

APPENDIX K

PHOTOGRAPHIC PROCESS REPRESENTATION

In this appendix the step by step process is shown in a series of site photographs. The process has been explained fully in the preceding sections of the report and thus this graphic section identifies the main features of the treatment process.

STEP 1 -- Receiving Pit

Tankers arriving at the treatment facility will reverse up to the tanker discharge pit and the waste is emptied (pumped out) into the receiving pit. Coarse material is screened out at this point. Waste is then pumped to the oily water separator.



STEP 2 -- Oil Separator

Oil in the waste stream is separated in the "oil separator". The oil is skimmed to drums with waste water being pumped to the balance tank in preparation for further separation steps.

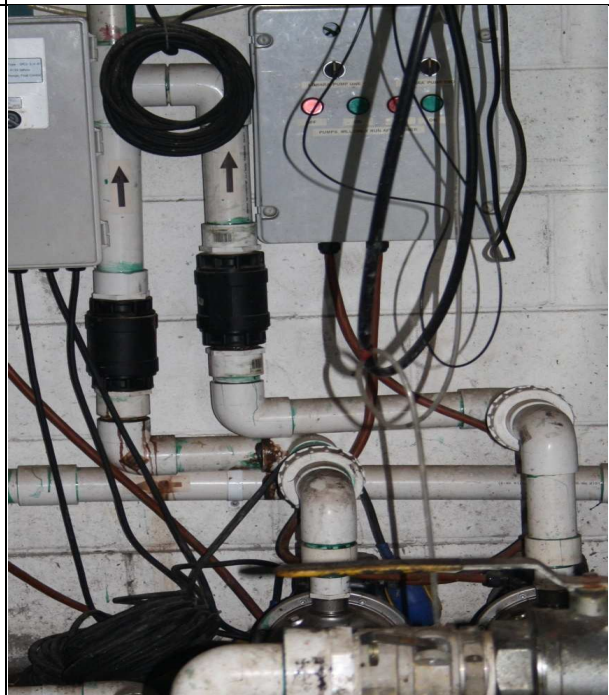


STEP 3 -- Balance Tank

At the balance tank, acid or caustic liquid is added to the waste water to adjust the pH level for optimum performance of the DAF Plant in the next process step.

STEP 4 -- Polymer Coagulant Addition

As the waste water is pumped from the balance tank to the DAF Plant a polymer coagulant is added to the line (mixing takes place in the pipeline). The polymer coagulant assists in the effective operation and separation of solids in the DAF plant.



**STEP 5 -- DAF Plant**

Air is added to the waste water line. As it reaches the DAF Plant the air released carries fine solid material to the surface of the reaction tank where it is mechanically scraped off the water surface. Heavier sludge material settles in the tank sludge chamber while water is pumped to the holding tanks for testing before release. Solid material from the DAF plant is pumped to the centrifuge for liquid reduction.

**STEP 5A -- Solid and Sludge from DAF Plant**

Waste sludge and solid from the DAF Plant is sent through the centrifuge where it has solid and liquid separated. Liquid is reprocessed after being pumped back to the first balance tank and solid is binned and sent to land fill. If the moisture level of the solid is too high then solid is processed at Step 5B.

STEP 5B -- “Wet” Sludge from Centrifuge to Filter Press

If the sludge has unacceptably high moisture content there is an option to reduce the moisture content by passing the sludge through the filter press. Liquid is re-processed and solids go to landfill.



STEP 6 -- Holding Tanks

Treated water is retained in the holding tanks while testing is carried out to confirm it meets the discharge requirements. Water that meets discharge requirements is discharged via the licensed discharge point – any water not meeting the discharge requirements is pumped back to the first holding tank for re-treatment through the whole process again.



Discharge viewing tank



Magflow Meter – measures Discharge Volume

STEP 7 -- Discharge Process

Discharge water is able to be viewed prior to exiting the treatment process and visual clarity checked. During discharge the volume of liquid is measured as is the pH of the discharging treated water.

Discharge pH monitored during discharge – out of range alarm to alert operators.

