of ethanol completely
            - Only if we have certain equipment, too expensive
- **How hot does the dryer need to get to start drying the extract?**
    - **Evaporation of the water/ethanol**
    - **Concentrated heat gradient vs evenly heated system**
    - No preference.

        - Normal (store-bought) spray dryers have an even heat
        - Dryers in lab claim to distribute heat evenly, but they do not
            - the systems have a gradient even if they have an evenly heated system because they have an opening in the bottom that lets air in.
        - Doesn't care about gradient
            - As long as the results are not drastically different
    - **Insulation preferences around the system?**
        - **Jacket (water pumped)**
        - **Blanket wrapped**
        - Hadn't thought about insulation
        - No preference, yet. Current one is just thick glass.
        - Doesn't care about energy input right now, it's provided by the university.
            - Try without and then see how it works
    - **Moisture content of finished product? Starting product**
        - **Do you already have a protocol for this?**
            - No articles, trying to get patent
            - Will check to see if they are available
        - Worst case, 50% less moisture and then put into the freeze dryer.
        - Best case is a completely dry product; Main goal
        - Range of 50%-100% is still a success
            - Higher concentration than what they have now
    - **Product storage**
        - **Input - can it be preheated or would that impact the desired product**
        - **Output - storage preference**
            - **Size of storage chamber for finished product?**
        - Usually comes out 50-60°C
        - Only cooled down to freeze
    - **How many test runs do we get? How much extract can we burn/waste**
        - She'll check JML to check ratios, starting material is cheap, technically waste as much as we need. No Limit
    - **Can we see the current set-up**
        - Definitely, will let us know when somebody is running it
- Go ahead and email her with questions. If she doesn't reply within 24 hours go ahead and email again

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Send link to OneDrive and Google Drive links to Ina.
- Send copy of draft budget to Ina, she will see if there are any already available materials in JML.
- Edit zoom link so the meeting is every other week.

Review Minutes:

- Dr. Popova's expectations of the project is that any progress is progress. If the dehydrator reduces water content even a bit, that will help speed up the freeze drying process.
- Expects to begin building in spring as long as the pandemic does not get in the way.
- Design is very open, a few of our questions got Dr. Popova thinking about the design a bit more.

Meeting Ending Time: 10:20 am

Meeting Minutes

September 24, 2020

Meeting Start Time: 9:31 am

Open Action Items:

- Work on PRD

Schedule/To-Do Items:

- Discuss heating styles
  - Cyclone
    - Pros: dries faster and potentially uses less height
    - Cons: how do calculate
  - Surrounding Heating Coils
    - Pros: Even heat distribution
    - Cons: potentially expensive, would require heating jacket
  - Single Source
    - Pros: probably cheap
    - Cons: potentially burning product. Heat gradient. May require more height

Issues & Risks (if applicable):

- Rust resistance vs rust proof
  - Steel - resistant, cheaper
  - Stainless steel - proof, expensive (breaks budget)
  - Aluminum - much cheaper
- PRD requirements from client are exceedingly open ended.
  - Only goal: output at 50% hydration

New Action Items:

- Begin working of Project Timeline - Sophia October 6th, 2020
- Send Dr. Popova PRD for approval - Sophia September 29th, 2020
- Look up alternative systems for dryers - Both Oct1 1, 2020
  - Relevant literature
  - Current industry standard - Leslie
  - Lab equipment - Sophia
- Thermodynamics of a potential system - Both do and compare calculation Oct 6th, check up Oct 1
  - Fluid mech - Nozzle spray
  - Thermo mech - drying system
- Develop Pitch Oct 8th, 2020
  - Practice Oct 13, 2020

Review Minutes:

- Talked about upcoming goals and due dates
- Evaluated PRD
    - Conclusion: exceedingly open ended, address this with Dr. He.

Meeting Ending Time: 10:28 am

Mentor Meeting Minutes

September 24, 2020

Meeting Start Time: 4:18 pm

Open Action Items:

- Ask about PRD
    - Make PRD a process document
        - Instead of mechanical and electrical requirements, consider functionality requirements
        - Use productivity info (10 gal/day) as a requirement
    - Specify objectives in scope
- Refer to standard/normal concentration of extract when looking at final product
- Can use tap water for testing
    - Since extract is mixed in with water

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Have PRD ready by next Monday, September 28, 2020
- Create a one page poster for snapshot day Oct 1, 2020
    - Objectives, scope work, conceptual design
    - Sophia draws concepts and anything else needed
    - Leslie begins typing
- Ask Popova about moisture content in solvent

Review Minutes:

- Got input on the PRD and what should be considered given our interview with Dr. Popova
- Things to consider when creating our system given the information gleaned from interview
- Preparations for project snapshot

Meeting Ending Time: 5:20 pm

Meeting Minutes

October 1, 2020

Meeting Start Time: 9:32 am

Open Action Items:

- Update on Task

Schedule/To-Do Items:

- Thermodynamics of a potential system - Both do and compare calculation Oct 6th
    - Fluid mech - Nozzle spray
    - Thermo mech - drying system
- Begin working of Project Timeline - Sophia October 6, 2020
- Send Dr. Popova PRD for approval - Sophia October 1, 2020
- Look up alternative systems for dryers - Both Oct 1, 2020
    - Relevant literature
    - Current industry standard - Leslie
    - Lab equipment - Sophia
    - Ask Dr. He about current industry processes using spray dehydrator
- Develop Pitch October 8, 2020
    - Practice October 13, 2020
- Start poster for Snapshot

Issues & Risks (if applicable):

-

New Action Items:

- Meet up during the weekend to work on project
    - Sunday October 4, 2020, at 11 am
- Order a nozzle
    - To start testing with a bike pump
        - To figure out pressure needed to get a mist
    - Ask Dr. He about how to buy parts (card from university or reimbursement)
- Portfolio and Logbook due October 8, 2020

Review Minutes:

-

Meeting Ending Time: 9:45 am

Mentor Meeting Minutes

October 1, 2020

Meeting Start Time: 3:59 pm

Open Action Items:

- Go over PRD
- Ask Dr. He how to go about buying parts
- Ask Dr. He about current industry processes

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Add check valve to design and understand how it works
- Look up different nozzle types
    - Cone or flat will probably work better since extract is a slurry
- Look for supplier for tank
    - Ask facilities if they have any spare supplies
    - Surplus Supply
    - Make sure quality of materials/supplies is consistent
- Refine poster presentation
- Make edits to PRD
    - Goals: reduce to one sentence
    - Scope: Bullet formed
    - Section 5.7: Consider our components and what needs to be replaced
    - Edit Temp ranges (probably won't exceed 150°C)
- Make project schedule for Fall and Spring, run by Dr. Popova on Tuesday

Review Minutes:

- On the right track for poster and for PRD
- Some edits we should consider for PRD and Poster
- General advice for system design

Meeting Ending Time: 4:45 pm

Meeting Minutes

October 6, 2020

Meeting Start Time: 9:30 am

Open Action Items:

- Get Dr. Popova's feedback on PRD
- Update Dr. Popova on current designs

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Buy supplies for the pressure/nozzle testing system October 20, 2020
- Edit PRD temperatures (keep it between 120°C - 200°C)

Review Minutes:

- Quick meeting update with Dr. Popova, likes that we're working on figuring out the pressure needed for the nozzle before everything else

Meeting Ending Time: 9:43am

Team Meeting Minutes

October 8, 2020

Meeting Start Time: 9:33 am

Open Action Items:

- Upload our logbook self review (OneDrive) and portfolio rubric(?) (lead instructor)

Schedule/To-Do Items:

- Go to Dr. Popova's lab to see what materials she has that we can use to start testing
    - Sent Dr. Popova an email to figure out what day works best

Issues & Risks (if applicable):

-

New Action Items:

- Look into how to purchase supplies and what forms we have to fill out
- Look at pricing for nozzle and hose to fill out purchasing form
    - 3-5 nozzles to test
    - 2 feet of hose

Review Minutes:

-

Meeting Ending Time: 9:55 am

Instructor Meeting Minutes

October 8, 2020

Meeting Start Time: 4:00 pm

Open Action Items:

-

Schedule/To-Do Items:

- Calculate Temperature and Pressure needed
    - Include in design
    - Solids won't vaporize, only water will vaporize
        - Use water for calculations
    - How much space we need is related to how much throughput we need
- Need to figure out flow rate
- NOTE: Theoretical does not always work; ideal conditions are always assumed
- Patent search whenever we come up with new design

Issues & Risks (if applicable):

-

New Action Items:

- Always document what was done
    - Not all documents are required
        - But good to have as a reference
- Save files as revisions
- Portfolio will be given to client after project is complete

Review Minutes:

-

Meeting Ending Time: 4:30 pm

Team Meeting Minutes

October 15, 2020

Meeting Start Time: 9:31 am

Open Action Items:

- Updated poster per Dr. He's recommendations

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Sophia To email Chett and finish finding parts for pressure testing system Oct. 22,2020
- Dev's suggestions
    - Venturi nozzle for spray nozzle
    - Adding a pressurized chamber before spray nozzle instead of having pressure input to system
- Start looking into DVP
- Potentially add a paddle so the slurry does not set at the bottom
    - Potential price increase

Review Minutes:

-

Meeting Ending Time: 9:45 am

Lead Instructor Meeting Minutes

October 15, 2020

Meeting Start Time: 4:00 pm

Open Action Items:

- Get feedback on design
    - Dev suggested adding a pressurized tank instead of having pressure input
        - Problems with pressurized tank: extract could settle on the bottom and it could sacrifice important chemicals
        - Should use pump instead of a pressure tank
            - Pump: pressurized only at a section of the pipe
                - could be as little as 2 inches (pressure would be very high)
    - Nozzle type
        - Dev suggested Venturi nozzle
            - Not very applicable
            - Less maintenance and cost
            - If going to test, choose smallest available size
        - Look into orifice
            - Plate instead of tube; gets big pressure drop which is what we want
            - Less maintenance and cost
        - Spray nozzle
            - Higher maintenance and cost relative to above
            - More effectiveness/more mist
            - If going to test, go for bigger size
- Talk about how to purchase materials
    - Use Dr. He's credit card
        - Faster to get a hold of than department credit card
    - When purchasing in person, tell them it's for UI to get tax exemption
    - Online ordering usually asks if tax exempt before checking out
    - Document specifics in logbook
    - Facilities Surplus Store is open on Monday afternoons

Schedule/To-Do Items:

- DVP Due October 22, 2020
    - Some examples:
        - Temperature and pressure testing
            - Variables: Two levels: high and low
- Look into best way to do vaporization
    - Or read two chapters emailed to us
- Look into Experimental Factorial Design

- Upload logbook on a biweekly basis

Issues & Risks (if applicable):

-

New Action Items:

- Can request a key to the lab in the Spring semester to work after hours

Review Minutes:

-

Meeting Ending Time: 5:01 pm

Team Meeting Minutes

October 22, 2020

Meeting Start Time: 4:02 pm

Open Action Items:

- Work on DVP
    - Figuring out what needs to be tested and by when

Schedule/To-Do Items:

- Read Chapters
- Get prices for supplies by Tuesday's meeting for Dr. Popova to get approval
- Figure out Temperature and Pressure

Issues & Risks (if applicable):

-

New Action Items:

-

Review Minutes:

-

Meeting Ending Time: 4:49 pm

Team Meeting Minutes

October 29, 2020

Meeting Start Time: 9:31 am

Open Action Items:

- Work on Project Value Proposition
- Finish up readings and calculations

Schedule/To-Do Items:

- Plan to buy materials on October 30
- Leslie will work on Wiki site by November 5

Issues & Risks (if applicable):

-

New Action Items:

- Meeting on November 1 to go over information and calculations for meeting with Dr. Popova on Nov. 3
- Sophia is going to purchase nozzle and tubing Oct 30
    - Go figure out pump tubing size Oct 29-30

Review Minutes:

-

Meeting Ending Time: 10:23 am

Instructor Meeting Minutes

October 29, 2020

Meeting Start Time: 4:00 pm

Open Action Items:

-

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Project value proposition
    - What is important/what is benefit of project?
- Design Validation Proposition
    - Each objective is a milestone
- Wiki Site Folder on OneDrive
    - Create sections to draft before uploading to web page
- Wiki title
    - Talk Dr. Popova to get approval for title
    - Short, easy to remember
- Send Dr. Swenson (swenson@uidaho.edu) date and time of Project Design review
- Send Bishal link to Thursday afternoon meetings
- Send Dr. He link to Tuesdays' meeting with Dr. Popova

Review Minutes:

-

Meeting Ending Time: 4:32 pm

Team Meeting Minutes

November 1, 2020

Meeting Start Time: 3:05 pm

Open Action Items:

- Go over calculations/equations
    - Leslie will upload to OneDrive so they can be reviewed
- Design
    - Slurry in drum will have to cyclone for optimal drying

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Sophia will work on design stand
- Sophia will send out email asking for available times for Concept Design Review
- Create PowerPoint for Tuesday's meeting with Dr. Popova

Review Minutes:

-

Meeting Ending Time: 3:22 pm

Team Meeting Minutes

November 5, 2020

Meeting Start Time: 9:31 am

Open Action Items:

- Sophia will start building testing
- Leslie will finish wiki page write-up
-

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Look into pumps that can handle solids
- Sophia is building pressure/nozzle test on friday and testing water and solid by next week?

Review Minutes:

-

Meeting Ending Time: 9:52 am

Instructor Meeting Minutes

November 5, 2020

Meeting Start Time: 4:02 pm

Open Action Items:

- Concept Design Review
    - Dr. He's suggestions
        - Send a copy of presentation to Dr. He before presentation so he can look over and give comments/suggestions
        - Get approval and comments from Dr. Popova before presentation
        - More than one slide on problem definition
        - More than one slide on design
            - Add block diagram that includes major operations
            - Add flow charts with more detail
            - Can use Microsoft Visio
    - Can't deviate from design after presentation
- Look into using PVC tubing
    - Can hold higher pressure
    - Plastic (flexible) tubing can deform
- Research insulation
    - Can provide an additional safety measurement so people don't get burned using heating chamber.

Schedule/To-Do Items:

-

Issues & Risks (if applicable):

-

New Action Items:

- Sophia will email Dr. Popova about lab set-up
- Leslie will work on heat flow equations

Review Minutes:

-

Meeting Ending Time: 4:45 pm

Team Meeting Minutes

November 19, 2020

Meeting Start Time: 10:30 am

Open Action Items:

- Keep looking into products that we need to buy
    - To make sure they will work

Schedule/To-Do Items:

- Buy drum, heat gun, and pump by November 20, 2020
- Team citizenship Due November 20, 2020

Issues & Risks (if applicable):

-

New Action Items:

- Edit PRD to note that heat gun will eventually fail and have to be replaced

Review Minutes:

-

Meeting Ending Time: 10:48 am

Instructor Meeting Minutes

November 19, 2020

Meeting Start Time: 4:03 pm

Open Action Items:

- Effluent pump: specific for transporting solids in water
    - Sophia will email Dr. He the link of potential pumps to get his feedback before we purchase it
- We can get the drum sand-blasted by facilities – takes about 30 minutes
- Drums are available behind JML
    - Some used to contain ethanol so we will have to rinse out a few times

Schedule/To-Do Items:

- Talk to Dr. Popova about working in JML 83 so all our materials are there and we don't have to move assembly around everywhere
    - Can potentially use materials from that room
- Dr. He will upload and us Pump readings

Issues & Risks (if applicable):

-

New Action Items:

- Do research to solidify which pump, drum, heat gun, check valve, framing, storage chamber, funnel material, tubing piping.
    - So it can all be ordered in the beginning of Spring 2021 semester

Review Minutes:

-

Meeting Ending Time: 4:34 pm

Instructor Meeting Minutes

December 3, 2020

Meeting Start Time: 3:59 pm

Open Action Items:

-

Schedule/To-Do Items:

- Snapshot #2 notes
    - Try to reduce Value Proposition to one sentence
    - Try using bullet points
    - Make font larger
    - Keep this slide as a template
        - Can edit as needed for Snapshot #3 and EXPO
- Portfolio, Logbook, and Wikipage all Due December 11, 2020
- Ask Dr. Popova if it is alright for materials to get shipped to her office
- No meeting on December 10, 2020

Issues & Risks (if applicable):

-

New Action Items:

-

Review Minutes:

-

Meeting Ending Time: 4:16 pm