Condensate produced in the first pass, approximately 89% of the total distillate produced, drains directly from the Waterbox (opposite end from Steam Chest). Approximately 11% of the total distillate is produced in the second pass. It collects in the Steam Chest end in the second pass portion of the bundle.

Observation windows are located on the shell so that conditions inside the evaporator vessel can be observed. The windows, also called sight glasses, should be tightened in accordance with instructions.

The SPRAY-FILM evaporator is designed to be "upflow" with respect to vapor flow on the shell side. As liquor boils on the tubes the vapor formed flows upward, counter-current to and through the liquor sprays and up through the entrainment separator.

Vapor flows through a wire mesh-type entrainment separator located inside the evaporator vessel itself. These mesh pads knock out essentially all remaining liquor droplets from the vapor.

Dirty or partially plugged pads decrease the flow area available for the vapor. Vapor velocities increase therefore through the remaining open areas permitting liquor droplets to "blow-through" with the high speed vapor. Such liquor "carryover" will contaminate the distillate and must always be avoided. To help keep the pads clean, small nozzles for spraying washwater are located underneath the pads for washing. Keeping the pads clean is extremely important. A regular washing program is recommended. A wash schedule will be recommended after the system has been operating for a few weeks.

EVAPORATOR SHELLSIDE DESIGN PARAMETERS

EFFECT #	1	2	3	4	5
Evaporator Pressure (psia)	14.6	9.2	6.0	3.8	2.4
Saturated Temperature (°F)	212	189	170	151	133
Concentration (%)	53.6	29.3	20.3	15.8	13.0
Liquor Temperature (°F)	215	190	171	151	133
BPE (°F)	3.5	1.3	.8	.4	.2
Viscosity (cp)	21	1.3	.8	.8	.8
Recirculation (gpm)	2030	1960	1900	1830	1770

RECIRCULATION PUMPS

Details of the recirculation pumps can be found in the pump vendor's manuals. The pumps are fitted with double mechanical seals. The seal water system consists of inlet and outlet flowmeters. The seal water cools and lubricates the seal