Appendix 2

Job Safety Analysis	Job: Grinding Biomass with the Hammer Mill	
	Title/Position of person who does this job: Undergraduate Students	
	Department/Area: EBI, Ag Engineering	Date Prepared: September 12, 2011
Is lockout/tagout required on this job? ☒ Yes ☐ No	Identify machine specific procedure: N/A	
Is personal protective equipment required? ☒ Yes ☐ No	Identify personal protective equipment: Safety Glasses, Earplugs, Gloves	
Are hazardous materials used on this job? ☐ Yes ☒ No	Identify chemicals and location of MSDS information: N/A	

Basic Job Steps	**Potential Accidents or Hazards**	**Safe Job Procedure**
In this column list the basic steps involved in performing this job. Observe the job as it is done. Discuss the job steps with the operator and record the steps as they are performed. Describe what is done, not how it is done. Usually, three or four words can describe each basic step.	In this column, list the potential situations that may cause injury or illness. Look for the following situations: being struck by; struck against; contact with or by; caught in, on or between; fall from same or different height; overexertion; exposure to gasses, fumes, mists, etc.	In this column, determine the safe job procedure to avoid the hazard identified in each job sequence. Use simple do and don't statements to describe safe job procedures. Look for alternatives instead of this job step. Avoid general statements like "be careful" or "be alert."
1 Lifting material up to the grinding platform	Ergonomics	Use proper lifting techniques when lifting material up to the loading platform. Keep the platform as close to the loading chute as possible to reduce the distance needed to reach the load chute.
2 Grinding the material	Hearing damage from machine noise. Getting hand caught in mill. Getting hair, jewelry or loose clothing caught in mill. Getting foreign objects in your eye. Plugging the mill with too much material	Tie back hair and loose fitting clothing. Remove any loose jewelry, necklaces, bracelets ect. Put on earplugs, safety glasses and gloves. Start the dust collection vacuum. Start the hammer mill and allow time for the mill to get up to full speed. Feed material into the mill using the provided pushing device. Use caution to not over load the mill with too much material.

Appendix 2

3	Unloading the ground material	Ergonomics Getting foreign objects in your eye.	Put on safety glasses and gloves Use proper lifting techniques when removing ground material from collection barrel.
4	Servicing the Hammer Mill Changing the mill screens	Accidental start up while mill is being serviced Accidental release of stored energy Lacerations from sharp edges on mill hammers and screens Getting foreign objects in your eye.	Disconnect the power using Lockout Tagout procedures. Remove all potential energy using Lockout Tagout procedures Verify the effectiveness of the lockout procedures. Wear gloves and safety glasses while servicing Assure all equipment and tools are removed from the machine and all effected employees are notified prior to removal of locks or tags.