DATA BASE FOR FUSED-IRON CATALYST IN THE FISCHER-TROPSCH REACTION

DEPARTMENT OF ENERGY, PITTSBURGH, PA.
PITTSBURGH ENERGY TECHNOLOGY CENTER

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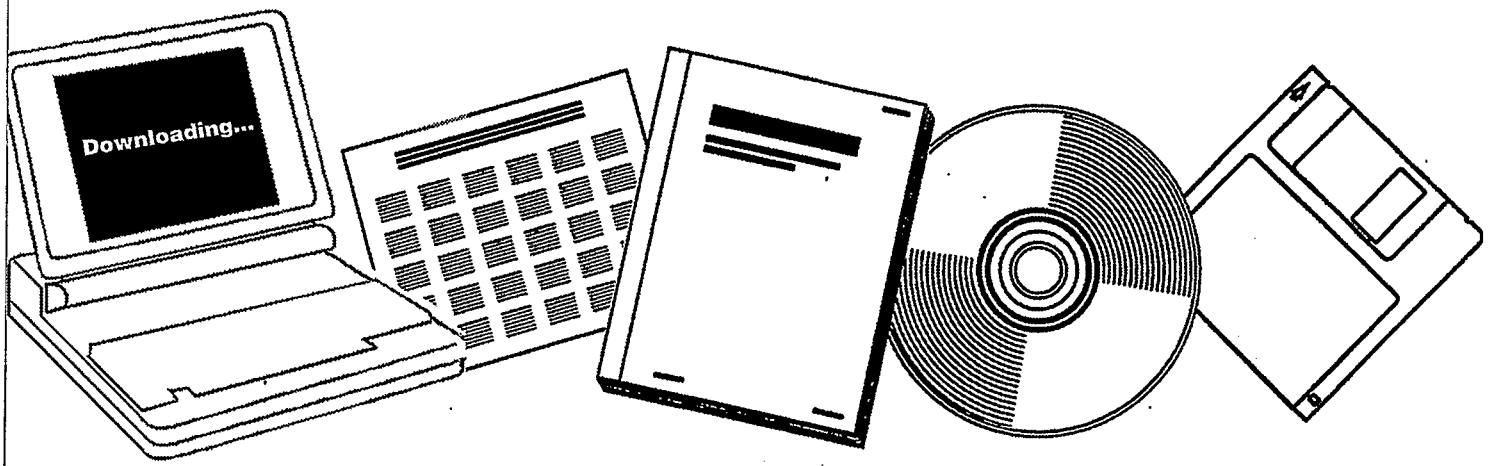

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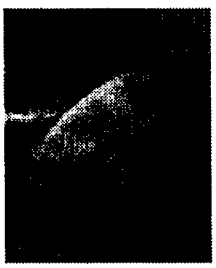

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A DATA BASE FOR FUSED-IRON CATALYST IN THE FISCHER-TROPSCH REACTION

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ABSTRACT

Various tests were conducted with a promoted, fused-iron catalyst. Hydrogen and carbon monoxide mixtures of different ratios with or without light olefin additives were reacted in a gradientless, mixed reactor. Process and catalyst parameters investigated were temperature (250^{o}-325^{o}C), pressure (100-600 psig), H_2:CO synthesis gas ratio (1/1 - 4/1), and catalyst particle size. Results from these experiments have been presented graphically, and observations have been discussed.

INTRODUCTION

In the past, various investigators who have tried to model Fischer-Tropsch reactor systems have suffered due to the inconsistent kinetic data available in the literature. The Pittsburgh Energy Technology Center (PETC) of the U. S. Department of Energy in a cooperative effort with Universal Oil Products, Inc. (UOP) proceeded to develop an experimental data base with a fused-iron catalyst for Fischer-Tropsch synthesis.

Universal Oil Products, under contract to DOE, performed preliminary evaluation of four reactor systems for use in indirect liquefaction via Fischer-Tropsch technology.[1] The four reactor systems are as follows: (1) SASOL Synthol

reactor, (2) Tube-Wall Reactor (TWR), (3) Slurry (Kolbel) reactor, and (4) oil circulation reactor. As one approach to this evaluation, Universal Oil Products developed a computer model to predict performance of these four reactor systems.

Universal Oil Products developed a simple kinetic model based on available literature with the help of several consultants; Universal Oil Products used fused-iron kinetic data reported in the literature to fit the parameters of their kinetic model. However, in spite of the vast amount of literature relating to F-T synthesis, there were insufficient self-consistent kinetic data available to enable Universal Oil Products to incorporate a kinetic model that is capable of predicting carbon number distributions, olefin-paraffin ratios, etc. A PETC-Universal Oil Products cooperative effort was undertaken, with PETC developing the experimental data base for carbided fused-iron catalyst in a mixed reactor and Universal Oil Products incorporating these kinetic data into their mathematical model.[2]

This report summarizes the results of the experimental program. The experimental results are tabulated in Appendix A. Some general observations are made about the dependent variables -- the (H_2 + CO) conversion, the degree of polymerization, and olefin/paraffin ratio -- in terms of the independent variables -- the reaction temperature, the pressure, the reactor H_2/CO ratio, and the catalyst particle size. The reader is referred to Universal Oil Products's final report,[2] where a kinetic model is refined to optimize the degree of fit to this experimental data base.

EXPERIMENTAL

Description of the Equipment

The studies were conducted in a mixed reactor. The reactor is shown in Figure 1 and described by Berty.[3] In this type of reactor, bulk heat and mass transfer effects are minimized or eliminated by the high internal recycling of product gas. A schematic of the reactor flow system is represented in Figure 2. Typically, the various blends of synthesis gas were ordered from a gas-blending firm. The gas was used directly from the aluminum cylinders. Aluminum, rather than carbon steel, cylinders were used to prevent iron carbonyl formation. A boost compressor on the feed line was used to maximize cylinder gas usage. The feed flow was metered and controlled by a mass flowmeter whose principle of operation is based on gas thermal capacities.

Products exit the reactor via a downward sloping, heated line (200°C) and enter a hot trap (200°C) where heavy hydrocarbons, if formed, are condensed. Lighter products are condensed in an air-cooled trap and a water-cooled trap. After the system pressure is reduced, the product gas is metered by a wet test meter. Periodically, product gas can be directed to an on-line gas chromatograph that can analyze for unreacted feed and hydrocarbons up to a carbon number of eight.

Catalyst Preparation

The catalyst was an ammonia synthesis catalyst type C73-1-01 by United Catalyst, Inc., with the following chemical analysis:

	Weight Percent
FeO	30-37
Fe_2O_3	65-58
Free Fe	0.5
Total Fe	67-69
Al_2O_3	2.0-3.0
K_2O	0.5-0.8
CaO	0.7-1.2
SiO_2	0.4
P	0.015
S	0.001
Cl	0.002
Fe^{++}/Fe^{+++}	0.45-0.65

After crushing and sieving to 6 to 8 mesh, the catalyst was blown with air to remove any fine dust particles. A 2-kg quantity of catalyst was riffled to insure homogeneity. For each test, 50 g of catalyst was then loaded into a one-inch-diameter basket and supported by a stainless steel screen. During operation, impeller speed was 1240 rpm. An outer furnace heated the reactor while excellent bed temperature control was obtained by a modification that involved the installation of a cooling coil in the reactor head.

Experimental Procedure

Initial experimentation with fused-iron determined that (1) tests were reproducible between Berty units, (2) a shutdown immediately followed by purging with helium did not affect the catalyst activity when the test was restarted, and (3) a long hydrogen reduction is required for data reproducibility. With this knowledge, the catalyst for each test was brought to synthesis conditions in an identical manner. Initially, the reactor system was pressurized to 300 psig with hydrogen. Reduction began by flowing hydrogen at 2500 vol/vol-hr

space velocity at 450°C and 300 psig for 72 hours. At the end of this period, traps were drained to collect the water formed in the reduction. At this time, the temperature was decreased to 250°C. The induction was initiated by switching the feed gas from hydrogen to 2:1 H_2/CO synthesis gas and incrementing the flow rate over a one-hour period to achieve a 1600 vol/vol-hr space velocity at 300 psig. Induction then continued for 23 hours, and a 2:1 H_2/CO synthesis gas was always used. The purpose of the induction period is to allow a carbonaceous layer to slowly form on the iron surface at a mild temperature. At the end of the induction period, the feed gas was switched to the blended gas that was to be used in the particular test. Synthesis was conducted at 1600 vol/vol-hr space velocity with blended gases at the desired pressure and with temperatures of 275°, 300°, and 325°C. The catalyst remained at each temperature for 48 hours (a 12-hour stabilization period and two successive 18-hour material balance periods). A temperature sequence for a standard run consisted of two periods at each of the following temperatures: 275°C, 300°C, 275°C, 325°C, and 275°C. Trap drainings, metered flows, and gas analyses were obtained for each 18-hour period, and these were used for material balance determinations. It should be noted that after the 300°C and 325°C temperature excursions, the catalyst was returned to 275°C in order to characterize any deactivation. Table 1 is a list of the various tests that were conducted.

TABLE 1. List of Experiments

Run	Feed H_2/CO Ratio	Pressure psig	Added Feed Components	Objectives
2-18	2	300		Base Conditions
3-19	2	300		Base Conditions
2-25	1	300		Determine effects of H_2/CO ratio
3-21	4	300		Determine effects of H_2/CO ratio
3-22	2	400		Determine pressure effects
3-24	2	400		Determine pressure effects
3-28	1	100		Determine pressure effects
2-19	2	300	5% C_2=	Determine olefin equilibrium
2-21	2	300	5% C_3=	Determine olefin equilibrium
3-25	2	300	1.3% C_4= + 0.3% C_5=	Determine olefin equilibrium
3-26	2	400	5% C_2	Determine effect of pressure on olefin equilibrium
3-20	2	400	1% C_2H_4	Determine olefin equilibrium
2-22	2	300	5% CO_2	Determine effect of CO_2
2-23	2	300	5% CH_4	Determine effect of CH_4
2-24	2	300		Operation at 250°C
2-26	2	300/400		Operation at 250°C
3-27	1	300		14-18 mesh catalyst, effect of particle size
3-29	1	300		Aging study at 300°C

Analysis of Products

The gas, liquid, and wax products were characterized by various techniques. Product gas and unreacted feed gas exiting the system were analyzed for hydrocarbons up to C_8 by gas chromatography. However, isomer and olefin-paraffin differentiation could only be made for C_1-C_4 hydrocarbons. The liquid trap drainings were first physically separated into oil and aqueous phases. The

oil phase was analyzed by simulated distillation (ASTM D-2887), fluorescent indicator adsorption (FIA) (ASTM D-1319), and bromine number (ASTM D-1159). The GC output from the simulated distillation of the oil phase was further analyzed to yield a weight percent by carbon number distribution for a range of carbon numbers (5 to 24). This was done by observing the repeating pattern of GC peaks and establishing retention time windows to coincide with each carbon number. The aqueous fraction was analyzed by mass spectroscopy to determine mole fractions of H_2O, methanol, ethanol, n-propanol, iso-propanol, butanol acetone, and acetic acid. The water fraction was verified by the Karl Fischer reagent technique. Waxes were analyzed by simulated distillation, and bromine numbers were determined.

DATA REDUCTION

Appendix A lists the material balance results for each test period. Most of the entries are self-explanatory. The molar flow rates of inlet and outlet reactor streams are listed in units of millimoles/hr. In this program, hydrocarbons beyond carbon number 24 were not considered. With the range of degree of polymerization that we observed, the effect of neglecting products beyond carbon number 24 is negligible. The molar flow rates for the inlet stream were determined by combining the inlet gas composition and inlet gas flow rate. The outlet stream composition was determined by combining the exit gas analysis, the oil fraction analysis, and the aqueous fraction analysis with the yields of the gas, oil, and aqueous fractions. The yields of the oil, aqueous, and wax fractions are listed in units of g/hr. The results of the FIA and bromine number analysis of the oil fraction are listed if available. The derivation for degree of polymerization from Schulz-Flory kinetics is as follows:[4]

$$\ln X_n = n \ln p + \ln \frac{1-p}{p}$$

where X_n = mole fraction of carbon number n species (including alcohols, paraffins, and olefins)

p = probability of chain growth

A plot of $\ln X_n$ versus carbon number should yield a straight line with slope ln p and intercept $\ln \frac{1-p}{p}$. The degree of polymerization is defined as DP = $\frac{1}{1-p}$. .

The carbon number range used for this determination was typically 2 to 18 unless olefins were added to the feed gas, in which case the next higher carbon number was used as a lower limit.

RESULTS AND DISCUSSION

The experimental program covered a wide range of three independent variables: reactor temperature, reactor H_2/CO ratio, and catalyst age. Reactor temperature ranged from 250°C to 325°C. The H_2/CO ratio was varied by using feed gases with H_2/CO ratios of 1, 2, and 4. Catalysts were operated for as long as 14 days under synthesis gas flow.

Rate of (H_2 + CO) Consumption

The (H_2 + CO) consumption can be used as a measure of the rate of CO incorporation into hydrocarbons. Figure 3 is a 3-dimensional plot of (H_2 + CO) consumption vs. the two independent variables: reactor temperature and reactor H_2/CO ratio. The data are taken from the results of run numbers 2-25, 2-18, and 3-21, where the inlet H_2/CO feed ratios were 1/1, 2/1, and 4/1, respectively. All subsequent 3-dimensional plots are obtained by using the data from these tests. The reactor temperature ranges from 250°C to 325°C, and the reactor H_2/CO ratio ranges from 1 to 100. The (H_2 + CO) consumption increases rapidly with temperature (see Figure 3) and also increases with H_2/CO ratio. Assuming a rate expression for rate of propagation or rate of chain growth of the form $rp = kp\ (CO)^x\ (H_2)^y$, where kp is the rate constant, then y must be greater than x. This conclusion is confirmed by Universal Oil Products's model fitting of the experimental data.[2]

Selectivity

Figure 4 is a Schulz-Flory plot ($\ln X_n$ vs. n) for period 3-19A. The C_2-C_4 alcohols are included in this distribution. As is typical for an iron catalyst, the product selectivity can be represented well by the Schulz-Flory distribution evident by the linear relationship. The degree of polymerization is a measure of selectivity, i.e., DP = 1 yields 100% methane, DP = 4 yields maximum gasoline, DP = 6 yields largely wax. Figure 5 is a 3-dimensional plot of DP vs. the independent variables of reactor temperature and reactor H_2/CO ratio. The degree of polymerization decreases strongly as temperature increases. Since

$$DP = \frac{\text{rate of polymerization}}{\text{rate of polymerization + rate of chain termination}},$$

the chain termination reactions have a higher activation energy than the chain propagation reaction and thus begin to dominate at higher temperatures, leading to a lower degree of polymerization. The H_2/CO ratio appears to have an effect on the degree of polymerization at the lower temperatures where increasing H_2/CO ratio decreases degree of polymerization. It might be concluded that higher H_2 concentrations have a stronger effect on chain termination (i.e., hydrogenation) than on chain propagation.

Olefin/Paraffin Ratio

Figure 6 illustrates the effect of H_2/CO ratio and reactor temperature on the propylene/propane ratio. The propylene/propane ratio increases as the reactor temperature increases. The propylene/propane decreases as the H_2/CO ratio increases. The explanation for H_2/CO ratio effect is straightforward; at high H_2/CO ratios, hydrogenation to paraffins is promoted, resulting in lower olefin/paraffin ratios. The propylene/propane ratio increases with increasing reactor temperature.

Aging Effects

As described below, during each run the temperature is cycled through the following temperatures; 275°C, 300°C, 275°C, 325°C, and 275°C, where two mass balance periods are completed at each temperature. If the reactor temperature

is returned to the base temperature 275°C after each temperature excursion, the rate of deactivation can be monitored.

The deactivation behavior is highly dependent on the H_2/CO ratio of the feed gas. Figure 7 is a plot of H_2/CO conversion vs. days on stream for runs with H_2/CO feed gas ratios of 1, 2, and 4. The (H_2 + CO) conversion is used to measure activity because it represents the rate at which carbon is converted to hydrocarbons. With a H_2/CO feed gas ratio of 4, the catalyst actually exhibits a large increase in activity over the 10-day cycle (see Figure 7). An explanation could be that the carbide equilibrium on the catalyst is approached more slowly under conditions of low carbon monoxide partial pressures. The runs with H_2/CO ratios of 1 and 2 exhibit no significant deactivation until the 9th and 10th day after operation at 325°C. The run with 1:1 H_2/CO shows a greater deactivation than the run with 2:1 H_2/CO.

Run 3-29 was conducted to observe aging effects at a constant temperature of 300°C, with a 1:1 feed gas. Figure 8 shows the trends for (H_2 + CO) conversion, DP, C_3H_6/C_3H_8, and bromine number as a function of days on stream. The (H_2 + CO) conversion decreases steadily as catalyst age increases, indicating the general deactivation of the catalyst. The plot of degree of polymerization does not reveal any trend. The propylene/propane ratio rises to a plateau after several days. After an initial rise, the bromine number undergoes a steady decrease. In general, it appears that the olefin/paraffin ratio of the lighter hydrocarbons remains constant, while that for the heavier fractions decreases with catalyst age.

Effect of Catalyst Particle Size

Run 3-27 was a standard run with 1:1 H_2/CO feed gas except the catalyst particle size was reduced to 14 to 18 mesh in contrast to a particle size of 6 to 8 mesh that was used in the other runs. Fifty grams of fresh catalyst was charged in all cases. The effect of particle size is illustrated in Table 2, which compares the (H_2 + CO) conversion of run 3-27 with that of run 2-25 (1:1 H_2/CO feed gas).

TABLE 2. Effect of Particle Size on (H_2 + CO) Conversion

	(H_2 + CO) Conversion					
	275°C	300°C	275°C	325°C	275°C	250°C
Run 2-25 (6 to 8 mesh)	36	56	36	61	15	8
Run 3-27 (14 to 18 mesh)	55	71	55	79	40	18

The rate of reaction is considerably higher with the smaller catalyst size, indicating the presence of considerable internal particle diffusion. A range of catalyst particle sizes would have to be investigated in order to reveal the magnitude of the internal diffusion. The conclusion is that considerable internal diffusion exists in the 6 to 8 mesh catalyst. For the limiting case of an infinite internal diffusion resistance, the reaction would take place only on the outer surface of the particle, and the rate would be proportional to the external surface area of the catalyst.

SUMMARY

In conclusion, an experimental data base for the promoted fused-iron Fischer-Trospch system has been presented. The experimental program successfully covered a wide range of the independent variables: reactor temperature, reactor pressure, H_2/CO ratio, and catalyst particle size. The important responses that were measured include (H_2 + CO) consumption, (H_2 + CO) conversion, degree of polymerization, and propylene/propane ratio. These responses have been graphically presented and the observations have been stated.

REFERENCES

1. Universal Oil Products, Inc., Comparison of Fischer-Tropsch Reactor Systems-Phase 1, Final Report, DOE Contract Number DEA-C01-78ET10159, 1981.

2. Universal Oil Products, Inc., Comparison of Fischer-Tropsch Reactor Systems-Phase 2, Final Report, DOE Contract Number DEA-C01-78ET10159, to be published.

3. Berty, J. M. Reactor for Vapor-Phase Catalytic Studies, Chem. Eng. Prog., 70 (5): 68, 1974.

4. Satterfield, C. N., Huff, G. A., Longwell, J. P. Product Distribution from Iron Catalysts in Fischer-Tropsch Slurry Reactors, Ind. Eng. Chem., Process Des. Dev. 21(3):465, 1982.

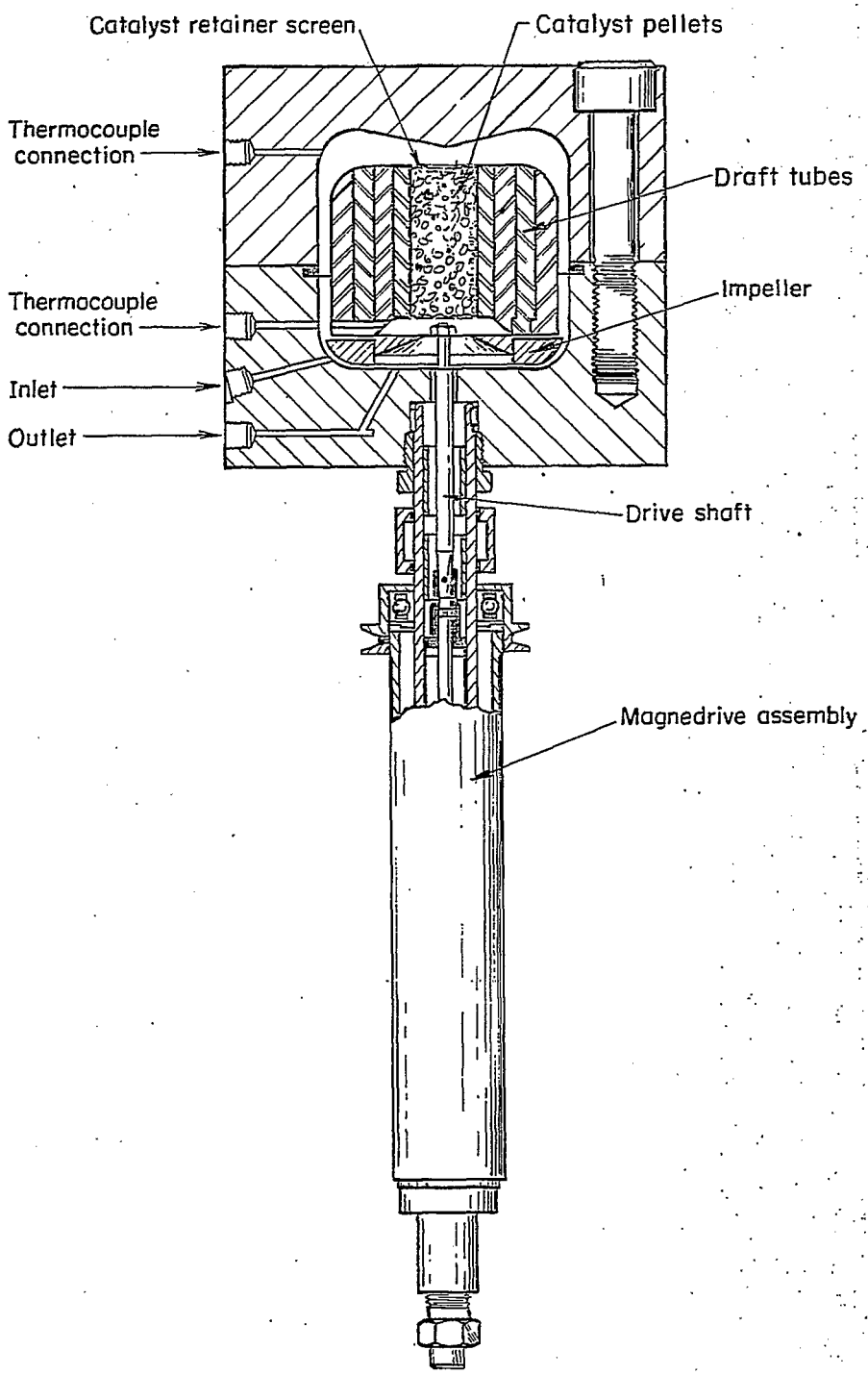

Figure 1- Berty Reactor.

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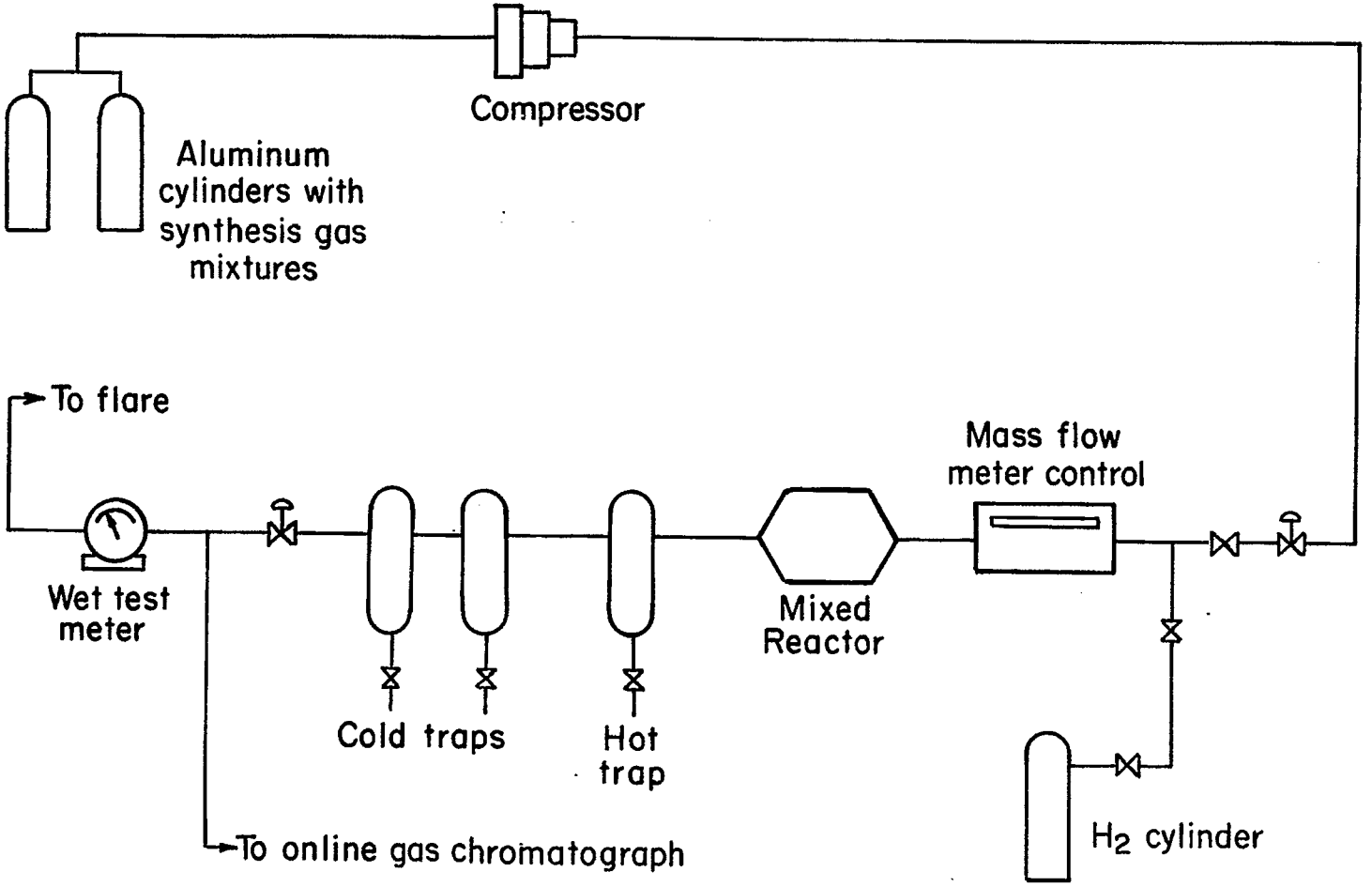

Figure 2-Schematic of Reactor system.

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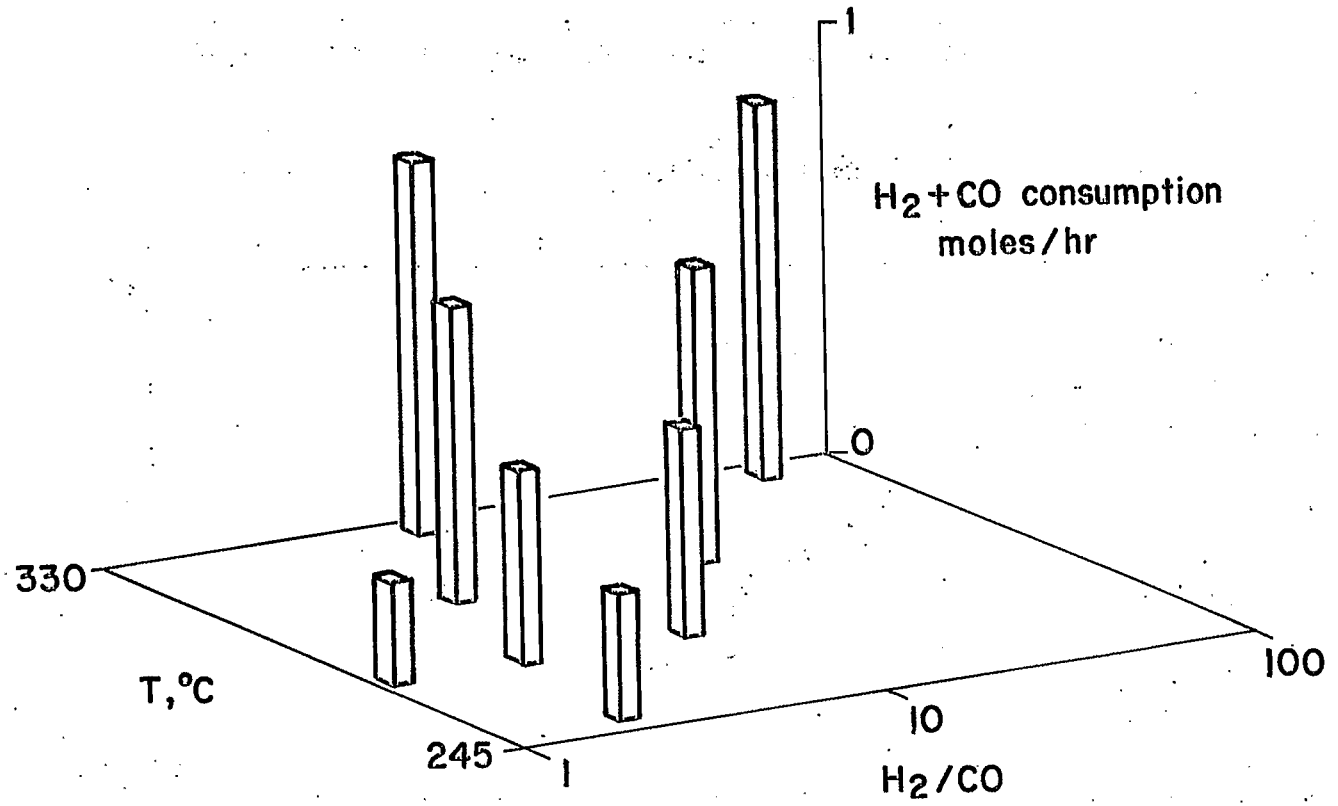

Figure 3 - (H_2+ CO) comsumption response.

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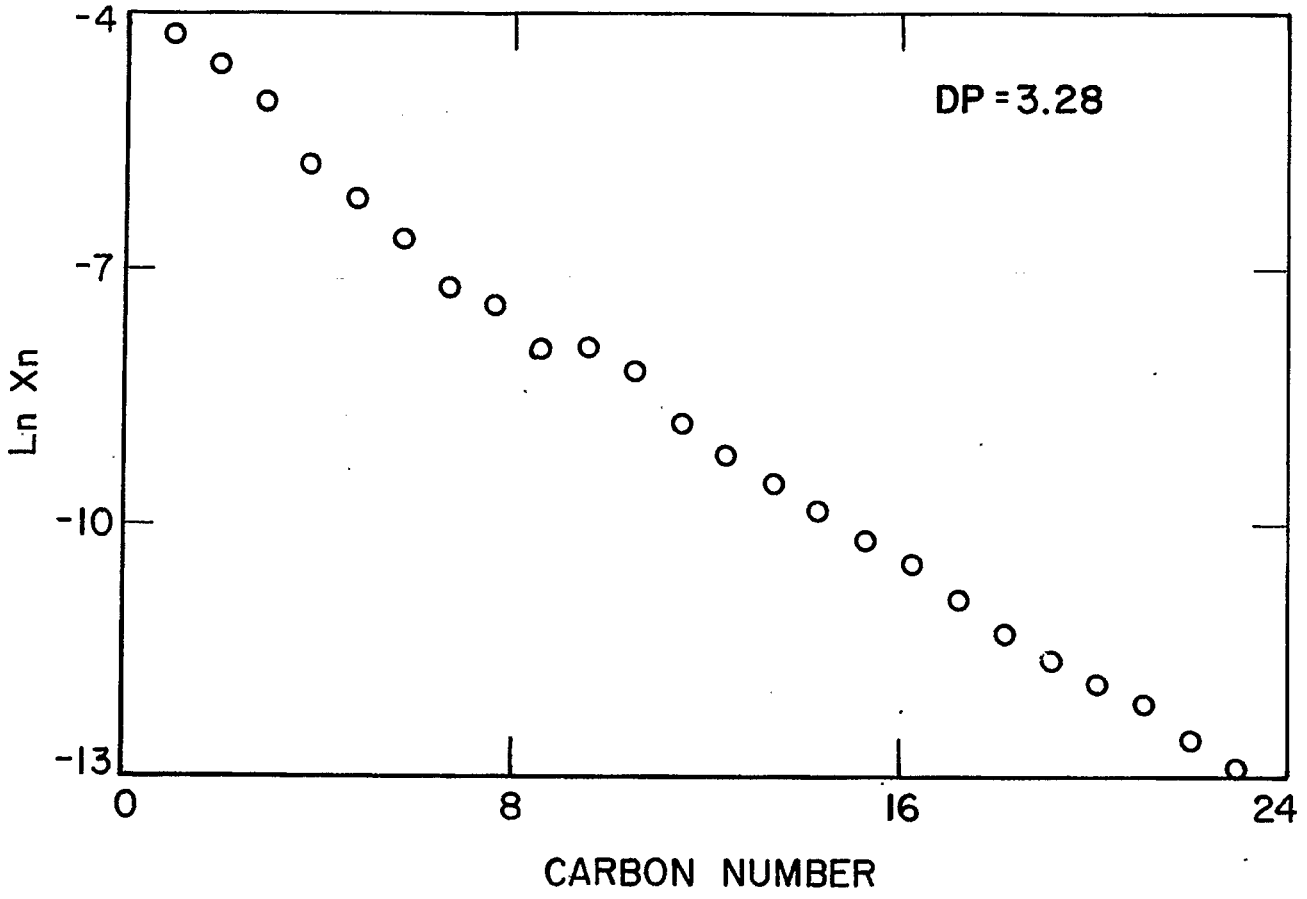

Figure 4 - Schulz - Flory distribution, from run 3-19, period A

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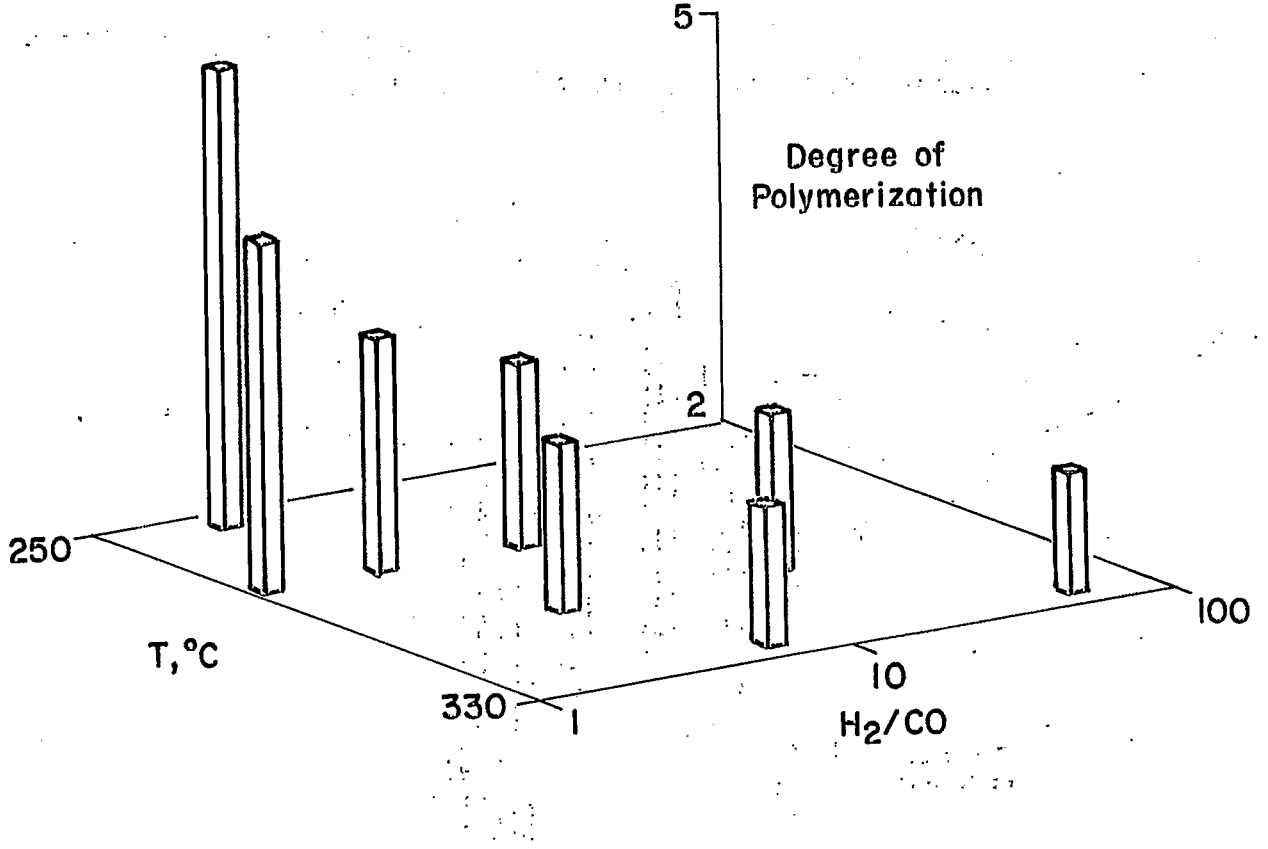

Figure 5 – Degree of Polymerization response.

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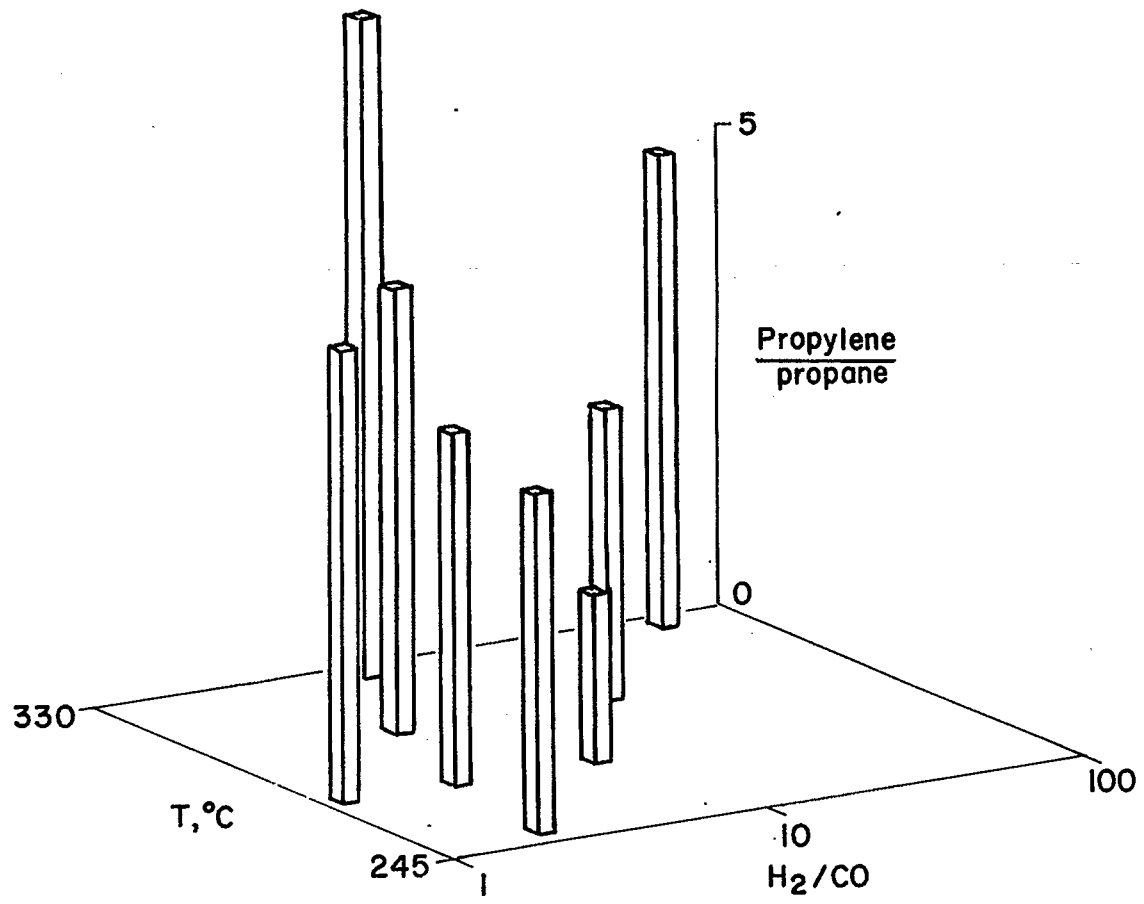

Figure 6-Propylene/ Propane ratio response

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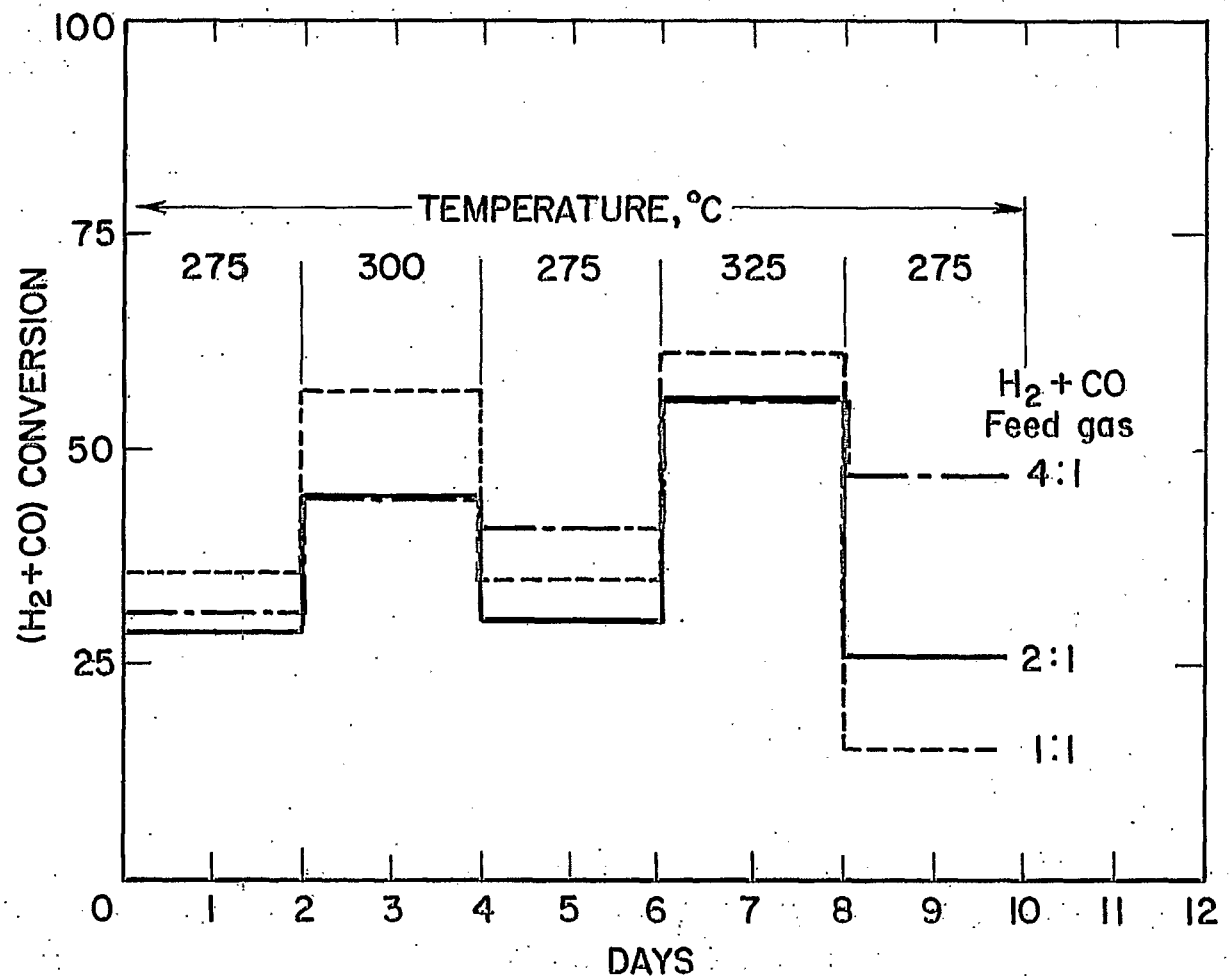

Figure 7-(H_2+CO) conversion versus time on stream for temperature.

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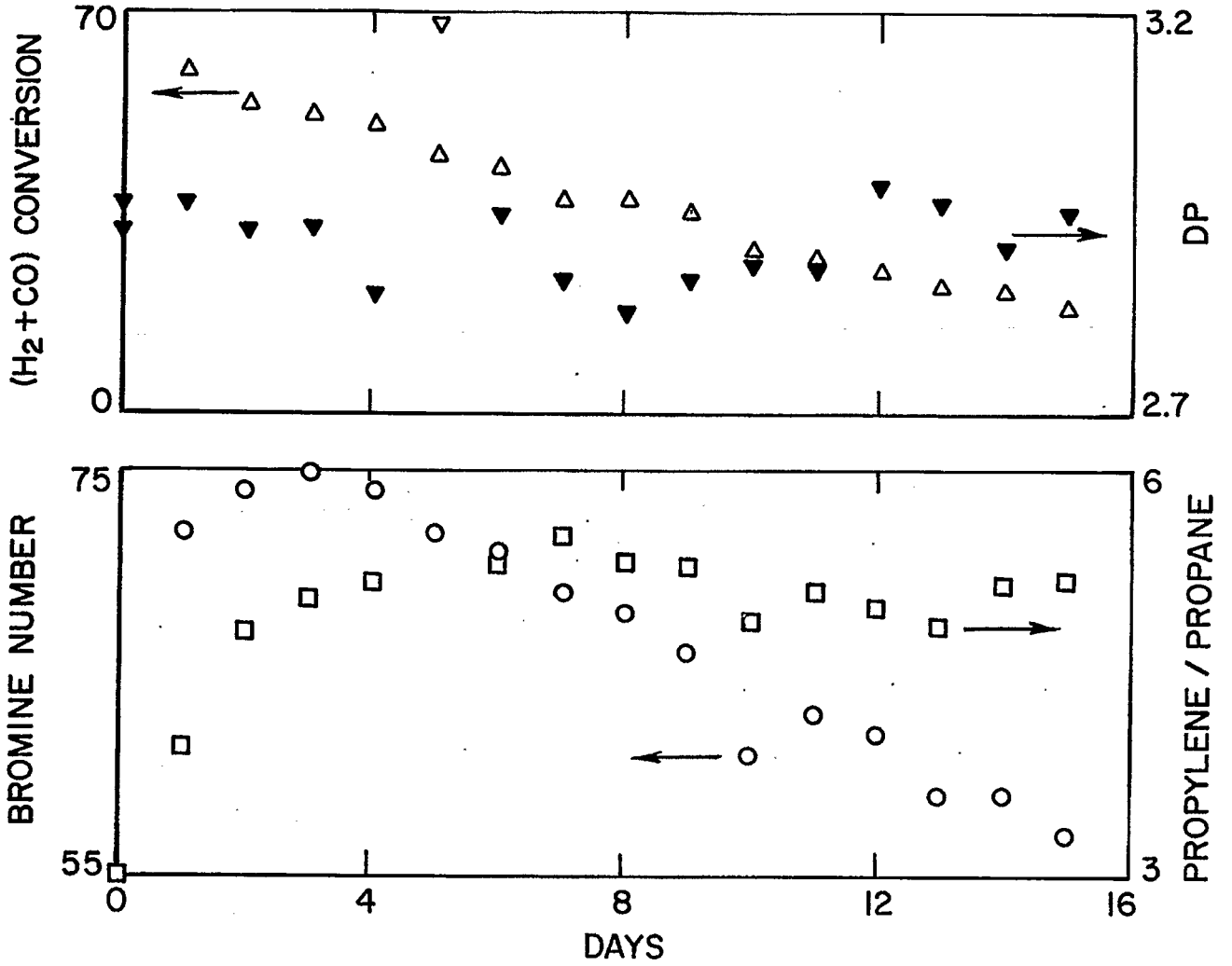

Figure 8- Aging trends of catalyst run 3-29

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RUN # = 2-18

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	507.8821	511.8781	513.3792	513.3792	513.3792	513.3792	508.8759	512.3900	508.8759	487.8604
	H2	984.2109	986.2284	987.7296	987.7296	987.7296	987.7296	992.2328	982.7083	992.2328	1008.7451
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	272.4839	282.1722	172.9356	150.8899	248.7762	282.8754	107.8322	72.2177	310.2306	287.0950
	H2	721.6832	747.3431	676.9805	596.1539	695.2977	790.6008	613.5928	508.7703	844.3792	765.5871
	H2O	47.2577	46.7124	64.3565	64.3646	36.8075	42.8645	82.5392	94.7491	36.6789	42.0309
	CO2	93.4886	96.8126	137.0831	117.5645	77.6093	88.2471	146.0027	146.8696	83.8126	79.3593
	C1	21.3200	22.0781	30.5801	26.8454	15.6278	17.7698	39.2199	36.5146	15.0112	14.0046
	C2=	2.8500	2.9513	7.3814	7.4056	4.1465	4.7148	9.7331	10.5486	5.0037	4.6682
	C2	5.8149	6.0216	7.3814	6.4799	2.7640	3.1428	5.4393	6.4915	2.5025	2.3341
	C3=	6.0425	6.2573	12.6538	11.1085	5.3157	6.0443	12.1194	14.6058	7.5062	5.8352
	C3	2.2797	2.3608	0.0000	0.0000	1.0631	1.2089	1.7179	0.0000	0.0000	0.0000
	I-C4=	2.5085	2.5977	4.2179	3.7028	2.5518	2.9015	5.6298	6.4915	2.5025	2.3341
	2-C4=	0.3426	0.3548	0.0000	0.0000	0.1061	0.1206	0.1905	0.0000	0.0000	0.0000
	I-C4	1.5957	1.6524	2.1090	0.9257	0.7438	0.8457	1.1456	1.6229	0.0000	0.0000
	N-C4	0.1138	0.1179	0.0000	0.0000	0.1061	0.1206	0.0952	0.0000	0.0000	0.0000
	C5	3.2325	3.3204	0.3629	0.3262	2.6580	3.0122	5.2941	1.0422	0.1255	0.0437
	C6	1.9134	1.9499	0.7601	0.6178	1.6156	1.7952	2.9627	1.4648	0.2333	0.1092
	C7	1.2418	0.9822	1.2050	0.9391	1.0373	1.0994	2.0589	1.8889	0.3828	0.2434
	C8	0.6610	0.6610	0.7356	0.9886	0.5816	0.6890	1.5120	1.7111	0.4284	0.3331
	C9	0.5807	0.6059	0.9209	0.8567	0.4600	0.4335	1.1211	1.2877	0.3889	0.3325
	C10	0.4274	0.4594	0.6277	0.5437	0.3245	0.3145	0.7207	0.8789	0.2776	0.2490
	C11	0.3047	0.3575	0.5840	0.3954	0.2365	0.2329	0.4705	0.5869	0.1997	0.1866
	C12	0.1512	0.1652	0.2289	0.3584	0.1772	0.1771	0.3057	0.3759	0.1448	0.1456
	C13	0.0970	0.1220	0.1320	0.1597	0.1334	0.1344	0.2016	0.2513	0.1058	0.1159
	C14	0.0615	0.0850	0.0666	0.1094	0.0140	0.1206	0.0281	0.0611	0.0172	0.1030
	C15	0.0369	0.0815	0.0360	0.0725	0.0876	0.0912	0.0131	0.0363	0.0692	0.0728
	C16	0.0250	0.0578	0.0245	0.0680	0.0647	0.0673	0.0369	0.0194	0.0513	0.0532
	C17	0.0181	0.0428	0.0173	0.0465	0.0477	0.0514	0.0193	0.0092	0.0369	0.0385
	C18	0.0137	0.0294	0.0136	0.0302	0.0357	0.0388	0.0146	0.0130	0.0268	0.0279
	C19	0.0097	0.0209	0.0103	0.0182	0.0250	0.0291	0.0103	0.0082	0.0203	0.0207
	C20	0.0077	0.0149	0.0074	0.0099	0.0182	0.0204	0.0066	0.0039	0.0145	0.0153
	C21	0.0044	0.0094	0.0047	0.0047	0.0133	0.0153	0.0062	0.0000	0.0103	0.0104
	C22	0.0028	0.0060	0.0022	0.0000	0.0089	0.0119	0.0030	0.0000	0.0066	0.0069
	C23	0.0027	0.0043	0.0021	0.0000	0.0061	0.0076	0.0028	0.0000	0.0042	0.0047
	C24	0.0013	0.0014	0.0000	0.0000	0.0047	0.0049	0.0000	0.0000	0.0030	0.0027
	C1OH	0.0000	0.0000	0.2854	0.0000	0.1632	0.0000	0.0000	1.3855	0.0000	0.1864
	C2OH	3.1609	3.1244	4.8517	4.3757	2.7748	3.3118	6.3350	6.3948	3.1463	3.1686
	N-C3OH	0.7254	0.7171	0.8562	0.9175	0.4897	0.5204	1.3772	1.5987	0.6624	0.5592
	I-C3OH	0.1036	0.1024	0.2140	0.2117	0.1224	0.0473	0.1836	0.5329	0.1242	0.1398
	C4OH	0.2591	0.2561	0.2854	0.2117	0.1632	0.1892	0.2754	0.3197	0.1242	0.1864
	ACETONE	0.1555	0.1537	0.2140	0.3529	0.1224	0.1419	0.8263	1.2790	0.5382	0.1398
	ACETIC ACID	0.1555	0.1537	0.2854	0.1412	0.1632	0.2366	0.2754	0.3197	0.1242	0.1864

RUN # = 2-18

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1870	1.1870	1.1870	1.1870	1.1870	1.1870	1.1870	1.1870	1.1870	1.1870
TAIL GAS, SCFH (32F)	0.9000	0.9320	0.8330	0.7320	0.8390	0.9540	0.7530	0.6410	1.0050	0.9210
H2 CONVERSION	26.6739	24.2221	31.4609	39.6440	29.6065	19.9578	38.1604	48.2277	14.9011	24.1050
CO CONVERSION	46.3490	44.8751	66.3143	70.6085	51.5414	44.8993	78.8097	85.9057	39.0361	41.1522
H2+CO CONVERSION	36.5115	34.5486	48.8876	55.1263	40.5740	32.4286	58.4851	67.0667	26.9686	32.6286
YIELDS GM/HR										
OIL	0.4458	0.4792	0.7111	0.7167	0.4056	0.4222	0.9500	1.1278	0.3500	0.3167
AQUEOUS PHASE	1.0833	1.0708	1.5056	1.4722	0.8611	0.9944	1.9556	2.2889	0.9000	0.9833
WAX	0.0083	0.0167				0.0444	0.0056	0.0333	0.0722	0.1111
ANALYSIS										
OIL										
PIA %										
AROMATICS	3.0000	4.0000	6.0000	7.0000	7.0000	8.0000	9.0000	9.0000	4.0000	9.0000
OLEFINS	57.0000	67.0000	71.0000	77.0000	80.0000	77.0000	82.0000	87.0000	45.0000	83.0000
SATURATES	40.0000	30.0000	23.0000	16.0000	13.0000	15.0000	9.0000	4.0000	51.0000	8.0000
BR #	42.0000	45.0000	60.0000			57.0000		69.0000		47.0000
D.P.	2.8459	3.1927	2.9456	3.4762	3.2648	3.3790	2.6152	2.7042	3.6774	4.2859
MATERIAL RECOVERY	93.4590	94.5418	90.4589	88.4972	86.5499	91.6966	90.1908	92.7279	92.1341	97.2726

RUN # = 2-19

PERIOD		A	B	C	D	F	G	H	I	J
MOLAR FLOW RATE IN										
MMOLE/HR	CO	466.1124	466.1124	463.3380	463.3380	463.3380	463.3380	463.3380	459.4734	459.4734
	H2	916.2031	916.2031	916.4783	916.4783	916.4783	916.4783	916.4783	920.4054	920.4855
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	68.1693	68.1693	69.9378	69.9378	69.9378	69.9378	69.9378	71.6190	71.6190
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT										
MMOLE/HR	CO	247.3018	247.3781	156.5179	155.7173	247.9191	87.7957	64.3628	300.5193	294.9996
	H2	671.4082	678.0422	594.3723	591.3320	709.1628	533.1120	504.7410	767.4424	753.3466
	H2O	41.8696	41.3611	58.6184	60.6601	37.9483	83.7768	94.6833	32.9913	33.4689
	CO2	78.3306	77.5871	106.9871	106.4398	81.8709	135.7672	137.1945	67.0577	65.8261
	C1	18.2396	18.3283	25.7558	25.6241	15.6820	33.4892	32.5198	11.9211	11.7022
	C2=	46.4387	50.9375	51.3139	51.0514	64.8052	65.6204	62.4999	67.6786	66.4356
	C2	34.3541	30.1353	28.9264	28.7784	14.2984	17.4683	15.5822	8.8166	8.6547
	C3=	6.0423	6.1843	8.8164	8.7713	5.8813	11.4042	11.1786	4.4703	4.3882
	C3	1.9028	1.6867	1.8819	1.8723	1.1532	1.4483	1.3553	0.7448	0.7312
	1-C4=	2.4622	2.5862	3.8638	3.8440	2.7673	5.5215	5.2505	2.1106	2.0718
	2-C4=	0.3361	0.3369	0.3966	0.3945	0.1152	0.1806	0.1692	0.1239	0.1217
	I-C4	1.3433	1.2364	1.3865	1.3794	0.6924	0.9959	0.9315	0.4970	0.4878
	N-C4	0.1117	0.1123	0.0989	0.0984	0.1152	0.0903	0.0846	0.1239	0.1217
	C5	2.8271	3.0228	4.0385	4.1176	2.5363	5.1328	4.1559	2.1664	2.1339
	C6	1.8634	1.9180	2.4137	2.4101	1.4051	2.8416	2.6719	1.2752	1.2318
	C7	0.9827	0.9534	1.3803	1.9017	0.8368	1.9122	2.1330	0.9274	0.8489
	C8	0.8214	0.7204	0.6435	0.7764	0.5321	1.3580	1.8208	0.6046	0.5433
	C9	0.4615	0.5889	0.8748	0.5053	0.3648	1.0458	1.3899	0.3218	0.2874
	C10	0.3466	0.4343	0.6614	0.7396	0.2892	0.9147	1.0641	0.2510	0.2338
	C11	0.2418	0.3108	0.4629	0.5080	0.2463	0.6568	0.8344	0.1853	0.1787
	C12	0.1693	0.2166	0.3193	0.3378	0.2236	0.3811	0.4603	0.1305	0.1293
	C13	0.1218	0.1526	0.2180	0.2276	0.1082	0.2651	0.3312	0.0974	0.1321
	C14	0.0896	0.1075	0.1500	0.1526	0.0782	0.0615	0.0928	0.0858	0.1079
	C15	0.0657	0.0752	0.1050	0.1059	0.0573	0.1193	0.0596	0.0615	0.0621
	C16	0.0486	0.0534	0.0722	0.0205	0.0130	0.0207	0.0355	0.0443	0.0453
	C17	0.0352	0.0382	0.0494	0.0483	0.0337	0.0507	0.0191	0.0341	0.0341
	C18	0.0266	0.0266	0.0350	0.0304	0.0261	0.0295	0.0361	0.0250	0.0253
	C19	0.0189	0.0180	0.0221	0.0173	0.0206	0.0209	0.0257	0.0181	0.0185
	C20	0.0134	0.0137	0.0157	0.0110	0.0221	0.0133	0.0122	0.0129	0.0134
	C21	0.0100	0.0098	0.0100	0.0078	0.0149	0.0126	0.0077	0.0092	0.0099
	C22	0.0081	0.0078	0.0072	0.0075	0.0118	0.0090	0.0074	0.0068	0.0075
	C23	0.0065	0.0059	0.0046	0.0048	0.0091	0.0058	0.0071	0.0047	0.0045
	C24	0.0050	0.0057	0.0044	0.0046	0.0065	0.0055	0.0034	0.0027	0.0034
	C10H	0.0943	0.0932	0.0000	0.0000	0.0000	0.0000	0.0000	0.4023	0.4082
	C20H	2.9233	2.8878	5.8350	5.1800	3.3722	5.8840	6.6500	2.3408	2.3747
	N-C30H	1.6974	1.6768	1.6097	1.3631	0.8110	1.5877	1.7944	0.5121	0.5195
	I-C30H	0.1415	0.1397	0.0671	0.0682	0.0000	0.2802	0.3167	0.0000	0.0000
	C40H	0.1886	0.1863	0.2683	0.2726	0.1707	0.3736	0.4222	0.1463	0.1484
	ACETONE	0.1886	0.1863	0.4695	0.4089	0.1707	1.2142	1.3722	0.1097	0.1113
	ACETIC ACID	0.0472	0.0466	0.2012	0.2045	0.2134	0.2802	0.3167	0.0732	0.0742

RUN # = 2-19

PERIOD	A	B	C	D	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	276.0000	300.0000	300.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1510	1.1510	1.1510	1.1510	1.1510	1.1510	1.1510	1.1510	1.1510
TAIL GAS, SCFH (32F)	0.8830	0.8880	0.7820	0.7780	0.9110	0.7140	0.6690	0.9800	0.9620
H2 CONVERSION	26.7184	25.9943	35.1461	35.4778	22.6209	41.8304	44.9260	16.6191	18.1577
CO CONVERSION	46.9437	46.9274	66.2195	66.3923	46.4928	81.0515	86.1089	34.5948	35.7962
H2+CO CONVERSION	36.8311	36.4608	50.6828	50.9350	34.5569	61.4409	65.5175	25.6070	26.9769
YIELDS GM/HR									
OIL	0.4333	0.4958	0.7611	0.7944	0.3778	0.9611	1.1778	0.3111	0.3000
AQUEOUS PHASE	1.0292	1.0167	1.4833	1.4722	0.9222	2.0056	2.2667	0.7667	0.7778
WAX	0.0042	0.0125		0.0333	0.0444	0.0500	0.0222	0.0556	0.0944
ANALYSIS									
OIL									
FIA %									
AROMATICS	2.0000	3.0000	6.0000	6.0000		7.0000	6.0000		
OLEFINS	52.0000	43.0000	78.0000	80.0000		79.0000	82.0000		
SATURATES	46.0000	54.0000	16.0000	14.0000		14.0000	12.0000		
BR #			57.0000	61.0000	54.0000			50.0000	50.0000
D.P.	2.9077	2.9587	3.0123	2.8864	2.8599	2.7794	2.7588	3.0123	3.0607
MATERIAL RECOVERY	99.7471	100.0029	97.8581	97.7544	98.9807	100.4896	97.7544	101.2854	100.8040

RUN # = 2-21

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	442.5827	459.6815	464.1199	446.8559	446.8559	459.6815	442.5827	442.5827	442.5827	459.6815
	H2	889.3950	923.7561	919.4551	885.2540	885.2540	925.2195	890.8039	890.8039	890.8039	925.2195
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	71.4615	74.2224	74.2297	71.4686	71.4686	72.6128	69.9118	69.9118	69.9118	72.6128
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	212.4646	207.7520	135.9791	139.0850	223.0177	219.6330	43.9292	42.3254	246.4863	246.2729
	H2	624.0497	632.6033	549.4658	563.9070	659.3567	666.4730	462.4529	445.5697	691.2817	692.7124
	H2O	47.3331	45.7376	60.9607	62.0161	38.4167	41.9169	86.2958	95.0315	35.8676	36.5250
	CO2	78.0060	82.0623	111.0035	110.6997	84.0358	83.3093	136.5797	131.5935	72.8252	73.0947
	C1	17.4487	18.4896	24.6054	24.9787	15.0829	16.4450	36.6608	35.3223	13.3324	13.7198
	C2=	2.2577	2.7003	4.8097	5.6765	4.0938	4.2195	9.8243	9.4656	4.1453	4.2738
	C2	4.7212	4.7785	5.1799	4.7312	2.5861	2.8134	4.1533	4.0016	2.0167	2.1369
	C3=	65.2785	69.1808	71.5046	75.8813	73.9088	74.2212	83.0661	80.0335	77.1951	78.9423
	C3	8.8268	8.1020	6.3828	5.0142	2.6937	2.9214	3.2745	3.1549	1.9049	2.0247
	1-C4=	2.1552	2.2855	3.6078	3.7850	2.5861	2.5963	5.8303	5.6175	2.5768	2.5867
	2-C4=	0.3083	0.3121	0.3702	0.2840	0.1076	0.1080	0.1601	0.1543	0.1118	0.1122
	I-C4	1.3347	1.2465	1.2952	1.1349	0.7544	0.7571	1.0381	1.0002	0.5601	0.5620
	N-C4	0.1024	0.1037	0.0923	0.0943	0.1076	0.1080	0.1601	0.1543	0.1116	0.1122
	C5	2.8122	2.5965	4.2277	3.8439	2.6407	2.5479	5.1390	5.4712	2.5171	2.4964
	C6	1.5912	1.4778	2.4930	2.2355	1.5816	1.3459	2.7644	3.4252	1.4963	1.3464
	C7	0.6991	0.8372	1.2752	1.6899	1.1103	0.9490	2.0565	2.9493	1.0057	0.7135
	C8	0.6923	0.6177	0.7065	0.7201	0.7152	0.6544	1.6139	2.2666	0.5843	0.6449
	C9	0.5053	0.4468	0.8736	0.4793	0.4538	0.3931	1.2264	1.6564	0.4200	0.3835
	C10	0.3864	0.3473	0.6414	0.6976	0.3525	0.3134	0.9473	1.2296	0.3278	0.3017
	C11	0.2860	0.2603	0.4514	0.4841	0.2619	0.2398	0.6814	0.8408	0.2451	0.2238
	C12	0.2109	0.1878	0.3103	0.3284	0.1795	0.2431	0.4599	0.5441	0.1718	0.1569
	C13	0.1552	0.1383	0.2149	0.2294	0.1226	0.1790	0.3232	0.3683	0.1200	0.1077
	C14	0.1123	0.1023	0.1515	0.1560	0.0819	0.1286	0.2177	0.2332	0.0755	0.0672
	C15	0.0843	0.0751	0.1069	0.1101	0.0541	0.0931	0.1483	0.1451	0.0458	0.0402
	C16	0.0641	0.0571	0.0776	0.0766	0.0350	0.0679	0.0309	0.0272	0.0281	0.0362
	C17	0.0483	0.0430	0.0548	0.0533	0.0214	0.0529	0.0921	0.0640	0.0233	0.0256
	C18	0.0380	0.0423	0.0517	0.0503	0.0140	0.0379	0.0595	0.0302	0.0162	0.0188
	C19	0.0360	0.0321	0.0381	0.0336	0.0103	0.0278	0.0390	0.0115	0.0125	0.0140
	C20	0.0274	0.0244	0.0259	0.0213	0.0084	0.0202	0.0206	0.0054	0.0106	0.0109
	C21	0.0195	0.0189	0.0172	0.0152	0.0067	0.0148	0.0118	0.0000	0.0076	0.0080
	C22	0.0155	0.0138	0.0118	0.0073	0.0051	0.0113	0.0037	0.0000	0.0060	0.0066
	C23	0.0119	0.0106	0.0090	0.0046	0.0036	0.0081	0.0000	0.0000	0.0034	0.0042
	C24	0.0085	0.0076	0.0043	0.0000	0.0023	0.0065	0.0000	0.0000	0.0022	0.0030
	C10H	0.7162	0.6920	0.0000	0.0000	0.0000	0.2776	0.0000	0.0000	0.0000	0.0000
	C2OH	3.2336	3.1246	6.6347	5.9576	5.2266	4.9846	8.1025	8.0436	3.8489	3.9194
	N-C3OH	0.7578	0.7323	1.3660	1.2366	0.8487	0.5085	1.9428	1.8651	0.6909	0.7036
	I-C3OH	0.0659	0.0637	0.3473	0.4268	0.0181	0.0202	0.5272	0.2577	0.0617	0.0629
	C4OH	0.3025	0.2923	0.3832	0.3470	0.2562	0.1504	0.4447	0.4151	0.2041	0.2079
	ACETONE	0.1781	0.1721	0.5572	0.4812	0.2481	0.1451	1.8652	1.8274	0.2465	0.2510
	ACETIC ACID	0.1117	0.1080	0.1973	0.1979	0.1753	0.1942	0.2994	0.3676	0.2313	0.2355

RUN # = 2-21

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1130	1.1560	1.1560	1.1130	1.1130	1.1560	1.1130	1.1130	1.1130	1.1560
TAIL GAS, SCFH (32F)	0.8100	0.8200	0.7300	0.7460	0.8510	0.8540	0.6300	0.6070	0.8840	0.8870
H2 CONVERSION	29.8344	31.5184	40.2401	36.3000	25.5178	27.9660	48.0859	49.9812	22.3980	25.1299
CO CONVERSION	51.9944	54.8052	70.7017	68.8748	50.0918	52.2206	90.0744	90.4367	44.3073	46.4253
H2+CO CONVERSION	40.9144	43.1618	55.4709	52.5874	37.8048	40.0933	69.0801	70.2089	33.3526	35.7776
YIELDS GM/HR										
OIL	0.4958	0.4417	0.7500	0.7722	0.4056	0.4500	1.1944	1.5778	0.3833	0.3500
AQUEOUS PHASE	1.1125	1.0750	1.5778	1.5556	1.0278	1.0556	2.2333	2.3667	0.9111	0.9278
WAX	0.0667	0.0667	0.0611	0.0389	0.1056	0.1278	0.1111	0.0889	0.1111	0.1111
ANALYSIS										
OIL										
FIA %										
AROMATICS					8.0000		9.0000		15.0000	10.0000
OLEFINS					72.0000		80.0000		73.0000	73.0000
SATURATES					20.0000		11.0000		12.0000	17.0000
BR #	52.0000	34.0000	39.0000	70.0000	61.0000	63.0000	77.0000	84.0000	61.0000	59.0000
D.P.	3.1168	3.0853	3.0773	3.0913	2.7685	3.1902	2.9916	2.8168	2.7827	2.8292
MATERIAL RECOVERY	92.2815	93.0481	94.1884	95.0301	94.8098	95.5677	96.7925	96.7472	95.9944	96.3676

RUN # = 2-22

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	459.4910	459.4910	460.6525	460.6525	460.6525	462.3990	462.3990	462.3990	467.9434	468.4587
	H2	918.9807	918.9807	918.5466	918.5466	918.5466	916.0727	916.0727	916.0727	899.5572	899.2101
	CO2	72.5894	72.5894	72.5894	72.5894	72.5894	72.5894	72.5894	72.5894	78.4750	78.3182
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	223.2981	220.6779	144.4343	136.3639	216.6455	215.0750	69.2207	56.3563	232.2964	228.6175
	H2	662.3432	645.1232	572.9381	574.0654	670.7239	667.9202	481.4358	468.8171	658.9189	647.3843
	H2O	52.9892	44.5767	70.9959	70.1683	47.6158	48.4347	135.5948	95.4637	35.9288	33.3693
	CO2	147.7863	151.0175	182.7266	183.0905	146.6185	157.7936	195.7981	197.4054	171.9887	171.4631
	C1	18.6619	19.2492	25.5282	24.7931	18.7103	15.5628	30.5193	30.3148	12.2849	12.0903
	C2=	2.1574	2.5525	4.6063	5.5307	4.8142	4.4314	7.7730	8.3108	14.5185	15.3877
	C2	5.3936	5.4241	6.4300	5.4355	3.3915	2.8101	4.8274	4.7491	7.8177	7.6939
	C3=	5.1779	5.7432	8.5417	8.8684	6.2368	5.7280	10.6368	11.1607	6.7009	6.5947
	C3	2.0496	1.9144	2.0157	1.8122	1.3133	1.0809	1.5546	1.5833	0.0000	0.0000
	1-C4=	2.1574	2.3398	3.6465	4.0052	3.0637	2.8101	5.0729	5.3825	2.2336	2.1982
	2-C4=	0.0000	0.0000	0.4607	0.3819	0.2185	0.1079	0.2455	0.2058	0.0000	0.0000
	I-C4	1.4023	1.3826	1.5358	1.3351	0.8752	0.7562	1.0637	1.0292	1.1168	1.0991
	N-C4	0.1079	0.1064	0.0960	0.0952	0.2185	0.1079	0.0000	0.0000	0.0000	0.0000
	C5	2.1128	2.2506	4.3137	4.3888	3.1634	2.8771	5.1154	4.7073	2.4384	2.2733
	C6	2.4365	2.3426	2.6922	2.5285	1.8620	1.7104	2.8801	3.2113	1.4427	1.2867
	C7	0.8459	0.8712	1.4978	1.7634	1.3845	1.1414	1.9349	2.2699	1.5868	0.3436
	C8	1.8989	1.8240	1.1317	0.6325	0.7452	0.7027	1.5922	2.0279	0.5353	0.4055
	C9	0.3328	0.4749	0.8743	0.8947	0.4642	0.4866	1.1607	1.5242	0.4690	0.3654
	C10	0.2624	0.3771	0.6566	0.6855	0.3889	0.3552	0.9268	1.1682	0.3600	0.2891
	C11	0.2100	0.2906	0.4690	0.4897	0.4191	0.2476	0.6284	0.7724	0.2765	0.2147
	C12	0.1664	0.2245	0.3213	0.3400	0.3121	0.1437	0.4124	0.4941	0.1888	0.1508
	C13	0.1316	0.1713	0.2245	0.2386	0.2244	0.1353	0.2779	0.3200	0.1528	0.1053
	C14	0.1080	0.1360	0.1526	0.1632	0.1158	0.1108	0.1851	0.0759	0.0355	0.0678
	C15	0.0856	0.1101	0.1007	0.1124	0.0792	0.0736	0.1204	0.1121	0.0993	0.0397
	C16	0.0695	0.0853	0.0684	0.0782	0.0495	0.0647	0.0982	0.0166	0.0718	0.0248
	C17	0.0755	0.0866	0.0429	0.0544	0.0339	0.0527	0.0554	0.0208	0.0493	0.0195
	C18	0.0634	0.0658	0.0318	0.0484	0.0260	0.0441	0.0262	0.0098	0.0328	0.0147
	C19	0.0495	0.0491	0.0165	0.0286	0.0190	0.0363	0.0083	0.0047	0.0212	0.0116
	C20	0.0414	0.0359	0.0078	0.0163	0.0144	0.0259	0.0079	0.0000	0.0124	0.0077
	C21	0.0312	0.0257	0.0050	0.0078	0.0103	0.0164	0.0037	0.0000	0.0059	0.0053
	C22	0.0246	0.0180	0.0047	0.0049	0.0065	0.0110	0.0000	0.0000	0.0028	0.0040
	C23	0.0186	0.0125	0.0045	0.0024	0.0047	0.0075	0.0000	0.0000	0.0013	0.0029
	C24	0.9131	0.0075	0.0043	0.0000	0.0030	0.0043	0.0000	0.0000	0.0000	0.0018
	C1OH	0.0965	0.3599	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2948	0.2738
	C2OH	3.5892	6.1146	7.5317	8.0200	4.9612	5.2053	13.0200	8.5997	5.5389	5.1443
	N-C3OH	1.3878	1.5925	2.2162	2.3194	1.1991	1.3828	3.9710	2.9812	1.3467	1.2508
	I-C3OH	0.1171	0.0869	0.3549	0.3479	0.0000	0.1371	0.5253	0.4188	0.1336	0.1241
	C4OH	0.2559	0.2063	0.2965	0.3216	0.2443	0.2607	0.5190	0.3287	0.2469	0.2293
	ACETONE	0.1659	0.2730	0.5479	0.6104	0.1761	0.2373	2.3404	1.8567	0.3019	0.2804
	ACETIC ACID	0.2083	0.1045	0.2004	0.2584	0.3343	0.0563	0.3674	0.2792	0.1476	0.1371

RUN # = 2-22

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.2000	299.9000	275.3000	275.3000	325.2000	324.8000	274.8000	275.0000
FEED GAS, SCFH (32F)	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480
TAIL GAS, SCFH (32F)	0.8530	0.8410	0.7590	0.7530	0.8640	0.8530	0.6470	0.6260	0.8840	0.8700
H2 CONVERSION	27.9263	29.8001	37.6256	37.5029	26.9799	27.0887	47.4457	48.8232	26.7507	28.0052
CO CONVERSION	51.4032	51.9734	68.6457	70.3977	52.9699	53.4871	85.0301	87.8122	50.3580	51.1979
H2+CO CONVERSION	39.6647	40.8868	53.1356	53.9503	39.9749	40.2879	66.2379	68.3177	38.5544	39.6016
YIELDS GM/HR										
OIL	0.4136	0.5208	0.7556	0.7889	0.5222	0.5000	1.1389	1.2833	0.4500	0.3200
AQUEOUS PHASE	1.2545	1.2333	1.8444	1.8667	1.2056	1.2389	3.5056	2.4667	1.0444	0.9700
WAX	0.0409	0.0375	0.0333	0.0222	0.0833	0.0722	0.0389	0.0722	0.0889	0.1400
ANALYSIS										
OIL										
FIA %										
AROMATICS	9.0000	8.0000	10.0000	11.0000	15.0000	18.0000	10.0000	9.0000	7.0000	10.0000
OLEFINS	45.0000	45.0000	61.0000	65.0000	60.0000	62.0000	71.0000	76.0000	77.0000	76.0000
SATURATES	46.0000	47.0000	29.0000	24.0000	25.0000	20.0000	19.0000	15.0000	16.0000	14.0000
BR #	42.0000	47.0000	63.0000	65.0000	53.0000	57.0000	73.0000	82.0000	61.0000	58.0000
D.P.	3.4801	3.5528	3.1309	3.2576	3.2021	3.3448	3.0919	2.7150	3.1858	2.9293
MATERIAL RECOVERY	96.7595	97.6022	99.9567	98.7927	98.3282	96.9553	102.9760	96.1282	101.5714	99.2448

RUN # = 2-23

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	453.8059	453.8059	453.8059	472.2422	474.1690	453.8059	453.8059	453.8059	453.8059	464.5120
	H2	922.1584	922.1584	922.1584	897.9868	897.4317	922.1584	922.1584	922.1584	922.1584	911.6063
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	77.0888	77.0888	77.0888	78.4649	78.5433	77.0888	77.0888	77.0888	77.0888	74.0316
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	230.5010	224.0171	142.6491	138.3824	229.0205	219.4029	59.0585	48.6829	239.2272	249.1421
	H2	689.2639	691.1883	593.3813	582.9724	685.9346	669.3460	489.6965	497.7427	731.6183	727.5428
	H2O	51.6417	59.9320	64.8476	69.5160	43.7598	42.9756	91.6298	97.5059	40.6928	37.0921
	CO2	82.8016	87.8062	115.9023	124.6425	94.7671	90.2112	128.7808	141.0131	81.2904	86.5564
	C1	88.9557	93.0970	105.9961	103.0505	95.8953	98.2303	106.6343	106.5991	86.1684	87.7261
	C2=	2.1263	2.7016	5.1514	6.9677	5.6409	4.7688	8.0389	8.3936	4.1806	4.6787
	C2	5.2587	5.4031	5.9435	5.9871	3.3845	3.0069	5.2496	5.0365	2.0909	2.3394
	C3=	5.0351	5.8540	8.9153	10.7960	7.8973	6.2372	10.4993	11.2475	5.1097	7.0181
	C3	2.0145	1.9135	1.9808	0.0000	0.0000	1.1138	1.5587	1.5948	0.8132	0.0000
	1-C4=	2.0145	2.4767	3.5661	3.9255	2.2564	2.8957	4.2653	5.5396	2.5554	2.3394
	2-C4=	0.3354	0.3373	0.3966	0.0000	0.0000	0.0000	0.1645	0.2520	0.0000	0.0000
	I-C4	1.4544	1.3491	1.3865	0.9816	1.1282	0.6681	0.9843	1.0908	0.5804	1.1697
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0837	0.0000	0.0000
	C5	2.8108	2.9847	3.4712	0.6724	0.7385	2.6118	3.4826	5.6586	2.5554	0.0520
	C6	1.7092	1.5315	1.7239	1.0000	0.6387	1.3005	1.7531	3.4240	1.5191	0.1609
	C7	0.9526	0.6437	0.7146	1.4483	0.6394	0.4720	1.4050	2.5023	1.1215	0.2970
	C8	0.4402	0.3485	0.7172	0.7047	0.3846	0.5479	1.4512	1.9314	0.7759	0.3736
	C9	0.3943	0.4868	0.6702	0.5172	0.3263	0.5020	1.1995	1.4525	0.4828	0.3424
	C10	0.3085	0.3755	0.7307	0.7914	0.1483	0.4012	0.9095	1.0338	0.3500	0.2692
	C11	0.2308	0.2767	0.4860	0.4467	0.2645	0.3127	0.6722	0.7224	0.2348	0.1975
	C12	0.1729	0.1991	0.3024	0.2414	0.1795	0.2444	0.4683	0.4414	0.1529	0.1392
	C13	0.1281	0.1444	0.1773	0.1273	0.1183	0.1816	0.3356	0.3220	0.1133	0.1000
	C14	0.0955	0.1057	0.1016	0.1034	0.0140	0.0265	0.0634	0.0793	0.0224	0.0159
	C15	0.0710	0.0778	0.0785	0.0724	0.0429	0.1012	0.0394	0.0456	0.0129	0.0099
	C16	0.0546	0.0160	0.0061	0.0065	0.0227	0.0126	0.0231	0.0267	0.0075	0.0046
	C17	0.0417	0.0435	0.0375	0.0335	0.0148	0.0555	0.0130	0.0151	0.0043	0.0022
	C18	0.0318	0.0332	0.0272	0.0230	0.0093	0.0412	0.0493	0.0237	0.0201	0.0144
	C19	0.0302	0.0314	0.0206	0.0191	0.0074	0.0373	0.0272	0.0135	0.0114	0.0098
	C20	0.0232	0.0228	0.0147	0.0129	0.0056	0.0270	0.0148	0.0085	0.0060	0.0074
	C21	0.0169	0.0176	0.0117	0.0074	0.0000	0.0193	0.0106	0.0000	0.0046	0.0053
	C22	0.0124	0.0129	0.0067	0.0071	0.0000	0.0138	0.0067	0.0000	0.0033	0.0034
	C23	0.0095	0.0087	0.0043	0.0045	0.0000	0.0103	0.0032	0.0000	0.0021	0.0024
	C24	0.0068	0.0059	0.0041	0.0000	0.0000	0.0070	0.0031	0.0000	0.0020	0.0015
	C1OH	1.2830	1.5759	0.0000	1.2823	0.4891	1.2840	2.0536	2.5402	0.0265	0.1811
	C2OH	1.4181	4.2308	4.7072	3.8508	3.2758	3.6490	5.2347	5.5152	3.0801	2.9798
	N-C3OH	0.4437	1.2082	1.1037	0.7180	0.6775	0.7490	1.5263	1.5932	0.5836	0.5114
	I-C3OH	0.8460	0.3765	0.3508	0.1186	0.0726	0.1868	0.1048	1.3509	0.0198	0.0000
	C4OH	0.0999	0.5952	0.4759	0.1612	0.3101	0.2497	0.3258	0.5908	0.1532	0.2225
	ACETONE	0.0675	0.2925	0.6625	0.3141	0.2448	0.2274	1.6301	1.3951	0.1626	0.2263
	ACETIC ACID	0.0078	0.1264	0.1815	0.0966	0.2306	0.2165	0.2755	0.1438	0.2071	0.2300

RUN # = 2-23

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	274.0000	274.0000	299.0000	300.0000	275.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1490	1.1490	1.1490	1.1490	1.1490	1.1490	1.1490	1.1490	1.1490	1.1490
TAIL GAS, SCFH (32F)	0.8840	0.8890	0.7820	0.7770	0.8930	0.8790	0.6470	0.6620	0.9160	0.9240
H2 CONVERSION	25.2554	25.0467	35.6530	35.0801	23.5669	27.4153	46.8967	46.0242	20.6624	20.1911
CO CONVERSION	49.2071	50.6359	68.5661	70.6967	51.7007	51.6527	86.9860	89.2723	47.2842	46.3648
H2+CO CONVERSION	37.2313	37.8413	52.1095	52.8884	37.6338	39.5340	66.9413	67.6482	33.9733	33.2779
YIELDS GM/HR										
OIL	0.3958	0.4125	0.7111	0.7500	0.4056	0.4889	1.0722	1.2389	0.3500	0.2692
AQUEOUS PHASE	1.1250	1.4875	1.5556	1.5556	1.0500	1.0833	2.1889	2.4000	0.9444	0.8846
WAX	0.0333	0.0250	0.0111	0.0389	0.1111	0.0611	0.0944	0.0278	0.1111	0.1538
ANALYSIS										
OIL										
FIA %										
AROMATICS	7.0000	7.0000	5.0000	3.0000	9.0000	12.0000	16.0000	16.0000	16.0000	8.0000
OLEFINS	48.0000	48.0000	72.0000	79.0000	80.0000	79.0000	75.0000	74.0000	72.0000	86.0000
SATURATES	45.0000	45.0000	23.0000	18.0000	11.0000	9.0000	9.0000	10.0000	12.0000	6.0000
BR #	46.0000	50.0000	63.0000	68.0000	55.0000		63.0000	66.0000	57.0000	59.0000
D.P.	3.3237	3.1635	2.9468	3.0287	2.9497	3.2312	2.9067	2.7433	2.6738	2.8961
MATERIAL RECOVERY	99.2602	102.6840	98.9456	96.1350	97.1027	101.3635	93.8068	100.8133	98.3302	97.2132

RUN # = 2-24

PERIOD		A	B	C	D	E	F	G	H
MOLAR FLOW RATE IN									
MMOLE/HR	CO	488.4205	488.4205	485.8051	484.5366	485.8051	501.8717	501.8717	483.1866
	H2	963.7593	963.7593	967.2480	964.7225	967.2480	999.2370	999.2370	969.2838
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT									
MMOLE/HR	CO	245.2560	259.9977	378.1304	387.5553	286.7056	277.6633	175.4906	165.8183
	H2	738.0400	737.7990	883.1859	878.2829	796.2704	786.9116	659.6365	684.1320
	H2O	60.0214	63.2970	22.5007	34.7950	58.0999	46.9553	75.0995	74.5258
	CO2	94.2421	94.6476	38.2511	35.6472	81.9161	77.9827	121.8104	127.2322
	C1	25.7751	20.6396	8.8584	7.4067	16.7441	16.0690	28.1821	29.2003
	C2=	3.0662	3.0787	2.3795	2.1164	4.5773	4.3715	7.3288	7.6132
	C2	7.2668	5.3599	1.4549	1.3229	2.6498	2.4813	4.2320	4.3797
	C3=	7.2668	6.5004	2.7765	2.5138	5.6620	5.4346	10.0128	9.2815
	C3	2.7248	2.0521	0.7927	0.6615	1.2051	1.1811	1.5489	1.5641
	1-C4=	2.9516	2.8508	1.3216	0.0000	2.7702	2.5993	4.8521	4.7976
	2-C4=	0.4537	0.3418	0.0000	0.5294	0.0000	0.0000	0.1032	0.2084
	I-C4	1.9307	1.3685	0.3970	1.4549	0.7224	0.7091	1.0319	1.0431
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1042
	C5	3.8541	2.9896	1.4196	1.4549	2.7702	3.4982	4.9127	5.1431
	C6	1.9728	1.6011	0.1230	0.6615	1.8421	1.5068	2.7268	2.9384
	C7	0.4607	0.9022	0.1507	0.6615	1.6368	1.7915	2.2396	2.3587
	C8	0.6853	0.4190	0.1388	0.0000	1.4259	0.1180	1.8332	1.9947
	C9	0.5862	0.7517	0.1004	0.0000	0.0000	0.0000	0.0000	0.0000
	C10	0.4862	0.4438	0.0648	0.0000	0.3111	0.3635	0.4751	0.4924
	C11	0.3480	0.4288	0.0458	0.0000	0.1939	0.2309	0.3185	0.3251
	C12	0.2471	0.2147	0.0310	0.0000	0.1407	0.1628	0.2177	0.2149
	C13	0.1830	0.1528	0.0186	0.0000	0.0957	0.1112	0.1507	0.1398
	C14	0.0419	0.0333	0.0128	0.0000	0.0635	0.0754	0.1060	0.0921
	C15	0.0299	0.0228	0.0092	0.0000	0.0444	0.0521	0.0752	0.0625
	C16	0.0216	0.0155	0.0060	0.0000	0.1917	0.2076	0.1336	0.0953
	C17	0.0162	0.0110	0.0049	0.0000	0.1464	0.1540	0.1118	0.0621
	C18	0.0421	0.0276	0.0038	0.0000	0.1111	0.1151	0.0693	0.0391
	C19	0.0309	0.0180	0.0025	0.0000	0.0842	0.0823	0.0375	0.0185
	C20	0.0224	0.0124	0.0021	0.0000	0.0622	0.0586	0.0208	0.0147
	C21	0.0148	0.0074	0.0016	0.0000	0.0466	0.0391	0.0141	0.0084
	C22	0.0094	0.0042	0.0013	0.0000	0.0343	0.0249	0.0108	0.0053
	C23	0.0060	0.0027	0.0009	0.0000	0.0232	0.0153	0.0077	0.0000
	C24	0.0029	0.0026	0.0006	0.0000	0.0167	0.0098	0.0049	0.0000
	C10H	0.5381	0.1454	0.1803	0.1540	0.3957	0.2788	0.0000	0.1441
	C20H	2.1307	2.4956	0.6928	0.9362	2.3987	1.7842	4.1895	3.4794
	N-C30H	0.7056	0.6923	0.2233	0.2547	0.5320	0.3509	0.7754	0.8494
	I-C30H	0.1093	0.0643	0.0117	0.0000	0.0180	0.0006	0.0000	0.0977
	C40H	0.1540	0.1253	0.0527	0.0675	0.1188	0.0896	0.1556	0.1481
	ACETONE	0.0703	0.0844	0.0293	0.0339	0.1058	0.0686	0.2852	0.2834
	ACETIC ACID	0.1802	0.1106	0.1641	0.2426	0.5544	0.5357	0.5153	0.5308

RUN # = 2-24

PERIOD	A	B	C	D	E	F	G	H
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	250.0000	250.0000	275.0000	275.0000	300.0000	300.0000
FEED GAS, SCFH (32F)	1.1490	1.1490	1.1490	1.1460	1.1490	1.1870	1.1870	1.1490
TAIL GAS, SCFH (32F)	0.8970	0.9010	1.0430	1.0440	0.9520	0.9330	0.8160	0.8240
H2 CONVERSION	23.4207	23.4457	8.6909	8.9601	17.6767	21.2488	33.9860	29.4188
CO CONVERSION	49.7859	46.7677	22.1642	20.0153	40.9834	44.6744	65.0328	65.6824
H2+CO CONVERSION	36.6033	35.1067	15.4275	14.4877	29.3300	32.9616	49.5094	47.5506
YIELDS GM/HR								
OIL	0.5000	0.4500	0.1000	0.0333	0.6444	0.5667	0.8611	0.8500
AQUEOUS PHASE	1.2708	1.3250	0.4722	0.7111	1.2500	1.0000	1.6500	1.6222
WAX	0.0792	0.0958	0.1000	0.1111	0.0722	0.0833	0.0667	0.0611
ANALYSIS								
OIL								
FIA %								
AROMATICS								
OLEFINS								
SATURATES								
BR #	44.0000	45.0000	46.0000			45.0000	58.0000	65.0000
D.P.	2.9443	2.8482	2.7834		3.6800	3.9323	3.3110	3.0884
MATERIAL RECOVERY	103.6886	104.7784	98.5838	101.2213	106.4135	101.1344	106.8291	105.2398

RUN # = 2-24

PERIOD		I	J	K	L	M	N
MOLAR FLOW RATE IN							
MMOLE/HR	CO	499.8503	498.5677	498.5677	482.6069	505.8737	487.2596
	H2	953.2028	1001.6403	1001.6403	969.5744	992.2328	959.9755
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT							
MMOLE/HR	CO	275.8192	268.4094	84.7207	71.2212	277.5360	281.6792
	H2	769.7017	771.5311	592.6820	569.7707	794.1628	796.6819
	H2O	54.0263	45.9829	102.8603	108.2229	47.5797	47.3369
	CO2	95.4759	88.6147	145.7623	149.4768	91.3106	91.8782
	C1	16.5020	16.0906	36.0129	40.3587	15.6189	15.7160
	C2=	5.8936	4.4307	7.8327	9.2320	6.0073	4.8357
	C2	3.5361	2.4486	4.8613	5.6275	3.6044	2.4178
	C3=	8.2510	5.7133	10.8040	12.3977	7.2087	7.2535
	C3	0.0000	1.0494	1.5307	1.7588	0.0000	0.0000
	I-C4=	3.5361	2.7984	5.2215	5.8908	2.4029	2.4178
	2-C4=	0.0000	0.0000	0.1801	0.1755	0.0000	0.0000
	I-C4	1.1787	0.5830	1.0805	1.1427	1.2015	1.2089
	N-C4	0.0000	0.0000	0.0900	0.0878	0.0000	0.0000
	C5	0.1703	2.7652	4.9757	5.9506	0.1398	0.7874
	C6	0.2902	1.3367	2.6674	3.1562	0.2281	0.5269
	C7	0.4533	1.0017	1.6652	2.2340	0.3577	0.4803
	C8	0.5611	0.6295	1.3238	1.5217	0.4295	0.3449
	C9	0.4472	0.4176	1.0689	1.1719	0.3203	0.4247
	C10	0.3792	0.3828	1.0429	1.0802	0.3028	0.2673
	C11	0.3272	0.3135	0.8231	0.8428	0.2488	0.1855
	C12	0.2644	0.2471	0.4850	0.4820	0.1893	0.1293
	C13	0.2173	0.2016	0.3420	0.3337	0.1321	0.0928
	C14	0.1410	0.1256	0.2541	0.2491	0.1019	0.0760
	C15	0.1084	0.0943	0.1725	0.1644	0.0796	0.0536
	C16	0.0846	0.0711	0.1112	0.1010	0.0619	0.0395
	C17	0.0660	0.0527	0.0666	0.0550	0.0497	0.0287
	C18	0.0709	0.0479	0.0404	0.0284	0.0550	0.0192
	C19	0.0530	0.0309	0.0383	0.0224	0.0460	0.0136
	C20	0.0426	0.0207	0.0243	0.0170	0.0320	0.0066
	C21	0.0295	0.0148	0.0192	0.0122	0.0236	0.0068
	C22	0.0211	0.0110	0.0147	0.0116	0.0172	0.0052
	C23	0.0151	0.0090	0.0105	0.0074	0.0127	0.0037
	C24	0.0113	0.0072	0.0101	0.0071	0.0097	0.0024
	C1OH	0.1592	0.3639	0.0000	0.0000	0.0000	0.1310
	C2OH	2.4502	2.5792	5.7720	5.0913	2.4916	2.4314
	N-C3OH	0.6133	0.6226	1.7723	1.9117	0.6029	0.5423
	I-C3OH	0.1131	0.0290	0.2505	0.3648	0.0000	0.0000
	C4OH	0.1460	0.1732	0.2997	0.2862	0.0950	0.1036
	ACETONE	0.0675	0.0871	0.6519	1.1119	0.0869	0.0752
	ACETIC ACID	0.1171	0.2142	0.2125	0.2956	0.2335	0.1589

RUN # = 2-24

PERIOD	I	J	K	L	M	N
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	277.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1490	1.1870	1.1870	1.1490	1.1870	1.1490
TAIL GAS, SCFH (32F)	0.9330	0.9220	0.7120	0.6940	0.9510	0.9550
H2 CONVERSION	19.2510	22.9732	40.8289	41.2350	19.9621	17.0102
CO CONVERSION	44.8196	46.1639	83.0072	85.2424	45.1373	42.1911
H2+CO CONVERSION	32.0353	34.5686	61.9180	63.2387	32.5497	29.6007
YIELDS GM/HR						
OIL	0.5611	0.5000	1.1722	1.2333	0.4222	0.4167
AQUEOUS PHASE	1.1556	1.0278	2.3111	2.4222	1.0333	1.0222
WAX	0.1111	0.1056	0.1944	0.0667	0.1056	0.1444
ANALYSIS.						
OIL						
FIA %						
AROMATICS						
OLEFINS						
SATURATES						
BR #						
D.P.	4.2712	3.5790	3.3513	3.1691	4.1016	3.3393
MATERIAL RECOVERY	103.3865	102.6148	103.8791	104.8025	102.2933	102.8789

RUN # = 2-25

PERIOD		A	B	C	D	F	F	H	I	J	K	L
MOLAR FLOW RATE IN												
MMOLE/HR	CO	702.6873	702.6873	689.8938	702.6873	736.3463	717.0438	714.5563	714.5563	714.5563	714.5563	714.5563
	H2	746.5137	746.5137	755.5277	746.5137	717.3909	737.4894	734.9310	734.9310	734.9310	734.9310	734.9310
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT												
MMOLE/HR	CO	426.6023	423.1580	224.4500	227.8409	417.9431	412.2504	54.1461	573.9398	583.4210	655.1631	659.2298
	H2	493.0918	507.1270	436.1272	397.5872	499.5467	531.6327	506.7112	656.4926	646.0699	683.8271	676.9001
	H2O	32.1794	35.6842	32.4172	34.3821	17.8965	16.1912	30.2774	5.5129	4.0721	3.0082	3.2839
	CO2	124.4486	127.0580	187.9542	222.3950	143.3578	136.9327	139.8099	58.8430	57.3684	17.7224	16.2985
	C1	19.0284	18.2296	25.6387	23.3285	13.2330	13.3022	40.3266	6.5512	6.1345	1.9113	1.3596
	C2=	3.8276	3.7560	5.2920	6.4451	6.6165	4.1363	8.8894	1.7038	1.6963	0.4090	0.4075
	C2	3.8276	4.0879	5.1099	4.9018	3.3083	2.2359	5.9805	0.7859	0.6532	0.2727	0.1358
	C3=	6.4518	6.1875	8.6682	9.2587	7.7193	5.1425	12.1222	1.8346	1.6963	0.4090	0.4075
	C3	1.4221	1.2152	1.4596	1.3619	0.0000	0.7825	1.7779	0.3936	0.2608	0.1363	0.1358
	1-C4=	3.0618	2.9829	4.6437	4.5391	2.2055	3.1302	20.2036	1.1795	0.9140	0.2727	0.2716
	2-C4=	0.0000	0.0000	0.3651	0.2720	0.0000	0.0000	0.7274	0.0000	0.0000	0.0000	0.0000
	I-C4	0.8751	0.7730	1.0945	1.0890	1.1028	0.5590	2.1009	0.2615	0.2608	0.0000	0.0000
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0806	0.0000	0.0000	0.0000	0.0000
	C5	3.2257	2.8669	4.7830	4.5552	0.5402	2.7365	9.9029	1.2436	0.9546	0.2727	0.2716
	C6	1.7127	1.5683	2.3924	2.5911	0.2293	1.5110	3.0709	0.4945	0.4084	0.0682	0.0000
	C7	0.3951	0.7193	1.0953	1.6173	0.5969	0.8760	2.2267	0.2699	0.1753	0.0682	0.0000
	C8	0.2375	0.3151	1.5747	1.1422	0.7134	0.7460	2.1293	0.1707	0.0537	0.0000	0.0000
	C9	0.2185	0.2966	0.9681	1.2861	0.5889	0.5476	1.5287	0.1570	0.0443	0.0000	0.0000
	C10	0.1800	0.2558	0.7663	1.0458	0.4281	0.4974	1.4807	0.1223	0.0322	0.0000	0.0000
	C11	0.2939	0.1853	0.6203	0.8399	0.2826	0.3987	1.1912	0.1015	0.0213	0.0000	0.0000
	C12	0.2444	0.2842	0.4637	0.6515	0.1953	0.2562	0.7425	0.0812	0.0147	0.0000	0.0000
	C13	0.2000	0.2281	0.6783	0.5233	0.1254	0.1982	0.5846	0.0630	0.0094	0.0000	0.0000
	C14	0.1619	0.1774	0.5174	0.3989	0.3203	0.1550	0.4586	0.0416	0.0241	0.0000	0.0000
	C15	0.1311	0.1409	0.3849	0.2978	0.2446	0.1176	0.3407	0.0317	0.0184	0.0000	0.0000
	C16	0.1062	0.1066	0.2887	0.2284	0.1879	0.0876	0.2539	0.0245	0.0141	0.0000	0.0000
	C17	0.0863	0.0807	0.2161	0.1672	0.1409	0.0638	0.1850	0.0196	0.0106	0.0000	0.0000
	C18	0.0685	0.0597	0.1575	0.1185	0.1047	0.0527	0.1310	0.0198	0.0079	0.0000	0.0000
	C19	0.0561	0.0429	0.1050	0.0855	0.0778	0.0309	0.0897	0.0144	0.0059	0.0000	0.0000
	C20	0.0433	0.0352	0.0735	0.0558	0.0561	0.0249	0.0590	0.0101	0.0042	0.0000	0.0000
	C21	0.0349	0.0265	0.0450	0.0435	0.0364	0.0194	0.0374	0.0068	0.0027	0.0000	0.0000
	C22	0.0273	0.0202	0.0286	0.0231	0.0255	0.0144	0.0179	0.0049	0.0019	0.0000	0.0000
	C23	0.0217	0.0161	0.0228	0.0132	0.0199	0.0098	0.0114	0.0036	0.0015	0.0000	0.0000
	C24	0.0167	0.0124	0.0175	0.0085	0.0149	0.0075	0.0109	0.0030	0.0011	0.0000	0.0000
	C10H	0.4268	0.3256	0.3504	0.0854	0.0631	0.2944	0.2940	0.0000	0.0000	0.0294	0.0321
	C20H	1.6383	1.8653	2.7391	2.4673	1.2627	1.5327	2.8590	0.3964	0.2928	0.0353	0.0386
	N-C30H	0.4628	0.6384	0.7951	0.7069	0.3040	0.3379	0.5970	0.1182	0.0873	0.0216	0.0236
	I-C30H	0.0385	0.0697	0.1202	0.0377	0.0000	0.0000	0.0534	0.0247	0.0183	0.0064	0.0069
	C40H	0.0760	0.0950	0.0958	0.1254	0.0543	0.0584	0.0451	0.0084	0.0062	0.0045	0.0049
	ACETONE	0.0820	0.0872	0.2805	0.3035	0.1180	0.0722	0.4129	0.0163	0.0120	0.0015	0.0017
	ACETIC ACID	0.1331	0.1846	0.2016	0.3523	0.2742	0.2758	0.1297	0.0032	0.0024	0.0381	0.0416

RUN # = 2-25

PERIOD	A	B	C	D	E	F	H	I	J	K	L
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	275.0000	275.0000	250.0000	251.0000
FEED GAS, SCFH (32F)	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530	1.1490	1.1490	1.1490	1.1490	1.1490
TAIL GAS, SCFH (32F)	0.8650	0.8720	0.7200	0.7170	0.8720	0.8840	0.6370	1.0340	1.0310	1.0780	1.0740
H2 CONVERSION	33.9474	32.0673	42.2752	46.7408	30.3662	27.9132	31.0532	10.6729	12.0911	6.9536	7.8961
CO CONVERSION	39.2899	39.7800	67.4660	67.5758	43.2410	42.5070	92.4224	19.6789	18.3520	8.3119	7.7428
H2+CO CONVERSION	36.6186	35.9237	54.8706	57.1583	36.8036	35.2101	61.7378	15.1759	15.2215	7.6327	7.8194
YIELDS GM/HR											
OIL	0.4833	0.5375	1.5222	1.4722	0.7389	0.6556	1.9000	0.1722	0.0556	0.0056	0.0111
AQUEOUS PHASE	0.7167	0.8042	0.8111	0.8278	0.4278	0.4167	0.7600	0.1278	0.0944	0.0611	0.0667
WAX	0.2583	0.2500	0.2778	0.2944	0.3056	0.3444	0.2900	0.0833	0.1722	0.0611	0.0778
ANALYSIS											
OIL											
FIA %											
AROMATICS		8.0000			14.0000		16.0000				
OLEFINS		70.0000			16.0000		20.0000				
SATURATES		23.0000			70.0000		64.0000				
BR #	44.0000	59.0000	76.0000	78.0000	62.0000	60.0000	71.0000	51.0000			
D.P.	3.9178	3.8575	4.4300	4.1243	4.8781	3.7517	3.7206	3.6070	3.1958		
MATERIAL RECOVERY	100.0000	99.1115	94.6359	100.4246	97.8889	98.4029	71.5210	97.1221	97.4068	96.5090	96.7166

RUN # = 2-26

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	482.3748	482.3748	482.3748	485.0782	485.0782	485.0782	497.1095	497.1095	445.0040	445.0040
	H2	964.7496	964.7496	964.7496	962.9164	962.9164	962.9164	949.2907	949.2907	904.2240	904.2240
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	67.3900	67.3900
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	204.9057	211.5945	346.4007	268.6270	379.5941	374.7336	228.5100	230.7131	313.0898	329.9748
	H2	686.6741	697.2036	806.0229	897.9119	866.1522	856.7173	708.2729	716.0828	755.5256	758.3199
	H2O	63.8514	54.5844	38.2684	37.3854	25.7751	25.5093	54.2604	52.8910	30.0065	22.2195
	CO2	102.8702	99.4494	47.7914	52.2113	39.0769	39.9874	97.4685	94.6797	47.0516	33.5302
	C1	20.6785	19.6778	9.5571	10.4472	7.9574	8.3986	20.1438	19.9154	8.7033	8.2186
	C2=	4.1773	4.5491	2.4508	2.7361	2.0867	2.1967	4.8732	4.7885	61.6509	83.9262
	C2	4.4906	3.7033	1.8381	1.8659	1.3039	1.4215	3.5735	3.4827	8.8240	8.5912
	C3=	6.4753	6.3474	2.9410	3.2334	0.0000	0.0000	6.4983	6.5298	3.1428	2.9879
	C3	1.8802	1.5871	0.8578	0.9945	2.2170	2.3257	1.5159	1.5241	0.8457	0.7476
	1-C4=	3.0282	2.9620	1.4705	1.4930	0.3908	0.3883	3.0318	3.0471	1.4502	1.3698
	2-C4=	0.2089	0.1056	0.0490	0.0000	0.0000	0.0000	0.1081	0.1086	0.0000	0.0000
	I-C4	1.2535	1.0581	0.6127	0.6216	0.0000	0.0000	0.8661	0.9799	0.4838	0.4980
	N-C4	0.2089	0.1056	0.0368	0.1243	1.1736	1.1635	0.1081	0.1086	0.0000	0.0000
	C5	3.2188	3.2967	1.6425	1.6452	1.3114	1.3798	2.8986	3.0866	1.7758	1.5007
	C6	1.7241	1.8038	0.8275	0.8006	0.6758	0.5911	1.4938	1.6824	0.9505	0.7687
	C7	1.2545	0.9186	0.5775	0.5485	0.4191	0.4178	0.8623	0.9550	0.5675	0.2725
	C8	0.8172	0.4508	0.1401	0.0809	0.3189	0.4035	0.5064	0.8651	0.3465	0.0379
	C9	0.6356	0.3955	0.1699	0.1029	0.0912	0.0324	0.6330	0.6090	0.1693	0.0464
	C10	0.5811	0.4403	0.1631	0.0996	0.0574	0.0179	0.4972	0.5709	0.1225	0.0442
	C11	0.4457	0.3790	0.1363	0.0851	0.0434	0.0123	0.4213	0.4775	0.0998	0.0375
	C12	0.2459	0.3396	0.1468	0.0938	0.0380	0.0078	0.3500	0.3996	0.0772	0.0316
	C13	0.1676	0.2738	0.0918	0.0590	0.0186	0.0062	0.2785	0.3118	0.0459	0.0253
	C14	0.1200	0.2175	0.0572	0.0384	0.0215	0.0048	0.1793	0.2528	0.0335	0.0163
	C15	0.0847	0.1655	0.0456	0.0319	0.0182	0.0041	0.1416	0.1599	0.0242	0.0135
	C16	0.0567	0.1259	0.0364	0.0268	0.0127	0.0030	0.1147	0.1285	0.0220	0.0111
	C17	0.0427	0.0937	0.0291	0.0223	0.0110	0.0020	0.0909	0.1007	0.0182	0.0092
	C18	0.0277	0.0677	0.0226	0.0183	0.0110	0.0015	0.0939	0.1047	0.0166	0.0103
	C19	0.0167	0.0518	0.0222	0.0204	0.0090	0.0012	0.0686	0.0751	0.0129	0.0062
	C20	0.0091	0.0351	0.0160	0.0159	0.0075	0.0009	0.0483	0.0542	0.0096	0.0065
	C21	0.0065	0.0268	0.0104	0.0133	0.0061	0.0007	0.0345	0.0381	0.0076	0.0056
	C22	0.0041	0.0192	0.0073	0.0095	0.0049	0.0005	0.0241	0.0259	0.0058	0.0040
	C23	0.0039	0.0163	0.0057	0.0074	0.0040	0.0000	0.0189	0.0199	0.0046	0.0031
	C24	0.0019	0.0117	0.0042	0.0054	0.0031	0.0000	0.0141	0.0167	0.0036	0.0023
	C10H	0.4262	1.0569	0.1346	0.0000	0.1200	0.1188	0.1577	0.2384	0.3378	0.0118
	C20H	3.5725	3.2322	1.1875	1.2898	0.7783	0.7703	3.2541	3.4243	1.2234	0.7594
	N-C30H	0.8240	0.6918	0.3514	0.3422	0.1982	0.1962	0.6468	0.6571	0.4143	0.3042
	I-C30H	0.0340	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0201	0.0000
	C40H	0.1871	0.1573	0.1192	0.0486	0.0578	0.0572	0.1264	0.1398	0.0759	0.1226
	ACETONE	0.1441	0.1356	0.0746	0.0759	0.0288	0.0285	0.1359	0.1485	0.0836	0.0355
	ACETIC ACID	0.2620	0.3947	0.3935	0.3750	0.1977	0.1957	0.4873	0.5005	0.2561	0.2192

RUN # = 2-26

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	400.0000	400.0000	400.0000	400.0000	300.0000	300.0000	400.0000	400.0000	400.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	250.0000	250.0000	250.0000	250.0000	275.0000	275.0000	250.0000	275.0000
FEED GAS, SCFH (32F)	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450	1.1230	1.1230
TAIL GAS, SCFH (32F)	0.8260	0.8350	0.9690	0.9830	1.0300	1.0200	0.8550	0.8590	0.9540	0.9820
H2 CONVERSION	28.8236	27.7322	16.4526	6.7508	10.0491	11.0289	25.3892	24.5665	16.4449	16.1358
CO CONVERSION	57.5215	56.1348	28.1885	44.6219	21.7458	22.7478	54.0323	53.5891	29.6434	25.8490
H2+CO CONVERSION	43.1725	41.9335	22.3206	25.6864	15.8974	16.8883	39.7108	39.0778	23.0441	20.9924
YIELDS GM/HR										
OIL	0.6583	0.6792	0.2111	0.1444	0.0778	0.0333	0.7000	0.8278	0.1545	0.0611
AQUEOUS PHASE	1.4167	1.2500	0.8056	0.7833	0.5333	0.5278	1.2167	1.2056	0.6591	0.4778
WAX	0.1125	0.1208	0.0944	0.1556	0.1000	0.0611	0.0722	0.0611	0.1000	0.0444
ANALYSIS										
OIL										
FIA %										
AROMATICS	7.0000	8.0000								
OLEFINS	69.0000	70.0000								
SATURATES	24.0000	23.0000								
BR #	55.0000	59.0000	46.0000	30.0000	32.0000		52.0000	41.0000	41.0000	38.0000
D.P.	3.2380	3.8772	3.4906	3.2754	3.0244	2.3904	3.9167	3.9917	2.8223	2.6495
MATERIAL RECOVERY	100.1102	99.1115	99.5854	87.2803	99.4543	98.2632	98.4591	98.5770	98.5399	100.5067

RUN # = 3-19

PERIOD		A	B	C	D	E	F	G	I	J
MOLAR FLOW RATE IN										
MMOLE/HR	CO	486.9821	486.9821	487.2260	487.2260	487.2260	487.2260	487.2260	517.8210	517.8210
	H2	960.8806	960.8806	959.9080	959.9080	959.9080	959.9080	959.9080	929.4582	929.4582
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT										
MMOLE/HR	CO	269.2396	264.7469	155.3612	153.5593	263.6552	261.0592	74.8784	306.0327	308.9920
	H2	760.3409	766.3719	648.1628	640.6456	748.7363	769.2549	563.5630	766.8819	759.9523
	H2O	46.1395	44.3879	60.7280	64.0427	44.4530	45.0198	90.0393	33.3165	37.0709
	CO2	78.5757	83.6045	110.8305	109.5451	83.3194	83.5391	148.6158	86.4092	84.1075
	C1	17.2170	18.2299	29.1922	28.8536	16.4362	16.5921	39.7654	14.0415	13.6009
	C2=	4.8532	4.1806	6.0363	5.9663	5.1365	5.8019	10.1825	5.6406	5.4881
	C2	4.1601	3.5996	5.8380	5.7703	2.7392	2.7841	6.3200	2.2802	2.1478
	C3=	5.3157	5.5733	8.8066	8.7045	5.3644	5.4536	12.1142	5.1606	4.8918
	C3	1.5016	1.3939	1.9794	1.9564	1.0278	1.0437	1.8431	0.8401	0.8348
	I-C4=	2.4266	2.5547	3.9578	3.9119	2.6252	2.6683	5.8811	2.6403	2.5055
	2-C4=	0.2307	0.2319	0.3955	0.3909	0.1139	0.1157	0.2633	0.1200	0.1193
	I-C4	1.0403	0.9289	1.3857	1.3696	0.6848	0.6966	1.2287	0.6001	0.5963
	N-C4	0.1153	0.1160	0.1982	0.1959	0.1139	0.1157	0.0878	0.1200	0.1193
	C5	2.6903	2.8616	3.8893	4.2914	2.7704	2.6642	5.9726	2.5124	2.6330
	C6	1.6782	1.5831	2.7191	2.5449	1.6297	1.5146	3.4389	1.4017	1.5803
	C7	0.9764	1.1516	2.5018	1.9627	1.1307	0.9782	2.4931	1.0573	1.1955
	C8	0.7846	0.5578	0.9693	1.4069	0.7678	0.6170	1.5913	0.6531	0.9170
	C9	0.4774	0.2788	0.5245	0.9450	0.4598	0.4339	1.1925	0.3672	0.5522
	C10	0.4957	0.5372	0.5310	0.6646	0.3847	0.3661	0.9003	0.3039	0.3983
	C11	0.3786	0.4145	0.4389	0.4762	0.3333	0.3202	0.6548	0.2494	0.2371
	C12	0.2038	0.3034	0.2816	0.2065	0.3055	0.2906	0.3781	0.2336	0.2232
	C13	0.1449	0.1631	0.1898	0.1213	0.2317	0.2199	0.2659	0.1793	0.1600
	C14	0.1062	0.1187	0.1303	0.0925	0.1685	0.1619	0.0823	0.1286	0.1032
	C15	0.0771	0.0848	0.0930	0.0676	0.0920	0.0930	0.0528	0.1003	0.0705
	C16	0.0558	0.0619	0.0067	0.0035	0.0204	0.0174	0.0315	0.0682	0.0507
	C17	0.0408	0.0457	0.0505	0.0331	0.0534	0.0554	0.0169	0.0521	0.0373
	C18	0.0294	0.0334	0.0358	0.0219	0.0423	0.0446	0.0280	0.0393	0.0274
	C19	0.0191	0.0242	0.0254	0.0148	0.0325	0.0422	0.0152	0.0311	0.0204
	C20	0.0149	0.0159	0.0188	0.0113	0.0327	0.0331	0.0072	0.0221	0.0159
	C21	0.0110	0.0118	0.0128	0.0080	0.0225	0.0249	0.0034	0.0169	0.0117
	C22	0.0090	0.0096	0.0098	0.0077	0.0165	0.0190	0.0033	0.0121	0.0080
	C23	0.0057	0.0061	0.0070	0.0049	0.0110	0.0136	0.0031	0.0077	0.0046
	C24	0.0041	0.0044	0.0045	0.0047	0.0076	0.0087	0.0030	0.0037	0.0029
	C10H	0.4640	0.4464	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C20H	3.5056	3.3725	7.2564	6.7259	4.0142	3.4784	6.9107	3.0085	3.3475
	N-C30H	0.7217	0.6943	1.2681	1.1697	0.4460	0.5466	1.5023	0.3343	0.3719
	I-C30H	0.2062	0.1984	0.2114	0.1462	0.0000	0.0497	0.2003	0.0000	0.0000
	C40H	0.2062	0.1984	0.2818	0.2924	0.1982	0.1988	0.3005	0.1486	0.1653
	ACETONE	0.1547	0.1488	0.4932	0.5118	0.1982	0.1491	0.9014	0.1486	0.1653
	ACETIC ACID	0.1547	0.1488	0.2114	0.2193	0.2478	0.2485	0.3005	0.1857	0.2066

RUN # = 3-19

PERIOD	A	B	C	D	E	F	G	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	275.0000	274.0000
FEED GAS, SCFH (32F)	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480
TAIL GAS, SCFH (32F)	0.9120	0.9170	0.7760	0.7670	0.9010	0.9150	0.6940	0.9490	0.9430
H2 CONVERSION	20.8704	20.2428	32.4766	33.2597	21.9992	19.8616	41.2899	17.4915	18.2371
CO CONVERSION	44.7126	45.6352	68.1131	68.4829	45.8865	46.4193	84.6317	40.8999	40.3284
H2+CO CONVERSION	32.7915	32.9390	50.2948	50.8713	33.9428	33.1404	62.9608	29.1957	29.2827
YIELDS GM/HR									
OIL	0.4792	0.5125	0.7778	0.8167	0.5263	0.5056	1.0444	0.4278	0.5111
AQUEOUS PHASE	1.0958	1.0542	1.5778	1.6056	1.0526	1.0444	2.1333	0.7889	0.8778
WAX	0.0083	0.0708	0.1222	0.0667	0.1684	0.1556	0.0111	0.1389	0.2222
ANALYSIS									
OIL									
FIA %									
AROMATICS	2.0000	3.0000					7.0000		
OLEFINS	77.0000	82.0000					86.0000		
SATURATES	21.0000	15.0000					7.0000		
BR #	41.0000		56.0000	60.0000	49.0000	45.0000		53.0000	48.0000
D.P.	3.2819	3.3978	2.9220	2.7220	3.3754	3.3806	2.7617	3.5300	3.2914
MATERIAL RECOVERY	99.8598	100.6898	96.8564	95.9874	100.6562	100.0155	101.2557	101.1843	102.2395

RUN # = 3-20

PERIOD		A	B	C	D	E	F	G	H	I
MOLAR FLOW RATE IN										
MMOLE/HR	CO	488.1146	479.4911	479.4911	479.4911	479.4911	479.4911	479.4663	479.4663	488.8910
	H2	952.8470	960.4431	960.4431	960.4431	960.4431	960.4431	960.3950	960.3950	951.5132
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	14.4683	15.6416	15.6416	15.6416	15.6416	15.6416	15.6416	15.6416	14.5938
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT										
MMOLE/HR	CO	182.9820	184.7474	117.7050	118.8494	222.3627	224.2069	83.9565	62.2506	253.7360
	H2	653.6519	655.7513	573.9285	579.5083	688.4702	694.1802	518.7041	472.1937	720.9691
	H2O	58.5958	57.3885	51.5516	73.0116	49.7207	51.2715	84.5642	83.7322	43.9443
	CO2	105.7232	103.5401	123.1801	124.3776	90.8693	91.6229	128.0137	128.2974	83.8335
	C1	24.2958	22.2305	31.8439	32.1535	20.2048	20.3724	40.8981	39.8554	17.8845
	C2=	11.8939	14.6171	18.5229	18.7030	16.9974	17.1384	16.7080	16.0944	16.7667
	C2	12.0967	8.9333	9.6716	9.7657	6.0935	6.1440	11.5546	11.4636	6.7067
	C3=	7.2172	7.1059	10.4929	10.5950	6.8417	6.8984	11.1390	11.2352	8.9422
	C3	2.4402	1.9287	1.9158	1.9344	1.3897	1.4012	1.9952	1.9736	0.0000
	1-C4=	3.1512	3.2486	4.9269	4.9748	3.2074	3.2340	5.0705	5.0102	3.3533
	2-C4=	0.3053	0.2026	0.1821	0.1839	0.1067	0.1076	0.2497	0.3035	0.0000
	I-C4	1.6268	1.2186	1.2775	1.2899	0.9617	0.9697	1.3298	1.2148	1.1178
	N-C4	0.1014	0.1013	0.0911	0.0919	0.1067	0.1076	0.1659	0.1518	0.0000
	C5	3.7298	3.2316	9.2030	9.2854	3.2100	3.2150	4.9335	5.0152	0.1676
	C6	1.8601	1.9833	4.6659	4.7131	1.7934	1.7498	2.7831	3.0886	0.2638
	C7	1.1047	1.5189	2.8453	2.8973	1.5650	1.4032	2.0972	2.7277	0.4034
	C8	1.0460	0.4877	1.2489	1.3482	0.8400	0.7825	1.3937	1.7855	0.4694
	C9	0.7130	0.6766	0.7797	0.9321	0.5476	0.5086	0.9938	1.2058	0.3931
	C10	0.7026	0.6886	0.4931	0.6827	0.4302	0.4065	0.7649	0.7582	0.3476
	C11	0.3832	0.5153	0.2371	0.5102	0.4252	0.4054	0.4935	0.3784	0.2624
	C12	0.2654	0.2654	0.1778	0.2845	0.2958	0.2861	0.2570	0.1363	0.2328
	C13	0.1910	0.1910	0.1094	0.1780	0.2120	0.2095	0.1613	0.1144	0.1695
	C14	0.1372	0.1372	0.0677	0.1074	0.1521	0.1494	0.0925	0.0690	0.1197
	C15	0.1031	0.1031	0.0443	0.0617	0.1058	0.1079	0.0493	0.0396	0.0890
	C16	0.0937	0.0790	0.0267	0.0289	0.0757	0.0765	0.0231	0.0232	0.0621
	C17	0.0689	0.0689	0.0195	0.0136	0.0540	0.0580	0.0109	0.0131	0.0475
	C18	0.0520	0.0520	0.0132	0.0096	0.0394	0.0438	0.0069	0.0083	0.0362
	C19	0.0394	0.0394	0.0100	0.0091	0.0286	0.0332	0.0032	0.0078	0.0261
	C20	0.0281	0.0281	0.0071	0.0058	0.0188	0.0237	0.0000	0.0037	0.0202
	C21	0.0201	0.0201	0.0045	0.0055	0.0119	0.0188	0.0000	0.0000	0.0148
	C22	0.0149	0.0149	0.0043	0.0026	0.0076	0.0126	0.0000	0.0000	0.0099
	C23	0.0081	0.0102	0.0021	0.0000	0.0036	0.0086	0.0000	0.0000	0.0067
	C24	0.0059	0.0059	0.0000	0.0000	0.0000	0.0049	0.0000	0.0000	0.0039
	C10H	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C20H	4.6277	4.5323	5.7081	6.9378	5.0851	4.1680	6.8876	7.6731	3.5604
	N-C30H	0.8473	0.8299	0.9514	1.1563	0.9040	0.9706	1.8176	1.9183	0.6340
	I-C30H	0.0000	0.0000	0.0000	0.0000	0.0565	0.1713	0.4783	0.4796	0.0000
	C40H	0.2607	0.1915	0.2378	0.2478	0.2260	0.2284	0.3826	0.3837	0.1951
	ACETONE	0.3911	0.3830	0.4162	0.4956	0.2260	0.2284	1.2436	1.3428	0.1463
	ACETIC ACID	0.5214	0.5107	0.5946	0.7433	0.2825	0.0571	0.2870	0.3837	0.2926

RUN # = 3-20

PERIOD	A	B	C	D	E	F	G	H	I
SYSTEM PRESS,PSIG	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	324.5000	324.5000	275.0000
FEED GAS, SCFH (32F)	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540
TAIL GAS, SCFH (32F)	0.8020	0.8010	0.7200	0.7270	0.8440	0.8510	0.6560	0.6000	0.8830
H2 CONVERSION	31.4001	31.7241	40.2434	39.6624	28.3174	27.7229	45.9905	50.8334	24.2292
CO CONVERSION	62.5125	61.4701	75.4521	75.2134	53.6253	53.2407	82.4896	87.0167	48.0997
H2+CO CONVERSION	46.9563	46.5971	57.8477	57.4379	40.9714	40.4818	64.2401	68.9250	36.1644
YIELDS GM/HR									
OIL	0.6792	0.6792	0.6875	0.8389	0.6056	0.5722	0.8944	1.0778	0.4500
AQUEOUS PHASE	1.3917	1.3583	1.3250	1.7944	1.2333	1.2167	2.0944	2.1333	1.0333
WAX	0.0333	0.0958	0.0417	0.1056	0.0611	0.0500	0.1056	0.0500	0.0722
ANALYSIS									
OIL									
FIA %									
AROMATICS									
OLEFINS									
SATURATES									
BR #	43.0000	52.0000	57.0000	55.0000	60.0000	64.0000	69.0000	72.0000	54.0000
D.P.	3.3046	3.3331	2.5789	2.5899	3.2788	3.3136	2.5609	2.5228	3.7453
MATERIAL RECOVERY	96.5389	96.9518	96.4718	101.5993	98.5224	98.8551	95.2664	91.2631	95.5540

RUN # = 3-21

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	289.1683	289.1683	289.1683	290.6439	290.6439	290.6439	290.6439	295.9966	290.6439	290.6439
	H2	1165.4379	1165.4379	1165.4379	1165.4962	1165.4962	1165.4962	1165.4962	1159.1986	1165.4962	1165.4962
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	102.1108	104.7192	107.8460	35.2180	23.1236	46.2290	59.8125	8.8144	7.8785	33.5359
	H2	884.2366	896.1722	920.0626	779.5462	734.6167	812.4509	839.4057	654.6691	634.9978	739.6040
	H2O	57.0251	57.8877	56.3451	85.2395	98.9794	81.3552	72.5301	126.5838	151.2421	109.4952
	CO2	48.7702	50.6103	49.4114	60.9168	51.5836	62.9501	59.8125	40.8667	38.5432	62.5400
	C1	24.4415	23.6999	22.2430	37.6920	39.8438	27.8355	25.2431	60.8994	63.1849	30.8168
	C2=	1.5205	2.0948	2.4717	4.5692	5.6027	5.8033	5.0689	7.2118	7.8785	6.8888
	C2	6.3000	5.7322	5.0557	6.9482	6.5810	4.5249	4.0549	7.2118	6.4603	4.3508
	C3=	3.8019	4.2986	4.3808	7.7099	8.8049	7.5740	6.5893	13.6222	10.3996	9.0638
	C3	2.9327	2.5349	2.1348	2.6649	2.5790	1.9672	1.7231	0.0000	2.2056	1.9033
	1-C4=	1.3038	1.5436	1.6856	3.1408	3.8245	3.5413	3.0409	4.0065	4.6480	4.3508
	2-C4=	0.3262	0.3312	0.2246	0.3808	0.3560	0.1965	0.1013	0.0000	0.2360	0.1811
	I-C4	1.7384	1.5436	1.3476	1.8083	1.7791	1.2784	1.1153	0.8013	1.4182	1.2686
	N-C4	0.1084	0.1100	0.0786	0.0950	0.1776	0.0983	0.1013	0.0000	0.1573	0.0905
	C5	2.3489	2.3983	2.3577	3.9475	4.1969	3.6858	3.0316	0.3631	4.2427	3.9132
	C6	1.2388	1.2921	1.1524	1.9557	2.2411	2.0341	1.6456	0.5985	2.1370	2.2688
	C7	0.7521	0.7175	0.8167	1.0383	0.9473	1.5616	1.0207	1.1162	1.3248	1.5014
	C8	0.3578	1.1008	0.4513	0.6789	0.6129	0.6821	0.7276	0.4390	0.7640	1.0522
	C9	0.2217	0.2950	0.3260	0.4911	0.6322	0.5067	0.4555	0.3508	0.5556	0.7242
	C10	0.1738	0.2238	0.2551	0.3664	0.4690	0.3899	0.3533	0.6630	0.4552	0.5370
	C11	0.1287	0.1586	0.1817	0.2492	0.3260	0.3778	0.3485	0.4520	0.3103	0.4025
	C12	0.0952	0.1122	0.1258	0.1678	0.2184	0.2636	0.2444	0.1973	0.1810	0.2596
	C13	0.0705	0.0788	0.0900	0.1119	0.1459	0.1924	0.1692	0.1275	0.1141	0.1608
	C14	0.0529	0.0569	0.0638	0.0759	0.0985	0.1340	0.1167	0.0817	0.0714	0.0791
	C15	0.0397	0.0417	0.0468	0.0504	0.0644	0.0711	0.0800	0.0552	0.0460	0.0437
	C16	0.0382	0.0308	0.0346	0.0350	0.0582	0.0506	0.0604	0.0370	0.0108	0.0179
	C17	0.0293	0.0234	0.0263	0.0313	0.0365	0.0498	0.0392	0.0302	0.0223	0.0121
	C18	0.0232	0.0221	0.0236	0.0202	0.0192	0.0327	0.0278	0.0197	0.0115	0.0068
	C19	0.0178	0.0160	0.0179	0.0133	0.0073	0.0232	0.0193	0.0125	0.0054	0.0043
	C20	0.0145	0.0123	0.0138	0.0070	0.0017	0.0166	0.0133	0.0079	0.0000	0.0020
	C21	0.0115	0.0090	0.0101	0.0040	0.0000	0.0105	0.0079	0.0038	0.0000	0.0000
	C22	0.0088	0.0069	0.0077	0.0013	0.0000	0.0067	0.0061	0.0018	0.0000	0.0000
	C23	0.0063	0.0049	0.0055	0.0012	0.0000	0.0032	0.0029	0.0000	0.0000	0.0000
	C24	0.0047	0.0032	0.0035	0.0000	0.0000	0.0015	0.0014	0.0000	0.0000	0.0000
	C1OH	0.6983	0.7088	0.6900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3787
	C2OH	4.6755	4.7462	4.6198	11.4265	13.2637	10.4187	9.2885	11.8787	8.4946	11.0644
	N-C3OH	1.0063	1.0216	0.9893	1.8386	2.1292	1.3588	1.2114	3.1984	2.4627	1.2859
	1-C3OH	0.2644	0.2684	0.2613	0.3146	0.3653	0.1424	0.1269	1.5705	0.7854	0.2698
	C4OH	0.3215	0.3264	0.3177	0.5300	0.6155	0.4187	0.3733	0.7867	0.6456	0.4493
	ACETONE	0.1155	0.1173	0.1141	0.7024	0.8156	0.4300	0.3833	3.2249	2.5509	0.5569
	ACETIC ACID	0.0732	0.0743	0.0723	0.1453	0.1687	0.1726	0.1538	0.0796	0.2163	0.2636

RUN # = 3-21

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	326.0000	325.0000	275.0000
FEED GAS, SCFH (32F)	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530	1.1530
TAIL GAS, SCFH (32F)	0.8570	0.8700	0.8880	0.7510	0.7020	0.7770	0.8010	0.6330	0.6220	0.7160
H2 CONVERSION	24.1284	23.1042	21.0543	33.1147	36.9696	30.2914	27.9787	43.5240	45.5170	36.5417
CO CONVERSION	64.6881	63.7861	62.7048	87.8828	92.0440	84.0943	79.4207	97.0221	97.2893	88.4615
H2+CO CONVERSION	44.4083	43.4452	41.8796	60.4987	64.5068	57.1929	53.6997	70.2731	71.4031	62.5016
YIELDS GM/HR										
OIL	0.2333	0.2750	0.3083	0.4056	0.5000	0.5333	0.4833	0.5722	0.5000	0.5944
AQUEOUS PHASE	1.3750	1.3958	1.3583	2.2778	2.6444	2.1000	1.8722	3.3611	3.5167	2.6667
WAX	0.0458	0.0208	0.0250	0.0389	0.0444	0.0167	0.0222	0.0222	0.0389	0.1167
ANALYSIS										
OIL										
FIA %										
AROMATICS				8.0000	10.0000	8.0000	10.0000		6.0000	10.0000
OLEFINS				53.0000	53.0000	16.0000	16.0000		8.0000	10.0000
SATURATES				39.0000	37.0000	76.0000	74.0000		86.0000	80.0000
BR #	36.0000	38.0000	39.0000	53.0000	51.0000	65.0000	51.0000		77.0000	72.0000
D.P.	3.0753	3.0031	3.1038	2.8800	2.9435	3.1355	3.1930	3.1178	2.6565	2.6368
MATERIAL RECOVERY	94.3123	96.9583	96.3482	97.0568	94.7695	98.2435	95.8186	89.9731	96.2545	102.6376

RUN # = 3-22

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	517.8210	488.1146	479.4911	479.4911	479.4911	479.4911	479.4911	479.4663	479.4663	488.8910
	H2	929.4582	952.8470	960.4431	960.4431	960.4431	960.4431	960.4431	960.3950	960.3950	951.5132
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	14.4683	15.6416	15.6416	15.6416	15.6416	15.6416	15.6416	15.6416	14.5938
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	308.9920	182.9820	184.7474	117.7050	118.8494	222.3627	224.2069	83.9565	62.2506	253.7360
	H2	759.9523	653.6519	655.7513	573.9285	579.5083	688.4702	694.1802	518.7041	472.1937	720.9691
	H2O	37.0709	58.5958	57.3885	51.5516	73.0116	49.7207	51.2715	84.5642	83.7322	43.9443
	CO2	84.1075	105.7232	103.5401	123.1801	124.3776	90.8693	91.6229	128.0137	128.2974	83.8335
	C1	13.6009	24.2958	22.2305	31.8439	32.1535	20.2048	20.3724	40.8981	39.8554	17.8845
	C2=	5.4881	11.8939	14.6171	18.5229	18.7030	16.9974	17.1384	16.7080	16.0944	16.7667
	C2	2.1478	12.0967	8.9333	9.6716	9.7657	6.0935	6.1440	11.5546	11.4636	6.7067
	C3=	4.8918	7.2172	7.1059	10.4929	10.5950	6.8417	6.8984	11.1390	11.2352	8.9422
	C3	0.8348	2.4402	1.9287	1.9158	1.9344	1.3897	1.4012	1.9952	1.9736	0.0000
	1-C4=	2.5055	3.1512	3.2486	4.9269	4.9748	3.2074	3.2340	5.0705	5.0102	3.3533
	2-C4=	0.1193	0.3053	0.2026	0.1821	0.1839	0.1067	0.1076	0.2497	0.3035	0.0000
	I-C4	0.5963	1.6268	1.2186	1.2775	1.2899	0.9617	0.9697	1.3298	1.2148	1.1178
	N-C4	0.1193	0.1014	0.1013	0.0911	0.0919	0.1067	0.1076	0.1659	0.1518	0.0000
	C5	2.6330	3.7298	3.2316	9.2030	9.2854	3.2100	3.2150	4.9335	5.0152	0.1676
	C6	1.5803	1.8601	1.9833	4.6659	4.7131	1.7934	1.7498	2.7831	3.0886	0.2638
	C7	1.1955	1.1047	1.5189	2.8453	2.8973	1.5650	1.4032	2.0972	2.7277	0.4034
	C8	0.9170	1.0460	0.4877	1.2489	1.3482	0.8400	0.7825	1.3937	1.7855	0.4694
	C9	0.5522	0.7130	0.6766	0.7797	0.9321	0.5476	0.5086	0.9938	1.2058	0.3931
	C10	0.3983	0.7026	0.6886	0.4931	0.6827	0.4302	0.4065	0.7649	0.7582	0.3476
	C11	0.2371	0.3832	0.5153	0.2371	0.5102	0.4252	0.4054	0.4935	0.3784	0.2624
	C12	0.2232	0.2654	0.2654	0.1778	0.2845	0.2958	0.2861	0.2570	0.1363	0.2328
	C13	0.1600	0.1910	0.1910	0.1094	0.1780	0.2120	0.2095	0.1613	0.1144	0.1695
	C14	0.1032	0.1372	0.1372	0.0677	0.1074	0.1521	0.1494	0.0925	0.0690	0.1197
	C15	0.0705	0.1031	0.1031	0.0443	0.0617	0.1058	0.1079	0.0493	0.0396	0.0890
	C16	0.0507	0.0937	0.0790	0.0267	0.0289	0.0757	0.0765	0.0231	0.0232	0.0621
	C17	0.0373	0.0689	0.0689	0.0195	0.0136	0.0540	0.0580	0.0109	0.0131	0.0475
	C18	0.0274	0.0520	0.0520	0.0132	0.0096	0.0394	0.0438	0.0069	0.0083	0.0362
	C19	0.0204	0.0394	0.0394	0.0100	0.0091	0.0286	0.0332	0.0032	0.0078	0.0261
	C20	0.0159	0.0281	0.0281	0.0071	0.0058	0.0188	0.0237	0.0000	0.0037	0.0202
	C21	0.0117	0.0201	0.0201	0.0045	0.0055	0.0119	0.0188	0.0000	0.0000	0.0148
	C22	0.0080	0.0149	0.0149	0.0043	0.0026	0.0076	0.0126	0.0000	0.0000	0.0099
	C23	0.0046	0.0081	0.0102	0.0021	0.0000	0.0036	0.0086	0.0000	0.0000	0.0067
	C24	0.0029	0.0059	0.0059	0.0000	0.0000	0.0000	0.0049	0.0000	0.0000	0.0039
	C1OH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2OH	3.3475	4.6277	4.5323	5.7081	6.9378	5.0851	4.1680	6.8876	7.6731	3.5604
	N-C3OH	0.3719	0.8473	0.8299	0.9514	1.1563	0.9040	0.9706	1.8176	1.9183	0.6340
	I-C3OH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0565	0.1713	0.4783	0.4796	0.0000
	C4OH	0.1653	0.2607	0.1915	0.2378	0.2478	0.2260	0.2284	0.3826	0.3837	0.1951
	ACETONE	0.1653	0.3911	0.3830	0.4162	0.4956	0.2260	0.2284	1.2436	1.3428	0.1463
	ACETIC ACID	0.2066	0.5214	0.5107	0.5946	0.7433	0.2825	0.0571	0.2870	0.3837	0.2926

RUN # = 3-22

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	300.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000
AVG CAT TEMP, DEG C	274.0000	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	324.5000	324.5000	275.0000
FEED GAS, SCFH (32F)	1.1480	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540	1.1540
TAIL GAS, SCFH (32F)	0.9430	0.8020	0.8010	0.7200	0.7270	0.8440	0.8510	0.6560	0.6000	0.8830
H2 CONVERSION	18.2371	31.4001	31.7241	40.2434	39.6624	28.3174	27.7229	45.9905	50.8334	24.2292
CO CONVERSION	40.3284	62.5125	61.4701	75.4521	75.2134	53.6253	53.2407	82.4896	87.0167	48.0997
H2+CO CONVERSION	29.2827	46.9563	46.5971	57.8477	57.4379	40.9714	40.4818	64.2401	68.9250	36.1644
YIELDS GM/HR										
OIL	0.5111	0.6792	0.6792	0.6875	0.8389	0.6056	0.5722	0.8944	1.0778	0.4500
AQUEOUS PHASE	0.8778	1.3917	1.3583	1.3250	1.7944	1.2333	1.2167	2.0944	2.1333	1.0333
WAX	0.2222	0.0333	0.0958	0.0417	0.1056	0.0611	0.0500	0.1056	0.0500	0.0722
ANALYSIS										
OIL										
FIA %										
AROMATICS										
OLEFINS										
SATURATES										
BR #	48.0000	43.0000	52.0000	57.0000	55.0000	60.0000	64.0000	69.0000	72.0000	54.0000
D.P.	3.2914	3.3046	3.3331	2.5789	2.5899	3.2788	3.3136	2.5609	2.5228	3.7453
MATERIAL RECOVERY	102.2395	96.5389	96.9518	96.4718	101.5993	98.5224	98.8551	95.2664	91.2631	95.5540

RUN # = 3-24

PERIOD		A	B	C	D	E	F	G	H	I	J	L
MOLAR FLOW RATE IN												
MMOLE/HR	CO	492.2462	492.2462	500.8366	500.8366	489.6103	489.6103	489.6103	487.1661	508.2189	486.3871	486.3871
	H2	971.3082	971.3082	960.6691	960.6691	974.8243	974.8243	974.8243	977.2684	956.2158	977.1689	977.1689
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT												
MMOLE/HR	CO	189.5145	202.0905	332.0258	341.0710	243.4051	249.0973	143.0752	143.3781	257.6912	258.7554	62.0283
	H2	661.2646	690.0396	772.3725	793.0201	722.4717	736.0703	625.1126	635.0975	722.8752	716.0378	529.3052
	H2O	65.1116	59.0868	41.3456	44.3481	52.4746	49.0827	107.2146	71.2938	48.2040	43.5213	108.8451
	CO2	109.0219	106.8047	53.0383	51.9318	91.8301	92.0092	126.7510	120.2834	93.7059	88.1103	143.9046
	C1	25.3701	19.9997	8.2422	8.4359	21.1319	19.5236	30.2477	30.2155	18.9643	20.2987	45.9004
	C2=	4.2795	4.6069	3.5324	3.6159	5.4214	4.9367	6.7218	6.1588	5.5777	5.0190	7.7741
	C2	6.6232	4.3978	2.3549	2.4106	3.7613	3.3663	5.3771	5.3890	4.4622	3.5690	8.0226
	C3=	7.6420	6.8064	3.5324	3.6159	6.8594	6.5082	9.6983	8.2752	8.9244	6.5804	12.4886
	C3	2.5470	1.7800	1.1775	1.2053	1.5485	1.4582	1.8247	1.8280	0.0000	1.4501	2.3155
	1-C4=	3.2607	3.2463	1.1775	1.2053	3.2086	3.0298	4.4172	4.0415	3.3466	3.2340	5.6237
	2-C4=	0.3060	0.2092	0.0000	0.0000	0.0000	0.0000	0.1920	0.1922	0.0000	0.0000	0.3311
	I-C4	1.7326	1.1515	1.1775	1.2053	0.8853	0.8974	1.1518	1.0582	1.1155	1.0038	1.4889
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1922	0.0000	0.0000	0.0826
	C5	4.0522	3.5194	0.0000	0.3154	2.9876	4.6072	7.1435	5.5674	0.2453	3.2624	5.9692
	C6	2.4494	2.5108	0.3128	0.5018	1.2169	1.8239	3.0858	2.3530	0.3593	1.7004	3.4102
	C7	0.6874	2.0752	0.5665	0.7538	1.3346	2.4860	4.3403	2.7185	0.5203	1.2130	2.6314
	C8	0.7469	1.0623	0.7269	0.8746	1.5221	0.1122	0.0000	0.0000	0.6086	0.7202	2.1607
	C9	0.9635	0.9443	0.0000	0.0000	1.3727	0.0000	0.0000	0.0000	0.4708	0.5612	1.6838
	C10	0.7191	0.3367	0.2115	0.2495	0.3466	0.2092	0.8711	0.5446	0.4237	0.5209	1.5628
	C11	0.5288	0.2332	0.1634	0.1851	0.2343	0.1353	0.5657	0.3509	0.3345	0.3193	0.9579
	C12	0.3745	0.1559	0.1234	0.1290	0.1518	0.0771	0.3704	0.2247	0.2664	0.2072	0.6216
	C13	0.2684	0.1028	0.0895	0.0882	0.1026	0.0433	0.2325	0.1383	0.1973	0.1396	0.4189
	C14	0.0529	0.0687	0.0680	0.0635	0.0667	0.1868	0.2794	0.1511	0.1195	0.0987	0.2960
	C15	0.0353	0.0463	0.0511	0.0440	0.0415	0.1314	0.1778	0.0881	0.0892	0.0658	0.1973
	C16	0.0727	0.0902	0.0975	0.0627	0.0806	0.0905	0.1056	0.0496	0.0650	0.0493	0.1480
	C17	0.0529	0.0660	0.0933	0.0422	0.0523	0.0663	0.0627	0.0249	0.0481	0.0302	0.0905
	C18	0.0088	0.0386	0.0676	0.0319	0.0296	0.0425	0.0296	0.0118	0.0413	0.0175	0.0526
	C19	0.0250	0.0197	0.0473	0.0166	0.0187	0.0296	0.0187	0.0083	0.0254	0.0104	0.0312
	C20	0.0159	0.0134	0.0317	0.0086	0.0133	0.0221	0.0133	0.0000	0.0167	0.0059	0.0178
	C21	0.0126	0.0102	0.0189	0.0055	0.0085	0.0153	0.0000	0.0000	0.0142	0.0019	0.0056
	C22	0.0096	0.0049	0.0084	0.0039	0.0061	0.0110	0.0000	0.0000	0.0101	0.0000	0.0000
	C23	0.0069	0.0000	0.0034	0.0025	0.0000	0.0070	0.0000	0.0000	0.0081	0.0000	0.0000
	C24	0.0044	0.0000	0.0000	0.0024	0.0000	0.0000	0.0000	0.0000	0.0062	0.0000	0.0000
	C10H	0.2257	4.1587	0.0764	0.2858	3.0957	0.0134	0.3672	0.2056	1.3046	0.6181	0.0000
	C20H	3.3981	2.1014	1.3766	1.2438	2.1647	3.0919	7.2708	6.0266	3.4538	3.1935	7.1757
	N-C30H	0.9339	1.0040	0.3534	0.3389	0.7127	0.6515	1.6726	1.3405	0.7507	0.6403	2.5108
	I-C30H	0.0478	0.5558	0.0000	0.0000	0.3093	0.0000	0.1863	0.1752	0.0650	0.0155	0.7374
	C40H	0.1906	0.2403	0.0873	0.0284	0.1338	0.1350	0.2762	0.2120	0.1409	0.1145	0.3288
	ACETONE	0.1139	0.1401	0.0554	0.0419	0.1023	0.1120	0.5189	0.3407	0.1377	0.1218	1.1956
	ACETIC ACID	0.3024	0.4116	0.3373	0.2635	0.4943	0.4897	0.5676	0.3871	0.1458	0.1025	0.0907

RUN # = 3-24

PERIOD	A	B	C	D	E	F	G	H	I	J	L
SYSTEM PRESS,PSIG	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	250.0000	250.0000	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000
FEED GAS, SCFH (32F)	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580	1.1580
TAIL GAS, SCFH (32F)	0.8040	0.8270	0.9320	0.9550	0.8740	0.8870	0.7590	0.7600	0.8830	0.8800	0.6530
H2 CONVERSION	31.9202	28.9577	19.6006	17.4513	25.8870	24.4920	35.8743	35.0130	24.4025	26.7232	45.8328
CO CONVERSION	61.5001	58.9452	33.7058	31.8997	50.2860	49.1233	70.7777	70.5690	49.2952	46.8005	87.2471
H2+CO CONVERSION	46.7101	43.9515	26.6532	24.6755	38.0865	36.8077	53.3260	52.7910	36.8489	36.7619	66.5400
YIELDS GM/HR											
OIL	0.7667	0.7750	0.3833	0.4158	0.6444	0.5833	1.2889	0.7667	0.5389	0.5722	1.7167
AQUEOUS PHASE	1.4333	1.4375	0.8611	0.9053	1.2500	1.1111	2.4722	1.7167	1.1444	1.0111	2.5833
WAX	0.0833	0.1417	0.1889	0.2368	0.0722	0.1278	0.4167	0.1333	0.1278	0.2278	
ANALYSIS											
OIL											
FIA %											
AROMATICS											
OLEFINS											
SATURATES											
BR #	48.0000	55.0000	46.0000	59.0000	60.0000		71.0000		58.0000	60.0000	76.0000
D.P.	2.9855	3.1682	4.0006	3.7093	3.1674	3.3841	3.1696	2.8662	3.8311	3.0977	3.3448
MATERIAL RECOVERY	98.8594	99.5189	95.1255	97.5311	101.1212	100.9978	109.0255	97.0813	97.9850	102.5512	103.7875

RUN # = 3-25

PERIOD		A	B	C	D	E	F	G	I	J	K	L
MOLAR FLOW RATE IN												
MMOLE/HR	CO	477.2219	477.2219	465.6294	489.1616	480.2146	480.2146	480.2146	480.2146	472.2077	471.3162	471.3162
	H2	952.9892	952.9892	963.2696	909.8989	950.2123	950.2123	950.2123	950.2123	957.5316	960.1407	960.1407
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	13.5308	13.5308	13.2417	11.0650	15.4717	15.4717	15.4717	15.4717	17.4894	15.3217	15.3217
	C5H10	4.5103	4.5103	4.3650	3.4946	5.2548	5.2548	5.2548	5.2548	5.8303	5.3991	5.3991
MOLAR FLOW OUT												
MMOLE/HR	CO	195.2262	196.4966	108.3635	114.5451	207.7340	218.8135	55.6846	233.4987	236.5647	348.2966	346.6570
	H2	667.2795	700.9867	581.5518	577.2729	686.7940	706.7342	490.9673	736.4192	721.9093	813.1051	806.8095
	H2O	50.8408	52.0395	67.0655	72.7413	47.2602	45.0717	95.3727	42.0776	43.7404	29.3801	27.4393
	CO2	95.0307	113.7032	129.1337	129.0913	95.3880	94.0574	131.7613	86.4399	87.7401	37.0927	38.1841
	C1	24.3774	35.1044	29.7094	30.0911	18.5479	16.5471	41.8024	16.1648	16.5485	6.9413	8.6358
	C2=	3.4084	4.1945	6.2306	7.0906	5.2999	4.2454	8.9412	4.8269	4.5539	1.7347	1.7269
	C2	6.0943	6.9548	5.1477	4.8178	2.8622	2.5043	5.9603	2.3574	2.4433	1.1153	1.3574
	C3=	6.4046	7.0649	9.3008	9.3633	6.6770	5.2253	11.8430	5.9496	5.4422	2.1069	2.0977
	C3	2.2726	2.7603	1.7159	1.7270	1.1654	0.9800	1.8036	1.0107	0.9993	0.4958	0.6171
	1-C4=	13.6347	15.2336	16.3447	17.0913	19.3958	15.5672	18.9798	20.0943	18.9918	15.7409	15.9141
	2-C4=	1.6532	1.5454	0.8124	0.6365	0.3175	0.0000	0.5487	0.2241	0.2218	0.0000	0.1232
	I-C4	4.0289	3.0908	2.1676	1.8178	1.3760	0.7622	1.8826	0.8986	0.8884	0.3722	0.4939
	N-C4	0.0000	0.5518	0.0000	0.0000	0.1058	0.0000	0.1566	0.0000	0.1109	0.0000	0.0000
	C5	8.1468	6.5864	8.1769	8.3202	8.9248	14.1628	8.1708	8.5805	8.1154	6.1970	6.2555
	C6	1.7150	1.3410	2.1244	1.9401	1.2957	2.3253	1.9504	1.3812	1.2739	0.4958	0.4339
	C7	0.4335	0.4180	1.3499	1.1453	0.9467	2.1424	1.6801	0.9390	0.8662	0.2473	0.2266
	C8	0.4426	0.4149	1.2310	1.0462	0.5821	0.4785	1.2751	0.5747	0.5125	0.0000	0.1046
	C9	0.5875	0.6503	0.8940	0.8494	0.4560	0.4692	1.0272	0.4347	0.4854	0.0000	0.1537
	C10	0.4690	0.5197	0.7273	0.8304	0.4262	0.3867	0.9882	0.3595	0.3985	0.0000	0.1432
	C11	0.3720	0.4010	0.3628	0.5332	0.3516	0.3193	0.7752	0.3012	0.3344	0.0000	0.1316
	C12	0.3180	0.3057	0.2038	0.3899	0.2795	0.2631	0.4583	0.2438	0.2714	0.0000	0.1153
	C13	0.2511	0.2352	0.2030	0.2991	0.2186	0.2155	0.3372	0.1952	0.2181	0.0000	0.0990
	C14	0.1971	0.1778	0.1655	0.2307	0.1438	0.1522	0.2562	0.1284	0.1505	0.0000	0.0690
	C15	0.1533	0.1281	0.1287	0.1626	0.1079	0.1184	0.1753	0.1034	0.1150	0.0000	0.0579
	C16	0.1207	0.0901	0.1006	0.1153	0.0789	0.0937	0.1195	0.0815	0.0886	0.0000	0.0483
	C17	0.0947	0.0617	0.0757	0.0892	0.0557	0.0743	0.0797	0.0746	0.0676	0.0000	0.0426
	C18	0.0741	0.0558	0.0536	0.0586	0.0482	0.0811	0.0531	0.0587	0.0617	0.0000	0.0411
	C19	0.0581	0.0391	0.0407	0.0382	0.0312	0.0623	0.0336	0.0464	0.0403	0.0000	0.0330
	C20	0.0437	0.0328	0.0290	0.0264	0.0237	0.0513	0.0239	0.0423	0.0287	0.0000	0.0274
	C21	0.0350	0.0250	0.0215	0.0157	0.0188	0.0357	0.0076	0.0336	0.0237	0.0000	0.0222
	C22	0.0313	0.0199	0.0146	0.0090	0.0143	0.0269	0.0036	0.0256	0.0174	0.0000	0.0176
	C23	0.0240	0.0152	0.0112	0.0057	0.0103	0.0189	0.0000	0.0199	0.0133	0.0000	0.0140
	C24	0.0172	0.0109	0.0080	0.0055	0.0082	0.0132	0.0000	0.0147	0.0112	0.0000	0.0107
	C1OH	0.5556	0.2246	0.0000	0.2974	0.6577	0.6273	0.0000	0.0000	0.0846	0.0597	0.0926
	C2OH	2.8225	2.3402	5.4242	4.3529	2.8513	2.7173	4.0839	2.1011	2.2133	1.0211	0.7208
	N-C3OH	0.6665	0.6760	1.3127	0.9111	0.6510	0.6208	2.5965	0.4778	0.4389	0.2220	0.1526
	I-C3OH	0.0739	0.1067	0.1615	0.1969	0.0795	0.0759	0.4101	0.1216	0.0000	0.0117	0.0157
	C4OH	0.0833	0.1492	0.1802	0.1439	0.1248	0.1190	0.1007	0.0900	0.0902	0.0526	0.0289
	ACETONE	0.0905	0.0788	0.3596	0.2974	0.1201	0.1145	0.2272	0.0755	0.0738	0.0346	0.0149
	ACETIC ACID	0.0370	0.2514	0.2512	0.1455	0.2480	0.2365	0.0000	0.2608	0.3477	0.1326	0.1146

RUN # = 3-25

PERIOD	A	B	C	D	E	F	G	I	J	K	L
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	276.0000	275.0000	325.0000	275.0000	275.0000	250.0000	250.0000
FEED GAS, SCFH (32F)	1.1490	1.1490	1.1490	1.1490	1.1520	1.1520	1.1520	1.1520	1.1520	1.1520	1.1520
TAIL GAS, SCFH (32F)	0.8150	0.8710	0.7130	0.7180	0.8370	0.8610	0.6190	0.8860	0.8770	0.9777	0.9740
H2 CONVERSION	29.9804	26.4434	39.6273	36.5564	27.7220	25.6235	48.3308	22.4995	24.6073	15.3140	15.9697
CO CONVERSION	59.0911	58.8249	76.7275	76.5834	56.7414	54.4342	88.4042	51.3762	49.9024	26.1013	26.4492
H2+CO CONVERSION	44.5357	42.6341	58.1774	56.5699	42.2317	40.0289	68.3675	36.9378	37.2548	20.7076	21.2094
YIELDS GM/HR											
OIL	0.6667	0.6333	0.9333	0.9556	0.5722	0.5722	1.1556	0.5111	0.5556	0.2222	0.2333
AQUEOUS PHASE	1.1208	1.1292	1.5944	1.6222	1.0778	1.0278	2.1056	0.9167	0.9500	0.6056	0.5500
WAX	0.0542	0.0417	0.0167	0.0500	0.1222	0.1500	0.0778	0.0667	0.1611		0.3444
ANALYSIS											
OIL											
FIA %											
AROMATICS	4.0000	5.0000	5.0000	5.0000	6.0000	9.0000	6.0000	6.0000			
OLEFINS	60.0000	75.0000	81.0000	84.0000	82.0000	75.0000	82.0000	80.0000			
SATURATES	36.0000	20.0000	14.0000	11.0000	12.0000	16.0000	12.0000	14.0000			
BR #	59.0000	57.0000	77.0000	71.0000	60.0000	60.0000	85.0000	64.0000	58.0000		45.0000
D.P.	4.3328	4.1040	3.4819	3.7325	3.6716	3.5506	3.5808	3.7980	3.9057		4.5066
MATERIAL RECOVERY	95.3060	102.5511	95.8405	91.5575	95.9875	99.0833	91.5119	96.2144	97.7645	94.7951	96.8426

RUN # = 3-26

PERIOD		A	B	C	D	E	F	G	H	I	J
MOLAR FLOW RATE IN											
MMOLE/HR	CO	460.6772	460.6772	460.6772	456.3639	456.3639	456.3639	456.4089	459.6391	465.5581	465.0369
	H2	922.8090	922.8090	922.8090	915.6343	915.6343	915.6343	918.6322	917.8221	906.4604	911.1830
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	67.8668	67.8668	67.8668	75.5758	75.5758	75.5758	72.5313	70.6919	72.5168	72.6620
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT											
MMOLE/HR	CO	159.0185	177.5059	101.2120	95.7977	211.0108	212.4809	60.0607	48.6112	243.5059	247.8433
	H2	602.3702	630.5579	542.1859	565.5751	673.6941	670.1332	473.9018	446.9120	697.3643	691.4725
	H2O	52.5756	49.6111	71.3637	70.7394	60.4945	50.8501	86.4524	102.2260	47.3542	43.1224
	CO2	125.7149	104.2325	130.2590	113.2991	92.3171	84.9919	137.3982	135.6416	85.7415	81.4827
	C1	19.4022	19.0921	28.7745	32.5158	21.4303	21.5753	38.9984	37.4782	16.0051	14.7122
	C2=	49.3057	59.3407	54.5545	59.5971	64.2919	65.9235	50.5164	52.6106	65.1635	63.3754
	C2	25.5031	19.5054	25.0535	25.6075	15.3864	15.4730	33.1564	31.8327	17.1483	16.9756
	C3=	7.0012	7.2240	9.8945	10.5012	6.9243	6.3199	11.2713	11.6825	9.1458	7.9219
	C3	1.9006	1.6511	1.8151	1.8424	1.3183	0.0000	1.9745	1.9601	0.0000	0.0000
	1-C4=	3.2000	3.3023	4.6290	4.7900	3.1866	0.7624	4.8539	5.1751	3.4297	2.2634
	2-C4=	0.2001	0.1031	0.1816	0.1839	0.1098	0.0000	0.3288	0.3139	0.0000	0.0000
	I-C4	1.3004	1.0317	1.1804	1.1970	0.8793	0.1088	1.3160	1.3331	1.1432	1.1317
	N-C4	0.2001	0.2061	0.1816	0.1839	0.2195	3.2693	0.0822	0.1566	0.0000	0.0000
	C5	4.1786	3.4859	4.4564	4.0036	3.1125	2.9664	4.6915	4.8654	0.1484	0.1621
	C6	2.2470	2.0627	2.4106	2.4853	1.7153	1.5721	2.5491	2.5110	0.2697	0.2644
	C7	0.9236	0.9905	1.5094	1.4266	1.1089	0.8909	1.8810	1.8865	0.3902	0.3877
	C8	0.6019	0.4840	1.2069	1.3403	0.6061	0.7419	0.9249	1.4663	0.4425	0.4494
	C9	0.4090	0.5644	0.9791	0.9441	0.4773	0.4931	1.1720	1.1086	0.3634	0.4230
	C10	0.2314	0.5431	0.9119	0.8564	0.4381	0.4528	1.0866	1.0541	0.3304	0.3384
	C11	0.4255	0.4572	0.7454	0.5579	0.3673	0.3790	0.6850	0.8339	0.2759	0.2852
	C12	0.3287	0.3101	0.4470	0.3934	0.2942	0.3063	0.4825	0.4627	0.2304	0.2350
	C13	0.2710	0.2476	0.3301	0.2905	0.1865	0.2448	0.3477	0.3280	0.1867	0.1898
	C14	0.2141	0.1976	0.2572	0.2119	0.1489	0.1953	0.2493	0.2356	0.1517	0.1586
	C15	0.1683	0.1576	0.1839	0.1753	0.1191	0.1255	0.1745	0.1502	0.0967	0.1034
	C16	0.1315	0.1194	0.1533	0.0337	0.0930	0.0953	0.1338	0.0855	0.0780	0.0815
	C17	0.1021	0.0917	0.0992	0.0714	0.0851	0.0897	0.0840	0.0426	0.0615	0.0643
	C18	0.0847	0.0754	0.0639	0.0450	0.0638	0.0672	0.0485	0.0224	0.0581	0.0607
	C19	0.0637	0.0556	0.0403	0.0284	0.0492	0.0495	0.0292	0.0169	0.0444	0.0464
	C20	0.0473	0.0427	0.0230	0.0169	0.0362	0.0426	0.0119	0.0121	0.0388	0.0405
	C21	0.0351	0.0311	0.0146	0.0096	0.0304	0.0299	0.0076	0.0077	0.0289	0.0319
	C22	0.0263	0.0229	0.0070	0.0061	0.0213	0.0224	0.0036	0.0037	0.0230	0.0240
	C23	0.0183	0.0175	0.0067	0.0029	0.0148	0.0156	0.0000	0.0000	0.0161	0.0184
	C24	0.0131	0.0126	0.0032	0.0028	0.0106	0.0093	0.0000	0.0000	0.0112	0.0132
	C1OH	0.5028	0.3362	0.0000	0.0000	0.6468	1.9180	3.9258	0.1614	0.0000	0.8331
	C2OH	3.5860	4.3995	4.8167	6.4754	1.5781	3.6001	4.3939	5.6254	2.5255	3.0580
	N-C3OH	1.8611	1.9256	1.4344	2.0696	0.4481	0.4868	2.0849	2.0481	1.1628	0.9524
	I-C3OH	0.0633	0.0000	0.0566	0.1546	0.0000	0.0603	0.6626	0.3722	0.0377	0.0082
	C4OH	0.1834	0.2744	0.1879	0.2166	0.1333	0.0804	0.2311	0.1883	0.1121	0.0897
	ACETONE	0.1201	0.2070	0.3208	0.4928	0.0609	0.1280	0.9760	1.0381	0.1111	0.1300
	ACETIC ACID	0.2632	0.4202	0.4585	0.3825	0.7371	0.2853	0.4592	0.4439	0.3747	0.2992

RUN # = 3-26

PERIOD	A	B	C	D	E	F	G	H	I	J
SYSTEM PRESS,PSIG	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	325.0000	275.0000	275.0000
FEED GAS, SCFH (32F)	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480
TAIL GAS, SCFH (32F)	0.7910	0.8150	0.7180	0.7270	0.8680	0.8600	0.6500	0.6190	0.9040	0.8940
H2 CONVERSION	34.7243	31.6697	41.2461	38.2313	26.4232	26.8121	48.4122	51.3073	23.0673	24.1127
CO CONVERSION	65.4816	61.4685	78.0297	79.0085	53.7626	53.4405	86.8406	89.4240	47.6959	46.7046
H2+CO CONVERSION	50.1029	46.5691	59.6379	58.6199	40.0929	40.1263	67.6264	70.3657	35.3816	35.4086
YIELDS GM/HR										
OIL	0.7625	0.7292	1.1111	0.9778	0.6167	0.6500	1.1500	1.1667	0.4889	0.5111
AQUEOUS PHASE	1.2792	1.2792	1.6556	1.7722	1.2667	1.2056	2.1500	2.3500	1.0778	1.0333
WAX	0.1000	0.1125	0.0611	0.0611	0.0722	0.1056	0.0722	0.0556	0.0556	0.1111
ANALYSIS										
OIL										
FIA %										
AROMATICS	5.0000	6.0000	7.0000	5.0000	6.0000			6.0000		6.0000
OLEFINS	59.0000	66.0000	76.0000	75.0000	78.0000			77.0000		78.0000
SATURATES	36.0000	28.0000	17.0000	20.0000	16.0000			17.0000		16.0000
BR #	54.0000	60.0000	71.0000	71.0000	60.0000	59.0000	75.0000	47.0000	57.0000	59.0000
D.P.	3.4406	3.4049	3.3281	3.0353	3.3234	3.4363	3.1974	2.9457	3.7389	3.8431
MATERIAL RECOVERY	101.1570	99.5162	99.4552	94.9879	100.7110	98.5941	98.6580	97.4362	99.2369	103.8340

RUN # = 3-27

PERIOD		A	B	C	D	E	F	G	H
MOLAR FLOW RATE IN									
MMOLE/HR	CO	708.6132	708.6132	697.5151	707.7734	702.0524	710.1349	710.1349	710.1349
	H2	747.3873	747.3873	757.5855	748.8036	753.3496	745.2759	745.2759	745.2759
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT									
MMOLE/HR	CO	265.2346	245.6845	113.2843	119.5587	25.9154	232.9374	54.6733	232.9374
	H2	414.9020	393.5118	305.6389	295.0645	421.3928	428.4552	260.3390	428.4552
	H2O	44.9514	43.2187	57.9491	53.9061	33.5606	35.6545	65.5779	35.6545
	CO2	197.9784	241.3225	254.6986	269.0068	218.2210	217.0341	289.3735	217.0341
	C1	25.3871	25.7917	31.7046	28.1265	18.2481	18.1482	31.0443	18.1482
	C2=	2.9362	3.1290	5.0937	6.2080	5.6432	5.6130	10.6017	5.6130
	C2	8.4302	8.3446	10.2639	8.5836	4.5153	4.4905	6.2364	4.4905
	C3=	8.2410	8.6292	12.1647	12.3387	8.3710	8.2325	15.1063	8.2325
	C3	3.0308	2.8445	3.4972	2.6824	1.5051	1.4972	1.9404	1.4972
	1-C4=	3.0308	3.2238	4.2575	4.7520	3.8566	3.7420	6.7215	3.7420
	2-C4=	0.7577	0.7588	0.9887	0.8431	0.2824	0.2804	0.4851	0.2804
	I-C4	2.2731	2.1805	2.6610	2.1461	1.1288	1.1224	1.4553	1.1224
	N-C4	0.0946	0.1897	0.0759	0.1530	0.0938	0.0935	0.1386	0.0935
	C5	4.4596	4.6679	5.9757	5.7176	4.1828	6.2220	8.5300	6.2220
	C6	2.2065	2.3043	2.7061	3.2130	2.3997	2.5697	6.4080	2.5697
	C7	1.2898	1.3923	1.9172	1.7065	1.5797	1.7044	6.4271	1.7044
	C8	1.0078	0.8551	1.3466	1.2017	0.8583	1.1837	2.4126	1.1837
	C9	0.9984	0.7615	1.5959	1.0943	1.1211	0.7339	1.3337	0.7339
	C10	0.7996	0.8411	1.2405	1.3600	0.5525	0.5758	0.7418	0.5758
	C11	0.6300	0.6726	0.9694	1.0871	0.7498	0.3772	0.0000	0.3772
	C12	0.5077	0.5451	0.7254	0.8305	0.4938	0.2540	0.2248	0.2540
	C13	0.4100	0.4493	0.5524	0.6674	0.4065	0.1694	0.1141	0.1694
	C14	0.3264	0.3560	0.4119	0.5108	0.3260	0.4839	0.1445	0.4839
	C15	0.2589	0.2804	0.3119	0.3830	0.2616	0.3443	0.0989	0.3443
	C16	0.1999	0.2190	0.2176	0.2784	0.2052	0.2382	0.0674	0.2382
	C17	0.1568	0.1741	0.1536	0.2000	0.1602	0.1694	0.0397	0.1694
	C18	0.1185	0.1298	0.1088	0.1433	0.1246	0.1176	0.0300	0.1176
	C19	0.0882	0.0984	0.0745	0.0987	0.1096	0.0802	0.0142	0.0802
	C20	0.0647	0.0701	0.0490	0.0645	0.0801	0.0508	0.0000	0.0508
	C21	0.0435	0.0482	0.0311	0.0391	0.0648	0.0282	0.0000	0.0282
	C22	0.0277	0.0319	0.0148	0.0213	0.0437	0.0192	0.0000	0.0192
	C23	0.0166	0.0203	0.0095	0.0102	0.0279	0.0110	0.0000	0.0110
	C24	0.0095	0.0097	0.0000	0.0049	0.0167	0.0071	0.0000	0.0071
	C10H	0.7040	0.6068	0.0000	0.1079	0.4720	0.0000	0.0000	0.0000
	C20H	2.4080	3.0904	3.3757	3.7850	3.2004	3.3707	3.8313	3.3707
	N-C30H	0.8870	1.0623	1.1428	1.1957	0.7733	0.8507	1.2636	0.8507
	I-C30H	0.0000	0.0917	0.2583	0.1864	0.0228	0.0722	0.0000	0.0722
	C40H	0.1692	0.1955	0.1815	0.1762	0.1644	0.0706	0.1610	0.0706
	ACETONE	0.1056	0.1218	0.4188	0.4082	0.1253	0.1261	1.0351	0.1261
	ACETIC ACID	0.1085	0.1203	0.1275	0.1714	0.3663	0.4026	0.6666	0.4026

RUN # = 3-27

PERIOD	A	B	C	D	E	F	G	H
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	300.0000	300.0000	275.0000	275.0000	325.0000	275.0000
FEED GAS, SCFH (32F)	1.1570	1.1570	1.1570	1.1570	1.1570	1.1570	1.1570	1.1570
TAIL GAS, SCFH (32F)	0.7480	0.7500	0.6000	0.6050	0.7420	0.7390	0.5480	0.7390
H2 CONVERSION	44.4863	47.3483	59.6562	60.5952	44.0641	42.5105	65.0681	42.5105
CO CONVERSION	62.5699	65.3288	83.7589	83.1078	96.3086	67.1981	92.3010	67.1981
H2+CO CONVERSION	53.5281	56.3386	71.7075	71.8515	70.1864	54.8543	78.6846	54.8543
YIELDS GM/HR								
OIL	1.1042	1.1292	1.5778	1.7000	1.1611	1.2278	1.9556	1.2278
AQUEOUS PHASE	1.0208	1.0375	1.3278	1.2778	0.8556	0.8889	1.5444	0.8889
WAX	0.3000	0.2875	2.8000	0.4111	0.6222	0.6000	0.3500	0.6000
ANALYSIS								
OIL								
FIA %								
AROMATICS	4.0000	4.0000	6.0000	6.0000	6.0000	8.0000	10.0000	8.0000
OLEFINS	66.0000	64.0000	68.0000	72.0000	77.0000	70.0000	77.0000	70.0000
SATURATES	30.0000	32.0000	26.0000	22.0000	17.0000	22.0000	13.0000	22.0000
BR #	64.0000	67.0000	82.0000	83.0000	62.0000	64.0000		64.0000
D.P.	4.0296	4.0994	3.8244	4.0897	4.1028	4.0002	2.8061	4.0002
MATERIAL RECOVERY	100.5603	106.8850	110.6054	101.8256	102.1423	99.9381	100.1518	99.9381

RUN # = 3-27

PERIOD		I	J	K	L
MOLAR FLOW RATE IN					
MMOLE/HR	CO	705.0547	705.0533	706.5194	713.1344
	H2	751.9597	751.9597	750.4935	742.4212
	CO2	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT					
MMOLE/HR	CO	347.0670	351.8102	553.5381	571.6537
	H2	515.0966	521.6874	636.4418	636.1740
	H2O	23.1068	26.0926	16.1125	17.6101
	CO2	172.7779	175.3576	63.6106	61.8553
	C1	12.9499	13.7000	4.2085	3.8711
	C2=	5.5043	5.8086	1.9134	1.6778
	C2	2.2660	2.3016	0.6374	0.5167
	C3=	6.2593	6.4660	1.9134	1.6778
	C3	0.9712	0.9867	0.3829	0.3866
	1-C4=	3.0221	3.1789	1.0203	0.9033
	2-C4=	0.1075	0.1094	0.0000	0.0000
	I-C4	6.4755	0.6574	0.2557	0.1546
	N-C4	0.1075	0.1094	0.0000	0.0000
	C5	4.4653	3.4865	1.0381	1.1633
	C6	2.0238	2.0750	0.4903	0.6705
	C7	1.3906	1.7290	0.3605	0.3576
	C8	1.7570	0.6642	0.3946	0.3833
	C9	0.4910	0.3379	0.1407	0.1238
	C10	0.4028	0.2851	0.1378	0.1179
	C11	0.2848	0.2073	0.0990	0.0834
	C12	0.1958	0.1465	0.0741	0.0619
	C13	0.1334	0.0987	0.0547	0.0437
	C14	0.3516	0.2749	0.1778	0.1825
	C15	0.2573	0.2090	0.1630	0.1442
	C16	0.1853	0.1544	0.1278	0.1133
	C17	0.1316	0.1341	0.1006	0.0899
	C18	0.0963	0.1003	0.0790	0.0704
	C19	0.0707	0.0725	0.0608	0.0552
	C20	0.0448	0.0523	0.0467	0.0426
	C21	0.0293	0.0362	0.0360	0.0322
	C22	0.0203	0.0242	0.0263	0.0248
	C23	0.0122	0.0145	0.0193	0.0171
	C24	0.0070	0.0079	0.0130	0.0118
	C1OH	0.0000	0.8981	0.0049	0.3333
	C2OH	1.6086	1.9947	0.5759	0.5437
	N-C3OH	0.3970	0.5465	0.1677	0.2025
	I-C3OH	0.0000	0.0231	0.0000	0.0000
	C4OH	0.0935	0.0561	0.0267	0.0238
	ACETONE	0.0635	0.1020	0.0513	0.0313
	ACETIC ACID	0.4276	0.6299	0.3986	0.4336

RUN # = 3-27

PERIOD	I	J	K	L
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	250.0000	250.0000
FEED GAS, SCFH (32F)	1.1570	1.1570	1.1570	1.1570
TAIL GAS, SCFH (32F)	0.8590	0.8650	1.0060	1.0190
H2 CONVERSION	31.4994	30.6230	15.1969	14.3109
CO CONVERSION	50.7745	50.1016	21.6528	19.8393
H2+CO CONVERSION	41.1370	40.3623	18.4249	17.0751
YIELDS GM/HR				
OIL	0.8111	0.6889	0.3222	0.3167
AQUEOUS PHASE	0.5500	0.6722	0.3556	0.3944
WAX	0.4722	0.8667	0.4389	0.4722
ANALYSIS				
OIL				
FIA %				
AROMATICS		12.0000		
OLEFINS		72.0000		
SATURATES		16.0000		
BR #	55.0000	53.0000		42.0000
D.P.	3.8666	3.9390	5.1327	4.9820
MATERIAL RECOVERY	103.7277	104.7524	99.4628	100.8283

RUN # = 3-28

PERIOD		A	B	C	D	E	F	G	H
MOLAR FLOW RATE IN									
MMOLE/HR	CO	476.5813	479.9581	479.9581	487.0098	487.0127	485.5633	475.1319	479.4773
	H2	970.5444	964.2659	964.2659	960.9847	960.9819	962.4313	969.0964	964.7496
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT									
MMOLE/HR	CO	360.9589	379.2498	428.9680	442.5750	396.1146	393.1055	330.5212	313.0748
	H2	870.7799	884.4734	927.8992	957.9089	873.8619	888.8774	837.1506	857.3817
	H2O	25.1892	28.8474	13.6976	13.5863	20.6355	19.5542	23.0856	24.4345
	CO2	49.9299	27.7787	19.8925	17.7513	41.4379	41.7908	65.0832	80.5413
	C1	14.4915	14.5865	5.2861	5.7291	12.5798	12.0223	20.9287	23.5134
	C2=	1.1852	1.1932	0.6955	0.7158	1.2044	1.2160	1.9147	2.4679
	C2	3.8210	3.7131	1.1129	1.1452	3.2121	3.1073	4.5942	5.0668
	C3=	2.7659	2.7845	1.2520	1.2884	2.5424	2.5668	3.7006	4.5465
	C3	1.5807	1.4590	0.4173	0.4295	1.2044	1.0812	1.4035	1.5583
	1-C4=	1.0538	0.9286	0.5564	0.5726	0.9370	0.9450	1.2760	1.5583
	2-C4=	0.2641	0.2646	0.1391	0.1432	0.2673	0.2696	0.2549	0.3893
	I-C4	1.0538	0.9286	0.2782	0.2863	0.8034	0.6754	0.8936	1.0393
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5	1.7110	1.4590	0.6955	0.7158	1.3380	1.3537	1.7894	2.3195
	C6	0.9403	0.6627	0.2828	0.4295	0.6714	0.6815	0.7902	1.0503
	C7	0.5744	0.3982	0.1509	0.1468	0.4095	0.2863	0.5575	0.7174
	C8	0.3679	0.2646	0.3070	0.2979	0.1548	0.1730	0.2219	0.3145
	C9	0.1336	0.0000	0.0629	0.0412	0.0609	0.1076	0.1642	0.1494
	C10	0.1202	0.0000	0.0759	0.0472	0.0747	0.0874	0.1611	0.1444
	C11	0.0942	0.0000	0.0481	0.0418	0.0507	0.0781	0.1353	0.0919
	C12	0.0717	0.0000	0.0372	0.0330	0.0386	0.0619	0.0963	0.0648
	C13	0.0556	0.0000	0.0290	0.0269	0.0303	0.0493	0.0735	0.0479
	C14	0.0440	0.0000	0.0227	0.0217	0.0238	0.0395	0.0556	0.0357
	C15	0.0345	0.0000	0.0175	0.0177	0.0189	0.0325	0.0422	0.0244
	C16	0.0269	0.0000	0.0138	0.0145	0.0152	0.0123	0.0132	0.0167
	C17	0.0213	0.0000	0.0108	0.0119	0.0123	0.0094	0.0098	0.0111
	C18	0.0168	0.0000	0.0087	0.0126	0.0100	0.0158	0.0198	0.0074
	C19	0.0134	0.0000	0.0068	0.0102	0.0079	0.0126	0.0152	0.0041
	C20	0.0132	0.0000	0.0053	0.0082	0.0085	0.0102	0.0044	0.0033
	C21	0.0107	0.0000	0.0015	0.0066	0.0069	0.0035	0.0037	0.0011
	C22	0.0076	0.0000	0.0010	0.0052	0.0048	0.0079	0.0086	0.0005
	C23	0.0059	0.0000	0.0028	0.0042	0.0039	0.0063	0.0068	0.0000
	C24	0.0049	0.0000	0.0023	0.0033	0.0031	0.0052	0.0056	0.0000
	C1OH	0.1302	0.1491	0.0627	0.0390	0.0000	0.0797	0.0492	0.0297
	C2OH	0.3304	0.3784	0.1768	0.1533	0.2716	0.2238	0.3872	0.3557
	N-C3OH	0.1320	0.1512	0.0711	0.0600	0.1376	0.0879	0.1665	0.1663
	I-C3OH	0.0233	0.0267	0.0134	0.0003	0.0176	0.0215	0.0303	0.0231
	C4OH	0.0212	0.0243	0.0203	0.0206	0.0292	0.0231	0.0327	0.0340
	ACETONE	0.0150	0.0172	0.0051	0.0056	0.0135	0.0106	0.0277	0.0259
	ACETIC ACID	0.0495	0.0566	0.0523	0.0465	0.0635	0.0682	0.0806	0.0881

RUN # = 3-28

PERIOD	A	B	C	D	E	F	G	H
SYSTEM PRESS,PSIG	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	250.0000	250.0000	275.0000	275.0000	300.0000	300.0000
FEED GAS, SCFH (32F)	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450	1.1450
TAIL GAS, SCFH (32F)	1.0390	1.0460	1.1000	1.1320	1.0570	1.0660	1.0080	1.0260
H2 CONVERSION	10.2792	8.2749	3.7714	0.3201	9.0657	7.6425	13.6154	11.1291
CO CONVERSION	24.2608	20.9827	10.6239	9.1240	18.6644	19.0413	30.4359	34.7050
H2+CO CONVERSION	17.2700	14.6288	7.1976	4.7220	13.8651	13.3419	22.0256	22.9170
YIELDS GM/HR								
OIL	0.1417	0.1125	0.0667	0.0611	0.0722	0.1056	0.1611	0.1611
AQUEOUS PHASE	0.4875	0.5583	0.2667	0.2611	0.4000	0.3778	0.4556	0.4778
WAX	0.0333			0.0056	0.0111	0.0111	0.0167	0.0111
ANALYSIS								
OIL								
FIA %								
AROMATICS	7.0000		7.0000	7.0000	11.0000		14.0000	14.0000
OLEFINS	51.0000		50.0000	52.0000	51.0000		50.0000	49.0000
SATURATES	42.0000		43.0000	41.0000	38.0000		36.0000	37.0000
BR #	43.0000					28.0000	34.0000	46.0000
D.P.	3.1997		3.3887	3.4207	3.0161	3.1606	3.0897	2.8108
MATERIAL RECOVERY	103.0627	98.7419	100.5559	101.9941	102.5844	102.4337	102.2030	104.0669

RUN # = 3-28

PERIOD		I	J	K	L	M
MOLAR FLOW RATE IN						
MMOLE/HR	CO	479.9581	479.9581	247.5733	247.5733	251.4751
	H2	964.2659	964.2659	500.3982	500.3982	498.4469
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT						
MMOLE/HR	CO	391.4741	384.3428	146.3552	145.5426	207.9597
	H2	873.8023	903.5372	409.5426	391.4164	478.3074
	H2O	14.2638	14.8008	14.0607	16.4564	6.8350
	CO2	42.6532	37.5873	41.4571	39.6370	18.6102
	C1	11.0898	14.5166	12.3111	11.4577	5.1629
	C2=	1.6035	1.8997	1.2564	1.1768	0.7888
	C2	2.1380	2.8496	3.0152	2.8490	1.0758
	C3=	2.5392	2.9853	2.6382	2.5392	1.2905
	C3	0.6678	0.9499	1.0049	0.9907	0.3586
	I-C4=	1.0690	1.2212	0.9421	0.9907	0.5733
	2-C4=	0.1333	0.1357	0.1882	0.1855	0.0000
	I-C4	0.5345	0.5428	0.6279	0.6815	0.2870
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000
	C5	1.2052	1.4926	1.0726	1.1150	0.7204
	C6	0.5418	0.6827	0.4538	0.4495	0.4338
	C7	0.4116	0.2834	0.1531	0.2197	0.2246
	C8	0.4212	0.4366	0.0527	0.0659	0.0221
	C9	0.0842	0.1067	0.1264	0.1543	0.0376
	C10	0.1194	0.1087	0.1357	0.1609	0.0655
	C11	0.1119	0.1019	0.1195	0.1001	0.0785
	C12	0.0613	0.0723	0.0646	0.0750	0.0456
	C13	0.0471	0.0558	0.0493	0.0582	0.0371
	C14	0.0359	0.0433	0.0373	0.0445	0.0295
	C15	0.0277	0.0337	0.0287	0.0338	0.0236
	C16	0.0050	0.0269	0.0221	0.0084	0.0060
	C17	0.0206	0.0213	0.0174	0.0203	0.0151
	C18	0.0158	0.0169	0.0136	0.0160	0.0119
	C19	0.0119	0.0133	0.0106	0.0121	0.0121
	C20	0.0095	0.0105	0.0084	0.0125	0.0094
	C21	0.0073	0.0104	0.0016	0.0096	0.0074
	C22	0.0043	0.0069	0.0011	0.0061	0.0046
	C23	0.0032	0.0055	0.0040	0.0050	0.0037
	C24	0.0030	0.0042	0.0032	0.0040	0.0029
	C1OH	0.0617	0.0000	0.0000	0.0210	0.0224
	C2OH	0.5070	0.2400	0.3530	0.4049	0.0962
	N-C3OH	0.1264	0.1728	0.1253	0.1602	0.0341
	I-C3OH	0.0197	0.0092	0.0155	0.0297	0.0028
	C4OH	0.0327	0.0236	0.0266	0.0294	0.0103
	ACETONE	0.0221	0.0107	0.0138	0.0182	0.0030
	ACETIC ACID	0.0915	0.0610	0.0458	0.0527	0.0329

RUN # = 3-28

PERIOD	I	J	K	L	M
SYSTEM PRESS,PSIG	100.0000	100.0000	100.0000	100.0000	100.0000
AVG CAT TEMP, DEG C	275.0000	275.0000	275.0000	275.0000	250.0000
FEED GAS, SCFH (32F)	1.1450	1.1450	0.5930	0.5930	0.5930
TAIL GAS, SCFH (32F)	1.0540	1.0730	0.4960	0.4890	0.5660
H2 CONVERSION	9.3816	6.2979	18.1567	21.7790	4.0405
CO CONVERSION	18.4358	19.9216	40.8841	41.2123	17.3040
H2+CO CONVERSION	13.9087	13.1098	29.5204	31.4957	10.6723
YIELDS GM/HR					
OIL	0.1056	0.1222	0.1222	0.1389	0.0778
AQUEOUS PHASE	0.3000	0.2944	0.2833	0.3333	0.1333
WAX	0.0222	0.0222	0.0167	0.0111	0.0111
ANALYSIS					
OIL					
FIA %					
AROMATICS		12.0000	14.0000	10.0000	7.0000
OLEFINS		63.0000	56.0000	63.0000	52.0000
SATURATES		25.0000	30.0000	27.0000	41.0000
BR #		43.0000	43.0000	43.0000	
D.P.	3.1566	3.3150	3.4054	3.3458	3.5566
MATERIAL RECOVERY	102.3621	101.1827	100.7789	104.1951	101.8464

RUN # = 3-29

PERIOD		A	B	C	D	E	F	G	H
MOLAR FLOW RATE IN									
MMOLE/HR	CO	700.4618	708.4379	708.4379	693.8910	693.8910	699.7098	717.1661	706.2748
	H2	745.5122	737.5318	737.5318	752.0787	752.0787	746.2599	730.2582	739.7007
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT									
MMOLE/HR	CO	220.8796	257.0795	264.7641	279.9327	322.4446	337.6010	394.8258	385.2475
	H2	358.7280	406.8887	424.5673	437.2735	470.4853	484.8340	511.9727	518.0166
	H2O	40.0371	40.4375	38.2248	35.7751	33.7804	29.5574	28.3711	29.1815
	CO2	170.8991	196.9715	191.0083	180.5078	173.3900	159.8834	122.5692	137.1219
	C1	20.0723	21.2690	21.4645	21.6222	17.4402	17.2120	17.3549	15.2355
	C2=	3.7886	4.9011	5.4840	6.0816	4.8673	4.9765	5.2069	4.4615
	C2	5.9652	6.1031	6.0520	5.9852	4.4611	4.2506	4.3387	3.7000
	C3=	7.3355	9.3398	9.5501	10.5220	1.6228	7.6727	7.8093	6.9654
	C3	1.8544	1.9424	1.8915	2.0275	0.0000	1.4518	1.4105	1.3057
	1-C4=	2.9025	3.6992	3.8765	4.4405	3.2445	3.4221	3.3623	3.0471
	2-C4=	0.6453	0.6471	0.6623	0.6755	0.4052	0.4148	0.4341	0.4356
	I-C4	1.5314	1.5722	1.6076	1.6411	1.2166	1.2444	1.1929	1.0885
	N-C4	0.0806	0.1846	0.0943	0.0964	0.0000	0.0311	0.0000	0.0000
	C5	4.3409	4.7946	5.3616	5.9428	4.4545	4.3752	4.3173	3.7375
	C6	2.4281	3.2639	3.6674	3.9640	3.0542	2.9859	2.6920	2.1506
	C7	1.7953	1.5778	1.9910	1.9942	3.1485	2.3256	1.9765	1.8598
	C8	1.4608	1.2105	1.4259	1.3246	1.1322	2.1453	1.4818	1.3548
	C9	1.4046	1.7440	0.9597	0.8521	0.6974	0.6479	0.6445	0.6321
	C10	1.0814	1.1141	1.2125	0.6790	0.5693	0.9238	0.7873	0.7435
	C11	0.6646	0.7911	0.8531	0.8860	0.7564	0.6433	0.5650	0.5325
	C12	0.4315	0.4879	0.5398	0.5592	0.5352	0.4477	0.4144	0.3896
	C13	0.2987	0.3441	0.3769	0.3871	0.3930	0.3125	0.3096	0.2860
	C14	0.0870	0.0929	0.0890	0.0913	0.0782	0.0608	0.0550	0.0523
	C15	0.0558	0.0596	0.0609	0.0586	0.0535	0.0437	0.0395	0.0375
	C16	0.0381	0.0407	0.0415	0.0399	0.0319	0.0287	0.0296	0.0246
	C17	0.0269	0.0239	0.0293	0.0235	0.0215	0.0193	0.0209	0.0166
	C18	0.0169	0.0181	0.0185	0.0133	0.0405	0.0364	0.0132	0.0094
	C19	0.0080	0.0086	0.0087	0.0042	0.0230	0.0241	0.0093	0.0059
	C20	0.0152	0.0163	0.0166	0.0160	0.0146	0.0164	0.0207	0.0141
	C21	0.0109	0.0116	0.0119	0.0114	0.0104	0.0094	0.0141	0.0080
	C22	0.0069	0.0074	0.0075	0.0073	0.0066	0.0060	0.0108	0.0077
	C23	0.0033	0.0035	0.0036	0.0035	0.0063	0.0057	0.0051	0.0049
	C24	0.0032	0.0000	0.0000	0.0000	0.0030	0.0027	0.0049	0.0047
	C1OH	0.1860	0.1718	0.3761	0.1271	0.0543	0.2110	2.5775	0.1962
	C2OH	2.7736	2.4334	2.7753	2.6638	2.3379	2.2782	0.0000	2.1994
	N-C3OH	1.0457	0.9304	0.9042	0.7964	0.8056	0.7622	1.3413	0.7717
	I-C3OH	0.1533	0.1334	0.1123	0.0786	0.1962	0.1300	0.7944	0.1383
	C4OH	0.1435	0.1205	0.1421	0.1110	0.1165	0.1176	0.0540	0.1208
	ACETONE	0.2866	0.1352	0.2932	0.2297	0.2121	0.2099	0.2104	0.2055
	ACETIC ACID	0.0818	0.2633	0.3541	0.2986	0.4440	0.3252	0.0000	0.2803

RUN # = 3-29

PERIOD	A	B	C	D	E	F	G	H
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
FEED GAS, SCFH (32F)	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480
TAIL GAS, SCFH (32F)	0.6370	0.7300	0.7460	0.7620	0.8010	0.8200	0.8560	0.8590
H2 CONVERSION	51.8817	44.8310	42.4340	41.8580	37.4420	35.0315	29.8916	29.9694
CO CONVERSION	68.4666	63.7118	62.6271	59.6575	53.5309	51.7513	44.9464	45.4536
H2+CO CONVERSION	60.1741	54.2714	52.5305	50.7578	45.4865	43.3914	37.4190	37.7115
YIELDS GM/HR								
OIL	1.1042	1.1792	1.2042	1.1583	1.0583	0.9500	0.8583	0.8167
AQUEOUS PHASE	0.9583	0.9417	0.9375	0.8625	0.8250	0.7375	0.7375	0.7250
WAX	0.0083	0.1667	0.1292	0.1667	0.1417	0.0167	0.0667	0.0958
ANALYSIS								
OIL								
FIA %								
AROMATICS	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	8.0000	7.0000
OLEFINS	75.0000	76.0000	76.0000	74.0000	79.0000	77.0000	80.0000	79.0000
SATURATES	18.0000	17.0000	17.0000	19.0000	14.0000	16.0000	12.0000	14.0000
BR #	72.0000	74.0000	75.0000	74.0000	72.0000	71.0000	69.0000	68.0000
D.P.	2.9653	2.9326	2.9329	2.8507	3.1864	2.9510	2.8684	2.8294
MATERIAL RECOVERY	86.2973	98.3166	98.4994	100.3699	100.6154	99.7323	97.1503	98.6564

RUN # = 3-29

PERIOD		I	J	K	L	M	N	O
MOLAR FLOW RATE IN								
MMOLE/HR	CO	704.8215	704.8215	709.1116	709.1116	684.4761	701.1644	704.8215
	H2	739.7007	739.7007	735.2670	735.2670	760.0461	744.8052	739.7007
	CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	CH4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C2H4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C3H6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C4H8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5H10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MOLAR FLOW OUT								
MMOLE/HR	CO	405.2162	464.0466	469.9926	495.4644	501.4482	527.9783	550.8626
	H2	529.9838	567.5641	580.9302	585.1079	622.4452	606.9282	624.8214
	H2O	27.6487	24.1937	24.1664	22.3485	22.1896	19.6909	19.0524
	CO2	124.7665	108.2770	96.6230	92.0663	88.5645	67.8481	68.8572
	C1	12.8085	14.9920	14.1956	11.0235	10.7279	8.7589	7.9055
	C2=	3.7538	4.4020	4.2948	3.2703	3.1184	2.5904	2.2951
	C2	3.2024	3.5696	3.4594	2.5437	2.4950	2.0977	1.7849
	C3=	5.8523	5.8305	5.4871	4.2399	4.2409	3.8246	3.3154
	C3	1.1039	1.1899	1.0734	0.8475	0.8736	0.7403	0.6374
	1-C4=	2.6499	2.8559	2.6240	1.9380	1.8716	1.7269	1.6577
	2-C4=	0.3308	0.3574	0.2380	0.2418	0.2489	0.2463	0.1272
	I-C4	0.8833	0.9524	0.8354	0.6057	0.6234	0.6171	0.5102
	N-C4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	C5	3.1314	3.1913	2.8005	2.4566	2.3508	2.0759	1.7294
	C6	1.7959	1.9640	1.5602	1.4155	1.2071	1.0886	0.9140
	C7	2.6612	1.2616	1.0657	2.4759	0.8574	0.8837	0.6551
	C8	1.1054	0.8021	0.7034	0.9142	0.7332	0.6263	0.6355
	C9	0.5590	0.7686	0.6784	0.6201	0.4739	0.5103	0.3910
	C10	0.6595	0.5542	0.4892	0.2152	0.3875	0.3728	0.3183
	C11	0.4752	0.4091	0.3644	0.3607	0.2914	0.2750	0.2384
	C12	0.3541	0.3090	0.2728	0.2746	0.2207	0.2071	0.1812
	C13	0.2668	0.2372	0.2122	0.2147	0.1737	0.1600	0.1431
	C14	0.0488	0.0417	0.0368	0.0384	0.0319	0.0270	0.0240
	C15	0.0326	0.0306	0.0270	0.0291	0.0242	0.0198	0.0179
	C16	0.0244	0.0234	0.0207	0.0231	0.0192	0.0152	0.0140
	C17	0.0144	0.0172	0.0151	0.0178	0.0148	0.0111	0.0105
	C18	0.0109	0.0116	0.0102	0.0131	0.0108	0.0075	0.0087
	C19	0.0051	0.0088	0.0058	0.0088	0.0088	0.0057	0.0059
	C20	0.0147	0.0188	0.0164	0.0286	0.0223	0.0162	0.0191
	C21	0.0093	0.0139	0.0140	0.0224	0.0212	0.0129	0.0181
	C22	0.0067	0.0114	0.0100	0.0168	0.0165	0.0098	0.0143
	C23	0.0042	0.0054	0.0064	0.0132	0.0121	0.0070	0.0107
	C24	0.0041	0.0035	0.0046	0.0084	0.0093	0.0045	0.0084
	C10H	0.1652	0.9792	0.4060	0.5810	0.3646	2.4633	0.0000
	C20H	1.9991	1.0110	1.1077	1.1978	1.1310	0.4707	1.0139
	N-C30H	0.6392	0.5249	0.4132	0.3878	0.3930	0.0767	0.3242
	I-C30H	0.0677	0.1927	0.0838	0.0825	0.0468	0.2885	0.0147
	C40H	0.0926	0.0714	0.0686	0.0648	0.0365	0.0106	0.0640
	ACETONE	0.1516	0.1217	0.0893	0.0810	0.0728	0.0200	0.0586
	ACETIC ACID	0.2969	0.2430	0.2531	0.2588	0.2681	0.0071	0.1858

RUN # = 3-29

PERIOD	I	J	K	L	M	N	O
SYSTEM PRESS,PSIG	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
AVG CAT TEMP, DEG C	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000	300.0000
FEED GAS, SCFH (32F)	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480	1.1480
TAIL GAS, SCFH (32F)	0.8720	0.9390	0.9410	0.9560	0.9840	0.9740	1.0060
H2 CONVERSION	28.3516	23.2711	20.9906	20.4224	18.1043	18.5118	15.5305
CO CONVERSION	42.5080	34.1611	33.7209	30.1289	26.7399	24.6998	21.8437
H2+CO CONVERSION	35.4298	28.7161	27.3558	25.2756	22.4221	21.6058	18.6871
YIELDS GM/HR							
OIL	0.7083	0.6042	0.5333	0.4875	0.4042	0.3917	0.3250
AQUEOUS PHASE	0.6708	0.5833	0.5542	0.5292	0.5125	0.4792	0.4292
WAX	0.0833	0.0667	0.0583	0.0583	0.0292	0.0417	0.0208
ANALYSIS							
OIL							
FIA %							
AROMATICS	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	10.0000
OLEFINS	82.0000	82.0000	83.0000	80.0000	74.0000	74.0000	74.0000
SATURATES	9.0000	9.0000	8.0000	11.0000	17.0000	17.0000	16.0000
BR #	66.0000	61.0000	63.0000	62.0000	59.0000	59.0000	57.0000
D.P.	2.8698	2.8882	2.8813	2.9879	2.9635	2.9101	2.9521
MATERIAL RECOVERY	97.7189	101.7393	98.2925	100.0284	101.7996	98.3262	100.1565

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