1. Procedure summary

This procedure outlines the method to Clean and replace the DFP basket strainers after the DAF feed pump.

1.1. Related Procedures

Polymer Station Operations	CB-02-002-002
Saturation Tank Operations	CB-02-005-003
DAF Operation	CB-02-004-004
DAF P&ID	CB-02-004-009

1.2. Procedure impacts and concerns

Safety	Operate one DFP basket strainer at a time or system damage will occur. Failure to replace the strainers properly can result in damage to equipment and high pressure water leakage. The strainer housings are pressurized therefore pressure must be released prior to opening lid.
Quality	Improper strainer replacement could result in large debris sent to the DAF and subsequently to the TA strainers.
Delivery	DAF feed is sent from the DFP to the DAF via the DFP basket strainers and failure to properly monitor the DFP strainers could result in significant down-time of the DFP feed pump.
Environmental	Debris collected and removed from the DFP basket strainers should be disposed of local trash receptacles. Any spills of material removed from the strainers needs to be cleaned up as soon as possible.
Cost	Failure to replace the strainers properly can result in significant harvest down time.
Compliance	The procedure outlined below ensures proper operations of the DFP basket strainers and should be followed accordingly.

1.3. Responsibilities and owners

Document Owner	Manage content and distribution	Martin Chavez
Process Owner	Responsible for content and process validation	Dhawal Dhonde
Plant Manager	Responsible for implementation and conformance	Dhawal Dhonde

2. Process

2.1. Process description

The purpose of this SOP is to describe procedures for cleaning the DFP basket strainers.

2.2. Process diagram

2.3.1 Process Steps

2.3.1. DFP basket strainer removal

2.3.1.1. During a harvest run the pre-strainer pressure gauge will monitor the pressure at the inlet to the basket strainers. When the inlet pressure goes over 10 psi the basket strainer needs to be changed.

2.3.1.2. If DFP basket strainer 03-F-2900A (circled in diagram) needs to be changed, open valves AH-V703 and AH-V704 to allow flow to go through 03-F-2900B (figure 1).

Note: Flow will go through both strainers for a period, **NEVER close off both strainers simultaneously during harvesting. Line will pressurize and DFP pump damage can occur.**

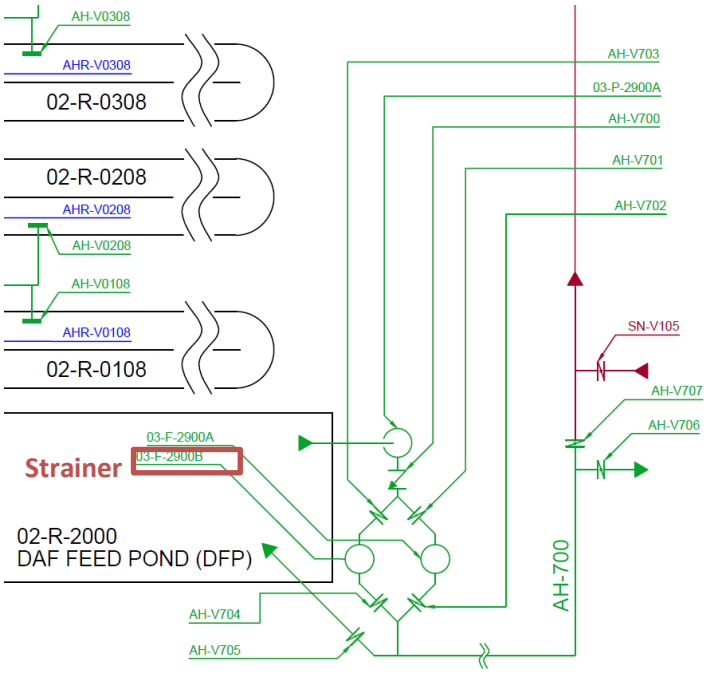

Figure 1. DFP Basket Strainer diagram.

Note: Valves AH701 and AH702 work together to manage flow through 03-F-2900A

Note: Valves AH-703 and AH-704 work together to manage flow through 03-F-2900B

2.3.1.3. Close valves AH 701 and AH-702 to stop flow to the clogged 03-F-2900A strainer (figure 2).

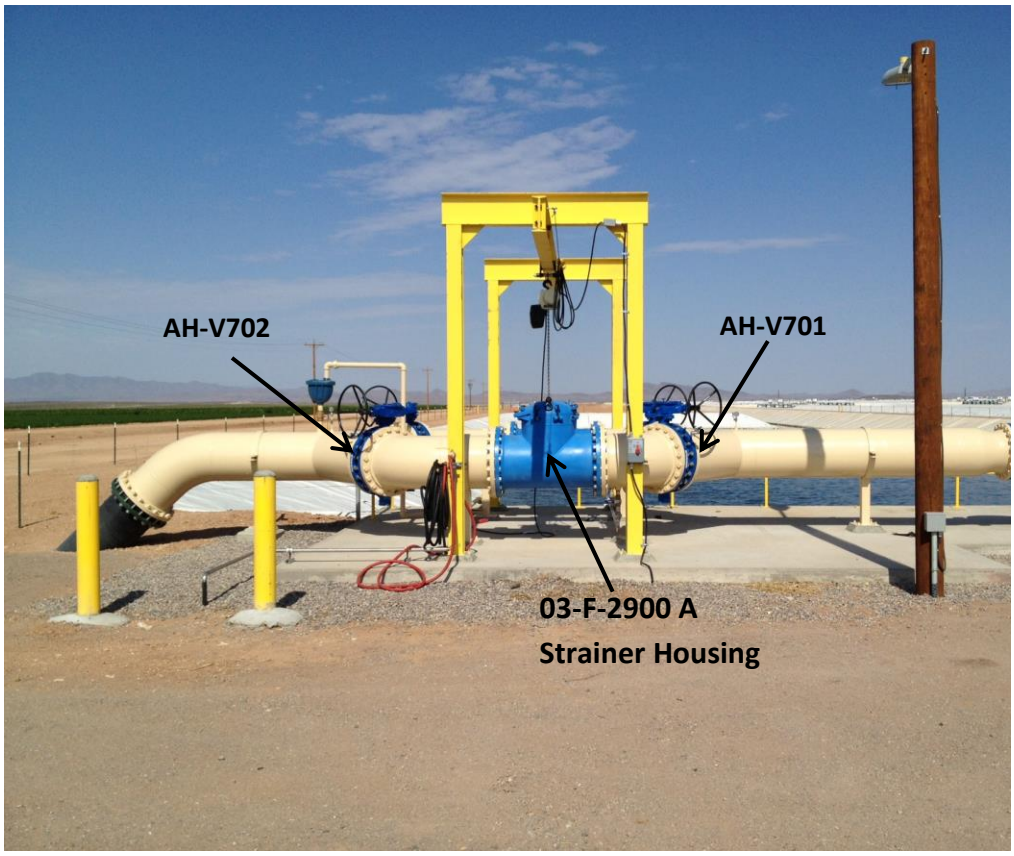

Figure 2. DFP Basket Strainer area.

Note: Do not switch valves back into original configuration, the filters are meant to operate in an A-B fashion where only one is active at any one time. This allows for the filters to be switched and cleaned without any down time in the system.

2.3.1.4. Open the pressure relief valve at the bottom of the clogged strainer housing as seen figure 3.

Note: **If DFP basket strainer 03-F-2900B needs to be changed, open valves AH-V701 and AH-V702 to allow flow to go through 03-F-2900A, close valves AH-V703 and AH-V704, and follow process steps outlined for said strainer and valves.**

Figure 3. Pressure relief valve under strainer housing.

2.3.1.4. After opening the relief valve under the basket strainer housing, ensure that the pressure is being relieved (figure 4).

Figure 4. Fluid running out of relief line.

2.3.1.5. Loosen and remove nuts securing strainer lid. Using crescent wrench located near strainer lid. Figure 5

Figure 5. Nut removed example

Note: If housing pressure persists when loosening nuts, re tighten nuts and contact your team lead/supervisor.

Figure 6.

Note: After hook is connected this is your Winch controller.

2.3.1.6 Open lid using hoist. (Figure 6)
2.3.1.7. Slide the hoist over to the basket strainer and clip the hook to the basket strainer. (Figure 7).

Note: You may have to work the up and down

Figure 7. Winch hooked onto strainer

button as you work the strainer out of the strainer housing guide.

Note: When lifting lid with hoist be careful not to pull lid too high. Damage to lid hinges can occur.

2.3.1.8. After the hook is secured and in place, slowly work the basket strainer out of the strainer housing using hoist.

2.3.2. Cleaning strainer

2.3.2.1. Slide the basket over to the end of the concrete pad near the water hose.
2.3.2.2. Lower the strainer to the ground and lean the mouth of the strainer towards/facing the ground.
2.3.2.3. Using the water hose, wash the debris off of the strainer from the back side of the strainer basket (figure 8).

Figure 8. Winch hooked onto strainer

2.3.3. DFP basket strainer re-install

2.3.3.1 Lift the strainer up to the top of the hoist and slide the basket back until the strainer is directly above the basket strainer housing.
2.3.3.2. Lower the strainer into the housing and ensure the bottom of each end of the basket strainer slides into the guide rails (See Figure 9).

Figure 9. Insert strainer using rail guides.

2.3.3.3. Remove the hoist clip from the strainer,
2.3.3.4. Lift and slide the hoist back out of the way.

2.3.3.5. Check lid O-ring for damage or extreme wear
2.3.3.6. Lower the lid and ensure that the lid fit evenly around the strainer basket.
2.3.3.7. Place bolts back over into place and tighten bolts in a tightening sequence as shown in figure 10.

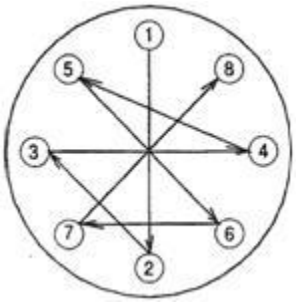

Figure 10. Tightening sequence.

2.3.3.8. Record time and pressure the filter was cleaned on the harvest record hourly data sheet.

3. Required documents

3.1. Input documents

Harvest Record Hourly Data Sheet	L:\Harvest\Harvest Records

3.2. Output documents

Harvest Record Hourly Data Sheet	L:\Harvest\Harvest Records

4. Document control

4.1. Revision history

R0 – Initial Release – Timothy Langer	March 23, 2012
R1 – Updated procedure – Marcos Delgado	September 5, 2012
R2 –Juan Enriquez	December 12, 2013
R3 – Tony Matsumoto	December 10, 2013
R4- Leo Willis, Melena Pacheco	November 19,2014
R4- Martin Chavez	January 12,2015

4.2. Document approval

<Name>	<Approval date>

4.3. Document reviewers

<Name>>	<Last reviewed date>

5. Risk analysis

<Risk name>	<Mitigation plan>