Bill

VI. TENTATIVE OPERATING INSTRUCTIONS (contd.)

E. COLUMN (contd.)

5A. Start-Up Instructions (normal size run)

1) Seal the barometric leg in the receiver by pumping in 125 gallons of 1242 from a finished goods storage tank. (Work with the 2nd operator and use the 1" transfer line.)

2) Charge the lime slurry tank to 90% using crude 1142 from #1 intermediate storage tank. Add 1 bag of lime for each 10% of level charged. (See the section on the lime slurry tank.)

Note: The lime slurry must be fed by timer into the crude 1142 line as the crude is pumped from the continuous blow tank into the intermediate storage tank. It is extremely important that lime is present in the crude Aroclor before it is charged into the still pot, this is to protect the column against corrosion.

3) Fill the tempered water system with city water and start the circulating pump. Keep the water supply pump running at the break tank and the valves open to supply water to the system.

4) Set the tempered water temperature controller on 65°C. (controller is located by the circulating pump)

5) Begin heating the tempered water by applying steam at the circulating pump.

6) Turn city water on the vent cooler by opening the 2-1" valves (supply and discharge) on top the column. In cold weather at the direction of supervision use tempered water instead of city water.

7) Turn steam on both stages of the vacuum jet on top the column (they should "dead-head" at 7 mm. )

8) Open the manual valve to bleed air into the ACV on the jet and be sure the steam valve is closed.

9) Open the manual block valve in the reflux line on top the column.

10) Set the vacuum controller on 10 (40 mm) on the panel board.

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VI. TENTATIVE OPERATING INSTRUCTIONS (contd.)

E. COLUMN (contd.)

5A. Start-Up Instructions (normal size run)

11) Open the remotely operated block valve (XCV-308-4) in the vacuum line by energizing the push button on top of the still pot.

12) As the vacuum is pulling down charge 10,000 gallons of Crude 1142 from #1 intermediate storage tank into the still pot. (10,000 gal. is 39 on the recording chart)
Use the by-pass until the level on the chart is up to 35, then set the level controller on 39 and on auto-matic and close the by-pass.

13) Line up the valves to the "seal guard" unit at the circulating pump on the still pot and turn on the cooling water.

14) Check the 4" valve in the transfer line to the residue tank to be sure it is closed.

15) Line up the valves and start the still pot circulating pump to move the crude through the reboiler furnace and back to the still.

16) When the vacuum on top of the column is down to set point (40 mm) start the reboiler furnace per instructions in that section. The vacuum on the still pot should be 140 mm.

17) Set the selector switch on the panel board on "total reflux". This will close the remotely operated valve in the forward flow line to the column receiver.

18) A normal run on 1016 will be 38,270 gallons of distillate (forward flow). The gallons are measured in counts and will show on the totalizer on the panel board.

Set the totalizer on zero and the counter on 7,842. Set the reflux ratio on 3:1 (48%) and 5:1 (34%).

The 1st half of the distillate will run at a reflux ratio of 3:1. When the totalizer counts from zero to 7,842 the reflux ratio will automatically change to 5:1. The last half of the distillate will be run at 5:1.

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VI. TENTATIVE OPERATING INSTRUCTIONS (contd.)

E. COLUMN (contd.)

5A. Start-Up Instructions (normal size run)

19) When the still pot temperature reaches its boiling point vapor will enter the bottom of the column and any liquid will return by gravity from the bottom of the column to the bottom of the still pot.

The column will remain on total reflux until the temperatures have stabilized. Temperatures recorded on chart 300, points 1, 2, and 3 will all read constant.

20) When the tempered water reaches set point, 65°C., turn off the steam valve.

21) When the column temperatures have stabilized cut the distillate forward to the column receiver at the 3:1 reflux ratio. This is done by moving the selector switch on the panel board from "total reflux" to "product tank".

22) Set the controller for the forward flow on automatic and the set point on 4.8 (14 GPM). This will open the ACV in the forward flow line and distillate will go into the receiver.

23) When the receiver level reaches 20% start it into the absorbers. See the section on Porocel treatment.

24) When the totalizer reaches 7,842 counts the reflux ratio will change to 5:1. ~~Change the set point on the forward flow controller to~~ 3.4 (9 GPM).

25) Check the rotometers on the feed line to #2 and #3 absorbers to equalize the flow to them.

26) When the totalizer reaches 15,292 counts shut off the flow of crude to the still pot. The level in the still pot will begin boiling down.

27) When the totalizer reaches 15,684 counts shut off the furnace fires.

28) Set the selector switch on "total reflux" on the panel board.

29) Continue to circulate crude through the furnace for 15 minutes.

30) Check the level in the residue tank to be sure there is enough room to hold the pump over from the still pot. The level should be down to 20% or below.

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VI. TENTATIVE OPERATING INSTRUCTIONS (contd.)
E. COLUMN (contd.)

5A. Start-Up Instructions (normal size run)

Open the 4" valve in the pump-out line to the residue tank and close the 8" valve in the return line to the still pot.

31) Open the 1" valve at the bottom of the furnace coil to drain the coil to the still pot sump.

32) When the circulating pump discharge pressure drops off, close the valve in the 1" drain line and shut off the circulating pump.

Note: A timer will be activated when the level in the still pot is down to 3% and the circulating pump will be shut off automatically after 5 minutes. This is interlocked to prevent the pump from running empty.

33) Realign the valves in the pump discharge line on the still pot.

The still pot is now ready to charge for another run.

34) Pump out the column receiver but not the seal, then circulate from the absorber back to the receiver until the next 1016 distlllate comes forward.

If another product is to be made, other than 1016, pump the receiver out empty.

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