

1. Procedure summary

This procedure describes how to conduct a PAN evaporation test to determine evaporation rates.

1.1. Related Procedures

1.2. Procedure impacts and concerns

Safety	Working around water, slip, trips, and falls.
Quality	
Delivery	
Environmental	NA
Cost	NA
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. An authorized user list, MSDS's and label information will be available for easy reference in a binder in the administration building.

1.3. Responsibilities and owners

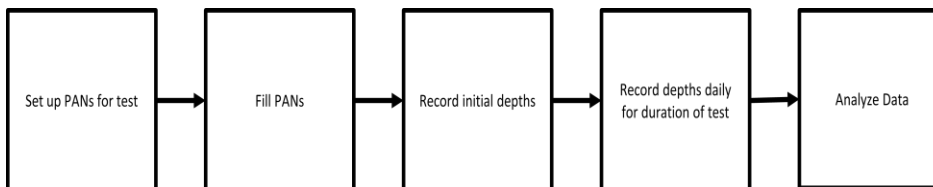
Document Owner	Manage content and distribution	Chris Lopez
Process Owner	Responsible for content and process validation	Dhawal Dhonde
Site Manager	Responsible for implementation and conformance	Dhawal Dhonde

2. Process

2.1. Process description

This procedure describes how to conduct a PAN evaporation test to determine evaporation rates. This is a modified method that does not use a class A pan.

2.2. Process diagram: Work Instruction



2.3. Equipment Needed

- 2.3.1.1. Steel Pan (See Figure)
- 2.3.1.2. Steel well or fixed pipe for depth measurement
- 2.3.1.3. Nurse trailer with pump and hose

2.4 Process Steps

- 2.4.1. Only fill both evap pans when depth reaches below 5 inches in both pans and top off to approximately 10".

2.4.1.1. Hook up truck to Non-potable nurse trailer (refer to nurse trailer operations).

2.4.1.2. Pull up or back up next to Process Water Tank. See Figure 1. Below.



Figure 1.

2.4.1.3. Remove lid on top of nurse trailer tank. Insert tiger flex hose about 3 feet into tank and firmly hold hose in position. See figure 1 above.

2.4.1.4. Have second field operator place Process Water Tank valve (WPV-015) in ON position slowly to avoid accidents due to pressure. See figure 2 below and note on side.



Figure 2.

2.4.1.5. Fill Non-potable nurse trailer with water from Process Water Tank in harvest area with 300 gallons. **NOTE: Back of the nurse trailer is numbered in gallons.** This should be enough water to rinse and fill both evap pans to 10 inches.

2.4.1.6. When desired amount of water is reached turn OFF valve (WPV-015) and remove tiger flex hose from nurse trailer, lay on sump by process water tank see figure 3 below.



Figure 3.

Place lid back on nurse trailer. Record amount of water put in nurse trailer and the time on Production log.

2.3.2. Method

2.3.2.1. Refer to Safe Traffic Flow Procedure when driving to evap pans.

2.3.2.2. Have spotter get you as near as possible to evap pan to fill. **NOTE: If cleaning is needed dispense water that is in evap pan and rinse out.** See Figure 4 and 5 below.

NOTE: When backing up nurse trailer always have a spotter.

NOTE: Two employees are needed for this procedure.

NOTE: Stay on all main roads and use bridges when hauling nurse trailer.

NOTE: When valve is perpendicular it is in the OFF position and when valve is parallel it is in the ON position.



Figure 4: dirty
evap water



Figure 5: clean
evap pan

2.3.2.3. Use pump and hose to fill pan with the nurse trailer. To operate nurse trailer refer to (nurse trailer operation procedure.) See figure 6 below.



Figure 6.

2.3.2.3. Fill pan with water to approximately 10 inches. See Figure 7 below.



Figure 7.

2.3.2.4. Record final depth measurement in inches on a production log.

2.3.2.5. Record depth measurements twice a day on a Morning and Evening Site Checklist. Located on L:/Field Operations/Cultivation Checklists/Site Check.

NOTE: Use Freeze AM/PM site checks during winter and Daily AM/PM site checks during warmer weather.

2.3.2.6. Record daily weather events such as wind, rain, temperature, relative humidity, etc. that is applicable to evaporation.

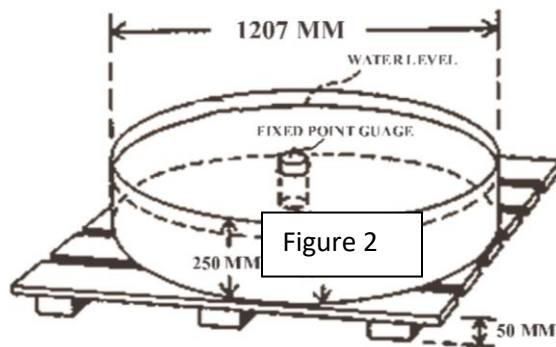


Figure 2

2. Required documents

2.3. Input documents: Columbus Drive (L:)/Field Operations/Cultivation Checklists/Site check (Freeze/Daily)

2.4. Output documents

3. Document control

3.3. Revision history

R0 – Initial Release – Tom Johnson/Jue Zhao	05-16-2012
R1 Up-dated – Chris Lopez	12/18/2015

3.4. Document approval

<Name>

<Approval date>

3.5. Document reviewers

<Name>

<Last reviewed date>

<Name>

<Last reviewed date>

4. Risk analysis

<Risk name>

<Mitigation plan>

<Owner>

<RPN>