

V. CONCLUSIONS

1. As conversion increased, acid and ester concentrations decreased in both water and oil products. Alcohol concentrations were approximately constant.

2. Since the quantity of oil and water product increased with conversion, the rate of production or yield of acid and ester remained approximately constant while the rate of production of alcohol increased.

3. Estimated production rates for Brownsville, based on the present data, are:

	<u>Estimated Production Rates</u> <u>Millions of pounds per year</u>
Alcohols	110
Acids	41
Esters	3
Aldehydes	<u>Not determined</u>
Total Weight	154

Of this total, 80 to 85% are indicated to be in the water phase.

4. The ratio of olefin to alcohol was constant throughout the run, suggesting that alcohols are formed by the hydration of olefins by a mechanism which is independent of water concentration.

5. The ratio of alcohols to acids decreased linearly with the carbon monoxide concentration in the reactor effluent, suggesting that acids are formed by the addition of carbon monoxide to alcohols.