1. Procedure summary

This procedure outlines the Recirculating of Storage Tank/Dispensing Algae Storage Tank

1. Related Procedures

Transfer Slurry For Transport	CB-02-007-003

1. Procedure impacts and concerns

Safety	Site standard PPE is required.
Quality	Improper monitoring of algae storage tank could cause over filling transport ,sump or lift-station
Delivery	Proper documentation needs to be completed for transport.
Environmental	Algae material spills will be recorded and cleaned up as soon as possible.
Compliance	Compliance with OSHA's Hazardous Waste Operations and Response, and Hazardous Communication Standard in addition to the Sapphire Energy, Inc. Chemical Hygiene Plan is required (see 29 CFR 1910.120 and 1200).

1. Responsibilities and owners

Document Owner	Manage content and distribution	Leo Willis
Process Owner	Responsible for content and process validation	Leo Willis
Site Manager	Responsible for implementation and conformance	Rebecca White

2. Process

2. Process description

The algae storage tank is made to hold all biomass that has been decanted (dewatered) from the Decanter process building. It holds the decanted biomass until it can be shipped out to the PDU and refined.

2. Process diagram: Work Instruction

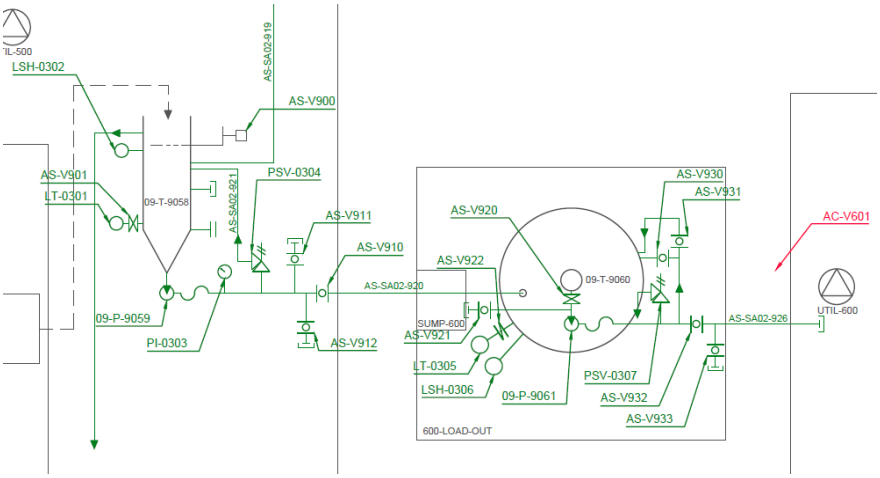


Figure1. Shows map of storage tank and valves

First step is to get sample before starting the recirculating process. The reason for taking a sample before recirculating is to see if tank is properly mixing. Sample taken with a 1L sample bottle.

NOTE: Fill sample bottle to ½ or ¾ of a bottle due to product expanding with heat.

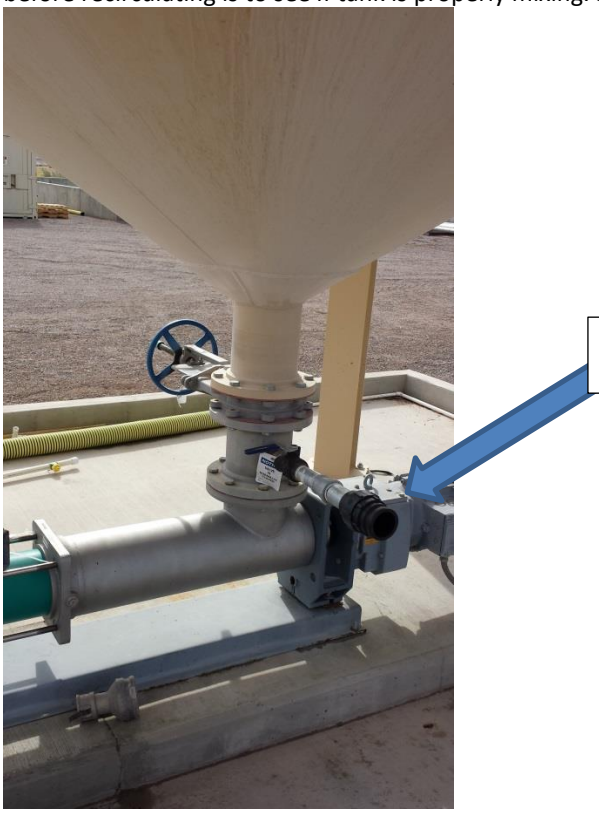
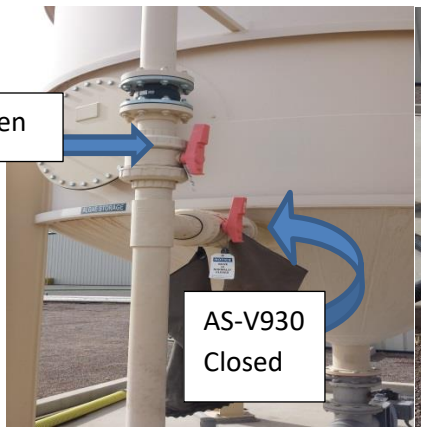


Figure2. Shows sample port

Step 2 -After sampling start prepping valves to recirculate pump.



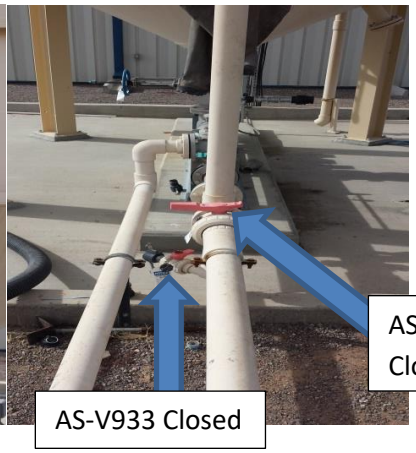


Figure3. Shows prepping of valves

2. Process ste
After all v es are prepped Figure 4 shows starts and stop button. Hit start and let recirculate for 1-hour or as per QAQC. When completed hit stop button, and take your second sample from sample port. (See figure 2) Make sure y own on a Production Log and advise team lead task completed. Samples need to be taken to QAQC IMMEDIATELY.

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NOTE: Samples are not to be left out in sun due to product expanding in sample bottle.

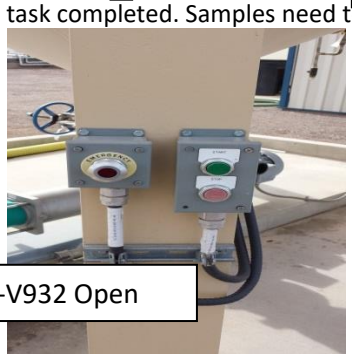

Figure 4- Shows Start, Stop, and Emergency Button.

Dispensing Algae Storage Tank

Prep-Valves

Determine where Dispensing

Push Start Button

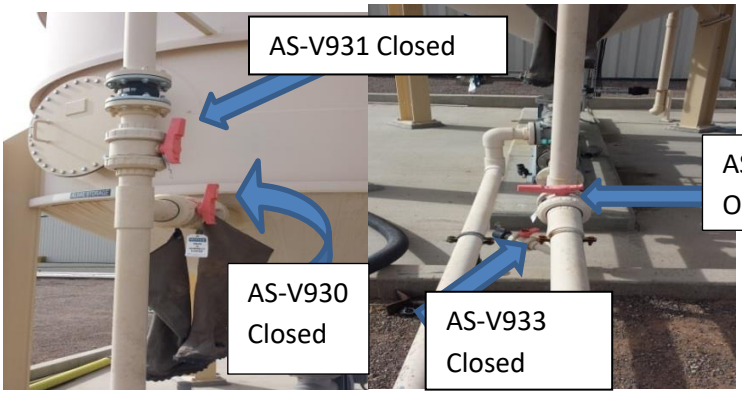

Figure 1 and 2- Shows Prepping of Valves

Note: All valves have Tags and Labels

Figure 3- Shows Tiger-Flex Hose

Hose end is either put into sump or Transfer Slurry to transport See- SOP-CB-02-007-003. As shown in Figure 3 any product that is spilled or not dispensed into sump can be washed back into sump with water hose.

Figure 4- Shows Start, Stop, and Emergency Button.

Dispensing Storage Tank-Once all valves prepped now you're ready to hit Start Button and Stop Button when done. It is VERY important to document everything down on a Production Log and advise team lead task completed.

2.4 Trouble shooting decision tree

If pump will not turn on you will need to notify facilities to Re-set pump immediately.

3. Required documents

3. Input documents

Production Log

3. Output documents

Production Log

4. Document control

4. Revision history

R0 – Initial Release- Leo Willis	02/24/2015

R1 – <Editor name>	<Date>

4. Document approval

<Name> <Approval date>

4. Document reviewers

<Name> <Last reviewed date>
<Name> <Last reviewed date>

5. Risk analysis

<Risk name>	<Mitigation plan>	<Owner>	<RPN>