

IV. CONCLUSIONS

1. A reduction in fresh feed rate corresponding to the use of three reactors instead of two at Brownsville, resulted in an increase of total liquid yield equivalent from 6386 to 7129 Bbl./Day, basis the Brownsville design feed rate. This corresponds to an increase in income of about \$4,450 per day and will justify the cost of a third reactor if the plant continues to operate on a catalyst of the Alan Wood activity level.

2. A further decrease in fresh feed rate corresponding to the use of four reactors at Brownsville failed to show any further increase in yield. This places the minimum allowable inlet velocity at about 0.6 ft./sec.

3. The injection of steam into the reactor inlet at a rate approximating the quantity produced in the generator resulted in a drop of about 10 per cent in total liquid yield indicating that the removal of water vapor from the fresh feed is probably justified economically.

4. A correlation of conversion with selectivity shows a progressive loss in selectivity as inlet velocity is reduced below 1 ft./sec. This loss does not offset the effect of space velocity between the two-reactor and three-reactor conditions but does offset the effect between the three-reactor and four-reactor conditions.