

OPERATIONS

In attempting to start Run 13, repeated difficulty was experienced with restrictions in the stand-pipe gas preheater system. Runs 13 and 14 suffered from an almost continuous series of interruptions for this reason and were accordingly very short and of little interest. In an effort to improve this situation, the transfer line from the slide valve to the reactor was changed after Run 14 from 1" to $1\frac{1}{2}$ " and an orifice run

for the standpipe gas was installed on the outlet side of the preheater. These changes were made because of the presence of catalyst in the standpipe gas heater outlet line, with the thought that cycling of the rate of flow controller may have resulted in reverse flow on some occasions. Part of the standpipe gas was also introduced a short distance above the slide valve.

In order to determine whether these changes had been effective, the unit was again started up and it was found that plugging was again prevalent in the standpipe gas preheater. With the thought that the difficulty may have been due to caking of the recycle gas in the standpipe gas heater which had suffered from repeated stoppage of flow, the heater was by-passed and the unit again put on stream. No further plugging of the standpipe gas system was experienced but at about this time it was found that a pressure balance could no longer be obtained around the reactor and standpipe by taking the sum of the differential pressure meters, and that a substantial differential pressure had built up across the transfer line from the reactor to the cyclone. After clearing all meter leads and again establishing a pressure balance, it was found that there was no flow through the slide valve and that the standpipe had plugged. Since catalyst carry-over into the second cyclone was small, and reactor inventory reasonably constant, the run was continued under these conditions.