

VI. APPENDIX

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A. POUR POINT TESTS ON RECOVERED OIL

POUR POINT TESTS ON RECOVERED OIL

|          |              |
|----------|--------------|
| RUN 45-B | Below -40°F. |
| RUN 45-D | -17°F.       |
| RUN 45-G | + 5°F.       |
| RUN 45-J | Below -40°F. |
| RUN 45-M | + 9°F.       |
| RUN 45-P | + 9°F.       |
| RUN 45-S | +27°F.       |

B. DETAILED EXPERIMENTAL DATA

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 A From Hr. 1900 to Hr. 0700 Hrs. 0-12

| FLOWS                          |       | RUN CONDITIONS             |                    |       | DISTILLATIONS |         |          | CATALYST DATA |                                |   | CATALYST ANALYSIS           |     |   |                  |           |   |   |   |
|--------------------------------|-------|----------------------------|--------------------|-------|---------------|---------|----------|---------------|--------------------------------|---|-----------------------------|-----|---|------------------|-----------|---|---|---|
| SCFH                           | %     | Generator Press.           |                    | 317   | A S T M       |         |          | Hempel Dist.  |                                |   | Particle Size               |     |   |                  |           |   |   |   |
| Oxygen                         |       | O <sub>2</sub> Preheat, °F |                    | 400   | Prod.         |         |          | °F            | %                              | A.P.I.  | Fresh Catalyst Charged      |     |   |                  |           |   |   |   |
| Nat. Gas                       |       | Gas Preheat, °F            |                    | 700   | A.P.I.        |         |          | to 400        | 68.0                           | 57.4  | Catalyst Recharged          |     |   |                  |           |   |   |   |
| Total                          |       | Reactor Press.             |                    | 300   | I.B.P.        |         |          | 400-550       | 18.0                           | 36.8  | Total                       |     |   |                  |           |   |   |   |
| Fresh Feed                     |       | Steam Back Press.          |                    | 840   |               |         |          | 550+          | 14.0                           |   | Catalyst Taken Out          |     |   |                  |           |   |   |   |
| F.F. by C                      |       | Temperatures, °F           |                    | 10%   | 120           |         |          |               |                                |   | In Reactor at End of Period |     |   |                  |           |   |   |   |
| Avg. F.F.                      | 5955  | Heater Outlet              |                    | 420   | 20            | 152     |          |               |                                |   |                             |     |   |                  |           |   |   |   |
| Wet Gas                        | 1315  | Catalyst #1                |                    | 634   | 30            | 171     |          | WATER         |                                |   |                             |     |   |                  |           |   |   |   |
| Contraction                    | 4640  | #2                         |                    | 632   | 40            | 204     |          | Temp.         | %                              | Reactor d-P, H <sub>2</sub> O                               |                             |     |   |                  |           |   |   |   |
| Recycle                        | 13657 | #3                         |                    | 639   | 50            | 232     |          | 200           |                                | Pounds in Reactor   |                             |     |   |                  |           |   |   |   |
| Bleed                          | 774   | #4                         |                    | 621   | 60            | 256     |          | 203           |                                | Density, lbs./cu. ft.                                       |                             |     |   |                  |           |   |   |   |
| Total                          | 14431 | #5                         |                    | 590   | 70            | 291     |          | 208           |                                | Bed Height, Feet  |                             |     |   |                  |           |   |   |   |
| Total Feed                     | 20386 | Average                    |                    | 635   | 80            | 322     |          |               |                                | Density, lbs./cu. ft.                                       |                             |     |   |                  |           |   |   |   |
| Recycle/F.F.                   | 2.42  | Product Separator          |                    | 42    | 90            | 360     |          |               |                                | Aerated   |                             |     |   |                  |           |   |   |   |
| Inlet Vel.                     | 0.95  |                            |                    |       | 95            | 392     |          |               |                                | Settled   |                             |     |   |                  |           |   |   |   |
| Steam Flow                     |       |                            |                    |       | E.P.          | 412     |          |               |                                | Compacted   |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       | Rec.          | 96.0    |          |               |                                | Sp. Grav.   |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       | Res.          | 2.0     |          |               |                                | 5.1   |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       | Loss          | 2.0     |          |               |                                | Specific Surface  |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       |               |         |          |               |                                | m <sup>2</sup> /gm  |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       |               |         |          |               |                                | 5.4 ml.NH <sub>3</sub> /gm                                  |                             |     |   |                  |           |   |   |   |
|                                |       |                            |                    |       |               |         |          |               |                                | Montebello Mill Scale- 1.0% Added K <sub>2</sub> O basis Fe |                             |     |   |                  |           |   |   |   |
| GENERATOR ELEMENTAL BALANCE    |       |                            |                    |       |               |         |          |               |                                |   |                             |     |   |                  |           |   |   |   |
| NATURAL GAS                    |       |                            | PRODUCT INSPECTION |       |               |         |          |               | IN                             |   |                             | OUT |   |                  |           |   |   |   |
| %                              |       |                            | Oil                | Water | Product       | Pour °F | SUS @ °F |               | Mol %                          | SCFH m/hr   | C                           | H   | O | Mol %            | SCFH m/hr | C | H | O |
| CO <sub>2</sub>                | 1.23  | Neut. No.                  | 45                 | 34    |               |         |          |               | O <sub>2</sub>                 |   |                             |     |   | CO <sub>2</sub>  | 2.426     |   |   |   |
| CH <sub>4</sub>                | 84.49 | Sap. No.                   | 47                 | 39    |               |         |          |               | CO <sub>2</sub>                |   |                             |     |   | CO               | 36.700    |   |   |   |
| C <sub>2</sub> H <sub>6</sub>  | 8.90  | Hydrox. No.                |                    |       |               |         |          |               | CH <sub>4</sub>                |   |                             |     |   | CH <sub>4</sub>  | 1.562     |   |   |   |
| C <sub>3</sub> H <sub>8</sub>  | 1.89  | Bromine No.                | 75                 |       |               |         |          |               | C <sub>2</sub> H <sub>6</sub>  |   |                             |     |   | H <sub>2</sub>   | 58.260    |   |   |   |
| C <sub>4</sub> H <sub>10</sub> | 0.05  | % Fe                       |                    |       |               |         |          |               | C <sub>3</sub> H <sub>8</sub>  |   |                             |     |   | N <sub>2</sub>   | 1.052     |   |   |   |
| N <sub>2</sub>                 | 2.97  | % Alc                      |                    | 8     |               |         |          |               | C <sub>4</sub> H <sub>10</sub> |   |                             |     |   | H <sub>2</sub> O |           |   |   |   |
| O <sub>2</sub>                 | 0.57  | API                        | 49.4               | 10.2  |               |         |          |               | N <sub>2</sub>                 |   |                             |     |   | Total            |           |   |   |   |
|                                |       |                            |                    |       |               |         |          |               | Total                          |   |                             |     |   |                  |           |   |   |   |

| FRESH FEED                       |       |        |        | WET GAS         |        |        |        | RECYCLE | COMBINED FEED | EFFLUENT | NET CHANGE |  | YIELD BASIS H <sub>2</sub> + CO FED |        |         |       |       |       |        |         |         |       |
|----------------------------------|-------|--------|--------|-----------------|--------|--------|--------|---------|---------------|----------|------------|--|-------------------------------------|--------|---------|-------|-------|-------|--------|---------|---------|-------|
| %                                | m/hr  | #/hr   | %      | At. Wt. Balance | m/hr   | #/hr   | m/hr   | m/hr    | m/hr          | m/hr     | #/hr       | #/MCF                                    | #/gal                               | gal/hr | gal/MCF | #/hr  | #/MCF | #/gal | gal/hr | gal/MCF | Unsats. |       |
| CO                               | 36.70 | 5.766  | 161.50 | 8.60            | 0.394  | 11.04  | 3.099  | 8.865   | 3.493         | -5.372   | -150.46    |  |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub>                   | 58.26 | 9.154  | 18.45  | 32.73           | 1.502  | 3.03   | 11.794 | 20.948  | 13.296        | -7.652   | -15.42     |  |                                     |        |         |       |       |       |        |         |         |       |
| CO <sub>2</sub>                  | 2.43  | 0.381  | 16.77  | 30.43           | 1.397  | 61.47  | 10.965 | 11.346  | 12.362        | 1.016    | 44.70      | 7.904                                    |                                     |        |         |       |       |       |        |         |         |       |
| N <sub>2</sub>                   | 1.05  | 0.165  | 4.62   | 4.07            | 0.187  | 5.22   | 1.467  | 1.632   | 1.654         |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| CH <sub>4</sub>                  | 1.56  | 0.246  | 3.95   | 13.75           | 0.631  | 10.12  | 4.955  | 5.201   | 5.586         | 0.335    | 6.17       | 1.092                                    |                                     |        |         |       |       |       |        |         |         |       |
| C <sub>2</sub> H <sub>6</sub>    |       |        |        | 2.92            | 0.134  | 3.74   | 1.052  | 1.052   | 1.186         | 0.134    | 3.74       | 0.661                                    |                                     |        |         |       |       |       |        |         |         | 0.129 |
| C <sub>3</sub> H <sub>8</sub>    |       |        |        | 1.86            | 0.086  | 2.58   | 0.670  | 0.670   | 0.756         | 0.086    | 2.58       | 0.456                                    |                                     |        |         |       |       |       |        |         |         | 0.920 |
| C <sub>4</sub> +C <sub>5</sub>   |       |        |        |                 |        |        |        |         |               |          | 12.48      | 2.209                                    |                                     |        |         |       |       |       |        |         |         |       |
| C <sub>2</sub> H <sub>4</sub>    |       |        |        | 3.20            | 0.147  | 6.18   | 1.153  | 1.153   | 1.300         | 0.147    | 6.18       | 1.093                                    | 4.32                                | 1.431  | 0.253   | 5.56  | 0.983 | 6.25  | 0.890  | 0.157   |         | 100.0 |
| C <sub>3</sub> H <sub>6</sub>    |       |        |        |                 |        |        |        |         |               |          |            |  | 4.24                                |        |         |       |       |       |        |         |         |       |
| C <sub>4</sub> H <sub>8</sub>    |       |        |        | 1.32            | 0.061  | 3.41   | 0.476  | 0.476   | 0.537         | 0.061    | 3.41       | 0.603                                    | 5.00                                | 0.682  | 0.121   | 3.24  | 0.573 | 6.10  | 0.531  | 0.094   |         | 75.0  |
| C <sub>5</sub> H <sub>10</sub>   |       |        |        | 0.44            | 0.020  | 1.15   | 0.159  | 0.159   | 0.179         | 0.020    | 1.15       | 0.203                                    | 4.86                                | 0.237  | 0.042   | 1.15  | 0.203 | 4.86  | 0.237  | 0.042   |         |       |
| C <sub>6</sub> H <sub>12</sub>   |       |        |        | 0.44            | 0.020  | 1.39   | 0.159  | 0.159   | 0.179         | 0.020    | 1.39       | 0.246                                    | 5.45                                | 0.255  | 0.045   | 1.39  | 0.246 | 5.45  | 0.255  | 0.045   |         | 85.0  |
| C <sub>7</sub> H <sub>14</sub>   |       |        |        | 0.08            | 0.004  | 0.29   | 0.029  | 0.029   | 0.033         | 0.004    | 0.29       | 0.051                                    | 5.25                                | 0.055  | 0.010   | 0.29  | 0.051 | 5.25  | 0.055  | 0.010   |         |       |
| C <sub>8</sub> H <sub>18</sub>   |       |        |        | 0.16            | 0.008  | 0.66   | 0.058  | 0.058   | 0.066         | 0.008    | 0.66       | 0.117                                    | 5.54                                | 0.119  | 0.021   | 0.66  | 0.117 | 5.54  | 0.119  | 0.021   |         |       |
| C <sub>9</sub> -C <sub>10</sub>  |       |        |        |                 |        |        |        |         |               |          | 13.08      | 2.313                                    |                                     | 2.779  | 0.492   | 12.29 | 2.173 |       | 2.087  |         |         | 0.369 |
| TOTAL                            |       | 15.712 |        | 4.590           | 110.29 | 36.035 | 51.747 | 44.081  |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub> +CO               | 94.96 | 14.920 | 5655   | SCFH            | 1.896  |        | 14.893 | 29.813  | 16.789        | -13.024  |            |  |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub> /CO               |       | 1.59   | 176834 |                 | 3.81   |        | 2.36   | 3.81    | 1.42          |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| CUMULATIVE TOTALS                |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| Previous Total                   |       |        |        |                 |        |        |        |         |               |          |            | EFFLUENT                                 |                                     |        |         |       |       |       |        |         |         |       |
| Current Period                   |       |        |        |                 |        |        |        |         |               |          |            | RECOVERED OIL                            |                                     |        |         |       |       |       |        |         |         |       |
| New Total                        |       |        |        |                 |        |        |        |         |               |          |            | SHIFT RATIO                              |                                     |        |         |       |       |       |        |         |         |       |
| FRESH FEED CONVERSION - %        |       |        |        |                 |        |        |        |         |               |          |            | (H <sub>2</sub> )(CO <sub>2</sub> ) 15.1 |                                     |        |         |       |       |       |        |         |         |       |
| TOTAL FEED CONVERSION - %        |       |        |        |                 |        |        |        |         |               |          |            | (H <sub>2</sub> O)(CO)                   |                                     |        |         |       |       |       |        |         |         |       |
| SELECTIVITY                      |       |        |        |                 |        |        |        |         |               |          |            | NET WATER                                |                                     |        |         |       |       |       |        |         |         |       |
| CONTRACTION                      |       |        |        |                 |        |        |        |         |               |          |            | GROSS WATER                              |                                     |        |         |       |       |       |        |         |         |       |
| CO                               |       |        |        |                 |        |        |        |         |               |          |            | HYDROCARBON TOTAL - C <sub>1</sub> +     |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub>                   |       |        |        |                 |        |        |        |         |               |          |            | 64.3011.370                              |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub> +CO               |       |        |        |                 |        |        |        |         |               |          |            | 61.1610.815                              |                                     |        |         |       |       |       |        |         |         |       |
| CO                               |       |        |        |                 |        |        |        |         |               |          |            | 7.330 1.296                              |                                     |        |         |       |       |       |        |         |         |       |
| H <sub>2</sub>                   |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| CO+H <sub>2</sub>                |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| C <sub>3</sub> +C <sub>4</sub> + |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 70.8                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 93.2                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 83.6                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 87.3                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 60.6                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 56.5                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 43.7                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |
| 80.6                             |       |        |        |                 |        |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |         |       |

\*Included in Reactor Effluent Total Weight Balance = 86.7% g/M3 = 16.91 x #/MCF cc/M3 = 141.3 x gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 B From Hr. 0700 to Hr. 0700 Hrs. 12-36

| FLOWS        |       | RUN CONDITIONS             |     |         | DISTILLATIONS |  |              | CATALYST DATA                 |                               | CATALYST ANALYSIS |           |                             |
|--------------|-------|----------------------------|-----|---------|---------------|--|--------------|-------------------------------|-------------------------------|-------------------|-----------|-----------------------------|
| SCFH         | %     | Generator Press.           | 315 | A S T M |               |  | Hempel Dist. | In Reactor at Start of Period | Particle Size                 |                   |           |                             |
| Oxygen       | 1587  | O <sub>2</sub> Preheat, °F | 430 | Prod.   | Naph          |  | °F           | % A.P.I.                      | Fresh Catalyst Charged        | Screen            |           |                             |
| Not. Gas     | 2531  | Gas Preheat, °F            | 713 | A.P.I.  | 57.3          |  | to 400       | 71.8 57.3                     | Catalyst Recharged            | Frac.             | M         | %                           |
| Total        | 4118  | Reactor Press.             | 300 | I.B.P.  | 94            |  | 400-550      | 15.6 36.4                     | Total                         | On 40             | 420+      | 19.9 80+                    |
| Fresh Feed   | 5983  | Steam Back Press.          | 800 | 5%      |               |  | 550+         | 12.9                          | Catalyst Taken Out            | 100               | 419-150   | 40.9 80-40                  |
| F.F. by C    |       | Temperatures, °F           |     | 10%     | 128           |  |              |                               | In Reactor at End of Period   | 472               | 150       | 149-105 12.3 40-20          |
| Avg. F.F.    |       | Heater Outlet              | 446 | 20      | 156           |  |              |                               |                               |                   | 200       | 104-74 13.3 20-10           |
| Wet Gas      | 2008  | Catalyst #1                | 630 | 30      | 176           |  | WATER        |                               |                               |                   | 250       | 73-62 4.6 10-0              |
| Contraction  |       | #2                         | 630 | 40      | 202           |  | Temp.        | %                             | Reactor d-P, H <sub>2</sub> O |                   | 325       | 61-44 6.4                   |
| Recycle      | 14853 | #3                         | 632 | 50      | 230           |  | 200          |                               | Pounds in Reactor             |                   | <325      | 43-0 2.6                    |
| Bleed        | 763   | #4                         | 640 | 60      | 262           |  | 203          |                               | Density, lbs./cu. ft.         | 146               |           |                             |
|              |       | #5                         | 628 | 70      | 280           |  | 208          |                               | Bed Height, Feet              |                   |           |                             |
| Total        | 15616 | Average                    | 630 | 80      | 310           |  |              |                               |                               |                   |           |                             |
| Total Feed   | 21599 | Product Separator          | 48  | 90      | 348           |  |              |                               |                               |                   |           |                             |
| Recycle/F.F. | 2.61  |                            |     | 95      | 378           |  |              |                               | Space Vel. SCFH/lb. cat.      |                   | Sp. Grav. | 4.7                         |
| Inlet Vel.   | 0.89  |                            |     | E.P.    | 390           |  |              |                               | Inventory Figures             | 14.6              |           | Specific Surface            |
| Steam Flow   |       |                            |     | Rec.    | 97.0          |  |              |                               | From d-P Meters               |                   |           | 7.0 ml. Ni <sub>2</sub> /gm |
|              |       |                            |     | Res.    | 1.5           |  |              |                               |                               |                   |           |                             |
|              |       |                            |     | Loss    | 1.5           |  |              |                               | GENERATOR ELEMENTAL BALANCE   |                   |           |                             |

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |  | IN                             |                |      |       |       |                  | OUT   |                |      |      |   |                   |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--|--------------------------------|----------------|------|-------|-------|------------------|-------|----------------|------|------|---|-------------------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F |  | Mol %                          | -60°F-<br>m/hr | C    | H     | O     |                  | Mol % | -60°F-<br>m/hr | C    | H    | O |                   |
| CO <sub>2</sub>                | 1.57  | Neut. No.          | 45    | 42      |         |          |  | O <sub>2</sub>                 | 0.04           |      |       |       | CO <sub>2</sub>  | 1.69  |                |      |      |   | 0.27              |
| CH <sub>4</sub>                | 84.44 | Sap. No.           | 50    | 44      |         |          |  | CO                             | 0.11           | 0.11 |       | 0.210 | CO               | 35.36 | 5.582          | 5.58 |      |   | 5.6               |
| C <sub>2</sub> H <sub>6</sub>  | 8.60  | Hydrox. No.        |       |         |         |          |  | CH <sub>4</sub>                | 5.64           | 5.64 | 22.56 |       | CH <sub>4</sub>  | 3.37  | 0.532          | 0.53 | 2.13 |   |                   |
| C <sub>3</sub> H <sub>8</sub>  | 1.89  | Bromine No.        | 79    |         |         |          |  | C <sub>2</sub> H <sub>6</sub>  | 0.57           | 1.15 | 3.44  |       | H <sub>2</sub>   | 58.62 | 9.254          |      |      |   | 18.51             |
| C <sub>4</sub> H <sub>10</sub> | 0.07  | % Fe               |       |         |         |          |  | C <sub>3</sub> H <sub>8</sub>  | 0.13           | 0.39 | 1.01  |       | N <sub>2</sub>   | 0.96  | 0.152          |      |      |   |                   |
| N <sub>2</sub>                 | 2.84  | % Alc              |       | 8       |         |          |  | C <sub>4</sub> H <sub>10</sub> | 0.01           | 0.02 | 0.1   |       | H <sub>2</sub> O |       |                |      |      |   | 5.76 2.9          |
| O <sub>2</sub>                 | 0.59  | *API               | 50.4  | 10.0    |         |          |  | N <sub>2</sub>                 | 0.19           |      |       |       | Total            |       |                |      |      |   | 6.38 26.39 9.0    |
|                                |       |                    |       |         |         |          |  | Total                          |                | 7.29 | 27.06 | 8.66  |                  |       |                |      |      |   | 87.53 97.54 103.8 |

| FRESH FEED  |       |        |        | WET GAS         |       |        |        | RECYCLE | COMBINED FEED | EFFLUENT | NET CHANGE |  | YIELD BASIS H <sub>2</sub> + CO FED |        |         |       |       |       |        |         |        |  |
|---|-------|--------|--------|-----------------|-------|--------|--------|---------|---------------|----------|------------|--|-------------------------------------|--------|---------|-------|-------|-------|--------|---------|--------|--|
| %   | m/hr  | #/hr   | %      | At. Wt. Balance | m/hr  | m/hr   | m/hr   | m/hr    | m/hr          | m/hr     | m/hr       | #/MCF                                  | #/gal                               | gal/hr | gal/MCF | #/hr  | #/MCF | #/gal | gal/hr | gal/MCF | Unsat. |  |
| CO  | 35.36 | 5.58   | 158.35 | 11.57           | 0.635 | 17.79  | 4.765  | 10.347  | 5.400         | -4.947   | -138.56    |  |                                     |        |         |       |       |       |        |         |        |  |
| H <sub>2</sub>  | 58.63 | 9.26   | 18.66  | 40.05           | 2.203 | 4.44   | 16.503 | 25.758  | 18.706        | -7.052   | -14.22     |  |                                     |        |         |       |       |       |        |         |        |  |
| CO <sub>2</sub>   | 1.69  | 0.27   | 11.75  | 21.93           | 1.206 | 55.08  | 9.034  | 9.501   | 10.240        | 0.939    | 41.33      | 7.350                                  |                                     |        |         |       |       |       |        |         |        |  |
| N <sub>2</sub>  | 0.95  | 0.15   | 4.20   | 2.45            | 0.135 | 3.78   | 1.009  | 1.159   | 1.144         | 0.015    |            |  |                                     |        |         |       |       |       |        |         |        |  |
| CH <sub>4</sub>   | 3.37  | 0.53   | 8.53   | 15.17           | 0.833 | 13.37  | 6.248  | 6.780   | 7.081         | 0.301    | 4.84       | 0.861                                  |                                     |        |         |       |       |       |        |         |        |  |
| C <sub>2</sub> H <sub>6</sub>                             |       |        |        | 2.13            | 0.117 | 3.53   | 0.979  | 0.879   | 0.996         | 0.117    | 3.53       | 0.628                                  |                                     |        |         |       |       |       |        |         |        |  |
| C <sub>3</sub> H <sub>8</sub>                             |       |        |        | 1.17            | 0.064 | 1.93   | 0.482  | 0.482   | 0.546         | 0.064    | 1.93       | 0.343                                  |                                     |        |         |       |       |       |        |         |        |  |
| C <sub>4</sub> +C <sub>5</sub>                            |       |        |        |                 |       |        |        |         |               |          | 10.30      | 1.832                                  |                                     |        |         |       |       |       |        |         |        |  |
| C <sub>2</sub> H <sub>4</sub>                             |       |        |        | 2.74            | 0.151 | 6.33   | 1.127  | 1.127   | 1.278         | 0.151    | 6.33       | 1.126                                  | 4.32                                | 1.465  | 0.261   | 5.70  | 1.014 | 6.28  | 0.911  | 0.162   | 91.5   |  |
| C <sub>2</sub> H <sub>2</sub>                             |       |        |        | 0.25            | 0.013 | 0.59   | 0.105  | 0.105   | 0.118         | 0.013    | 0.59       | 0.105                                  | 4.24                                | 0.139  | 0.025   |       |       |       |        |         |        |  |
| C <sub>3</sub> H <sub>6</sub>                             |       |        |        | 1.45            | 0.080 | 4.48   | 0.595  | 0.595   | 0.675         | 0.080    | 4.48       | 0.797                                  | 5.00                                | 0.996  | 0.159   | 4.26  | 0.758 | 6.10  | 0.698  | 0.124   | 78.2   |  |
| C <sub>4</sub> H <sub>10</sub>                            |       |        |        | 0.40            | 0.022 | 1.27   | 0.166  | 0.166   | 0.188         | 0.022    | 1.27       | 0.226                                  | 4.86                                | 0.261  | 0.046   | 1.27  | 0.226 | 4.86  | 0.261  | 0.046   |        |  |
| C <sub>4</sub> H <sub>8</sub>                             |       |        |        | 0.56            | 0.031 | 2.18   | 0.229  | 0.229   | 0.260         | 0.031    | 2.18       | 0.388                                  | 5.45                                | 0.400  | 0.071   | 2.18  | 0.388 | 5.45  | 0.400  | 0.071   |        |  |
| C <sub>5</sub> H <sub>12</sub>                            |       |        |        |                 |       |        |        |         |               |          |            |  | 5.25                                |        |         |       |       |       |        |         |        |  |
| C <sub>5</sub> H <sub>10</sub>                            |       |        |        | 0.40            | 0.008 | 0.70   | 0.059  | 0.059   | 0.067         | 0.008    | 0.70       | 0.124                                  | 5.54                                | 0.126  | 0.022   | 0.70  | 0.124 | 5.54  | 0.126  | 0.022   |        |  |
| C <sub>3</sub> -C <sub>4</sub>                            |       |        |        |                 |       |        |        |         |               |          | 15.55      | 2.766                                  |                                     | 3.287  | 0.584   | 14.11 | 2.510 |       | 2.396  | 0.425   |        |  |
| TOTAL   |       | 15.786 | 199.49 | 100.00          | 5.499 | 144.92 | 41.202 | 56.987  | 50.022        |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| H <sub>2</sub> +CO  | 93.99 | 14.837 | 5623   | SCFH            | 2.838 |        | 21.288 | 36.105  |               | -11.999  |            |  |                                     |        |         |       |       |       |        |         |        |  |
| H <sub>2</sub> /CO  |       | 1.66   | 177841 |                 | 3.47  |        |        | 2.48    |               | 1.43     |            |  |                                     |        |         |       |       |       |        |         |        |  |
| CUMULATIVE TOTALS   |       |        |        |                 |       |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| H <sub>2</sub> +CO, MCF                                   |       |        |        |                 |       |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| Previous Total  |       |        |        |                 |       |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| Current Period  |       |        |        |                 |       |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| New Total   |       |        |        |                 |       |        |        |         |               |          |            |  |                                     |        |         |       |       |       |        |         |        |  |
| EFFLUENT  |       |        |        |                 |       |        |        |         |               |          |            | RECOVERED OIL                          |                                     |        |         |       |       |       |        |         |        |  |
| SHIFT RATIO   |       |        |        |                 |       |        |        |         |               |          |            | TOTAL OIL                              |                                     |        |         |       |       |       |        |         |        |  |
| (H <sub>2</sub> )(CO <sub>2</sub> )(H <sub>2</sub> O)(CO) |       |        |        |                 |       |        |        |         |               |          |            | WATER SOLUBLE CHEMICALS                |                                     |        |         |       |       |       |        |         |        |  |
| SELECTIVITY   |       |        |        |                 |       |        |        |         |               |          |            | TOTAL LIQUID PRODUCTS C <sub>3</sub> + |                                     |        |         |       |       |       |        |         |        |  |
| FRESH FEED CONVERSION - %                                 |       |        |        |                 |       |        |        |         |               |          |            | NET WATER                              |                                     |        |         |       |       |       |        |         |        |  |
| TOTAL FEED CONVERSION - %                                 |       |        |        |                 |       |        |        |         |               |          |            | GROSS WATER                            |                                     |        |         |       |       |       |        |         |        |  |
| CONTRACTION   |       |        |        |                 |       |        |        |         |               |          |            | HYDROCARBON TOTAL - C <sub>3</sub> +   |                                     |        |         |       |       |       |        |         |        |  |
| 65.2  | 88.6  | 76.2   | 80.9   | 47.8            | 27.4  | 33.2   | 81.98  |         |               | 3.041    | 54.79      | 9.744                                  |                                     | 6.578  | 1.170   |       |       |       |        |         |        |  |
|   |       |        |        |                 |       |        |        |         |               | 59.60    | 10.599     |  |                                     | 7.150  | 1.272   |       |       |       |        |         |        |  |
|   |       |        |        |                 |       |        |        |         |               | 57.17    | 10.167     |  |                                     |        |         |       |       |       |        |         |        |  |

\*Included in Reactor Effluent Total

Weight Balance = 97.96%

g/M3 - 16.91 \ = MCF  
cc/M3 - 141.3 \ gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 c From Hr. 0700 to Hr. 1/14/49 Hrs. 36-48

| FLOWS        |       | RUN CONDITIONS             |     | DISTILLATIONS |      |  |  | CATALYST DATA |          | CATALYST ANALYSIS             |                             |               |       |         |      |                             |   |
|--------------|-------|----------------------------|-----|---------------|------|--|--|---------------|----------|-------------------------------|-----------------------------|---------------|-------|---------|------|-----------------------------|---|
| SCFH         | %     | Generator Press.           | 324 | A S T M       |      |  |  | Hempel Dist.  |          | In Reactor at Start of Period |                             | Particle Size |       |         |      |                             |   |
| Oxygen       | 2072  | O <sub>2</sub> Preheat, °F | 480 | Prod. Naph    |      |  |  | °F            | % A.P.I. | Fresh Catalyst Charged        |                             | Screen        |       |         |      |                             |   |
| Nat. Gas     | 2953  | Gas Preheat, °F            | 700 | A.P.I.        | 57.7 |  |  | to 400        | 72.0     | 57.7                          | Catalyst Recharged          |               | Frac. | M       | %    | M                           | % |
| Total        | 5025  | Reactor Press.             | 502 | I.B.P.        | 100  |  |  | 400-550       | 18.6     | 36.2                          | Total                       |               | On 40 | 420+    | 20.3 | 80+                         |   |
| Fresh Feed   | 7767  | Steam Back Press.          | 800 | 5%            |      |  |  | 550+          | 9.4      |                               | Catalyst Taken Out          |               | 100   | 419-150 | 43.4 | 80-40                       |   |
| F.F. by C    | 8362  | Temperatures, °F           |     | 10%           | 136  |  |  |               |          |                               | In Reactor at End of Period |               | 150   | 149-105 | 13.1 | 40-20                       |   |
| Avg. F.F.    | 8065  | Heater Outlet              | 349 | 20            | 160  |  |  |               |          |                               |                             |               | 200   | 104-74  | 13.2 | 20-10                       |   |
| Wet Gas      | 2924  | Catalyst #1                | 624 | 30            | 180  |  |  | WATER         |          |                               |                             | 250           | 73-62 | 3.2     | 10-0 |                             |   |
| Contraction  |       | #2                         | 623 | 40            | 206  |  |  | Temp.         | %        | Reactor d-P, H <sub>2</sub> O |                             | 325           | 61-44 | 5.2     |      |                             |   |
| Recycle      | 14996 | #3                         | 627 | 50            | 226  |  |  | 200           |          | Pounds in Reactor             |                             | <325          | 43-0  | 1.0     |      |                             |   |
| Bleed        | 825   | #4                         | 651 | 60            | 252  |  |  | 203           |          | Density, lbs./cu. ft.         |                             | 150           |       |         |      |                             |   |
|              |       | #5                         | 612 | 70            | 280  |  |  | 208           |          | Bed Height, Feet              |                             |               |       |         |      |                             |   |
| Total        | 15921 | Average                    | 625 | 80            | 308  |  |  |               |          | Space Vel. SCFH/lb. cat.      |                             |               |       |         |      |                             |   |
| Total Feed   | 23588 | Product Separator          | 48  | 90            | 348  |  |  |               |          | Inventory Figures             |                             | 12.2          |       |         |      |                             |   |
| Recycle/F.F. | 2.04  |                            |     | 95            | 382  |  |  |               |          | From d-P Meters               |                             |               |       |         |      |                             |   |
| Inlet Vel.   | 0.96  |                            |     | E.P.          | 594  |  |  |               |          |                               |                             |               |       |         |      | m <sup>2</sup> /gm          |   |
| Steam Flow   |       |                            |     | Rec.          | 97.5 |  |  |               |          |                               |                             |               |       |         |      | 1.0 ml. Ni <sub>2</sub> /gm |   |
|              |       |                            |     | Res.          | 1.0  |  |  |               |          |                               |                             |               |       |         |      |                             |   |
|              |       |                            |     | Loss          | 1.5  |  |  |               |          |                               |                             |               |       |         |      |                             |   |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |        | PRODUCT INSPECTION |       |         |         |          |                                | IN    |           |        |        | OUT    |                  |           |        |       |        |
|--------------------------------|--------|--------------------|-------|---------|---------|----------|--------------------------------|-------|-----------|--------|--------|--------|------------------|-----------|--------|-------|--------|
| %                              |        | Oil                | Water | Product | Pour °F | SUS @ °F | #/hr                           | Mol-% | SCFH m/hr | C      | H      | O      | Mol %            | SCFH m/hr | C      | H     | O      |
| CO <sub>2</sub>                | 1.290  | Neut. No.          | 47    | 40      |         |          | O <sub>2</sub>                 |       | 5.509     |        |        | 11.018 | CO <sub>2</sub>  | 1.707     | 0.350  | 0.350 | 0.700  |
| CH <sub>4</sub>                | 84.138 | Sop. No.           | 51    | 42      |         |          | CO <sub>2</sub>                | 0.101 | 0.101     | 0.208  |        | 0.208  | CO               | 35.770    | 7.330  | 7.330 | 7.330  |
| C <sub>2</sub> H <sub>6</sub>  | 9.036  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 6.570 | 6.570     | 26.280 |        |        | CH <sub>4</sub>  | 1.440     | 0.295  | 0.295 | 1.180  |
| C <sub>3</sub> H <sub>8</sub>  | 2.322  | Bromine No.        | 79    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.706 | 1.412     | 4.236  |        |        | H <sub>2</sub>   | 60.243    | 12.794 |       | 25.588 |
| C <sub>4</sub> H <sub>10</sub> | 0.066  | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.181 | 0.543     | 1.448  |        |        | N <sub>2</sub>   | 0.840     | 0.172  |       |        |
| N <sub>2</sub>                 | 2.606  | % Alc              |       | 8       |         |          | C <sub>4</sub> H <sub>10</sub> | 0.005 | 0.020     | 0.050  |        |        | H <sub>2</sub> O |           |        |       | 5.246  |
| O <sub>2</sub>                 | 0.542  | API                | 50.8  | 10.7    |         |          | N <sub>2</sub>                 | 0.204 |           |        |        |        | Total            |           |        |       |        |
|                                |        |                    |       |         |         |          | Total                          |       |           | 8.646  | 32.014 | 11.22  |                  |           |        |       |        |

| FRESH FEED                     |        | WET GAS        |                    | RECYCLE                   | COMBINED FEED  | EFFLUENT          | NET CHANGE                     | YIELD BASIS H <sub>2</sub> +CO FED |            |               |         |               |         |             |         |                          |        |                           |       |
|--------------------------------|--------|----------------|--------------------|---------------------------|----------------|-------------------|--------------------------------|------------------------------------|------------|---------------|---------|---------------|---------|-------------|---------|--------------------------|--------|---------------------------|-------|
| %                              | m/hr   | #/hr           | %                  | At. Wt. Balance m/hr      | #/hr           | m/hr              | m/hr                           | #/MCF                              | CONDENSATE |               |         |               | POLYMER |             |         |                          | Unsat. |                           |       |
|                                |        |                |                    |                           |                |                   |                                |                                    | #/gal      | gal/hr        | gal/MCF | #/hr          | #/MCF   | #/gal       | gal/MCF |                          |        |                           |       |
| CO                             | 28.010 | 35.77          | 7.33               | 205.31                    | 12.790         | 1.052             | 29.47                          | 5.341                              | 12.671     | 6.393         | -6.278  | 175.84        |         |             |         |                          |        |                           |       |
| H <sub>2</sub>                 | 2.016  | 60.24          | 12.35              | 24.89                     | 45.670         | 3.755             | 7.57                           | 19.067                             | 31.413     | 22.822        | -8.591  | -17.32        |         |             |         |                          |        |                           |       |
| CO <sub>2</sub>                | 44.010 | 1.71           | 0.35               | 15.40                     | 21.057         | 1.731             | 76.17                          | 8.790                              | 9.140      | 10.521        | 1.381   | 60.77         | 8.149   |             |         |                          |        |                           |       |
| N <sub>2</sub>                 | 28.016 | 0.84           | 0.17               | 4.88                      | 2.847          | 0.184             | 5.17                           | 0.938                              | 1.110      | 1.122         | 0.012   |               |         |             |         |                          |        |                           |       |
| CH <sub>4</sub>                | 10.042 | 1.44           | 0.30               | 4.73                      | 9.330          | 0.767             | 12.31                          | 3.895                              | 4.190      | 4.662         | 0.472   | 7.58          | 1.016   |             |         |                          |        |                           |       |
| C <sub>2</sub> H <sub>6</sub>  | 28.028 |                |                    |                           | 2.100          | 0.173             | 4.84                           | 0.877                              | 0.877      | 1.050         | 0.173   | 4.84          | 0.649   |             |         |                          |        |                           |       |
| C <sub>3</sub> H <sub>8</sub>  | 30.048 |                |                    |                           | 1.093          | 0.090             | 2.70                           | 0.456                              | 0.456      | 0.546         | 0.090   | 2.70          | 0.362   |             |         |                          |        |                           |       |
| C <sub>4</sub> +C <sub>5</sub> |        |                |                    |                           |                |                   |                                |                                    |            |               |         | 15.12         | 2.027   |             |         |                          |        |                           |       |
| C <sub>2</sub> H <sub>4</sub>  | 42.078 |                |                    |                           | 2.717          | 0.223             | 9.37                           | 1.134                              | 1.134      | 1.357         | 0.223   | 9.37          | 1.257   | 4.32        | 2.169   | 0.291                    | 8.43   | 1.130                     |       |
| C <sub>2</sub> H <sub>6</sub>  | 44.094 |                |                    |                           | 0.417          | 0.034             | 1.50                           | 0.174                              | 0.174      | 0.208         | 0.034   | 1.50          | 0.201   | 4.24        | 0.354   | 0.047                    |        |                           |       |
| C <sub>2</sub> H <sub>8</sub>  | 56.104 |                |                    |                           | 1.483          | 0.121             | 6.82                           | 0.619                              | 0.619      | 0.740         | 0.121   | 6.82          | 0.915   | 8.00        | 1.364   | 0.183                    | 6.48   | 0.869                     |       |
| C <sub>2</sub> H <sub>10</sub> | 58.120 |                |                    |                           | 0.330          | 0.027             | 1.55                           | 0.138                              | 0.138      | 0.165         | 0.027   | 1.55          | 0.208   | 4.86        | 0.319   | 0.043                    | 1.55   | 0.208                     |       |
| C <sub>2</sub> H <sub>12</sub> | 70.130 |                |                    |                           | 0.563          | 0.047             | 3.29                           | 0.235                              | 0.235      | 0.282         | 0.047   | 3.29          | 0.441   | 5.45        | 0.604   | 0.081                    | 3.29   | 0.441                     |       |
| C <sub>2</sub> H <sub>14</sub> | 72.146 |                |                    |                           | 0.060          | 0.005             | 0.38                           | 0.025                              | 0.025      | 0.030         | 0.005   | 0.38          | 0.051   | 5.25        | 0.072   | 0.010                    | 0.38   | 0.051                     |       |
| C <sub>2</sub> H <sub>16</sub> | 94.156 |                |                    |                           | 0.137          | 0.012             | 0.99                           | 0.057                              | 0.057      | 0.069         | 0.012   | 0.99          | 0.133   | 5.54        | 0.179   | 0.024                    | 0.99   | 0.133                     |       |
| C <sub>3</sub> -C <sub>4</sub> |        |                |                    |                           |                |                   |                                |                                    |            |               |         | 23.90         | 3.206   |             | 5.061   | 0.679                    | 21.12  | 2.932                     |       |
| TOTAL                          |        | 20.493         | 255.15             |                           | 8.221          | 182.12            |                                | 41.746                             | 62.239     | 53.269        |         |               |         |             |         |                          |        |                           |       |
| H <sub>2</sub> +CO             |        | 96.01          | 19.676             | 7457 S.C.F.H.             | 4.807          |                   |                                | 24.408                             | 44.084     | 29.215        | -14.869 |               |         |             |         |                          |        |                           |       |
| H <sub>2</sub> /CO             |        | 1.89           | 13410              |                           | 3.57           |                   |                                | 2.48                               |            | 1.37          |         |               |         |             |         |                          |        |                           |       |
| CUMULATIVE TOTALS              |        |                |                    |                           |                |                   |                                | EFFLUENT                           |            | RECOVERED OIL |         | POLYMER       |         | CONDENSATE  |         | POLYMER                  |        | Unsat.                    |       |
|                                |        |                |                    |                           |                |                   |                                |                                    |            | 0.249%        |         | 34.93         |         | 4.684       |         | 5.380                    |        | 0.721                     |       |
| Previous Total                 |        |                |                    |                           |                |                   |                                | SHIFT RATIO                        |            | TOTAL OIL     |         | WATER SOLUBLE |         | CHEMICALS   |         | TOTAL LIQUID             |        | PRODUCTS C <sub>2</sub> + |       |
| Current Period                 |        |                |                    |                           |                |                   |                                | (H <sub>2</sub> )(CO) <sub>2</sub> |            | 0.088%        |         | 4.69          |         | 0.629       |         | 0.558                    |        | 0.075                     | 4.69  |
| New Total                      |        |                |                    |                           |                |                   |                                | (H <sub>2</sub> O)(CO)             |            | 12.7          |         | 65.52         |         | 8.519       |         | 10.999                   |        | 1.475                     | 60.74 |
| FRESH FEED CONVERSION - %      |        |                |                    | TOTAL FEED CONVERSION - % |                |                   |                                | SELECTIVITY                        |            | NET WATER     |         | GROSS WATER   |         | HYDROCARBON |         | TOTAL - C <sub>2</sub> + |        |                           |       |
| Contraction                    | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> +C <sub>4</sub> |                                    | 2.965%     | 53.41         | 7.162   | 6.412         | 0.960   | 58.10       | 7.791   | 6.970                    | 0.935  |                           |       |
| 59.9                           | 85.65  | 69.59          | 75.6               | 49.55                     | 27.35          | 33.73             | 80.77                          |                                    | 78.64      | 10.546        |         |               |         |             |         |                          |        |                           |       |

\*Included in Reactor Effluent Total

Weight Balance = 96.1%

g/M3 = 16.91 × MCF  
cc/M3 = 141.3 × gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 D From Hr. 0700 to Hr. 0700 Hrs. 48-72

| FLOWS        |       | RUN CONDITIONS             |     | DISTILLATIONS |      |              |      | CATALYST DATA                 |                             | CATALYST ANALYSIS    |                               |         |           |       |                             |
|--------------|-------|----------------------------|-----|---------------|------|--------------|------|-------------------------------|-----------------------------|----------------------|-------------------------------|---------|-----------|-------|-----------------------------|
| SCFH         | %     | Generator Press.           | 325 | A S T M       |      | Hempel Dist. |      | In Reactor at Start of Period |                             | Particle Size        |                               |         |           |       |                             |
| Oxygen       | 2096  | O <sub>2</sub> Preheat, °F | 477 | Prod.         | Reph | °F           | %    | A.P.I.                        | Fresh Catalyst Charged      | Screen Sedimentation |                               |         |           |       |                             |
| Nat. Gas     | 3342  | Gas Preheat, °F            | 720 | A.P.I.        | 56.7 | to 400       | 71.6 | 56.7                          | Catalyst Recharged          | Frac.                | M                             | %       | M         | %     |                             |
| Total        | 5438  | Reactor Press.             | 300 | I.B.P.        | 90   | 400-550      | 16.6 | 37.8                          | Total                       | On 40                | 420+                          | 24.5    | 80+       |       |                             |
| Fresh Feed   | 8606  | Steam Back Press.          | 750 | 5%            |      | 550+         | 11.8 |                               | Catalyst Taken Out          | 100                  | 419-150                       | 43.3    | 80-40     |       |                             |
| F. F. by C   | 9259  | Temperatures, °F           |     | 10%           | 124  |              |      |                               | In Reactor at End of Period | 595                  | 150                           | 149-105 | 12.1      | 40-20 |                             |
| Avg. F. F.   | 3033  | Heater Outlet              | 410 | 20            | 158  |              |      |                               |                             |                      | 200                           | 104-74  | 11.7      | 20-10 |                             |
| Wet Gas      | 3197  | Catalyst #1                | 620 | 30            | 182  |              |      |                               | WATER                       |                      | 250                           | 73-62   | 3.5       | 10-0  |                             |
| Contraction  |       | #2                         | 620 | 40            | 206  |              |      |                               | Temp.                       | %                    | Reactor d-P, H <sub>2</sub> O | 325     | 61-44     | 3.3   |                             |
| Recycle      | 15174 | #3                         | 646 | 50            | 226  |              |      |                               | 200                         |                      | Pounds in Reactor             | <325    | 43-0      | 1.6   |                             |
| Bleed        | 851   | #4                         | 649 | 60            | 252  |              |      |                               | 203                         |                      | Density, lbs./cu. ft.         | 154     |           |       | Chem. Anal.                 |
|              |       | #5                         | 618 | 70            | 286  |              |      |                               | 208                         |                      | Bed Height, Feet              |         | Aerated   | 212   | % Fe                        |
| Total        | 16025 | Average                    | 620 | 80            | 318  |              |      |                               |                             |                      |                               |         | Settled   | 213   | % C                         |
| Total Feed   | 24651 | Product Separator          | 48  | 90            | 354  |              |      |                               |                             |                      |                               |         | Compacted | 215   | % Oil                       |
| Recycle/F.F. | 1.86  |                            |     | 95            | 386  |              |      |                               |                             |                      | Space Vel. SCFH/lb. cat.      |         | Sp. Grav. | 4.98  | Specific Surface            |
| Inlet Vel.   | 1.01  |                            |     | E.P.          | 400  |              |      |                               |                             |                      | Inventory Figures             | 15.01   |           |       | m <sup>2</sup> /gm          |
| Steam Flow   |       |                            |     | Res.          | 97.0 |              |      |                               |                             |                      | From d-P Meters               |         |           |       | 1.5 ml. NH <sub>3</sub> /gm |
|              |       |                            |     | Loss.         | 1.5  |              |      |                               |                             |                      |                               |         |           |       |                             |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |        | PRODUCT INSPECTION |       |         |         |          |                                | IN        |       |        |        | OUT              |           |        |        |        |     |
|--------------------------------|--------|--------------------|-------|---------|---------|----------|--------------------------------|-----------|-------|--------|--------|------------------|-----------|--------|--------|--------|-----|
| %                              |        | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SCFH m/hr | C     | H      | O      | Mol %            | SCFH m/hr | C      | H      | O      |     |
| CO <sub>2</sub>                | 1.290  | Neut. No.          | 45    | 40      |         |          | O <sub>2</sub>                 | 5.578     |       |        | 11.156 | CO <sub>2</sub>  | 1.690     | 0.334  | 0.38   | 0.0    |     |
| CH <sub>4</sub>                | 84.138 | Sop. Nbr.          | 51    | 45      |         |          | CO <sub>2</sub>                | 0.114     | 0.114 |        | 0.228  | CO               | 35.456    | 8.051  | 8.05   | 8.1    |     |
| C <sub>2</sub> H <sub>6</sub>  | 9.036  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.420     | 7.420 | 29.680 |        | CH <sub>4</sub>  | 2.116     | 0.430  | 0.48   | 1.920  |     |
| C <sub>3</sub> H <sub>8</sub>  | 2.322  | Bromine % Fe       | 76    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.798     | 1.596 | 4.788  |        | N <sub>2</sub>   | 59.890    | 13.600 |        | 27.200 |     |
| C <sub>4</sub> H <sub>10</sub> | 0.066  | % Alc              |       | 10      |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.205     | 0.615 | 1.640  |        | H <sub>2</sub> O | 0.848     | 0.193  |        |        |     |
| N <sub>2</sub>                 | 2.606  | Aniline Point °F   | 60.8  |         |         |          | C <sub>4</sub> H <sub>10</sub> | 0.006     | 0.024 | 0.060  |        | Total            |           |        |        | 6.089  | 3.0 |
| O <sub>2</sub>                 | 0.542  | API                | 51.2  | 10.6    |         |          | N <sub>2</sub>                 |           |       |        |        |                  | 22.708    | 8.92   | 35.209 | 11.9   |     |
|                                |        |                    |       |         |         |          | Total                          | 8.819     | 9.769 | 36.163 | 11.384 |                  |           | 91.26  | 97.34  | 104.2  |     |

| FRESH FEED                          |       |        |           | WET GAS                            |         |        |        | RECYCLE | COMBINED FEED | EFFLUENT | NET CHANGE                               | YIELD BASIS H <sub>2</sub> + CO FED |        |         |       |       |        |         |          |       |      |
|-------------------------------------|-------|--------|-----------|------------------------------------|---------|--------|--------|---------|---------------|----------|--|-------------------------------------|--------|---------|-------|-------|--------|---------|----------|-------|------|
| %                                   | m/hr  | #/hr   | %         | At. Wt.                            | Balance | m/hr   | m/hr   | m/hr    | m/hr          | #/hr     | #/MCF                                    | #/gal                               | gal/hr | gal/MCF | #/hr  | #/MCF | gal/hr | gal/MCF | % Unsat. |       |      |
| CO                                  | 35.46 | 8.05   | 225.51    | 14.7                               | 1.406   | 39.40  | 6.229  | 14.280  | 7.635         | -6.645   | -186.11                                  |                                     |        |         |       |       |        |         |          |       |      |
| H <sub>2</sub>                      | 59.89 | 13.60  | 27.42     | 46.5                               | 4.445   | 8.96   | 19.678 | 33.278  | 24.123        | -9.155   | -18.46                                   |                                     |        |         |       |       |        |         |          |       |      |
| CO <sub>2</sub>                     | 1.69  | 0.33   | 16.90     | 18.9                               | 1.803   | 79.34  | 7.981  | 8.365   | 9.784         | 1.419    | 62.44                                    | 7.609                               |        |         |       |       |        |         |          |       |      |
| N <sub>2</sub>                      | 0.85  | 0.19   | 5.38      | 2.1                                | 0.196   | 5.47   | 0.866  | 1.058   | 1.062         |          |  |                                     |        |         |       |       |        |         |          |       |      |
| CH <sub>4</sub>                     | 2.12  | 0.48   | 7.72      | 10.6                               | 1.015   | 16.27  | 4.493  | 4.974   | 5.508         | 0.534    | 8.55                                     | 1.042                               |        |         |       |       |        |         |          |       |      |
| C <sub>2</sub> H <sub>6</sub>       |       |        |           | 1.9                                | 0.179   | 5.02   | 0.790  | 0.790   | 0.969         | 0.179    | 5.02                                     | 0.612                               |        |         |       |       |        |         |          |       |      |
| C <sub>3</sub> H <sub>8</sub>       |       |        |           | 0.9                                | 0.097   | 2.63   | 0.387  | 0.387   | 0.474         | 0.087    | 2.63                                     | 0.320                               |        |         |       |       |        |         |          |       |      |
| C <sub>4</sub> +C <sub>5</sub>      |       |        |           |                                    |         |        |        |         |               |          | 16.20                                    | 1.974                               |        |         |       |       |        |         |          |       |      |
| C <sub>2</sub> H <sub>4</sub>       |       |        |           | 2.2                                | 0.210   | 8.81   | 0.928  | 0.928   | 1.138         | 0.210    | 8.81                                     | 1.074                               | 4.32   | 2.039   | 0.248 | 7.23  | 0.966  | 6.25    | 1.269    | 0.155 | 92.6 |
| C <sub>2</sub> H <sub>6</sub>       |       |        |           | 0.2                                | 0.017   | 0.75   | 0.074  | 0.074   | 0.091         | 0.017    | 0.75                                     | 0.091                               | 4.24   | 0.177   | 0.022 |       |        |         |          |       |      |
| C <sub>3</sub> H <sub>8</sub>       |       |        |           | 1.1                                | 0.108   | 6.04   | 0.478  | 0.478   | 0.586         | 0.108    | 6.04                                     | 0.736                               | 5.00   | 1.208   | 0.147 | 5.74  | 0.699  | 6.10    | 0.941    | 0.115 | 81.3 |
| C <sub>4</sub> H <sub>10</sub>      |       |        |           | 0.3                                | 0.025   | 1.45   | 0.110  | 0.110   | 0.138         | 0.025    | 1.45                                     | 0.177                               | 4.86   | 0.298   | 0.036 | 1.45  | 0.177  | 4.86    | 0.298    | 0.036 |      |
| C <sub>5</sub> H <sub>12</sub>      |       |        |           | 0.5                                | 0.046   | 3.26   | 0.204  | 0.204   | 0.250         | 0.046    | 3.26                                     | 0.397                               | 5.45   | 0.598   | 0.073 | 3.26  | 0.397  | 5.45    | 0.598    | 0.073 | 92.6 |
| C <sub>6</sub> H <sub>14</sub>      |       |        |           | 0.04                               | 0.003   | 0.25   | 0.017  | 0.017   | 0.020         | 0.003    | 0.25                                     | 0.030                               | 5.25   | 0.048   | 0.006 | 0.25  | 0.030  | 5.25    | 0.048    | 0.006 |      |
| C <sub>7</sub> H <sub>16</sub>      |       |        |           | 0.11                               | 0.011   | 0.95   | 0.048  | 0.048   | 0.059         | 0.011    | 0.95                                     | 0.116                               | 5.54   | 0.171   | 0.021 | 0.95  | 0.116  | 5.54    | 0.171    | 0.021 |      |
| C <sub>8</sub> +C <sub>9</sub>      |       |        |           |                                    |         |        |        |         |               |          | 21.51                                    | 2.621                               |        | 4.539   | 0.553 | 19.58 | 2.385  | 3.325   | 0.406    |       |      |
| TOTAL                               |       | 22.708 | 282.93    |                                    | 9.552   | 178.62 | 42.283 | 64.991  | 55.876        |          |  |                                     |        |         |       |       |        |         |          |       |      |
| H <sub>2</sub> +CO                  | 95.35 | 21.651 | 8206 SCFH |                                    | 5.851   |        | 25.907 | 47.558  | 31.758        | -15.800  |  |                                     |        |         |       |       |        |         |          |       |      |
| H <sub>2</sub> /CO                  |       | 1.69   | 121862    |                                    | 3.16    |        | 2.33   | 3.16    | 1.38          |          |  |                                     |        |         |       |       |        |         |          |       |      |
| CUMULATIVE TOTALS                   |       |        |           |                                    |         |        |        |         |               |          |  |                                     |        |         |       |       |        |         |          |       |      |
| H <sub>2</sub> +CO/MCF              |       |        |           | C <sub>2</sub> +C <sub>3</sub> gal |         |        |        | gal/MCF |               |          |  | gal/#                               |        |         |       |       |        |         |          |       |      |
| EFFLUENT                            |       |        |           |                                    |         |        |        |         |               |          | RECOVERED OIL                            |                                     |        |         |       |       |        |         |          |       |      |
| SHIFT RATIO                         |       |        |           |                                    |         |        |        |         |               |          | TOTAL OIL                                |                                     |        |         |       |       |        |         |          |       |      |
| WATER SOLUBLE CHEMICALS             |       |        |           |                                    |         |        |        |         |               |          | TOTAL LIQUID PRODUCTS (C <sub>2</sub> +) |                                     |        |         |       |       |        |         |          |       |      |
| (H <sub>2</sub> )(CO <sub>2</sub> ) |       |        |           |                                    |         |        |        |         |               |          | (H <sub>2</sub> O)(CO)                   |                                     |        |         |       |       |        |         |          |       |      |
| 8.4                                 |       |        |           |                                    |         |        |        |         |               |          | 59.47                                    |                                     |        |         |       |       |        |         |          |       |      |
| 7.46                                |       |        |           |                                    |         |        |        |         |               |          | 7.247                                    |                                     |        |         |       |       |        |         |          |       |      |
| 0.909                               |       |        |           |                                    |         |        |        |         |               |          | 10.154                                   |                                     |        |         |       |       |        |         |          |       |      |
| 0.885                               |       |        |           |                                    |         |        |        |         |               |          | 1.237                                    |                                     |        |         |       |       |        |         |          |       |      |
| 0.108                               |       |        |           |                                    |         |        |        |         |               |          | 57.54                                    |                                     |        |         |       |       |        |         |          |       |      |
| 0.885                               |       |        |           |                                    |         |        |        |         |               |          | 7.011                                    |                                     |        |         |       |       |        |         |          |       |      |
| 0.108                               |       |        |           |                                    |         |        |        |         |               |          | 8.940                                    |                                     |        |         |       |       |        |         |          |       |      |
| 1.090                               |       |        |           |                                    |         |        |        |         |               |          | 1.090                                    |                                     |        |         |       |       |        |         |          |       |      |
| FRESH FEED CONVERSION — %           |       |        |           |                                    |         |        |        |         |               |          | TOTAL FEED CONVERSION — %                |                                     |        |         |       |       |        |         |          |       |      |
| SELECTIVITY                         |       |        |           |                                    |         |        |        |         |               |          | NET WATER                                |                                     |        |         |       |       |        |         |          |       |      |
| GROSS WATER                         |       |        |           |                                    |         |        |        |         |               |          | HYDROCARBON TOTAL — C <sub>1</sub> +     |                                     |        |         |       |       |        |         |          |       |      |
| 57.94                               |       |        |           |                                    |         |        |        |         |               |          | 75.67                                    |                                     |        |         |       |       |        |         |          |       |      |
| 82.54                               |       |        |           |                                    |         |        |        |         |               |          | 9.221                                    |                                     |        |         |       |       |        |         |          |       |      |
| 67.31                               |       |        |           |                                    |         |        |        |         |               |          | 8.086                                    |                                     |        |         |       |       |        |         |          |       |      |
| 72.98                               |       |        |           |                                    |         |        |        |         |               |          | 7.965                                    |                                     |        |         |       |       |        |         |          |       |      |
| 46.53                               |       |        |           |                                    |         |        |        |         |               |          | 0.971                                    |                                     |        |         |       |       |        |         |          |       |      |
| 27.51                               |       |        |           |                                    |         |        |        |         |               |          | 8.995                                    |                                     |        |         |       |       |        |         |          |       |      |
| 33.22                               |       |        |           |                                    |         |        |        |         |               |          | 8.850                                    |                                     |        |         |       |       |        |         |          |       |      |
| 78.59                               |       |        |           |                                    |         |        |        |         |               |          | 1.079                                    |                                     |        |         |       |       |        |         |          |       |      |

\*Included in Reactor Effluent Total

Weight Balance 92.6%

g/M3 = 16.91 × = MCF.  
cc/M3 = 141.3 × gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 E From Hr. 0700 to Hr. 0700 Hrs. 72-96

| FLOWS        |       | RUN CONDITIONS             |     |         |      | DISTILLATIONS |      |                               |                               | CATALYST DATA |                      | CATALYST ANALYSIS     |         |                  |                             |
|--------------|-------|----------------------------|-----|---------|------|---------------|------|-------------------------------|-------------------------------|---------------|----------------------|-----------------------|---------|------------------|-----------------------------|
| SCFH         | %     | Generator Press.           | 322 | A S T M |      | Hempel Dist.  |      | In Reactor at Start of Period |                               | 595           |                      | Particle Size         |         |                  |                             |
| Oxygen       | 2086  | O <sub>2</sub> Preheat, °F | 425 | Prod.   | Naph | °F            | %    | A.P.I.                        | Fresh Catalyst Charged        |               | Screen Sedimentation |                       |         |                  |                             |
| Nat. Gas     | 3442  | Gas Preheat, °F            | 690 | A.P.I.  | 57.9 | to 400        | 71.6 | 57.9                          | Catalyst Recharged            |               | Frac.                | M                     | %       | M                | %                           |
| Total        | 5528  | Reactor Press.             | 300 | I.B.P.  | 90   | 400-550       | 15.6 | 37.7                          | Total                         |               | On 40                | 420+                  | 23.6    | 80+              |                             |
| Fresh Feed   | 9140  | Steam Back Press.          | 750 | 5%      | 10%  | 550+          | 12.8 |                               | Catalyst Taken Out            |               | 60.50                | 100                   | 419-150 | 48.6             | 80-40                       |
| F.F. by C    | 9714  | Temperatures, °F           |     |         |      |               |      |                               | In Reactor at End of Period   |               | 544.50               | 150                   | 149-105 | 12.0             | 40-20                       |
| Avg. F.F.    | 9427  | Heater Outlet              | 459 | 20      | 156  |               |      |                               | WATER                         |               |                      | 200                   | 104-74  | 10.2             | 20-10                       |
| Wet Gas      | 3484  | Catalyst #1                | 635 | 30      | 180  |               |      |                               | Temp.                         |               | %                    | 250                   | 73-62   | 2.7              | 10-0                        |
| Contraction  |       | #2                         | 635 | 40      | 206  |               |      |                               | Reactor d-P, H <sub>2</sub> O |               |                      | 325                   | 61-44   | 1.2              |                             |
| Recycle      | 15778 | #3                         | 654 | 50      | 226  |               |      |                               | Pounds in Reactor             |               |                      | <325                  | 43-0    | 0.8              |                             |
| Bleed        | 829   | #4                         | 664 | 60      | 246  |               |      |                               | Density, lbs./cu. ft.         |               | 158                  | Density, lbs./cu. ft. |         | Chem. Anal.      |                             |
|              |       | #5                         | 626 | 70      | 276  |               |      |                               | Bed Height, Feet              |               |                      | Aerated               | 162     | % Fe             |                             |
| Total        | 16607 | Average                    | 635 | 80      | 305  |               |      |                               |                               |               |                      | Settled               | 165     | % C              |                             |
| Total Feed   | 25747 | Product Separator          | 48  | 90      | 352  |               |      |                               |                               |               |                      | Compacted             | 172     | % Oil            |                             |
| Recycle/F.F. | 1.82  |                            |     | 95      | 380  |               |      |                               | Space Vel. SCFH/lb. cat.      |               |                      | Sp. Grav.             | 4.61    | Specific Surface |                             |
| Inlet Vel.   | 1.06  |                            |     | E.P.    | 392  |               |      |                               | Inventory Figures             |               | 17.3                 |                       |         |                  | m <sup>2</sup> gm           |
| Steam Flow   |       |                            |     | Rec.    | 97.0 |               |      |                               | From d-P Meters               |               |                      |                       |         |                  | 1.6 ml. NH <sub>3</sub> /gm |
|              |       |                            |     | Res.    | 1.0  |               |      |                               |                               |               |                      |                       |         |                  |                             |
|              |       |                            |     | Loss.   | 2.0  |               |      |                               |                               |               |                      |                       |         |                  |                             |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |                                | IN        |       |       |        | OUT              |           |      |        |        |       |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--------------------------------|-----------|-------|-------|--------|------------------|-----------|------|--------|--------|-------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SCFH m/hr | C     | H     | O      | Mol %            | SCFH m/hr | C    | H      | O      |       |
| CO <sub>2</sub>                | 1.27  | Neut. No.          | 45    | 41      |         |          | O <sub>2</sub>                 | 5.550     |       |       | 11.100 | CO <sub>2</sub>  | 0.434     | 0.43 |        | 0.9    |       |
| CH <sub>4</sub>                | 85.41 | Sap. No.           | 49    | 41      |         |          | CO <sub>2</sub>                | 0.115     | 0.115 |       | 0.230  | CO               | 8.424     | 8.42 |        | 8.4    |       |
| C <sub>2</sub> H <sub>6</sub>  | 8.37  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.756     | 7.756 | 3.024 |        | CH <sub>4</sub>  | 0.824     | 0.82 | 3.296  |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 1.68  | Bromine No.        | 77    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.760     | 1.520 | 4.560 |        | H <sub>2</sub>   | 14.201    |      | 26.402 |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.06  | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.153     | 0.459 | 1.224 |        | N <sub>2</sub>   | 0.234     |      |        |        |       |
| N <sub>2</sub>                 | 2.69  | % Alc              |       | 11      |         |          | C <sub>4</sub> H <sub>10</sub> | 0.005     | 0.020 | 0.050 |        | H <sub>2</sub> O |           |      | 4.518  | 2.3    |       |
| O <sub>2</sub>                 | 0.52  | *API               | 51.3  | 10.7    |         |          | N <sub>2</sub>                 | 0.244     |       |       |        | Total            |           |      | 9.58   | 36.216 | 11.6  |
|                                |       |                    |       |         |         |          | Total                          |           |       |       |        |                  |           |      | 98.1%  | 108.25 | 102.0 |

| FRESH FEED                     |        |        | WET GAS       |         |         |        | RECYCLE | COMBINED FEED | EFFLUENT | NET CHANGE |   | YIELD BASIS H <sub>2</sub> + CO FED |        |         |       |       |       |        |         |         |       |      |
|--------------------------------|--------|--------|---------------|---------|---------|--------|---------|---------------|----------|------------|---|-------------------------------------|--------|---------|-------|-------|-------|--------|---------|---------|-------|------|
| %                              | m/hr   | #/hr   | %             | At. Wt. | Balance | m/hr   | m/hr    | m/hr          | m/hr     | #/hr       | #/MCF                                     | #/gal                               | gal/hr | gal/MCF | #/hr  | #/MCF | #/gal | gal/hr | gal/MCF | Unsats. |       |      |
| CO                             | 34.932 | 8.424  | 235.96        | 14.88   | 1.605   | 44.95  | 6.519   | 14.943        | 8.124    | -6.819     | -191.01                                   | Distribution of                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub>                 | 58.884 | 14.201 | 28.63         | 44.19   | 4.764   | 9.61   | 19.361  | 33.562        | 24.125   | -9.437     | -19.02                                    | Recovered Oil                       |        |         |       |       |       |        |         |         |       |      |
| CO <sub>2</sub>                | 1.798  | 0.434  | 19.10         | 18.60   | 2.005   | 88.23  | 8.148   | 8.582         | 10.153   | 1.571      | 69.13                                     | 8.062                               |        |         |       |       |       |        |         | 400 EP  | 0.383 |      |
| N <sub>2</sub>                 | 0.970  | 0.234  | 6.56          | 2.75    | 0.297   | 8.32   | 1.206   | 1.440         | 1.503    | 0.063      |   |                                     |        |         |       |       |       |        |         | 400-550 | 0.083 |      |
| CH <sub>4</sub>                | 3.416  | 0.824  | 13.22         | 13.19   | 1.422   | 22.80  | 5.779   | 6.603         | 7.201    | 0.598      | 9.58                                      | 1.117                               |        |         |       |       |       |        |         | 550+    | 0.069 |      |
| C <sub>2</sub> H <sub>6</sub>  |        |        |               | 1.74    | 0.187   | 5.23   | 0.760   | 0.760         | 0.947    | 0.187      | 5.23                                      | 0.610                               |        |         |       |       |       |        |         |         | 0.535 | 69.3 |
| C <sub>3</sub> H <sub>8</sub>  |        |        |               | 0.77    | 0.085   | 2.50   | 0.337   | 0.337         | 0.420    | 0.083      | 2.50                                      | 0.292                               |        |         |       |       |       |        |         |         |       |      |
| C <sub>4</sub> +C <sub>5</sub> |        |        |               |         |         |        |         |               |          |            | 17.31                                     | 2.019                               |        |         |       |       |       |        |         |         |       |      |
| C <sub>2</sub> H <sub>4</sub>  |        |        |               | 1.94    | 0.209   | 9.79   | 0.851   | 0.851         | 1.060    | 0.209      | 8.79                                      | 1.025                               | 4.32   | 2.035   | 0.237 | 7.91  | 0.922 | 6.25   | 1.266   | 0.147   | 95.0  |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 0.10    | 0.011   | 0.47   | 0.042   | 0.042         | 0.053    | 0.011      | 0.47                                      | 0.055                               | 4.24   | 0.111   | 0.013 |       |       |        |         |         |       |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 1.00    | 0.108   | 6.05   | 0.437   | 0.437         | 0.545    | 0.108      | 6.05                                      | 0.706                               | 5.00   | 1.210   | 0.141 | 5.75  | 0.671 | 6.10   | 0.943   | 0.110   | 77.1  |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 0.29    | 0.032   | 1.84   | 0.128   | 0.128         | 0.160    | 0.032      | 1.84                                      | 0.215                               | 4.86   | 0.379   | 0.044 | 1.84  | 0.215 | 4.86   | 0.379   | 0.044   |       |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 0.42    | 0.046   | 3.21   | 0.184   | 0.184         | 0.234    | 0.046      | 3.21                                      | 0.374                               | 5.45   | 0.589   | 0.069 | 3.21  | 0.374 | 5.45   | 0.589   | 0.069   | 95.8  |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 0.02    | 0.002   | 0.16   | 0.008   | 0.008         | 0.010    | 0.002      | 0.16                                      | 0.019                               | 5.25   | 0.030   | 0.003 | 0.16  | 0.019 | 5.25   | 0.030   | 0.003   |       |      |
| C <sub>2</sub> H <sub>2</sub>  |        |        |               | 0.13    | 0.014   | 1.18   | 0.058   | 0.058         | 0.072    | 0.014      | 1.18                                      | 0.138                               | 5.54   | 0.213   | 0.025 | 1.18  | 0.138 | 5.54   | 0.213   | 0.025   |       |      |
| C <sub>2</sub> -C <sub>4</sub> |        |        |               |         |         |        |         |               |          |            | 21.70                                     | 2.532                               |        |         | 4.567 | 0.532 | 20.05 | 2.339  |         | 3.420   | 0.398 |      |
| TOTAL                          |        | 24.117 | 303.47        |         | 10.783  | 203.35 | 43.819  | 67.936        | 58.034   |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub> +CO             | 93.816 | 22.625 | 8575 S.C.F.H. |         | 6.369   |        | 25.880  | 48.505        | 32.249   | -16.256    |   |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub> /CO             |        | 1.69   | 11662         |         | 2.97    |        | 2.25    | 2.97          | 1.38     |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| CUMULATIVE TOTALS              |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub> +CO, MCF        |        |        |               |         |         |        |         |               |          |            | EFFLUENT                                  |                                     |        |         |       |       |       |        |         |         |       |      |
| Catalyst #                     |        |        |               |         |         |        |         |               |          |            | RECOVERED OIL                             |                                     |        |         |       |       |       |        |         |         |       |      |
| C <sub>2</sub> +, gal          |        |        |               |         |         |        |         |               |          |            | TOTAL OIL                                 |                                     |        |         |       |       |       |        |         |         |       |      |
| gal/MCF                        |        |        |               |         |         |        |         |               |          |            | WATER SOLUBLE CHEMICALS                   |                                     |        |         |       |       |       |        |         |         |       |      |
| gal/#                          |        |        |               |         |         |        |         |               |          |            | TOTAL LIQUID PRODUCTS C <sub>2</sub> +    |                                     |        |         |       |       |       |        |         |         |       |      |
| Previous Total                 |        |        |               |         |         |        |         |               |          |            | SHIFT RATIO                               |                                     |        |         |       |       |       |        |         |         |       |      |
| Current Period                 |        |        |               |         |         |        |         |               |          |            | (H <sub>2</sub> )/(CO <sub>2</sub> ) 9.75 |                                     |        |         |       |       |       |        |         |         |       |      |
| New Total                      |        |        |               |         |         |        |         |               |          |            | (H <sub>2</sub> O)/(CO)                   |                                     |        |         |       |       |       |        |         |         |       |      |
| FRESH FEED CONVERSION — %      |        |        |               |         |         |        |         |               |          |            | SELECTIVITY                               |                                     |        |         |       |       |       |        |         |         |       |      |
| TOTAL FEED CONVERSION — %      |        |        |               |         |         |        |         |               |          |            | NET WATER                                 |                                     |        |         |       |       |       |        |         |         |       |      |
| CONTRACTION                    |        |        |               |         |         |        |         |               |          |            | GROSS WATER                               |                                     |        |         |       |       |       |        |         |         |       |      |
| CO                             |        |        |               |         |         |        |         |               |          |            | HYDROCARBON TOTAL — C <sub>1</sub> +      |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub>                 |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub> +CO             |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| CO                             |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| H <sub>2</sub>                 |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| CO+H <sub>2</sub>              |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| C <sub>2</sub> +C <sub>3</sub> |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| C <sub>3</sub> +C <sub>4</sub> |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 55.29                          |        |        |               |         |         |        |         |               |          |            | 75.43                                     |                                     |        |         |       |       |       |        |         |         |       |      |
| 80.90                          |        |        |               |         |         |        |         |               |          |            | 8.915                                     |                                     |        |         |       |       |       |        |         |         |       |      |
| 66.40                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 71.80                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 45.63                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 28.12                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 33.51                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |
| 77.08                          |        |        |               |         |         |        |         |               |          |            |   |                                     |        |         |       |       |       |        |         |         |       |      |

\*Included in Reactor Effluent Total

Weight Balance = 90.04%

g/M3 = 16.91 x MCF  
cc/M3 = 141.3 x gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 F From Hr. 0700 to Hr. 0700 Hrs. 96-120

| FLOWS        |       | RUN CONDITIONS             |     |            | DISTILLATIONS |  |  |              | CATALYST DATA |                               | CATALYST ANALYSIS             |               |        |           |         |       |                   |
|--------------|-------|----------------------------|-----|------------|---------------|--|--|--------------|---------------|-------------------------------|-------------------------------|---------------|--------|-----------|---------|-------|-------------------|
| SCFH         | %     | Generator Press.           | 518 | A S T M    |               |  |  | Hempel Dist. |               | In Reactor at Start of Period |                               | Particle Size |        |           |         |       |                   |
| Oxygen       | 2073  | O <sub>2</sub> Preheat, °F | 441 | Prod. Naph |               |  |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged        |               | Screen |           |         |       |                   |
| Nat. Gas     | 3423  | Gas Preheat, °F            | 696 | A.P.I.     | 56.5          |  |  | to 400       | 72.0          | 56.5                          | Catalyst Recharged            |               | Frac.  | M         | %       | M     | %                 |
| Total        |       | Reactor Press.             | 293 | I.B.P.     | 98            |  |  | 400-550      | 16.0          | 37.9                          | Total                         |               | On 40  | 420+      | 24.5    | 80+   |                   |
| Fresh Feed   | 9239  | Steam Back Press.          | 800 | 5%         |               |  |  | 550+         | 12.0          |                               | Catalyst Taken Out            |               | 100    | 419-150   | 46.9    | 80-40 |                   |
| F. F. by C   | 9108  | Temperatures, °F           |     | 10%        | 136           |  |  |              |               |                               | In Reactor at End of Period   |               | 526.50 | 150       | 149-105 | 13.4  | 40-20             |
| Avg. F. F.   | 9170  | Heater Outlet              | 449 | 20         | 162           |  |  |              |               |                               |                               |               | 200    | 104-74    | 10.4    | 20-10 |                   |
| Wet Gas      | 3728  | Catalyst #1                | 628 | 30         | 188           |  |  |              |               |                               | WATER                         |               | 250    | 73-62     | 3.2     | 10-0  |                   |
| Contraction  |       | #2                         | 628 | 40         | 208           |  |  | Temp.        | %             |                               | Reactor d-P, H <sub>2</sub> O |               | 325    | 61-44     | 1.2     |       |                   |
| Recycle      | 15619 | #3                         | 641 | 50         | 236           |  |  | 200          |               |                               | Pounds in Reactor             |               | <325   | 43-0      | 0.4     |       |                   |
| Bleed        | 763   | #4                         | 651 | 60         | 258           |  |  | 203          |               |                               | Density, lbs./cu. ft.         |               | 155    |           |         |       | Chem. Anal.       |
| Total        | 16381 | #5                         | 631 | 70         | 284           |  |  | 208          |               |                               | Bed Height, Feet              |               |        |           |         |       |                   |
| Total Feed   | 25619 | Average                    | 630 | 80         | 318           |  |  |              |               |                               |                               |               |        |           |         |       |                   |
| Recycle/F.F. | 1.77  | Product Separator          | 44  | 90         | 352           |  |  |              |               |                               | Space Vel. SCFH/lb. cat.      |               |        | Sp. Grav. | 4.6     |       | Specific Surface  |
| Inlet Vel.   | 1.05  |                            |     | 95         | 384           |  |  |              |               |                               | Inventory Figures             |               | 17.4   |           |         |       | m <sup>2</sup> gm |
| Steam Flow   |       |                            |     | Rec.       | 98            |  |  |              |               |                               | From d-P Meters               |               |        |           |         |       | 3.7 ml.Nitg/gm    |
|              |       |                            |     | Res.       | 1.5           |  |  |              |               |                               |                               |               |        |           |         |       |                   |
|              |       |                            |     | Loss.      | 0.5           |  |  |              |               |                               |                               |               |        |           |         |       |                   |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |  | IN                             |           |      |        |       | OUT              |        |           |      |        |        |       |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--|--------------------------------|-----------|------|--------|-------|------------------|--------|-----------|------|--------|--------|-------|
|                                | %     | Oil                | Water | Product | Pour °F | SUS @ °F |  | Mol %                          | SCFH m/hr | C    | H      | O     |                  | Mol %  | SCFH m/hr | C    | H      | O      |       |
| CO <sub>2</sub>                | 1.15  | Neut. No.          | 45    | 41      |         |          |  | O <sub>2</sub>                 | 5.516     |      |        | 11.03 | CO <sub>2</sub>  | 1.867  | 0.455     | 0.46 |        | 0.9    |       |
| CH <sub>4</sub>                | 80.98 | Sap. No.           | 50    | 47      |         |          |  | CO <sub>2</sub>                | 0.104     | 0.10 |        | 0.21  | CO               | 33.975 | 8.281     | 8.28 |        | 8.3    |       |
| C <sub>2</sub> H <sub>6</sub>  | 10.29 | Hydrox. No.        |       |         |         |          |  | CH <sub>4</sub>                | 7.312     | 7.31 | 29.248 |       | CH <sub>4</sub>  | 4.490  | 1.094     | 1.09 | 4.376  |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 4.42  | Bromine No.        | 72    |         |         |          |  | C <sub>2</sub> H <sub>6</sub>  | 0.929     | 1.86 | 5.574  |       | H <sub>2</sub>   | 58.812 | 14.335    |      | 28.670 |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.11  | % Fe               |       |         |         |          |  | C <sub>3</sub> H <sub>8</sub>  | 0.399     | 1.20 | 3.192  |       | N <sub>2</sub>   | 0.856  | 0.209     |      |        |        |       |
| N <sub>2</sub>                 | 2.53  | % Alc              |       | 11      |         |          |  | C <sub>4</sub> H <sub>10</sub> | 0.010     | 0.04 | 0.100  |       | H <sub>2</sub> O |        |           |      | 4.583  | 2.3    |       |
| O <sub>2</sub>                 | 0.52  | API                | 50.6  | 10.7    |         |          |  | N <sub>2</sub>                 | 0.228     |      |        |       | Total            |        |           |      | 9.85   | 37.629 | 11.5  |
|                                |       |                    |       |         |         |          |  | Total                          |           |      |        |       | Balance          |        |           |      | 93.5%  | 98.72  | 102.2 |

| FRESH FEED                     |        |        |                | WET GAS            |                 |                |                   | RECYCLE                        | COMBINED FEED | EFFLUENT | NET CHANGE |                           | YIELD BASIS H <sub>2</sub> + CO FED  |         |         |  |       |       |        |           |         |   |  |
|--------------------------------|--------|--------|----------------|--------------------|-----------------|----------------|-------------------|--------------------------------|---------------|----------|------------|---------------------------|--------------------------------------|---------|---------|--|-------|-------|--------|-----------|---------|---|--|
|                                | %      | m/hr   | #/hr           | %                  | At. Wt. Balance | m/hr           | #/hr              | m/hr                           | m/hr          | m/hr     | #/hr       | CONDENSATE                |                                      | POLYMER |         |  |       |       |        |           |         | % |  |
|                                |        |        |                |                    | m/hr            | #/hr           |                   |                                |               |          |            | #/MCF                     | #/gal                                | gal/hr  | gal/MCF | #/hr                                   | #/MCF | #/gal | gal/hr | gal/MCF   | Unsats. |   |  |
| CO                             | 33.975 | 8.281  | 231.95         | 15.55              | 1.772           | 49.63          | 6.721             | 15.002                         | 8.493         | -6.509   | -182.32    |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| H <sub>2</sub>                 | 58.812 | 14.335 | 28.90          | 44.93              | 5.117           | 10.32          | 19.419            | 33.754                         | 24.536        | -9.218   | -18.58     |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| CO <sub>2</sub>                | 1.867  | 0.455  | 20.02          | 18.33              | 2.088           | 91.89          | 7.924             | 8.379                          | 10.012        | 1.633    | 71.87      | 8.384                     |                                      |         |         |  |       |       |        |           |         |   |  |
| N <sub>2</sub>                 | 0.856  | 0.209  | 5.86           | 1.80               | 0.205           | 5.74           | 0.777             | 0.986                          | 0.982         |          |            |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| CH <sub>4</sub>                | 4.490  | 1.094  | 17.55          | 13.18              | 1.501           | 24.07          | 5.696             | 6.790                          | 7.197         | 0.407    | 6.52       | 0.761                     |                                      |         |         |  |       |       |        |           |         |   |  |
| C <sub>2</sub> H <sub>6</sub>  |        |        |                | 1.67               | 0.190           | 5.33           | 0.720             | 0.720                          | 0.910         | 0.190    | 5.33       | 0.622                     |                                      |         |         |  |       |       |        |           |         |   |  |
| C <sub>3</sub> H <sub>8</sub>  |        |        |                | 0.71               | 0.081           | 2.43           | 0.306             | 0.306                          | 0.387         | 0.081    | 2.43       | 0.283                     |                                      |         |         |  |       |       |        |           |         |   |  |
| C <sub>4</sub> +C <sub>6</sub> |        |        |                |                    |                 |                |                   |                                |               |          | 14.28      | 1.666                     |                                      |         |         |  |       |       |        |           |         |   |  |
| C <sub>2</sub> H <sub>4</sub>  |        |        |                | 1.78               | 0.203           | 8.52           | 0.767             | 0.767                          | 0.970         | 0.203    | 8.52       | 0.994                     | 4.32                                 | 1.972   | 0.230   | 7.67                                   | 0.895 | 6.25  | 1.227  | 0.143     | 91.4    |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 0.17               | 0.020           | 0.87           | 0.073             | 0.073                          | 0.093         | 0.020    | 0.87       | 0.101                     | 4.24                                 | 0.205   | 0.024   |  |       |       |        |           |         |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 1.05               | 0.119           | 6.69           | 0.452             | 0.452                          | 0.571         | 0.119    | 6.69       | 0.780                     | 8.00                                 | 1.338   | 0.156   | 6.36                                   | 0.742 | 6.10  | 1.042  | 0.122     | 81.5    |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 0.24               | 0.027           | 1.55           | 0.102             | 0.102                          | 0.129         | 0.027    | 1.55       | 0.181                     | 4.86                                 | 0.319   | 0.037   | 1.55                                   | 0.181 | 4.86  | 0.319  | 0.037     |         |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 0.46               | 0.052           | 3.66           | 0.197             | 0.197                          | 0.249         | 0.052    | 3.66       | 0.427                     | 5.48                                 | 0.672   | 0.078   | 3.66                                   | 0.427 | 5.48  | 0.672  | 0.078     | 92.0    |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 0.04               | 0.005           | 0.36           | 0.016             | 0.016                          | 0.021         | 0.005    | 0.36       | 0.042                     | 5.25                                 | 0.069   | 0.008   | 0.36                                   | 0.042 | 5.25  | 0.069  | 0.008     |         |   |  |
| C <sub>2</sub> H <sub>2</sub>  |        |        |                | 0.12               | 0.014           | 1.17           | 0.053             | 0.053                          | 0.087         | 0.014    | 1.17       | 0.136                     | 5.84                                 | 0.211   | 0.025   | 1.17                                   | 0.136 | 5.84  | 0.211  | 0.025     |         |   |  |
| C <sub>3</sub> -C <sub>6</sub> |        |        |                |                    |                 |                |                   |                                |               |          | 22.82      | 2.661                     |                                      |         |         | 4.786                                  | 0.558 | 20.77 | 2.423  | 3.540     | 0.413   |   |  |
| TOTAL                          |        | 24.374 | 304.28         | 11.391             | 212.21          | 43.223         | 67.597            | 58.149                         |               |          |            |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| H <sub>2</sub> +CO             | 92.787 | 22.616 | 8572 S.C.F.H.  | 6.889              |                 | 26.140         | 48.756            | 33.029                         | -15.727       |          |            |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| H <sub>2</sub> /CO             |        | 1.73   | 116658         | 2.89               |                 | 2.25           | 2.89              | 1.42                           |               |          |            |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| CUMULATIVE TOTALS              |        |        |                |                    |                 |                |                   |                                |               |          |            |                           |                                      |         |         |  |       |       |        |           |         |   |  |
| H <sub>2</sub> +CO, MCF        |        |        |                | Catalyst #         |                 |                |                   | C <sub>3</sub> +, gal          |               |          |            | gal/MCF                   |                                      |         |         | gal/#                                  |       |       |        | EFFLUENT  |         |   |  |
| Previous Total                 |        |        |                |                    |                 |                |                   |                                |               |          |            |                           |                                      |         |         | RECOVERED OIL                          |       |       |        |           |         |   |  |
| Current Period                 |        |        |                |                    |                 |                |                   |                                |               |          |            |                           |                                      |         |         | SHIFT RATIO                            |       |       |        |           |         |   |  |
| New Total                      |        |        |                |                    |                 |                |                   |                                |               |          |            |                           |                                      |         |         | (H <sub>2</sub> )(CO) <sub>2</sub> 9.0 |       |       |        |           |         |   |  |
| FRESH FEED CONVERSION - %      |        |        |                |                    |                 |                |                   |                                |               |          |            | TOTAL FEED CONVERSION - % |                                      |         |         | SELECTIVITY                            |       |       |        | NET WATER |         |   |  |
| Contraction                    |        | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO              | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> +C <sub>4</sub> | GROSS WATER   |          |            |                           | HYDROCARBON TOTAL - C <sub>3</sub> + |         |         |  |       |       |        |           |         |   |  |
| 53.27                          | 78.60  | 64.30  | 69.54          | 43.39              | 27.31           | 32.26          | 80.01             |                                | 65.00         | 7.583    | 7.790      | 0.909                     |                                      |         |         |  |       |       |        |           |         |   |  |

\*Included in Reactor Effluent Total

Weight Balance = 90.5%

g/M3 = 16.91 x #/MCF.  
cc/M3 = 141.3 x gal/MCF.

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 G From Hr. 0700 to Hr. 0700 Hrs. 120-144

| FLOWS        |       | RUN CONDITIONS             |     |            |      | DISTILLATIONS |      |                               |                               | CATALYST DATA |                                   | CATALYST ANALYSIS |      |                  |   |
|--------------|-------|----------------------------|-----|------------|------|---------------|------|-------------------------------|-------------------------------|---------------|-----------------------------------|-------------------|------|------------------|---|
| SCFH         | %     | Generator Press.           | 327 | A S T M    |      | Hempel Dist.  |      | In Reactor at Start of Period |                               | 526.50        |                                   | Particle Size     |      |                  |   |
| Oxygen       | 2093  | O <sub>2</sub> Preheat, °F | 456 | Prod. Naph |      | °F            | %    | A.P.I.                        | Fresh Catalyst Charged        | 182           | Screen Sedimentation              |                   |      |                  |   |
| Nat. Gas     | 3416  | Gas Preheat, °F            | 713 | A.P.I.     | 56.5 | to 400        | 72.6 | 56.5                          | Catalyst Recharged            |               | Frac.                             | M                 | %    | M                | % |
| Total        | 5509  | Reactor Press.             | 300 | I.B.P.     | 98   | 400-550       | 17.6 | 37.9                          | Total                         | 708.50        | On 40                             | 420+              | 16.7 | 80+              |   |
| Fresh Feed   | 9206  | Steam Back Press.          | 800 | 5%         |      | 550+          | 9.8  |                               | Catalyst Taken Out            | 43.50         | 100                               | 419-150           | 47.7 | 80-40            |   |
| F.F. by C    | 9364  | Temperatures, °F           |     | 10%        | 140  |               |      |                               | In Reactor at End of Period   | 665           | 150                               | 149-105           | 12.2 | 40-20            |   |
| Avg. F.F.    | 9285  | Heater Outlet              | 421 | 20         | 166  |               |      |                               |                               |               | 200                               | 104-74            | 14.3 | 20-10            |   |
| Wet Gas      | 3476  | Catalyst #1                | 624 | 30         | 192  | WATER         |      |                               |                               |               | 250                               | 73-62             | 4.1  | 10-0             |   |
| Contraction  |       | #2                         | 624 | 40         | 216  | Temp.         | %    |                               | Reactor d-P, H <sub>2</sub> O |               | 325                               | 61-44             | 4.0  |                  |   |
| Recycle      | 15548 | #3                         | 642 | 50         | 232  | 200           |      |                               | Pounds in Reactor             |               | <325                              | 43-0              | 1.0  |                  |   |
| Bleed        | 797   | #4                         | 649 | 60         | 260  | 203           |      |                               | Density, lbs./cu. ft.         | 151           | Density, lbs./cu. ft. Chem. Anal. |                   |      |                  |   |
|              |       | #5                         |     | 70         | 286  | 208           |      |                               | Bed Height, Feet              |               | Aerated                           |                   | 170  | % Fe             |   |
| Total        | 16345 | Average                    | 635 | 80         | 316  |               |      |                               |                               |               | Settled                           |                   | 172  | % C              |   |
| Total Feed   | 25551 | Product Separator          | 48  | 90         | 356  |               |      |                               |                               |               | Compacted                         |                   | 175  | % Oil            |   |
| Recycle/F.F. | 1.78  |                            |     | 95         | 394  |               |      |                               | Space Vel. SCFH/lb. cat.      |               | Sp. Grav.                         |                   | 4.6  | Specific Surface |   |
| Inlet Vel.   | 1.06  |                            |     | E.P.       | 409  |               |      |                               | Inventory Figures             | 14            |                                   |                   |      |                  |   |
| Steam Flow   |       |                            |     | Rec.       | 97   |               |      |                               | From d-P Meters               |               |                                   |                   |      |                  |   |
|              |       |                            |     | Res.       | 2    |               |      |                               |                               |               |                                   |                   |      |                  |   |
|              |       |                            |     | Loss.      | 1    |               |      |                               |                               |               |                                   |                   |      |                  |   |

| NATURAL GAS                    |       |             |      |       |  |         |  |         |  | PRODUCT INSPECTION |  |                                |           |       |        |        |                  |           |      | GENERATOR ELEMENTAL BALANCE |        |       |      |  |  |  |  |  |  |
|--------------------------------|-------|-------------|------|-------|--|---------|--|---------|--|--------------------|--|--------------------------------|-----------|-------|--------|--------|------------------|-----------|------|-----------------------------|--------|-------|------|--|--|--|--|--|--|
|                                |       | Oil         |      | Water |  | Product |  | Pour °F |  | SUS @ °F           |  | IN                             |           | OUT   |        |        |                  |           |      |                             |        |       |      |  |  |  |  |  |  |
| %                              |       |             |      |       |  |         |  |         |  |                    |  | Mol %                          | SCFH m/hr | C     | H      | O      | Mol %            | SCFH m/hr | C    | H                           | O      |       |      |  |  |  |  |  |  |
| CO <sub>2</sub>                | 1.41  | Neut. No.   | 44   | 43    |  |         |  |         |  |                    |  | O <sub>2</sub>                 | 5.578     |       |        | 11.156 | CO <sub>2</sub>  | 0.470     | 0.47 |                             | 0.9    |       |      |  |  |  |  |  |  |
| CH <sub>4</sub>                | 85.93 | Sap No.     | 51   | 44    |  |         |  |         |  |                    |  | CO <sub>2</sub>                | 0.127     | 0.127 |        | 0.254  | CO               | 8.440     | 8.44 |                             | 8.4    |       |      |  |  |  |  |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 8.53  | Hydrox No.  |      |       |  |         |  |         |  |                    |  | CH <sub>4</sub>                | 7.564     | 7.564 | 30.256 |        | CH <sub>4</sub>  | 0.719     | 0.72 |                             | 2.876  |       |      |  |  |  |  |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 2.54  | Bromine No. | 73   |       |  |         |  |         |  |                    |  | C <sub>2</sub> H <sub>6</sub>  | 0.769     | 1.538 | 4.614  |        | H <sub>2</sub>   | 14.422    |      |                             | 28.844 |       |      |  |  |  |  |  |  |
| C <sub>4</sub> H <sub>10</sub> | 0.07  | % Fe        |      |       |  |         |  |         |  |                    |  | C <sub>3</sub> H <sub>8</sub>  | 0.229     | 0.627 | 1.832  |        | N <sub>2</sub>   | 0.241     |      |                             |        |       |      |  |  |  |  |  |  |
| N <sub>2</sub>                 | 2.90  | % Alc       |      | 11    |  |         |  |         |  |                    |  | C <sub>4</sub> H <sub>10</sub> | 0.006     | 0.024 | 0.060  |        | H <sub>2</sub> O |           |      |                             |        | 4.551 |      |  |  |  |  |  |  |
| O <sub>2</sub>                 | 0.62  | API         | 48.2 | 10.8  |  |         |  |         |  |                    |  | N <sub>2</sub>                 | 0.261     |       |        |        | Total            | 24.291    | 9.63 | 56.271                      | 11.7   | 2.3   |      |  |  |  |  |  |  |
|                                |       |             |      |       |  |         |  |         |  |                    |  | Total                          | 9.012     | 9.940 | 36.762 | 11.410 | Balance          |           |      |                             |        | 96.9  | 98.7 |  |  |  |  |  |  |
|                                |       |             |      |       |  |         |  |         |  |                    |  |                                |           |       |        |        |                  |           |      |                             |        | 102.1 |      |  |  |  |  |  |  |

| FRESH FEED                     |        |                |                    | WET GAS                   |                |                   |                                | RECYCLE                                  | COMBINED FEED | EFFLUENT | NET CHANGE | YIELD BASIS H <sub>2</sub> + CO FED    |        |         |                               |                        |       |         |         |       |      |  |  |
|--------------------------------|--------|----------------|--------------------|---------------------------|----------------|-------------------|--------------------------------|--|---------------|----------|------------|--|--------|---------|-------------------------------|------------------------|-------|---------|---------|-------|------|--|--|
| %                              | m/hr   | #/hr           | %                  | At. Wt. Balance           | m/hr           | m/hr              | m/hr                           | m/hr                                     | m/hr          | #/hr     | #/MCF      | CONDENSATE                             |        |         | POLYMER                       |                        |       |         | Unsat.  |       |      |  |  |
|                                |        |                |                    | m/hr                      | #/hr           |                   |                                |  |               |          |            | #/gal                                  | gal/hr | gal/MCF | #/hr                          | #/MCF                  | #/gal | gal/hr  | gal/MCF |       |      |  |  |
| CO                             | 34.750 | 8.440          | 236.40             | 15.49                     | 1.713          | 47.97             | 6.692                          | 15.122                                   | 8.395         | -6.727   | -188.43    |  |        |         | Distribution of Recovered Oil |                        |       |         |         |       |      |  |  |
| H <sub>2</sub>                 | 59.370 | 14.421         | 29.07              | 45.50                     | 5.029          | 10.14             | 19.622                         | 34.043                                   | 24.651        | -9.392   | -18.93     |  |        |         |                               |                        |       |         |         |       |      |  |  |
| CO <sub>2</sub>                | 1.933  | 0.470          | 20.68              | 18.72                     | 2.070          | 91.09             | 8.072                          | 8.542                                    | 10.142        | 1.600    | 70.41      | 8.126                                  |        |         |                               |                        |       | 400 EP  |         | 0.547 |      |  |  |
| N <sub>2</sub>                 | 0.992  | 0.241          | 6.75               | 2.14                      | 0.236          | 6.62              | 0.922                          | 1.163                                    | 1.158         |          |            |  |        |         |                               |                        |       | 400-550 |         | 0.094 |      |  |  |
| CH <sub>4</sub>                | 2.958  | 0.719          | 11.53              | 11.48                     | 1.269          | 20.36             | 4.950                          | 5.669                                    | 6.219         | 0.550    | 8.33       | 1.019                                  |        |         |                               |                        |       | 550+    |         | 0.047 |      |  |  |
| C <sub>2</sub> H <sub>6</sub>  |        |                |                    | 1.75                      | 0.193          | 5.41              | 0.754                          | 0.754                                    | 0.947         | 0.193    | 5.41       | 0.624                                  |        |         |                               |                        |       |         |         | 0.478 | 69.0 |  |  |
| C <sub>3</sub> H <sub>8</sub>  |        |                |                    | 0.79                      | 0.087          | 2.62              | 0.339                          | 0.339                                    | 0.426         | 0.087    | 2.62       | 0.302                                  |        |         |                               |                        |       |         |         |       |      |  |  |
| C <sub>4</sub> +C <sub>2</sub> |        |                |                    |                           |                |                   |                                |  |               |          | 16.36      | 1.945                                  |        |         |                               |                        |       |         |         |       |      |  |  |
| C <sub>2</sub> H <sub>4</sub>  |        |                |                    | 1.97                      | 0.207          | 8.73              | 0.308                          | 0.308                                    | 1.015         | 0.207    | 8.73       | 1.007                                  | 4.32   | 2.021   | 0.233                         | 7.86                   | 0.907 | 6.25    | 1.257   | 0.145 | 86.0 |  |  |
| C <sub>3</sub> H <sub>6</sub>  |        |                |                    | 0.31                      | 0.034          | 1.48              | 0.132                          | 0.132                                    | 0.166         | 0.034    | 1.48       | 0.171                                  | 4.24   | 0.349   | 0.040                         |                        |       |         |         |       |      |  |  |
| C <sub>4</sub> H <sub>10</sub> |        |                |                    | 1.09                      | 0.121          | 6.76              | 0.469                          | 0.469                                    | 0.590         | 0.121    | 6.76       | 0.780                                  | 5.00   | 1.352   | 0.156                         | 6.42                   | 0.741 | 6.10    | 1.053   | 0.122 | 80.9 |  |  |
| C <sub>4</sub> H <sub>8</sub>  |        |                |                    | 0.26                      | 0.029          | 1.68              | 0.111                          | 0.111                                    | 0.140         | 0.029    | 1.68       | 0.194                                  | 4.86   | 0.346   | 0.040                         | 1.68                   | 0.194 | 4.86    | 0.346   | 0.040 |      |  |  |
| C <sub>4</sub> H <sub>6</sub>  |        |                |                    | 0.46                      | 0.051          | 3.56              | 0.200                          | 0.200                                    | 0.251         | 0.051    | 3.56       | 0.411                                  | 5.45   | 0.653   | 0.075                         | 3.56                   | 0.411 | 5.45    | 0.653   | 0.075 | 92.7 |  |  |
| C <sub>4</sub> H <sub>2</sub>  |        |                |                    | 0.03                      | 0.004          | 0.26              | 0.014                          | 0.014                                    | 0.018         | 0.004    | 0.26       | 0.030                                  | 5.25   | 0.050   | 0.006                         | 0.26                   | 0.030 | 5.25    | 0.050   | 0.006 |      |  |  |
| C <sub>4</sub> H <sub>2</sub>  |        |                |                    | 0.13                      | 0.014          | 1.22              | 0.054                          | 0.054                                    | 0.068         | 0.014    | 1.22       | 0.141                                  | 5.54   | 0.220   | 0.025                         | 1.22                   | 0.141 | 5.54    | 0.220   | 0.025 |      |  |  |
| C <sub>3</sub> -C <sub>4</sub> |        |                |                    |                           |                |                   |                                |  |               |          | 23.39      | 2.734                                  | 4.991  | 0.576   | 21.00                         | 2.424                  | 3.579 | 0.413   |         |       |      |  |  |
| TOTAL                          |        | 24.291         | 304.43             | 11.056                    | 207.89         | 43.126            | 67.417                         | 57.945                                   |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
| H <sub>2</sub> +CO             | 94.120 | 22.882         | 8665               | 6.742                     | 26.304         | 49.165            | 33.046                         | -16.119                                  |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
| H <sub>2</sub> /CO             | 1.71   | 115406         | 2.94               |                           | 2.25           | 2.94              | 1.40                           |  |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
| CUMULATIVE TOTALS              |        |                |                    |                           |                |                   |                                |  |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
| H <sub>2</sub> +CO, MCF        |        |                |                    | Catalyst #                |                |                   |                                | C <sub>3</sub> +C <sub>4</sub> , gal/MCF |               |          |            | gal/#                                  |        |         |                               |                        |       |         |         |       |      |  |  |
| Previous Total                 |        |                |                    |                           |                |                   |                                |  |               |          |            | EFFLUENT                               |        |         |                               | RECOVERED OIL          |       |         |         |       |      |  |  |
| Current Period                 |        |                |                    |                           |                |                   |                                |  |               |          |            | SHIFT RATIO                            |        |         |                               | TOTAL OIL              |       |         |         |       |      |  |  |
| New Total                      |        |                |                    |                           |                |                   |                                |  |               |          |            | (H <sub>2</sub> )(CO) <sub>2</sub> 8.7 |        |         |                               | (H <sub>2</sub> O)(CO) |       |         |         |       |      |  |  |
| FRESH FEED CONVERSION - %      |        |                |                    | TOTAL FEED CONVERSION - % |                |                   |                                | SELECTIVITY                              |               |          |            | NET WATER                              |        |         |                               |                        |       |         |         |       |      |  |  |
| Contraction                    | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> +C <sub>4</sub> | GROSS WATER                              |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
| 54.49                          | 79.70  | 65.13          | 70.54              | 44.48                     | 27.59          | 32.79             | 77.63                          | HYDROCARBON TOTAL - C <sub>3</sub> +     |               |          |            |  |        |         |                               |                        |       |         |         |       |      |  |  |
|                                |        |                |                    |                           |                |                   |                                | 69.38                                    |               |          |            | 8.007                                  |        |         |                               |                        |       |         |         |       |      |  |  |
|                                |        |                |                    |                           |                |                   |                                | 75.41                                    |               |          |            | 8.703                                  |        |         |                               |                        |       |         |         |       |      |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 86.4%

g/M3 16.91 = MCF

cc/M3 = 141.3 \ gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 H From Hr. 0700 to Hr. 1300 Hrs. 144-150

| FLOWS        |       | RUN CONDITIONS             |     | DISTILLATIONS |      |  |  | CATALYST DATA |      | CATALYST ANALYSIS             |                               |               |        |           |         |      |                            |
|--------------|-------|----------------------------|-----|---------------|------|--|--|---------------|------|-------------------------------|-------------------------------|---------------|--------|-----------|---------|------|----------------------------|
| SCFH         | %     | Generator Press.           | 326 | A S T M       |      |  |  | Hempel Dist.  |      | In Reactor at Start of Period |                               | Particle Size |        |           |         |      |                            |
| Oxygen       | 2115  | O <sub>2</sub> Preheat, °F | 685 | Prod.         | Naph |  |  | °F            | %    | A.P.I.                        | Fresh Catalyst Charged        |               | 665    |           |         |      |                            |
| Nat. Gas     | 3430  | Gas Preheat, °F            | 410 | A.P.I.        | 55.5 |  |  | to 400        | 71.3 | 55.5                          | Catalyst Recharged            |               | Screen |           |         |      |                            |
| Total        |       | Reactor Press.             | 300 | I.B.P.        | 104  |  |  | 400-550       | 13.3 | 336.8                         | Total                         |               | On 40  | 420+      | 24.9    | 80+  |                            |
| Fresh Feed   | 9423  | Steam Back Press.          | 785 | 5%            |      |  |  | 550+          | 15.4 |                               | Catalyst Taken Out            |               | 6      | 100       | 419-150 | 52.0 | 80-40                      |
| F. F. by C   | 9496  | Temperatures, °F           |     | 10%           | 136  |  |  |               |      |                               | In Reactor at End of Period   |               | 659    | 150       | 149-105 | 11.3 | 40-20                      |
| Avg. F. F.   | 9460  | Heater Outlet              | 430 | 20            | 170  |  |  |               |      |                               |                               |               | 20     | 200       | 104-74  | 8.0  | 20-10                      |
| Wet Gas      | 3582  | Catalyst #1                | 617 | 30            | 198  |  |  | WATER         |      |                               |                               | 639           |        | 250       | 73-62   | 2.0  | 10-0                       |
| Contraction  |       | #2                         | 617 | 40            | 216  |  |  | Temp.         | %    |                               | Reactor d-P, H <sub>2</sub> O |               | 325    | 61-44     | 0.4     |      |                            |
| Recycle      | 15470 | #3                         | 623 | 50            | 239  |  |  | 200           |      |                               | Pounds in Reactor             |               | <325   | 43-0      | 1.4     |      |                            |
| Bleed        | 787   | #4                         | 649 | 60            | 260  |  |  | 203           |      |                               | Density, lbs./cu. ft.         |               | 167    |           |         |      | Chem. Anal.                |
|              |       | #5                         |     | 70            | 290  |  |  | 208           |      |                               | Bed Height, Feet              |               |        |           |         |      |                            |
| Total        | 16257 | Average                    | 627 | 80            | 322  |  |  |               |      |                               |                               |               |        |           |         |      |                            |
| Total Feed   | 25680 | Product Separator          | 46  | 90            | 356  |  |  |               |      |                               |                               |               |        |           |         |      |                            |
| Recycle/F.F. | 1.72  |                            |     | 95            | 386  |  |  |               |      |                               | Space Vel. SCFH/lb. cat.      |               |        | Sp. Grav. | 4.6     |      | Specific Surface           |
| Inlet Vel.   | 1.08  |                            |     | E.P.          | 398  |  |  |               |      |                               | Inventory Figures             |               | 14.36  |           |         |      | m <sup>2</sup> /gm         |
| Steam Flow   |       |                            |     | Rec.          | 97.5 |  |  |               |      |                               | From d-P Meters               |               |        |           |         |      | 2.3 ml.NH <sub>3</sub> /gm |
|              |       |                            |     | Res.          | 1.5  |  |  |               |      |                               |                               |               |        |           |         |      |                            |
|              |       |                            |     | Loss.         | 1.0  |  |  |               |      |                               |                               |               |        |           |         |      |                            |

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |  | IN                             |       |       |        |        |                  | OUT    |      |        |       |        |       |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--|--------------------------------|-------|-------|--------|--------|------------------|--------|------|--------|-------|--------|-------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F |  | Mol %                          | SCFH  | C     | H      | O      |                  | Mol %  | SCFH | C      | H     | O      |       |
| CO <sub>2</sub>                | 1.41  | Neut. No.          | 45    | 43      |         |          |  | O <sub>2</sub>                 | 5.637 |       |        | 11.274 | CO <sub>2</sub>  | 0.449  | 0.45 |        |       | 0.9    |       |
| CH <sub>4</sub>                | 83.93 | Sap. No.           | 51    | 47      |         |          |  | CO <sub>2</sub>                | 0.128 | 0.128 |        | 0.256  | CO               | 8.916  | 8.92 |        |       | 8.3    |       |
| C <sub>2</sub> H <sub>6</sub>  | 8.53  | Hydrox. No.        |       |         |         |          |  | CH <sub>4</sub>                | 7.595 | 7.595 | 30.390 |        | CH <sub>4</sub>  | 0.574  | 0.57 | 2.296  |       |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 2.54  | Bromine No.        | 81    |         |         |          |  | C <sub>2</sub> H <sub>6</sub>  | 0.772 | 1.544 | 4.632  |        | H <sub>2</sub>   | 14.752 |      | 29.504 |       |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.07  | % Fc               |       |         |         |          |  | C <sub>3</sub> H <sub>8</sub>  | 0.230 | 0.230 | 1.940  |        | N <sub>2</sub>   | 0.271  |      |        |       |        |       |
| N <sub>2</sub>                 | 2.90  | % Alc              |       | 10      |         |          |  | C <sub>4</sub> H <sub>10</sub> | 0.006 | 0.024 | 0.060  |        | H <sub>2</sub> O |        |      |        | 4.372 | 2.2    |       |
| O <sub>2</sub>                 | 0.62  | *API               | 50.7  | 10.5    |         |          |  | N <sub>2</sub>                 | 0.262 |       |        |        | Total            |        |      |        | 9.84  | 36.172 | 11.9  |
|                                |       |                    |       |         |         |          |  | Total                          |       |       |        |        | Balance          |        |      |        | 98.6% | 98.0   | 103.2 |

| FRESH FEED                           |        |                |                    | WET GAS                   |                |                   |                                | RECYCLE                        | COMBINED FEED | EFFLUENT | NET CHANGE |   | YIELD BASIS H <sub>2</sub> + CO FED |         |                 |       |       |        |         |        |      |  |
|--------------------------------------|--------|----------------|--------------------|---------------------------|----------------|-------------------|--------------------------------|--------------------------------|---------------|----------|------------|---|-------------------------------------|---------|-----------------|-------|-------|--------|---------|--------|------|--|
| %                                    | m/hr   | #/hr           | %                  | At. Wt. Balance           | m/hr           | #/hr              | m/hr                           | m/hr                           | m/hr          | m/hr     | #/MCF      | #/gal                                   | gal/MCF                             | gal/MCF | #/hr            | #/MCF | #/gal | gal/hr | gal/MCF | Unsat. |      |  |
| CO                                   | 35.460 | 8.816          | 246.94             | 15.88                     | 1.727          | 48.37             | 6.812                          | 15.628                         | 8.539         | -7.089   | -198.57    |   |                                     |         | Distribution of |       |       |        |         |        |      |  |
| H <sub>2</sub>                       | 59.335 | 14.752         | 29.74              | 45.85                     | 4.987          | 10.06             | 19.668                         | 34.420                         | 24.655        | -9.765   | -19.68     |   |                                     |         | Recovered Oil   |       |       |        |         |        |      |  |
| CO <sub>2</sub>                      | 1.805  | 0.449          | 19.76              | 18.75                     | 2.039          | 89.74             | 8.043                          | 8.492                          | 10.082        | 1.590    | 69.98      | 7.834                                   |                                     |         | 400 EP          |       |       |        |         | 0.428  |      |  |
| N <sub>2</sub>                       | 1.090  | 0.271          | 7.59               | 2.57                      | 0.280          | 7.84              | 1.102                          | 1.373                          | 1.382         |          |            |   |                                     |         | 400-550         |       |       |        |         | 0.080  |      |  |
| CH <sub>4</sub>                      | 2.310  | 0.574          | 9.21               | 10.32                     | 1.122          | 18.00             | 4.425                          | 4.999                          | 5.547         | 0.548    | 8.79       | 0.984                                   |                                     |         | 550+            |       |       |        |         | 0.092  |      |  |
| C <sub>2</sub> H <sub>6</sub>        |        |                |                    | 1.78                      | 0.193          | 5.42              | 0.764                          | 0.764                          | 0.957         | 0.193    | 5.42       | 0.607                                   |                                     |         |                 |       |       |        |         | 0.600  | 66.7 |  |
| C <sub>3</sub> H <sub>8</sub>        |        |                |                    | 0.89                      | 0.097          | 2.91              | 0.382                          | 0.382                          | 0.479         | 0.097    | 2.91       | 0.326                                   |                                     |         |                 |       |       |        |         |        |      |  |
| C <sub>4</sub> +C <sub>5</sub>       |        |                |                    |                           |                |                   |                                |                                |               | 17.12    | 1.917      |   |                                     |         |                 |       |       |        |         |        |      |  |
| C <sub>2</sub> H <sub>4</sub>        |        |                |                    | 1.89                      | 0.205          | 8.62              | 0.808                          | 0.808                          | 1.013         | 0.205    | 8.62       | 0.965                                   | 4.32                                | 1.995   | 0.223           | 7.76  | 0.969 | 6.25   | 1.241   | 0.139  | 89.5 |  |
| C <sub>3</sub> H <sub>6</sub>        |        |                |                    | 0.22                      | 0.024          | 1.07              | 0.094                          | 0.094                          | 0.118         | 0.024    | 1.07       | 0.120                                   | 4.24                                | 0.252   | 0.028           |       |       |        |         |        |      |  |
| C <sub>4</sub> H <sub>8</sub>        |        |                |                    | 1.01                      | 0.109          | 6.13              | 0.433                          | 0.433                          | 0.542         | 0.109    | 6.13       | 0.688                                   | 5.00                                | 1.226   | 0.137           | 5.82  | 0.652 | 6.10   | 0.955   | 0.107  | 79.8 |  |
| C <sub>5</sub> H <sub>10</sub>       |        |                |                    | 0.26                      | 0.028          | 1.60              | 0.109                          | 0.109                          | 0.137         | 0.028    | 1.60       | 0.179                                   | 4.88                                | 0.329   | 0.037           | 1.60  | 0.179 | 4.86   | 0.329   | 0.037  |      |  |
| C <sub>6</sub> H <sub>12</sub>       |        |                |                    | 0.44                      | 0.047          | 3.31              | 0.187                          | 0.187                          | 0.234         | 0.047    | 3.31       | 0.371                                   | 5.45                                | 0.607   | 0.068           | 3.31  | 0.371 | 5.45   | 0.607   | 0.068  | 88.0 |  |
| C <sub>7</sub> H <sub>14</sub>       |        |                |                    | 0.06                      | 0.006          | 0.41              | 0.024                          | 0.024                          | 0.030         | 0.006    | 0.41       | 0.046                                   | 5.25                                | 0.078   | 0.009           | 0.41  | 0.046 | 5.25   | 0.078   | 0.009  |      |  |
| C <sub>8</sub> H <sub>18</sub>       |        |                |                    | 0.11                      | 0.012          | 0.97              | 0.045                          | 0.045                          | 0.057         | 0.012    | 0.97       | 0.109                                   | 5.54                                | 0.175   | 0.020           | 0.97  | 0.109 | 5.54   | 0.175   | 0.020  |      |  |
| C <sub>9</sub> -C <sub>10</sub>      |        |                |                    |                           |                |                   |                                |                                |               | 22.11    | 2.475      |   | 4.662                               | 0.522   | 19.87           | 2.224 |       | 3.385  | 0.378   |        |      |  |
| TOTAL                                |        | 24.863         | 313.24             |                           | 10.976         | 204.44            | 42.896                         | 67.759                         | 57.957        |          |            |   |                                     |         |                 |       |       |        |         |        |      |  |
| H <sub>2</sub> +CO                   | 94.795 | 23.568         | 8933 SCFH.         |                           | 6.714          |                   | 26.480                         | 50.048                         | 33.194        | -16.854  |            |   |                                     |         |                 |       |       |        |         |        |      |  |
| H <sub>2</sub> /CO                   | 1.67   |                | 111944             |                           | 2.88           |                   | 2.20                           |                                | 1.38          |          |            |   |                                     |         |                 |       |       |        |         |        |      |  |
| CUMULATIVE TOTALS                    |        |                |                    |                           |                |                   |                                |                                |               |          |            |   |                                     |         |                 |       |       |        |         |        |      |  |
| H <sub>2</sub> +CO, MCF              |        |                |                    |                           |                |                   |                                |                                |               |          |            | EFFLUENT                                |                                     |         |                 |       |       |        |         |        |      |  |
| Catalyst #                           |        |                |                    |                           |                |                   |                                |                                |               |          |            | RECOVERED OIL                           |                                     |         |                 |       |       |        |         |        |      |  |
| C <sub>2</sub> +C <sub>3</sub> , gal |        |                |                    |                           |                |                   |                                |                                |               |          |            | TOTAL OIL                               |                                     |         |                 |       |       |        |         |        |      |  |
| gal/MCF                              |        |                |                    |                           |                |                   |                                |                                |               |          |            | WATER SOLUBLE                           |                                     |         |                 |       |       |        |         |        |      |  |
| gal/#                                |        |                |                    |                           |                |                   |                                |                                |               |          |            | CHEMICALS                               |                                     |         |                 |       |       |        |         |        |      |  |
| Previous Total                       |        |                |                    |                           |                |                   |                                |                                |               |          |            | SHIFT RATIO                             |                                     |         |                 |       |       |        |         |        |      |  |
| Current Period                       |        |                |                    |                           |                |                   |                                |                                |               |          |            | (H <sub>2</sub> )(CO) <sub>2</sub> 7.98 |                                     |         |                 |       |       |        |         |        |      |  |
| New Total                            |        |                |                    |                           |                |                   |                                |                                |               |          |            | TOTAL LIQUID PRODUCTS C <sub>2</sub> +  |                                     |         |                 |       |       |        |         |        |      |  |
| FRESH FEED CONVERSION - %            |        |                |                    | TOTAL FEED CONVERSION - % |                |                   |                                | SELECTIVITY                    |               |          |            | NET WATER                               |                                     |         |                 |       |       |        |         |        |      |  |
| Contraction                          | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>2</sub> +C <sub>3</sub> | C <sub>2</sub> +C <sub>3</sub> | GROSS WATER   |          |            |   |                                     |         |                 |       |       |        |         |        |      |  |
| 56.3                                 | 80.41  | 66.19          | 71.51              | 45.36                     | 28.37          | 33.68             | 78.98                          | 78.98                          | 74.08         | 8.293    | 8.880      | 0.995                                   |                                     |         |                 |       |       |        |         |        |      |  |

\*Included in Reactor Effluent Total

Weight Balance = 91.45%

g/M3 = 16.91 ≈ MCF.  
cc/M3 = 141.3 × gal/MCF.

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 I From Hr. 2300 to Hr. 0700 Bns. 150-159

| FLOWS        |       | RUN CONDITIONS             |     | DISTILLATIONS |      |  |  | CATALYST DATA |        | CATALYST ANALYSIS             |                               |               |        |           |               |       |                         |
|--------------|-------|----------------------------|-----|---------------|------|--|--|---------------|--------|-------------------------------|-------------------------------|---------------|--------|-----------|---------------|-------|-------------------------|
| SCFH         | %     | Generator Press.           | 323 | A S T M       |      |  |  | Hempel Dist.  |        | In Reactor at Start of Period |                               | Particle Size |        |           |               |       |                         |
| Oxygen       | 2170  | O <sub>2</sub> Preheat, °F | 470 | Prod. Naph    |      |  |  | °F            | %      | A.P.I.                        | Fresh Catalyst Charged        |               | Screen |           | Sedimentation |       |                         |
| Nat. Gas     | 3372  | Gas Preheat, °F            | 687 | A.P.I.        | 55.3 |  |  | to 400        | 71.355 | 3                             | Catalyst Recharged            |               | Frac.  | M         | %             | M     | %                       |
| Total        |       | Reactor Press.             | 298 | I.B.P.        | 104  |  |  | 400-550       | 20.655 | 9                             | Total                         |               | On 40  | 420+      | 19.9          | 80+   |                         |
| Fresh Feed   | 9162  | Steam Back Press.          | 702 | 5%            |      |  |  | 550+          | 8.1    |                               | Catalyst Taken Out            |               | 24     | 100       | 419-150       | 40.9  | 80-40                   |
| F. F. by C   | 8727  | Temperatures, °F           |     | 10%           | 146  |  |  |               |        |                               | In Reactor at End of Period   |               | 615    | 150       | 149-105       | 12.3  | 40-20                   |
| Avg. F. F.   | 8945  | Heater Outlet              | 414 | 20            | 174  |  |  |               |        |                               |                               |               | 200    | 104-74    | 13.3          | 20-10 |                         |
| Wet Gas      | 3220  | Catalyst #1                | 637 | 30            | 198  |  |  | WATER         |        |                               |                               |               | 250    | 73-62     | 4.6           | 10-0  |                         |
| Contraction  |       | #2                         | 637 | 40            | 224  |  |  | Temp.         | %      |                               | Reactor d-P, H <sub>2</sub> O |               | 325    | 61-44     | 6.4           |       |                         |
| Recycle      | 14787 | #3                         | 648 | 50            | 248  |  |  | 200           |        |                               | Pounds in Reactor             |               | 900    | <325      | 43-0          | 2.6   |                         |
| Bleed        | 763   | #4                         | 610 | 60            | 272  |  |  | 203           |        |                               | Density, lbs./cu. ft.         |               | 166    |           |               |       | Chem. Anal.             |
|              |       | #5                         | 610 | 70            | 296  |  |  | 208           |        |                               | Bed Height, Feet              |               | 8.2    |           |               |       |                         |
| Total        | 15550 | Average                    | 628 | 80            | 326  |  |  |               |        |                               |                               |               |        |           |               |       |                         |
| Total Feed   | 24712 | Product Separator          |     | 90            | 364  |  |  |               |        |                               |                               |               |        |           |               |       |                         |
| Recycle/F.F. | 1.70  |                            |     | 95            | 369  |  |  |               |        |                               | Space Vel. SCFH/lb. cat.      |               |        | Sp. Grav. | 4.7           |       | Specific Surface        |
| Inlet Vel.   | 1.02  |                            |     | E.P.          | 412  |  |  |               |        |                               | Inventory Figures             |               | 14.54  |           |               |       | m <sup>2</sup> gm       |
| Steam Flow   |       |                            |     | Rec.          | 98   |  |  |               |        |                               | From d-P Meters               |               | 10     |           |               |       | ml. NH <sub>3</sub> /gm |
|              |       |                            |     | Res.          | 1.5  |  |  |               |        |                               |                               |               |        |           |               |       |                         |
|              |       |                            |     | Loss.         | 0.5  |  |  |               |        |                               |                               |               |        |           |               |       |                         |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |       | PRODUCT INSPECTION    |       |         |         |          |                                | IN        |      |        |        | OUT              |           |        |       |        |       |
|--------------------------------|-------|-----------------------|-------|---------|---------|----------|--------------------------------|-----------|------|--------|--------|------------------|-----------|--------|-------|--------|-------|
| %                              |       | Oil                   | Water | Product | Pour °F | SUS @ °F | Mol %                          | SCFH m/hr | C    | H      | O      | Mol %            | SCFH m/hr | C      | H     | O      |       |
| CO <sub>2</sub>                | 1.25  | Neut. No. 42          | 37    |         |         |          | O <sub>2</sub>                 | 5.733     |      |        | 11.466 | CO <sub>2</sub>  | 0.433     | 0.44   |       | 0.9    |       |
| CH <sub>4</sub>                | 85.96 | Sap. No. 49           | 41    |         |         |          | CO <sub>2</sub>                | 0.111     | 0.11 |        | 0.222  | CO               | 9.559     | 8.56   |       | 9.5    |       |
| C <sub>2</sub> H <sub>6</sub>  | 8.60  | Hydrox. No.           |       |         |         |          | CH <sub>4</sub>                | 7.649     | 7.65 | 30.596 |        | CH <sub>4</sub>  | 1.069     | 1.07   | 4.276 |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 3.12  | Bromine No. 80        |       |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.765     | 1.53 | 4.590  |        | H <sub>2</sub>   | 14.041    | 28.082 |       |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.12  | % Fe                  |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.278     | 0.83 | 2.224  |        | N <sub>2</sub>   | 0.069     |        |       |        |       |
| N <sub>2</sub>                 | 0.97  | % Alc                 | 5     |         |         |          | C <sub>4</sub> H <sub>10</sub> | 0.011     | 0.04 | 0.110  |        | H <sub>2</sub> O |           |        | 4.834 | 2.4    |       |
| O <sub>2</sub>                 | 0.08  | Aniline Point °F 55.0 |       |         |         |          | N <sub>2</sub>                 | 0.077     |      |        |        | Total            |           |        | 10.07 | 37.132 | 11.9  |
|                                |       | *API 49.7             | 10.5  |         |         |          | Total                          |           |      |        |        | Balance          |           |        | 99.0  | 99.1   | 101.4 |

| FRESH FEED                      |        |                |                    | WET GAS                   |                |                      |                                     | RECYCLE     | COMBINED FEED | EFFLUENT    | NET CHANGE | YIELD BASIS H <sub>2</sub> + CO FED    |         |       |       |        |         |        |  |  |  |
|---------------------------------|--------|----------------|--------------------|---------------------------|----------------|----------------------|-------------------------------------|-------------|---------------|-------------|------------|--|---------|-------|-------|--------|---------|--------|--|--|--|
| %                               | m/hr   | #/hr           | %                  | At. Wt. Balance m/hr      | #/hr           | m/hr                 | m/hr                                | m/hr        | m/hr          | #/hr        | #/MCF      | gal/hr                                 | gal/MCF | #/hr  | #/MCF | gal/hr | gal/MCF | Unsat. |  |  |  |
| CO                              | 35.405 | 8.559          | 239.74             | 14.14                     | 1.396          | 39.10                | 5.800                               | 14.359      | 7.196         | -7.163      | -200.64    |  |         |       |       |        |         |        |  |  |  |
| H <sub>2</sub>                  | 58.080 | 14.041         | 28.31              | 41.31                     | 4.079          | 8.22                 | 16.949                              | 30.990      | 21.028        | -9.962      | -20.09     |  |         |       |       |        |         |        |  |  |  |
| CO <sub>2</sub>                 | 1.810  | 0.438          | 19.28              | 19.57                     | 1.932          | 85.01                | 8.028                               | 8.466       | 9.960         | 1.494       | 65.73      | 7.674                                  |         |       |       |        |         |        |  |  |  |
| N <sub>2</sub>                  | 0.285  | 0.069          | 1.93               | 0.78                      | 0.077          | 2.15                 | 0.320                               | 0.399       | 0.397         |             |            |  |         |       |       |        |         |        |  |  |  |
| CH <sub>4</sub>                 | 4.420  | 1.069          | 17.15              | 16.27                     | 1.606          | 25.77                | 6.674                               | 7.743       | 8.280         | 0.557       | 8.62       | 1.006                                  |         |       |       |        |         |        |  |  |  |
| C <sub>2</sub> H <sub>6</sub>   |        |                |                    | 1.83                      | 0.180          | 5.06                 | 0.749                               | 0.749       | 0.929         | 0.180       | 5.06       | 0.591                                  |         |       |       |        |         |        |  |  |  |
| C <sub>3</sub> H <sub>8</sub>   |        |                |                    | 0.82                      | 0.080          | 2.41                 | 0.334                               | 0.334       | 0.414         | 0.080       | 2.41       | 0.281                                  |         |       |       |        |         |        |  |  |  |
| C <sub>4</sub> +C <sub>5</sub>  |        |                |                    |                           |                |                      |                                     |             |               | 16.09       | 1.878      |  |         |       |       |        |         |        |  |  |  |
| C <sub>2</sub> H <sub>4</sub>   |        |                |                    | 1.99                      | 0.196          | 8.26                 | 0.817                               | 0.817       | 1.013         | 0.196       | 8.26       | 0.964                                  | 4.32    | 1.912 | 0.223 | 7.43   | 0.867   | 6.25   |  |  |  |
| C <sub>3</sub> H <sub>6</sub>   |        |                |                    | 0.36                      | 0.035          | 1.53                 | 0.146                               | 0.146       | 0.181         | 0.035       | 1.53       | 0.179                                  | 4.24    | 0.361 | 0.042 |        |         |        |  |  |  |
| C <sub>4</sub> H <sub>8</sub>   |        |                |                    | 1.95                      | 0.192          | 10.76                | 0.798                               | 0.798       | 0.990         | 0.192       | 10.76      | 1.256                                  | 5.00    | 2.152 | 0.251 | 10.22  | 1.193   | 6.10   |  |  |  |
| C <sub>5</sub> H <sub>10</sub>  |        |                |                    | 0.31                      | 0.030          | 1.76                 | 0.125                               | 0.125       | 0.155         | 0.030       | 1.76       | 0.205                                  | 4.86    | 0.362 | 0.042 | 1.76   | 0.205   | 4.86   |  |  |  |
| C <sub>6</sub> H <sub>12</sub>  |        |                |                    | 0.49                      | 0.049          | 3.42                 | 0.201                               | 0.201       | 0.250         | 0.049       | 3.42       | 0.399                                  | 5.45    | 0.628 | 0.073 | 3.42   | 0.399   | 5.45   |  |  |  |
| C <sub>7</sub> H <sub>14</sub>  |        |                |                    | 0.08                      | 0.007          | 0.50                 | 0.031                               | 0.031       | 0.038         | 0.007       | 0.50       | 0.058                                  | 5.25    | 0.095 | 0.011 | 0.50   | 0.058   | 5.25   |  |  |  |
| C <sub>8</sub> H <sub>18</sub>  |        |                |                    | 0.15                      | 0.014          | 1.17                 | 0.059                               | 0.059       | 0.073         | 0.014       | 1.17       | 0.137                                  | 5.54    | 0.211 | 0.025 | 1.17   | 0.137   | 5.54   |  |  |  |
| C <sub>9</sub> -C <sub>10</sub> |        |                |                    |                           |                |                      |                                     |             |               | 27.40       | 3.199      |  |         | 5.721 | 0.668 | 24.50  | 2.860   | 4.161  |  |  |  |
| TOTAL                           |        | 24.175         | 306.41             |                           | 9.874          | 195.12               | 41.030                              | 65.205      | 55.304        |             |            |  |         |       |       |        |         |        |  |  |  |
| H <sub>2</sub> +CO              | 93.485 | 22.600         | 8565 S.C.F.H.      | 5.475                     |                |                      | 22.749                              | 45.349      | 28.224        | -17.125     |            |  |         |       |       |        |         |        |  |  |  |
| H <sub>2</sub> /CO              |        | 1.64           | 116754             | 2.92                      |                |                      | 2.16                                | 2.92        | 1.39          |             |            |  |         |       |       |        |         |        |  |  |  |
| CUMULATIVE TOTALS               |        |                |                    |                           |                |                      |                                     |             |               | EFFLUENT    |            |  |         |       |       |        |         |        |  |  |  |
| H <sub>2</sub> +CO/MCF          |        |                |                    | Catalyst #                |                | C <sub>3</sub> + gal |                                     | gal/MCF     |               | gal/#       |            | RECOVERED OIL                          |         | 0.241 |       | 33.74  |         | 3.939  |  |  |  |
| Previous Total                  |        |                |                    |                           |                |                      |                                     |             |               | SHIFT RATIO |            | TOTAL OIL                              |         | 61.14 |       | 7.138  |         | 10.921 |  |  |  |
| Current Period                  |        |                |                    |                           |                |                      |                                     |             |               |             |            | WATER SOLUBLE CHEMICALS                |         | 0.074 |       | 3.95   |         | 0.461  |  |  |  |
| New Total                       |        |                |                    |                           |                |                      |                                     |             |               |             |            | TOTAL LIQUID PRODUCTS C <sub>3</sub> + |         | 65.09 |       | 7.599  |         | 11.386 |  |  |  |
| FRESH FEED CONVERSION - %       |        |                |                    | TOTAL FEED CONVERSION - % |                |                      |                                     | SELECTIVITY |               |             |            | NET WATER                              |         |       |       |        |         |        |  |  |  |
| Contraction                     | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub>    | C <sub>3</sub> + / C <sub>1</sub> + | GROSS WATER |               |             |            | HYDROCARBON TOTAL - C <sub>1</sub> +   |         |       |       |        |         |        |  |  |  |
| 59.16                           | 83.69  | 70.95          | 75.77              | 49.88                     | 32.15          | 37.76                | 80.18                               | 77.55       |               |             |            | 9.054                                  |         |       |       |        |         |        |  |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 91.11%

g/M3 = 16.91 ÷ MCF  
cc/M3 = 141.3 × gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 J From Hr. 0700 to 0700 Hrs. 159-179

| FLOWS        |       |   | RUN CONDITIONS             |     |            |      | DISTILLATIONS |  |              |      | CATALYST DATA                 |                               |               | CATALYST ANALYSIS |           |      |       |                            |
|--------------|-------|---|----------------------------|-----|------------|------|---------------|--|--------------|------|-------------------------------|-------------------------------|---------------|-------------------|-----------|------|-------|----------------------------|
|              | SCFH  | % | Generator Press.           | 326 | A S T M    |      |               |  | Hempel Dist. |      | In Reactor at Start of Period |                               | Particle Size |                   |           |      |       |                            |
| Oxygen       | 2182  |   | O <sub>2</sub> Preheat, °F | 450 | Prod. Naph |      |               |  | °F           | %    | A.P.I.                        | Fresh Catalyst Charged        |               | Screen            |           |      |       |                            |
| Nat. Gas     | 3384  |   | Gas Preheat, °F            | 660 | A.P.I.     | 56.1 |               |  | to 400       | 72.5 | 56.1                          | Catalyst Recharged            |               | Frac.             | M         | %    | M     | %                          |
| Total        |       |   | Reactor Press.             | 295 | I.B.P.     | 100  |               |  | 400-550      | 20.3 | 36.1                          | Total                         |               | On 40             | 420+      | 24.4 | 80+   |                            |
| Fresh Feed   | 9307  |   | Steam Back Press.          | 700 | 5%         |      |               |  | 550+         | 7.1  |                               | Catalyst Taken Out            |               | 100               | 419-150   | 51.2 | 80-40 |                            |
| F. F. by C   | 9675  |   | Temperatures, °F           |     | 10%        | 130  |               |  |              |      |                               | In Reactor at End of Period   |               | 150               | 149-105   | 11.2 | 40-20 |                            |
| Avg. F. F.   | 9491  |   | Heater Outlet              | 505 | 20         | 162  |               |  |              |      |                               |                               |               | 200               | 104-74    | 10.0 | 20-10 |                            |
| Wet Gas      | 3213  |   | Catalyst #1                | 650 | 30         | 188  |               |  | WATER        |      |                               |                               |               | 250               | 73-62     | 1.5  | 10-0  |                            |
| Contraction  |       |   | #2                         | 650 | 40         | 202  |               |  | Temp.        | %    |                               | Reactor d-P, H <sub>2</sub> O |               | 325               | 61-44     | 1.2  |       |                            |
| Recycle      | 14914 |   | #3                         | 670 | 50         | 234  |               |  | 200          |      |                               | Pounds in Reactor             |               | 810               | <325      | 43-0 | 0.4   |                            |
| Bleed        | 765   |   | #4                         | 660 | 60         | 254  |               |  | 203          |      |                               | Density, lbs./cu. ft.         |               | 157               |           |      |       | Chem. Anal.                |
|              |       |   | #5                         |     | 70         | 284  |               |  | 208          |      |                               | Bed Height, Feet              |               | 7.8               |           |      |       |                            |
| Total        | 15679 |   | Average                    | 650 | 80         | 320  |               |  |              |      |                               |                               |               |                   |           |      |       |                            |
| Total Feed   | 24986 |   | Product Separator          |     | 90         | 356  |               |  |              |      |                               |                               |               |                   |           |      |       |                            |
| Recycle/F.F. | 1.68  |   |                            |     | 95         | 388  |               |  |              |      |                               | Space Vel. SCFH/lb. cat.      |               |                   | Sp. Grav. | 4.7  |       | Specific Surface           |
| Inlet Vel.   | 1.06  |   |                            |     | E.P.       | 408  |               |  |              |      |                               | Inventory Figures             |               | 16.42             |           |      |       | m <sup>2</sup> /gm         |
| Steam Flow   |       |   |                            |     | Rec.       | 97   |               |  |              |      |                               | From d-P Meters               |               | 11.72             |           |      |       | 3.9 ml.NH <sub>3</sub> /gm |
|              |       |   |                            |     | Res.       | 2    |               |  |              |      |                               |                               |               |                   |           |      |       |                            |
|              |       |   |                            |     | Loss       | 1    |               |  |              |      |                               |                               |               |                   |           |      |       |                            |

| NATURAL GAS                    |       |             |      |       |  |         |  |         |  | PRODUCT INSPECTION |                                |       |      |       |                  |        |      |      |  | GENERATOR ELEMENTAL BALANCE |  |   |  |   |        |  |  |  |  |
|--------------------------------|-------|-------------|------|-------|--|---------|--|---------|--|--------------------|--------------------------------|-------|------|-------|------------------|--------|------|------|--|-----------------------------|--|---|--|---|--------|--|--|--|--|
|                                |       | Oil         |      | Water |  | Product |  | Pour °F |  | SUS @ °F           |                                | IN    |      | OUT   |                  | Mol %  |      | SCFH |  | C                           |  | H |  | O |        |  |  |  |  |
| CO <sub>2</sub>                | 1.37  | Neut. No.   | 45   | 37    |  |         |  |         |  |                    | O <sub>2</sub>                 | 5.768 |      |       | CO <sub>2</sub>  | 0.449  | 0.45 |      |  |                             |  |   |  |   | 0.9    |  |  |  |  |
| CH <sub>4</sub>                | 85.34 | Sap. No.    | 47   | 52    |  |         |  |         |  |                    | CO <sub>2</sub>                | 0.122 | 0.12 |       | CO               | 8.566  | 8.57 |      |  |                             |  |   |  |   | 8.6    |  |  |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 8.91  | Hydrox. No. |      |       |  |         |  |         |  |                    | CH <sub>4</sub>                | 7.621 | 7.62 | 30.48 | CH <sub>4</sub>  | 0.970  | 0.97 |      |  |                             |  |   |  |   | 3.480  |  |  |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 3.18  | Bromine No. | 86   |       |  |         |  |         |  |                    | C <sub>2</sub> H <sub>6</sub>  | 0.796 | 1.59 | 4.78  | H <sub>2</sub>   | 14.550 |      |      |  |                             |  |   |  |   | 29.100 |  |  |  |  |
| C <sub>4</sub> H <sub>10</sub> | 0.09  | % Fe        |      |       |  |         |  |         |  |                    | C <sub>3</sub> H <sub>8</sub>  | 0.284 | 0.85 | 2.27  | N <sub>2</sub>   | 0.122  |      |      |  |                             |  |   |  |   |        |  |  |  |  |
| N <sub>2</sub>                 | 0.95  | % Alc       |      | 8     |  |         |  |         |  |                    | C <sub>4</sub> H <sub>10</sub> | 0.008 | 0.08 | 0.08  | H <sub>2</sub> O |        |      |      |  |                             |  |   |  |   | 4.834  |  |  |  |  |
| O <sub>2</sub>                 | 0.14  | * APT       | 49.8 | 10.6  |  |         |  |         |  |                    | N <sub>2</sub>                 | 0.085 |      |       | Total            |        |      |      |  |                             |  |   |  |   | 9.98   |  |  |  |  |
|                                |       |             |      |       |  |         |  |         |  |                    | Total                          |       |      |       | Balance          |        |      |      |  |                             |  |   |  |   | 96.7   |  |  |  |  |
|                                |       |             |      |       |  |         |  |         |  |                    |                                |       |      |       |                  |        |      |      |  |                             |  |   |  |   | 99.5   |  |  |  |  |
|                                |       |             |      |       |  |         |  |         |  |                    |                                |       |      |       |                  |        |      |      |  |                             |  |   |  |   | 100.8  |  |  |  |  |

| FRESH FEED                      |        |       |        | WET GAS                |                 |       |        | RECYCLE                            | COMBINED FEED | EFFLUENT | NET CHANGE | YIELD BASIS H <sub>2</sub> + CO FED |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
|---------------------------------|--------|-------|--------|------------------------|-----------------|-------|--------|------------------------------------|---------------|----------|------------|-------------------------------------|-------|--------|---------|-------------|---------|-------|--------|----------------|---------|------|--|-------------------|--|--|--|--------------------------------|--|--|--|--------------------------------------|--|--|--|-------|--|--|--|-------|--|--|--|-------|--|--|--|-------|--|--|--|-------|--|--|--|
|                                 | %      | m/hr  | #/hr   | %                      | At. Wt. Balance | m/hr  | m/hr   | m/hr                               | m/hr          | m/hr     | #/hr       | CONDENSATE                          |       |        |         |             | POLYMER |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
|                                 |        |       |        |                        | m/hr            | #/hr  |        |                                    |               |          |            | #/MCF                               | #/gal | gal/hr | gal/MCF | #/hr        | #/MCF   | #/gal | gal/hr | gal/MCF        | Unsats. |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| CO                              | 29.010 | 34.88 | 8.566  | 239.93                 | 13.89           | 1.356 | 38.00  | 5.747                              | 14.313        | 7.103    | -7.210     | -201.93                             |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| H <sub>2</sub>                  | 2.016  | 59.25 | 14.550 | 29.33                  | 42.09           | 4.110 | 8.29   | 17.413                             | 31.963        | 21.523   | -10.440    | -21.04                              |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| CO <sub>2</sub>                 | 44.010 | 1.83  | 0.448  | 19.72                  | 20.42           | 1.993 | 87.72  | 8.445                              | 8.893         | 11.438   | 1.545      | 68.00                               | 7.762 |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| N <sub>2</sub>                  | 28.016 | 0.50  | 0.122  | 3.42                   | 0.85            | 0.083 | 2.33   | 0.353                              | 0.475         | 0.436    |            |                                     |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| CH <sub>4</sub>                 | 16.042 | 3.54  | 0.870  | 13.96                  | 14.83           | 1.447 | 23.21  | 6.134                              | 7.004         | 7.581    | 0.577      | 9.25                                | 1.056 |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>2</sub> H <sub>6</sub>   | 28.032 |       |        |                        | 1.98            | 0.192 | 5.39   | 0.817                              | 0.817         | 1.009    | 0.192      | 5.39                                | 0.615 |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>3</sub> H <sub>8</sub>   | 30.069 |       |        |                        | 0.88            | 0.085 | 2.56   | 0.363                              | 0.363         | 0.448    | 0.085      | 2.56                                | 0.292 |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>4</sub> +C <sub>5</sub>  |        |       |        |                        |                 |       |        |                                    |               |          |            | 17.20                               | 1.963 |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>2</sub> H <sub>4</sub>   | 42.079 |       |        |                        | 2.25            | 0.220 | 9.26   | 0.930                              | 0.930         | 1.149    | 0.220      | 9.26                                | 1.057 | 4.32   | 2.144   | 0.245       | 8.33    | 0.951 | 6.25   | 1.333          | 0.152   | 84.3 |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>3</sub> H <sub>6</sub>   | 44.094 |       |        |                        | 0.43            | 0.041 | 1.83   | 0.177                              | 0.177         | 0.219    | 0.041      | 1.83                                | 0.209 | 4.24   | 0.432   | 0.049       |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>4</sub> H <sub>10</sub>  | 56.104 |       |        |                        | 1.22            | 0.119 | 6.66   | 0.503                              | 0.503         | 0.621    | 0.119      | 6.66                                | 0.760 | 5.00   | 1.332   | 0.152       | 6.33    | 0.723 | 6.10   | 1.038          | 0.118   | 78.8 |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>5</sub> H <sub>12</sub>  | 58.120 |       |        |                        | 0.33            | 0.032 | 1.88   | 0.134                              | 0.134         | 0.161    | 0.032      | 1.88                                | 0.215 | 4.86   | 0.387   | 0.044       | 1.88    | 0.215 | 4.86   | 0.387          | 0.044   |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>6</sub> H <sub>14</sub>  | 70.130 |       |        |                        | 0.47            | 0.046 | 3.24   | 0.194                              | 0.194         | 0.240    | 0.046      | 3.24                                | 0.370 | 5.45   | 0.594   | 0.068       | 3.24    | 0.370 | 5.45   | 0.594          | 0.068   | 63.0 |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>7</sub> H <sub>16</sub>  | 72.146 |       |        |                        | 0.27            | 0.027 | 1.91   | 0.113                              | 0.113         | 0.139    | 0.027      | 1.91                                | 0.218 | 5.25   | 0.364   | 0.042       | 1.91    | 0.218 | 5.25   | 0.364          | 0.042   |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>8</sub> H <sub>18</sub>  | 84.156 |       |        |                        | 0.11            | 0.010 | 0.88   | 0.046                              | 0.046         | 0.056    | 0.010      | 0.88                                | 0.100 | 5.54   | 0.159   | 0.018       | 0.88    | 0.100 | 5.54   | 0.159          | 0.018   |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| C <sub>9</sub> -C <sub>10</sub> |        |       |        |                        |                 |       |        |                                    |               |          |            | 25.66                               | 2.929 |        | 5.412   | 0.618       | 22.57   | 2.577 |        | 3.875          | 0.442   |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| TOTAL                           |        |       | 24.556 | 306.36                 |                 | 9.762 | 193.10 | 41.369                             | 65.925        | 55.565   |            |                                     |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| H <sub>2</sub> +CO              |        | 94.13 | 23.116 | 8761 S.C.F.H.          |                 | 5.466 |        | 23.160                             | 46.276        | 29.626   | -17.650    |                                     |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| H <sub>2</sub> /CO              |        |       | 1.70   | 11414                  |                 | 3.03  |        |                                    | 2.23          |          | 1.45       |                                     |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| CUMULATIVE TOTALS               |        |       |        |                        |                 |       |        |                                    |               |          |            |                                     |       |        |         |             |         |       |        |                |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
|                                 |        |       |        | H <sub>2</sub> +CO/MCF |                 |       |        | Catalyst #                         |               |          |            | C <sub>2</sub> +C <sub>3</sub>      |       |        |         | gal/MCF     |         |       |        | gal/#          |         |      |  |                   |  |  |  |                                |  |  |  |                                      |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| Previous Total                  |        |       |        |                        |                 |       |        | EFFLUENT                           |               |          |            | RECOVERED OIL                       |       |        |         | 0.238       |         |       |        | 33.40          |         |      |  | 3.212             |  |  |  | 5.160                          |  |  |  | 0.589                                |  |  |  | 33.40 |  |  |  | 3.812 |  |  |  | 5.160 |  |  |  | 0.589 |  |  |  |       |  |  |  |
| Current Period                  |        |       |        |                        |                 |       |        | SHIFT RATIO                        |               |          |            | TOTAL OIL                           |       |        |         |             |         |       |        | 59.06          |         |      |  | 6.741             |  |  |  | 10.572                         |  |  |  | 1.207                                |  |  |  | 55.97 |  |  |  | 6.389 |  |  |  | 9.035 |  |  |  | 1.031 |  |  |  |       |  |  |  |
| New Total                       |        |       |        |                        |                 |       |        | (H <sub>2</sub> )(CO) <sub>2</sub> |               |          |            | WATER SOLUBLE CHEMICALS             |       |        |         |             |         |       |        | 0.121          |         |      |  | 6.44              |  |  |  | 0.735                          |  |  |  | 0.766                                |  |  |  | 0.087 |  |  |  | 6.44  |  |  |  | 0.735 |  |  |  | 0.766 |  |  |  | 0.087 |  |  |  |
| FRESH FEED CONVERSION - %       |        |       |        |                        |                 |       |        |                                    |               |          |            | TOTAL FEED CONVERSION - %           |       |        |         | SELECTIVITY |         |       |        | NET WATER      |         |      |  | 4.075             |  |  |  | 73.42                          |  |  |  | 8.360                                |  |  |  | 8.814 |  |  |  | 1.006 |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |
| Contraction                     |        |       |        | CO                     |                 |       |        | H <sub>2</sub>                     |               |          |            | H <sub>2</sub> +CO                  |       |        |         | CO          |         |       |        | H <sub>2</sub> |         |      |  | CO+H <sub>2</sub> |  |  |  | C <sub>3</sub> +C <sub>4</sub> |  |  |  | GROSS WATER                          |  |  |  | 79.86 |  |  |  | 9.115 |  |  |  | 9.580 |  |  |  | 1.093 |  |  |  |       |  |  |  |
| 60.25                           |        |       |        | 84.17                  |                 |       |        | 71.75                              |               |          |            | 76.35                               |       |        |         | 50.37       |         |       |        | 32.66          |         |      |  | 38.14             |  |  |  | 79.20                          |  |  |  | HYDROCARBON TOTAL - C <sub>1</sub> + |  |  |  | 82.70 |  |  |  | 9.439 |  |  |  |       |  |  |  |       |  |  |  |       |  |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 91.72%

g/M3 = 16.91 ÷ MCF  
cc/M3 = 141.3 × gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 K From Hr. 0700 to Hr. 0700 Hrs. 179-203

| FLOWS        |       | RUN CONDITIONS             |     |         |      | DISTILLATIONS |      |                               |                             | CATALYST DATA |                       | CATALYST ANALYSIS |                  |                             |       |
|--------------|-------|----------------------------|-----|---------|------|---------------|------|-------------------------------|-----------------------------|---------------|-----------------------|-------------------|------------------|-----------------------------|-------|
| SCFH         | %     | Generator Press.           | 324 | A S T M |      | Hempel Dist.  |      | In Reactor at Start of Period |                             | 578           | Particle Size         |                   |                  |                             |       |
| Oxygen       | 2244  | O <sub>2</sub> Preheat, °F | 454 | Prod.   | Naph | °F            | %    | A.P.I.                        | Fresh Catalyst Charged      |               | Screen Sedimentation  |                   |                  |                             |       |
| Nat. Gas     | 3449  | Gas Preheat, °F            | 681 | A.P.I.  | 56.3 | to 400        | 71.6 | 56.3                          | Catalyst Recharged          |               | Frac.                 | M                 | %                | M                           | %     |
| Total        |       | Reactor Press.             | 295 | I.B.P.  | 108  | 400-550       | 18.3 | 37.8                          | Total                       |               | On 40                 | 420+              | 26.9             | 80+                         |       |
| Fresh Feed   | 9342  | Steam Back Press.          | 740 | 5%      |      | 550+          | 10.1 |                               | Catalyst Taken Out          |               | 64                    | 100               | 419-150          | 50.5                        | 80-40 |
| F. F. by C   | 9377  | Temperatures, °F           |     | 10%     | 142  |               |      |                               | In Reactor at End of Period |               | 514                   | 150               | 149-105          | 10.7                        | 40-20 |
| Avg. F. F.   | 9360  | Heater Outlet              | 516 | 20      | 172  |               |      |                               |                             |               |                       | 200               | 104-74           | 9.5                         | 20-10 |
| Wet Gas      | 3532  | Catalyst #1                | 651 | 30      | 192  | WATER         |      |                               |                             |               | 250                   | 73-62             | 1.4              | 10-0                        |       |
| Contraction  |       | #2                         | 651 | 40      | 218  | Temp.         | %    | Reactor d-P, H <sub>2</sub> O |                             |               | 325                   | 61-44             | 0.4              |                             |       |
| Recycle      | 15614 | #3                         | 667 | 50      | 234  | 200           |      | Pounds in Reactor             |                             | 747           | <325                  | 43-0              | 0.6              |                             |       |
| Bleed        | 801   | #4                         | 669 | 60      | 260  | 203           |      | Density, lbs./cu. ft.         |                             | 147           | Density, lbs./cu. ft. |                   | Chem. Anal.      |                             |       |
| Total        | 16415 | #5                         | 669 | 70      | 288  | 208           |      | Bed Height, Feet              |                             | 7.7           | Aerated               | 144               | % Fe             |                             |       |
| Total Feed   | 25757 | Average                    | 651 | 80      | 320  |               |      |                               |                             |               | Settled               | 146               | % C              |                             |       |
| Recycle/F.F. | 1.76  | Product Separator          | 38  | 90      | 344  |               |      |                               |                             |               | Compacted             | 164               | % Oil            |                             |       |
| Inlet Vel.   | 1.10  |                            |     | 95      | 384  |               |      | Space Vel. SCFH/lb. cat.      |                             |               | Sp. Grav.             | 4.3               | Specific Surface |                             |       |
| Steam Flow   |       |                            |     | E.P.    | 400  |               |      | Inventory Figures             |                             | 18.21         |                       |                   |                  | m <sup>2</sup> /gm          |       |
|              |       |                            |     | Rec.    | 97.5 |               |      | From d-P Meters               |                             | 12.53         |                       |                   |                  | 3.9 ml. NH <sub>3</sub> /gm |       |
|              |       |                            |     | Res.    | 1.5  |               |      |                               |                             |               |                       |                   |                  |                             |       |
|              |       |                            |     | Loss.   | 0.5  |               |      |                               |                             |               |                       |                   |                  |                             |       |

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |                                | IN        |      |        |       | OUT              |           |      |        |       |        |       |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--------------------------------|-----------|------|--------|-------|------------------|-----------|------|--------|-------|--------|-------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SEEB m/hr | C    | H      | O     | Mol %            | SEEB m/hr | C    | H      | O     |        |       |
| CO <sub>2</sub>                | 1.50  | Neut. No.          | 43    | 39      |         |          | O <sub>2</sub>                 | 5.935     |      |        | 11.87 | CO <sub>2</sub>  | 0.425     | 0.50 |        | 1.0   |        |       |
| CH <sub>4</sub>                | 85.63 | Sop. No.           | 53    | 52      |         |          | CO <sub>2</sub>                | 0.136     | 0.14 |        | 0.27  | CO               | 8.951     | 8.95 |        | 9.0   |        |       |
| C <sub>2</sub> H <sub>6</sub>  | 8.63  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.792     | 7.79 | 31.168 |       | CH <sub>4</sub>  | 0.883     | 0.88 | 3.532  |       |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 3.13  | Bromine No.        | 83    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.785     | 1.57 | 4.710  |       | H <sub>2</sub>   | 14.203    |      | 29.406 |       |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.12  | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.285     | 0.96 | 2.280  |       | N <sub>2</sub>   | 0.118     |      |        |       |        |       |
| N <sub>2</sub>                 | 0.83  | % Alc              |       | 8       |         |          | C <sub>4</sub> H <sub>10</sub> | 0.011     | 0.04 | 0.110  |       | H <sub>2</sub> O |           |      |        | 5.366 | 2.7    |       |
| O <sub>2</sub>                 | 0.16  | *API               | 49.3  | 10.6    |         |          | N <sub>2</sub>                 | 0.075     |      |        |       | Total            |           |      |        | 10.33 | 37.304 | 12.6  |
|                                |       |                    |       |         |         |          | Total                          |           |      |        |       | Balance          |           |      |        | 99.3  | 97.5   | 104.0 |

| FRESH FEED                     |       | WET GAS                 |                    |                           |                | RECYCLE               | COMBINED FEED                  | EFFLUENT                       | NET CHANGE                     |                                | YIELD BASIS H <sub>2</sub> + CO FED |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
|--------------------------------|-------|-------------------------|--------------------|---------------------------|----------------|-----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------|
| %                              | m/hr  | #/hr                    | %                  | At. Wt. Balance           | #/hr           | m/hr                  | m/hr                           | m/hr                           | m/hr                           | #/hr                           | CONDENSATE                          |                                |                                |                                | POLYMER                        |                                |                                |                                | %                              |                                |                                |                                |                                |       |
|                                |       |                         |                    | m/hr                      | #/hr           |                       |                                |                                |                                |                                | #/MCF                               | #/gal                          | gal/hr                         | gal/MCF                        | #/hr                           | #/MCF                          | #/gal                          | gal/hr                         | gal/MCF                        | Unsat.                         |                                |                                |                                |       |
| CO                             | 36.32 | 8.951                   | 250.76             | 14.93                     | 1.635          | 45.80                 | 6.468                          | 15.419                         | 8.103                          | -7.316                         | -204.96                             |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| H <sub>2</sub>                 | 57.62 | 14.203                  | 28.64              | 43.09                     | 4.716          | 9.51                  | 18.661                         | 32.864                         | 23.377                         | -9.487                         | -19.13                              |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| CO <sub>2</sub>                | 2.01  | 0.495                   | 21.78              | 20.01                     | 2.190          | 96.40                 | 8.667                          | 9.162                          | 10.857                         | 1.705                          | 74.62                               | 8.502                          |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| N <sub>2</sub>                 | 0.48  | 0.118                   | 3.29               | 0.75                      | 0.082          | 2.30                  | 0.326                          | 0.444                          | 0.408                          |                                |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| CH <sub>4</sub>                | 3.58  | 0.883                   | 14.16              | 13.60                     | 1.489          | 23.89                 | 5.892                          | 6.775                          | 7.381                          | 0.606                          | 9.73                                | 1.109                          |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>2</sub> H <sub>6</sub>  |       |                         |                    | 1.98                      | 0.217          | 6.10                  | 0.859                          | 0.859                          | 1.076                          | 0.217                          | 6.10                                | 0.695                          |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>3</sub> H <sub>8</sub>  |       |                         |                    | 0.92                      | 0.100          | 3.01                  | 0.397                          | 0.397                          | 0.497                          | 0.100                          | 3.01                                | 0.343                          |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>4</sub> H <sub>10</sub> |       |                         |                    |                           |                |                       |                                |                                |                                |                                |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>3</sub> -C <sub>6</sub> |       |                         |                    |                           |                |                       |                                |                                |                                |                                |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>2</sub> H <sub>4</sub>  |       |                         |                    | 2.21                      | 0.242          | 10.18                 | 0.956                          | 0.956                          | 1.198                          | 0.242                          | 10.18                               | 1.160                          | 4.32                           | 2.356                          | 0.268                          | 9.16                           | 1.044                          | 6.25                           | 1.466                          | 0.167                          | 85.8                           |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.36                      | 0.040          | 1.76                  | 0.158                          | 0.158                          | 0.198                          | 0.040                          | 1.76                                | 0.201                          | 4.24                           | 0.415                          | 0.047                          |                                |                                |                                |                                |                                |                                |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 1.17                      | 0.128          | 7.19                  | 0.508                          | 0.508                          | 0.636                          | 0.128                          | 7.19                                | 0.819                          | 5.00                           | 1.438                          | 0.164                          | 6.83                           | 0.778                          | 6.10                           | 1.120                          | 0.128                          | 78.5                           |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.32                      | 0.035          | 2.04                  | 0.138                          | 0.138                          | 0.173                          | 0.035                          | 2.04                                | 0.232                          | 4.86                           | 0.420                          | 0.048                          | 2.04                           | 0.232                          | 4.86                           | 0.420                          | 0.048                          |                                |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.49                      | 0.054          | 3.79                  | 0.212                          | 0.212                          | 0.266                          | 0.054                          | 3.79                                | 0.432                          | 5.45                           | 0.695                          | 0.079                          | 3.79                           | 0.432                          | 5.45                           | 0.695                          | 0.079                          | 91.5                           |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.04                      | 0.005          | 0.34                  | 0.017                          | 0.017                          | 0.022                          | 0.005                          | 0.34                                | 0.039                          | 5.25                           | 0.065                          | 0.007                          | 0.34                           | 0.039                          | 5.25                           | 0.065                          | 0.007                          |                                |                                |                                |       |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.12                      | 0.013          | 1.09                  | 0.053                          | 0.053                          | 0.066                          | 0.013                          | 1.09                                | 0.124                          | 5.54                           | 0.197                          | 0.022                          | 1.09                           | 0.124                          | 5.54                           | 0.197                          | 0.022                          |                                |                                |                                |       |
| TOTAL                          |       | 24.649                  | 318.62             |                           | 10.946         | 231.41                | 43.312                         | 67.961                         | 53.341                         |                                |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| H <sub>2</sub> +CO             | 93.94 | 23.154                  | 8776 SCFH.         |                           | 6.351          |                       | 25.129                         | 48.283                         | 31.480                         | -16.803                        |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| H <sub>2</sub> /CO             |       | 1.59                    | 11394              |                           | 2.89           |                       |                                | 2.13                           |                                | 1.50                           |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| CUMULATIVE TOTALS              |       |                         |                    |                           |                |                       |                                |                                |                                |                                |                                     |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |                                |       |
| Previous Total                 |       | H <sub>2</sub> +CO, MCF |                    | Catalyst #                |                | C <sub>3</sub> +, gal |                                | gal/MCF                        |                                | gal/#                          |                                     | EFFLUENT                       |                                | RECOVERED OIL                  |                                | TOTAL OIL                      |                                | WATER SOLUBLE                  |                                | CHEMICALS                      |                                | TOTAL LIQUID                   |                                |       |
| Current Period                 |       |                         |                    |                           |                |                       |                                |                                |                                |                                |                                     | (H <sub>2</sub> )(CO) 8.37     |                                | (H <sub>2</sub> O)(CO)         |                                | 0.113                          |                                | 5.99                           |                                | 0.683                          |                                | 64.16                          |                                |       |
| New Total                      |       |                         |                    |                           |                |                       |                                |                                |                                |                                |                                     | 3.743                          |                                | 67.44                          |                                | 7.684                          |                                | 8.096                          |                                | 0.922                          |                                | 9.547                          |                                |       |
| FRESH FEED CONVERSION - %      |       |                         |                    | TOTAL FEED CONVERSION - % |                |                       |                                | SELECTIVITY                    |                                |                                |                                     | NET WATER                      |                                |                                |                                | GROSS WATER                    |                                |                                |                                |                                |                                |                                |                                |       |
| Contraction                    | CO    | H <sub>2</sub>          | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub>     | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub>      | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> | C <sub>3</sub> +C <sub>4</sub> |       |
| 55.60                          | 81.73 | 66.80                   | 72.57              | 47.45                     | 28.87          | 34.80                 | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                               | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30                          | 77.30 |

\*Included in Reactor Effluent Total Weight Balance = 90.05% g/M3 = 16.91 \ = MCF cc/M3 = 141.3 \ gal/MCF





THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 N From Hr. 0700 to 0700 Hrs. 251-275

| FLOWS        |       | RUN CONDITIONS             |     |            | DISTILLATIONS |  |              | CATALYST DATA |                               | CATALYST ANALYSIS |                                   |         |                  |                         |   |
|--------------|-------|----------------------------|-----|------------|---------------|--|--------------|---------------|-------------------------------|-------------------|-----------------------------------|---------|------------------|-------------------------|---|
| SCFH         | %     | Generator Press.           | 331 | A S T M    |               |  | Hempel Dist. |               | In Reactor at Start of Period |                   | Particle Size                     |         |                  |                         |   |
| Oxygen       | 2160  | O <sub>2</sub> Preheat, °F | 436 | Prod. Naph |               |  | °F           | % A.P.I.      | Fresh Catalyst Charged        | 517               | Screen Sedimentation              |         |                  |                         |   |
| Nat. Gas     | 3392  | Gas Preheat, °F            | 705 | A.P.I.     | 55.1          |  | to 400       | 88.6 35.1     | Catalyst Recharged            |                   | Frac.                             | M       | %                | M                       | % |
| Total        |       | Reactor Press.             | 295 | I.B.P.     | 94            |  | 400-550      | 16.6 37.9     | Total                         | 687               | On 40                             | 420+    | 35.8             | 80+                     |   |
| Fresh Feed   | 9059  | Steam Back Press.          | 790 | 5%         |               |  | 550+         | 14.8          | Catalyst Taken Out            | 94                | 100                               | 419-150 | 53.2             | 80-40                   |   |
| F.F. by C    | 9052  | Temperatures, °F           |     | 10%        | 134           |  |              |               | In Reactor at End of Period   | 593               | 150                               | 149-105 | 5.7              | 40-20                   |   |
| Avg. F.F.    | 9056  | Heater Outlet              | 519 | 20         | 160           |  |              |               |                               |                   | 200                               | 104-74  | 4.1              | 20-10                   |   |
| Wet Gas      | 3394  | Catalyst #1                | 651 | 30         | 190           |  | WATER        |               |                               |                   | 250                               | 73-62   | 0.4              | 10-0                    |   |
| Contraction  |       | #2                         | 650 | 40         | 216           |  | Temp.        | %             | Reactor d-P, H <sub>2</sub> O |                   | 325                               | 61-44   | 0.4              |                         |   |
| Recycle      | 15214 | #3                         | 660 | 50         | 236           |  | 200          |               | Pounds in Reactor             | 821.11            | <325                              | 43-0    | 0.4              |                         |   |
| Bleed        | 768   | #4                         | 642 | 60         | 262           |  | 203          |               | Density, lbs./cu. ft.         | 143               | Density, lbs./cu. ft. Chem. Anal. |         |                  |                         |   |
| Total        | 15982 | #5                         | 642 | 70         | 290           |  | 208          |               | Bed Height, Feet              | 8.7               | Aerated                           | 151     | % Fe             |                         |   |
| Total Feed   | 25041 | Average                    | 650 | 80         | 318           |  |              |               |                               |                   | Settled                           | 152     | % C              |                         |   |
| Recycle/F.F. | 1.77  | Product Separator          |     | 95         | 380           |  |              |               | Space Vel. SCFH/lb. cat.      |                   | Compacted                         | 164     | % Oil            |                         |   |
| Inlet Vel.   | 1.06  |                            |     | E.P.       | 400           |  |              |               | Inventory Figures             | 15.27             | Sp. Grav.                         | 4.4     | Specific Surface |                         |   |
| Steam Flow   |       |                            |     | Rec.       | 97            |  |              |               | From d-P Meters               | 11.03             |                                   |         | 3.0              | ml. Ni <sub>2</sub> /gm |   |
|              |       |                            |     | Res.       | 2             |  |              |               |                               |                   |                                   |         |                  |                         |   |
|              |       |                            |     | Loss       | 1             |  |              |               |                               |                   |                                   |         |                  |                         |   |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          | IN                             |       |       |       |        | OUT              |       |     |        |                  |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--------------------------------|-------|-------|-------|--------|------------------|-------|-----|--------|------------------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SCFH  | C     | H     | O      | Mol %            | SCFH  | C   | H      | O                |
| CO <sub>2</sub>                | 1.36  | Neut. No.          | 54    | 40      |         |          | O <sub>2</sub>                 | 5.721 |       |       | 11.442 | CO <sub>2</sub>  | 0.46  | 0.5 |        | 0.2              |
| CH <sub>4</sub>                | 95.99 | Sap. No.           | 58    | 48      |         |          | CO <sub>2</sub>                | 0.121 | 0.12  |       | 0.242  | CO               | 3.21  | 3.5 |        | 8.9              |
| C <sub>2</sub> H <sub>6</sub>  | 8.25  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.672 | 7.673 | 0.688 |        | CH <sub>4</sub>  | 0.24  | 0.2 | 3.368  |                  |
| C <sub>3</sub> H <sub>8</sub>  | 2.75  | Bromine No.        | 84    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.736 | 1.47  | 4.416 |        | H <sub>2</sub>   | 12.60 |     | 27.204 |                  |
| C <sub>4</sub> H <sub>10</sub> | 0.10  | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.245 | 0.74  | 1.960 |        | N <sub>2</sub>   | 0.10  |     |        |                  |
| N <sub>2</sub>                 | 1.31  | % Alc              |       | 7       |         |          | C <sub>4</sub> H <sub>10</sub> | 0.009 | 0.04  | 0.090 |        | H <sub>2</sub> O |       |     |        | 5.156 2.6        |
| O <sub>2</sub>                 | 0.24  | API                | 49.2  | 10.4    |         |          | N <sub>2</sub>                 | 0.117 |       |       |        | Total            |       |     |        | 10.2 35.728 12.4 |
|                                |       |                    |       |         |         |          | Total                          |       |       |       |        | Balance          |       |     |        | 101.7 96.2 106.1 |

| FRESH FEED                      |        |        |               | WET GAS         |        |        |        | RECYCLE              | COMBINED FEED | EFFLUENT | NET CHANGE | YIELD BASIS H <sub>2</sub> + CO FED |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
|---------------------------------|--------|--------|---------------|-----------------|--------|--------|--------|----------------------|---------------|----------|------------|-------------------------------------|--------|---------------|-------|-----------|---------|-------------------------|---------|--------------------------------------|------|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|
| %                               | m/hr   | #/hr   | %             | At. Wt. Balance | m/hr   | m/hr   | m/hr   | m/hr                 | m/hr          | m/hr     | #/hr       | CONDENSATE                          |        |               |       |           | POLYMER |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
|                                 |        |        |               | gal/hr          | gal/hr |        |        |                      |               |          |            | #/MCF                               | gal/hr | gal/MCF       | #/hr  | #/MCF     | gal/hr  | gal/MCF                 | Unsats. |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CO                              | 37.262 | 8.907  | 249.48        | 14.672          | 1.596  | 44.72  | 6.187  | 15.094               | 7.783         | -7.311   | 204.76     | Distribution of                     |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub>                  | 56.905 | 13.602 | 27.42         | 42.830          | 4.659  | 9.39   | 18.059 | 31.861               | 22.718        | -8.943   | -18.03     | Recovered Oil                       |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CO <sub>2</sub>                 | 1.907  | 0.456  | 20.07         | 19.830          | 2.157  | 94.94  | 8.361  | 8.817                | 10.518        | 1.701    | 74.87      | 3.776                               |        |               |       |           |         |                         | 0.395   |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| N <sub>2</sub>                  | 0.403  | 0.096  | 2.69          | 0.832           | 0.091  | 2.55   | 0.351  | 0.447                | 0.442         |          |            |                                     |        |               |       |           |         |                         | 0.093   |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CH <sub>4</sub>                 | 3.523  | 0.842  | 13.51         | 14.390          | 1.565  | 25.10  | 6.066  | 6.908                | 7.631         | 0.723    | 11.59      | 1.358                               |        |               |       |           |         |                         | 0.083   |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>2</sub> H <sub>6</sub>   |        |        |               | 1.920           | 0.209  | 5.86   | 0.809  | 0.809                | 1.018         | 0.209    | 5.36       | 0.687                               |        |               |       |           |         |                         | 0.561   | 68.1                                 |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>3</sub> H <sub>8</sub>   |        |        |               | 0.910           | 0.098  | 2.96   | 0.383  | 0.383                | 0.481         | 0.098    | 2.36       | 0.347                               |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>4</sub> +C <sub>5</sub>  |        |        |               |                 |        |        |        |                      |               |          | 20.41      | 2.392                               |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>2</sub> H <sub>4</sub>   |        |        |               | 2.232           | 0.243  | 10.23  | 0.941  | 0.941                | 1.184         | 0.243    | 10.23      | 1.199                               | 4.32   | 2.368         | 0.278 | 9.21      | 1.080   | 6.25                    | 1.474   | 0.173                                | 91.0 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>3</sub> H <sub>6</sub>   |        |        |               | 0.220           | 0.024  | 1.07   | 0.093  | 0.093                | 0.117         | 0.024    | 1.07       | 0.125                               | 4.24   | 0.252         | 0.030 |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>4</sub> H <sub>8</sub>   |        |        |               | 1.230           | 0.134  | 7.50   | 0.519  | 0.519                | 0.653         | 0.134    | 7.50       | 0.979                               | 5.00   | 1.500         | 0.176 | 7.13      | 0.836   | 6.10                    | 1.169   | 0.137                                | 79.8 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>5</sub> H <sub>10</sub>  |        |        |               | 0.312           | 0.034  | 1.98   | 0.132  | 0.132                | 0.166         | 0.034    | 1.98       | 0.232                               | 4.86   | 0.407         | 0.048 | 1.98      | 0.232   | 4.86                    | 0.407   | 0.048                                |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>6</sub> H <sub>12</sub>  |        |        |               | 0.488           | 0.053  | 3.75   | 0.206  | 0.206                | 0.259         | 0.053    | 3.75       | 0.440                               | 5.45   | 0.688         | 0.081 | 3.75      | 0.440   | 5.45                    | 0.688   | 0.081                                | 91.4 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>7</sub> H <sub>14</sub>  |        |        |               | 0.050           | 0.005  | 0.35   | 0.021  | 0.021                | 0.026         | 0.005    | 0.35       | 0.041                               | 5.25   | 0.067         | 0.008 | 0.35      | 0.041   | 5.25                    | 0.067   | 0.008                                |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>8</sub> H <sub>18</sub>  |        |        |               | 0.096           | 0.010  | 0.8    | 0.040  | 0.040                | 0.050         | 0.010    | 0.8        | 0.095                               | 5.54   | 0.146         | 0.017 | 0.91      | 0.095   | 5.54                    | 0.146   | 0.017                                |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>9</sub> -C <sub>10</sub> |        |        |               |                 |        |        |        |                      |               |          | 25.69      | 3.011                               |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| TOTAL                           |        | 23.903 | 313.17        |                 | 10.378 | 211.21 | 42.169 | 66.072               | 57.011        |          |            |                                     |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub> +CO              | 94.167 | 22.509 | 8531 S.C.F.H. |                 | 6.255  |        | 24.246 | 46.755               | 30.501        | -16.254  |            |                                     |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub> /CO              |        | 1.53   | 11721         |                 | 2.92   |        |        |                      | 2.10          |          | 1.22       |                                     |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CUMULATIVE TOTALS               |        |        |               |                 |        |        |        |                      |               |          |            |                                     |        |               |       |           |         |                         |         |                                      |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| Previous Total                  |        |        |               | Current Period  |        |        |        | New Total            |               |          |            | EFFLUENT                            |        | RECOVERED OIL |       | TOTAL OIL |         | WATER SOLUBLE CHEMICALS |         | TOTAL LIQUID PRODUCTS C <sub>1</sub> |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub> +CO/MCF          |        |        |               | Catalyst #      |        |        |        | C <sub>3</sub> + gal |               |          |            | gal/MCF                             |        | gal/#         |       | 0.223     |         | 31.21                   |         | 3.658                                |      | 4.790 |  | 0.561 |  | 31.21 |  | 3.658 |  | 4.790 |  | 0.561 |  |       |  |       |  |       |  |       |  |
| 54.49                           |        |        |               | 82.08           |        |        |        | 65.75                |               |          |            | 72.21                               |        |               |       | 48.44     |         |                         |         | 28.25                                |      |       |  | 34.76 |  |       |  | 75.22 |  |       |  | 3.646 |  | 65.69 |  | 7.700 |  | 7.886 |  | 0.924 |  |

\*Included in Reactor Effluent Total

Weight Balance = 88.08%

g/M3 16.91 = MCF cc/M3 = 141.3 gal/MCF.

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 450 From Hr. 0700 to Hr. 0700 Hrs. 275-289

| FLOWS        |       | RUN CONDITIONS             |     |         | DISTILLATIONS |     |  |              | CATALYST DATA |                               | CATALYST ANALYSIS           |               |                               |         |               |       |             |     |                        |
|--------------|-------|----------------------------|-----|---------|---------------|-----|--|--------------|---------------|-------------------------------|-----------------------------|---------------|-------------------------------|---------|---------------|-------|-------------|-----|------------------------|
| SCFH         | %     | Generator Press.           | 338 | A S T M |               |     |  | Hempel Dist. |               | In Reactor at Start of Period | 593                         | Particle Size |                               |         |               |       |             |     |                        |
| Oxygen       | 2173  | O <sub>2</sub> Preheat, °F | 447 | Prod.   | Rep           |     |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged      |               | Screen                        |         | Sedimentation |       |             |     |                        |
| Nat. Gas     | 3390  | Gas Preheat, °F            | 700 | A.P.I.  | 50.5          |     |  | to 400       | 71.050        | 5                             | Catalyst Recharged          |               | Frac.                         | M       | %             | M     | %           |     |                        |
| Total        | 5563  | Reactor Press.             | 300 | I.B.P.  | 96            |     |  | 400-550      | 15.658        | 0                             | Total                       |               | On 40                         | 420+    | 25.9          | 80+   |             |     |                        |
| Fresh Feed   | 9216  | Steam Back Press.          | 730 |         | 5%            |     |  | 550+         | 13.4          |                               | Catalyst Taken Out          | 99            | 100                           | 419-150 | 50.7          | 80-40 |             |     |                        |
| F. F. by C   | 9060  | Temperatures, °F           |     |         | 10%           | 130 |  |              |               |                               | In Reactor at End of Period | 494           | 150                           | 149-105 | 11.3          | 40-20 |             |     |                        |
| Avg. F. F.   | 9138  | Heater Outlet              | 563 |         | 20            | 166 |  |              |               |                               |                             |               | 200                           | 104-74  | 8.1           | 20-10 |             |     |                        |
| Wet Gas      | 3726  | Catalyst #1                | 646 |         | 30            | 196 |  |              |               |                               | WATER                       |               |                               |         |               |       |             |     |                        |
| Contraction  |       | #2                         | 652 |         | 40            | 220 |  |              |               |                               | Temp.                       | %             | Reactor d-P, H <sub>2</sub> O |         | 325           | 61-44 | 0.2         |     |                        |
| Recycle      | 15799 | #3                         | 660 |         | 50            | 240 |  |              |               | 200                           |                             |               | Pounds in Reactor             | 678.88  | <325          | 43-0  | 2.2         |     |                        |
| Bleed        | 804   | #4                         | 645 |         | 60            | 260 |  |              |               | 203                           |                             |               | Density, lbs./cu. ft.         | 139     |               |       | Chem. Anal. |     |                        |
|              |       | #5                         |     |         | 70            | 292 |  |              |               | 208                           |                             |               | Bed Height, Feet              | 7.4     |               |       | Aerated     | 169 | % Fe                   |
| Total        | 16603 | Average                    | 650 |         | 80            | 320 |  |              |               |                               |                             |               |                               |         |               |       | Settled     | 171 | % C                    |
| Total Feed   | 25819 | Product Separator          |     |         | 90            | 358 |  |              |               |                               |                             |               |                               |         |               |       | Compacted   | 182 | % Oil                  |
| Recycle/F.F. | 1.80  |                            |     |         | 95            | 384 |  |              |               |                               |                             |               | Space Vel. SCFH/lb. cat.      |         |               |       | Sp. Grav.   | 4.8 | Specific Surface       |
| Inlet Vel.   | 1.08  |                            |     |         | E.P.          | 403 |  |              |               |                               |                             |               | Inventory Figures             | 18.50   |               |       |             |     | m <sup>2</sup> /gm     |
| Steam Flow   |       |                            |     |         | Rec.          | 97  |  |              |               |                               |                             |               | From d-P Meters               | 13.46   |               |       |             | 2.4 | mL.NH <sub>3</sub> /gm |
|              |       |                            |     |         | Res.          | 2   |  |              |               |                               |                             |               |                               |         |               |       |             |     |                        |
|              |       |                            |     |         | Loss.         | 1   |  |              |               |                               |                             |               |                               |         |               |       |             |     |                        |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |       | PRODUCT INSPECTION |       |         |         |          |                                | IN    |      |        |        |                  | OUT    |      |        |       |        |       |
|--------------------------------|-------|--------------------|-------|---------|---------|----------|--------------------------------|-------|------|--------|--------|------------------|--------|------|--------|-------|--------|-------|
| %                              |       | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SCFH  | C    | H      | O      | Mol %            | SCFH   | C    | H      | O     |        |       |
| CO <sub>2</sub>                | 1.32  | Neut. No.          | 47    | 42      |         |          | O <sub>2</sub>                 | 5.753 |      |        | 11.506 | CO <sub>2</sub>  | 0.449  | 0.45 |        | 0.9   |        |       |
| CH <sub>4</sub>                | 86.01 | Sap. No.           | 58    | 48      |         |          | CO <sub>2</sub>                | 0.118 | 0.12 |        | 0.236  | CO               | 8.820  | 8.82 |        | 8.8   |        |       |
| C <sub>2</sub> H <sub>6</sub>  | 8.71  | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.694 | 7.69 | 30.776 |        | CH <sub>4</sub>  | 0.945  | 0.95 | 3.780  |       |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 2.84  | Bromine No.        | 80    |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.779 | 1.66 | 4.674  |        | H <sub>2</sub>   | 14.022 |      | 28.044 |       |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.09  | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.254 | 0.76 | 2.032  |        | N <sub>2</sub>   | 0.080  |      |        |       |        |       |
| N <sub>2</sub>                 | 0.81  | % Alc              |       | 10      |         |          | C <sub>4</sub> H <sub>10</sub> | 0.008 | 0.03 | 0.080  |        | H <sub>2</sub> O |        |      |        | 4.892 | 2.4    |       |
| O <sub>2</sub>                 | 0.22  | *API               | 47.9  | 10.6    |         |          | N <sub>2</sub>                 | 0.072 |      |        |        | Total            |        |      |        | 10.21 | 36.816 | 12.2  |
|                                |       |                    |       |         |         |          | Total                          |       |      |        |        | Balance          |        |      |        | 99.51 | 98.01  | 103.6 |

| FRESH FEED                     |        |       |        | WET GAS         |       |       |       | RECYCLE              | COMBINED FEED | EFFLUENT | NET CHANGE                | YIELD BASIS H <sub>2</sub> + CO FED |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
|--------------------------------|--------|-------|--------|-----------------|-------|-------|-------|----------------------|---------------|----------|---------------------------|-------------------------------------|--------|---------|-------|-------|-------|--------|---------|----------------|-------|-------------|--|-------------------|--|--|--|----------------------------------|--|--|--|-------------|-----------|--|--|-------------|--|--|--|-------------------------|--|--|--|-------|--|--|--|
| %                              | m/hr   | #/hr  | %      | At. Wt. Balance | m/hr  | #/hr  | m/hr  | m/hr                 | m/hr          | #/hr     | #/MCF                     | #/gal                               | gal/hr | gal/MCF | #/hr  | #/MCF | #/gal | gal/hr | gal/MCF | Unsats.        |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| CO                             | 28.010 | 36.27 | 8.820  | 247.05          | 16.47 | 1.933 | 54.14 | 7.213                | 16.033        | 9.146    | -6.887                    | -192.91                             |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| H <sub>2</sub>                 | 2.016  | 57.66 | 14.022 | 28.27           | 45.57 | 5.349 | 10.78 | 19.961               | 33.983        | 25.310   | -8.673                    | -17.49                              |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| CO <sub>2</sub>                | 4.010  | 1.85  | 0.449  | 19.76           | 18.03 | 2.117 | 93.16 | 7.998                | 8.347         | 10.015   | 1.668                     | 73.40                               | 8.479  |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| N <sub>2</sub>                 | 2.016  | 0.33  | 0.080  | 2.24            | 0.91  | 0.107 | 3.01  | 0.400                | 0.480         | 0.507    | 0.027                     |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| CH <sub>4</sub>                | 16.042 | 3.89  | 0.945  | 15.16           | 12.78 | 1.500 | 24.06 | 5.597                | 6.542         | 7.097    | 0.555                     | 8.90                                | 1.028  |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 28.092 |       |        |                 | 1.59  | 0.186 | 5.23  | 0.697                | 0.697         | 0.883    | 0.186                     | 5.23                                | 0.604  |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 30.068 |       |        |                 | 0.73  | 0.085 | 2.54  | 0.318                | 0.318         | 0.403    | 0.085                     | 2.54                                | 0.293  |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>4</sub> +C <sub>5</sub> |        |       |        |                 |       |       |       |                      |               |          | 16.67                     | 1.925                               |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>2</sub> H <sub>4</sub>  | 42.078 |       |        |                 | 2.13  | 0.250 | 10.49 | 0.931                | 0.931         | 1.181    | 0.250                     | 10.49                               | 1.212  | 4.32    | 2.428 | 0.280 | 9.44  | 1.090  | 6.25    | 1.511          | 0.175 | 95.6        |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>2</sub> H <sub>2</sub>  | 44.094 |       |        |                 | 0.10  | 0.012 | 0.53  | 0.042                | 0.042         | 0.054    | 0.012                     | 0.53                                | 0.061  | 4.24    | 0.125 | 0.014 |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>3</sub> H <sub>6</sub>  | 56.104 |       |        |                 | 0.97  | 0.113 | 6.36  | 0.424                | 0.424         | 0.537    | 0.113                     | 6.36                                | 0.735  | 5.00    | 1.272 | 0.147 | 6.04  | 0.698  | 6.10    | 0.990          | 0.114 | 79.5        |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>4</sub> H <sub>10</sub> | 58.120 |       |        |                 | 0.25  | 0.031 | 1.80  | 0.110                | 0.110         | 0.141    | 0.031                     | 1.80                                | 0.208  | 4.86    | 0.370 | 0.043 | 1.80  | 0.208  | 4.86    | 0.370          | 0.043 |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>4</sub> H <sub>8</sub>  | 70.130 |       |        |                 | 0.39  | 0.045 | 3.18  | 0.170                | 0.170         | 0.215    | 0.045                     | 3.18                                | 0.367  | 5.45    | 0.583 | 0.067 | 3.18  | 0.367  | 5.45    | 0.583          | 0.067 | 95.1        |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>4</sub> H <sub>6</sub>  | 72.146 |       |        |                 | 0.02  | 0.002 | 0.17  | 0.007                | 0.007         | 0.009    | 0.002                     | 0.17                                | 0.020  | 5.25    | 0.032 | 0.004 | 0.17  | 0.020  | 5.25    | 0.032          | 0.004 |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>4</sub> H <sub>2</sub>  | 84.156 |       |        |                 | 0.09  | 0.011 | 0.91  | 0.039                | 0.039         | 0.050    | 0.011                     | 0.91                                | 0.105  | 5.54    | 0.164 | 0.019 | 0.91  | 0.105  | 5.54    | 0.164          | 0.019 |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| C <sub>3</sub> -C <sub>6</sub> |        |       |        |                 |       |       |       |                      |               |          | 23.44                     | 2.707                               |        | 4.974   | 0.575 | 21.54 | 2.488 |        | 3.650   | 0.422          |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| TOTAL                          |        |       |        |                 |       |       |       |                      |               |          |                           |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| H <sub>2</sub> +CO             |        | 93.93 | 22.842 | 8657            | SCFH  | 7.282 |       | 27.174               | 50.016        | 34.456   | -15.560                   |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| H <sub>2</sub> /CO             |        |       | 1.59   | 115513          |       | 2.77  |       |                      |               | 2.12     |                           |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| CUMULATIVE TOTALS              |        |       |        |                 |       |       |       |                      |               |          |                           |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| H <sub>2</sub> +CO MCF         |        |       |        | Catalyst #      |       |       |       | C <sub>3</sub> + gal |               |          |                           | gal/MCF                             |        |         |       | gal/# |       |        |         | EFFLUENT       |       |             |  | RECOVERED OIL     |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| Previous Total                 |        |       |        | Current Period  |       |       |       | New Total            |               |          |                           |                                     |        |         |       |       |       |        |         |                |       |             |  |                   |  |  |  |                                  |  |  |  |             |           |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| FRESH FEED CONVERSION - %      |        |       |        |                 |       |       |       |                      |               |          | TOTAL FEED CONVERSION - % |                                     |        |         |       |       |       |        |         |                |       | SELECTIVITY |  |                   |  |  |  |                                  |  |  |  |             | NET WATER |  |  |             |  |  |  |                         |  |  |  |       |  |  |  |
| Contraction                    |        |       |        | CO              |       |       |       | H <sub>2</sub>       |               |          |                           | H <sub>2</sub> +CO                  |        |         |       | CO    |       |        |         | H <sub>2</sub> |       |             |  | CO+H <sub>2</sub> |  |  |  | C <sub>3</sub> + /C <sub>1</sub> |  |  |  | GROSS WATER |           |  |  | HYDROCARBON |  |  |  | TOTAL -C <sub>1</sub> + |  |  |  |       |  |  |  |
| 51.73                          |        |       |        | 78.08           |       |       |       | 61.88                |               |          |                           | 68.12                               |        |         |       | 42.95 |       |        |         | 25.52          |       |             |  | 31.11             |  |  |  | 79.37                            |  |  |  | 65.79       |           |  |  | 7.600       |  |  |  | 7.890                   |  |  |  | 0.911 |  |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 88.75%

g/M3 = 16.91 x = MCF  
cc/M3 = 141.3 x gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 P From Hr. 0700 to Hr. 0700 Hrs. 299-319

| FLOWS        |       | RUN CONDITIONS             |     |             | DISTILLATIONS |  |  |              | CATALYST DATA |                               | CATALYST ANALYSIS           |               |           |         |      |       |   |
|--------------|-------|----------------------------|-----|-------------|---------------|--|--|--------------|---------------|-------------------------------|-----------------------------|---------------|-----------|---------|------|-------|---|
| SCFH         | %     | Generator Press.           | 341 | A S T M     |               |  |  | Hempel Dist. |               | In Reactor at Start of Period |                             | Particle Size |           |         |      |       |   |
| Oxygen       | 2152  | O <sub>2</sub> Preheat, °F | 435 | Prod. Naph. |               |  |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged      | 494           | Screen    |         |      |       |   |
| Nat. Gas     | 3401  | Gas Preheat, °F            | 685 | A.P.I.      | 68.3          |  |  | to 400       | 58.3          | 53.7                          | Catalyst Recharged          |               | Frac.     | M       | %    | M     | % |
| Total        |       | Reactor Press.             | 300 | I.B.P.      | 98            |  |  | 400-550      | 19.3          | 38.2                          | Total                       | 701           | On 40     | 420+    | 23.9 | 80+   |   |
| Fresh Feed   | 9237  | Steam Back Press.          | 853 | 5%          |               |  |  | 550+         |               |                               | Catalyst Taken Out          | 125           | 100       | 419-150 | 49.3 | 80-40 |   |
| F. F. by C   | 9349  | Temperatures, °F           |     | 10%         | 140           |  |  |              |               |                               | In Reactor at End of Period | 576           | 150       | 149-105 | 11.1 | 40-20 |   |
| Avg. F. F.   | 9293  | Heater Outlet              | 560 | 20          | 156           |  |  |              |               |                               |                             |               | 200       | 104-74  | 10.3 | 20-10 |   |
| Wet Gas      | 4014  | Catalyst #1                | 643 | 30          | 206           |  |  |              |               |                               |                             |               | 250       | 73-62   | 2.2  | 10-0  |   |
| Contraction  |       | #2                         | 641 | 40          | 224           |  |  |              |               |                               |                             |               | 325       | 61-44   | 0.2  |       |   |
| Recycle      | 16220 | #3                         | 657 | 50          | 252           |  |  | 200          |               |                               | Pounds in Reactor           | 797           | <325      | 43-0    | 3.0  |       |   |
| Bleed        | 828   | #4                         | 651 | 60          | 272           |  |  | 203          |               |                               | Density, lbs./cu. ft.       | 142           |           |         |      |       |   |
|              |       | #5                         |     | 70          | 298           |  |  | 208          |               |                               | Bed Height, Feet            | 8.5           |           |         |      |       |   |
| Total        | 17048 | Average                    | 648 | 80          | 330           |  |  |              |               |                               |                             |               |           |         |      |       |   |
| Total Feed   | 26285 | Product Separator          |     | 90          | 364           |  |  |              |               |                               |                             |               |           |         |      |       |   |
| Recycle/F.F. | 1.84  |                            |     | 95          | 390           |  |  |              |               |                               | Space Vel. SCFH/lb. cat.    |               | Sp. Grav. | 4.7     |      |       |   |
| Inlet Vel.   | 1.10  |                            |     | E.P.        | 407           |  |  |              |               |                               | Inventory Figures           | 16.13         |           |         |      |       |   |
| Steam Flow   |       |                            |     | Rec.        | 97.5          |  |  |              |               |                               | From d-P Meters             | 11.66         |           |         |      |       |   |
|              |       |                            |     | Res.        | 2.0           |  |  |              |               |                               |                             |               |           |         |      |       |   |
|              |       |                            |     | Loss.       | 0.5           |  |  |              |               |                               |                             |               |           |         |      |       |   |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |        |               | PRODUCT INSPECTION |       |         |         |          |                                | IN    |      |        |        |                  | OUT    |      |        |        |       |
|--------------------------------|--------|---------------|--------------------|-------|---------|---------|----------|--------------------------------|-------|------|--------|--------|------------------|--------|------|--------|--------|-------|
| %                              |        |               | Oil                | Water | Product | Pour °F | SUS @ °F | Mol %                          | SG    | C    | H      | O      | Mol %            | SG     | C    | H      | O      |       |
| CO <sub>2</sub>                | 1.52   | Neut. No.     | 49                 | 44    |         |         |          | O <sub>2</sub>                 | 5.700 |      |        | 11.400 | CO <sub>2</sub>  | 0.424  | 0.42 |        | 0.8    |       |
| CH <sub>4</sub>                | 84.96  | Sap. No.      | 58                 | 47    |         |         |          | CO <sub>2</sub>                | 0.136 | 0.14 |        | 0.272  | CO               | 8.786  | 8.79 |        | 8.8    |       |
| C <sub>2</sub> H <sub>6</sub>  | 9.29   | Hydrox. No.   |                    |       |         |         |          | CH <sub>4</sub>                | 7.624 | 7.62 | 30.496 |        | CH <sub>4</sub>  | 0.962  | 0.96 | 3.848  |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 2.77   | Bromine No.   | 71.1               |       |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.234 | 1.67 | 5.004  |        | H <sub>2</sub>   | 14.100 |      | 28.200 |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.11   | % Fe          |                    |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.249 | 0.75 | 1.992  |        | N <sub>2</sub>   | 0.100  |      |        |        |       |
| N <sub>2</sub>                 | 1.12   | % Alc         |                    | 9     |         |         |          | C <sub>4</sub> H <sub>10</sub> | 0.010 | 0.04 | 0.100  |        | H <sub>2</sub> O |        |      | 4.832  | 2.4    |       |
| O <sub>2</sub>                 | 0.24   | Aniline Point | 57.0               |       |         |         |          | N <sub>2</sub>                 | 0.100 |      |        |        | Total            |        |      | 10.17  | 36.878 | 12.0  |
| MW                             | 18.767 | API           | 47.6               | 10.5  |         |         |          | Total                          |       |      |        |        | Balance          |        |      | 99.58  | 98.10  | 103.1 |

| FRESH FEED                     |        |                |                    | WET GAS                   |                |                   |                                  | RECYCLE                              | COMBINED FEED | EFFLUENT | NET CHANGE |  | YIELD BASIS H <sub>2</sub> + CO FED |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
|--------------------------------|--------|----------------|--------------------|---------------------------|----------------|-------------------|----------------------------------|--------------------------------------|---------------|----------|------------|--|-------------------------------------|-----------|-------|------------------------|---------------|--------|-------|-------|------|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|-------|--|
| %                              | m/hr   | #/hr           | %                  | At. Wt. Balance           | m/hr           | #/hr              | m/hr                             | m/hr                                 | m/hr          | #/hr     | #/MCF      | CONDENSATE                             | POLYMER                             |           |       |                        | Unsats.       |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CO                             | 36.048 | 3.786          | 246.10             | 17.89                     | 2.200          | 61.62             | 8.048                            | 16.834                               | 10.248        | -6.586   | -184.48    |  | Distribution of                     |           |       |                        | Recovered Oil |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub>                 | 57.852 | 14.100         | 28.42              | 46.97                     | 5.763          | 11.62             | 21.080                           | 35.180                               | 26.943        | -8.337   | -16.80     |  | 400 EP                              |           |       |                        | 0.350         |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CO <sub>2</sub>                | 1.742  | 0.424          | 18.66              | 16.52                     | 2.032          | 89.41             | 7.431                            | 7.955                                | 9.463         | 1.608    | 70.75      | 8.156                                  | 400-550                             |           |       |                        | 0.099         |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| N <sub>2</sub>                 | 0.412  | 0.100          | 2.80               | 0.77                      | 0.095          | 2.67              | 0.347                            | 0.447                                | 0.442         |          |            |  | 550+                                |           |       |                        | 0.063         |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CH <sub>4</sub>                | 3.946  | 0.962          | 15.43              | 12.48                     | 1.535          | 24.62             | 5.613                            | 6.575                                | 7.148         | 0.573    | 9.19       | 1.059                                  |                                     |           |       |                        | 0.512         |        | 69.8  |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>2</sub> H <sub>6</sub>  |        |                |                    | 1.47                      | 0.180          | 5.05              | 0.659                            | 0.659                                | 0.839         | 0.180    | 5.05       | 0.582                                  |                                     |           |       |                        | 0.512         |        | 69.8  |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>2</sub> H <sub>8</sub>  |        |                |                    | 0.63                      | 0.078          | 2.33              | 0.285                            | 0.285                                | 0.363         | 0.078    | 2.33       | 0.269                                  |                                     |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>1</sub> +C <sub>2</sub> |        |                |                    |                           |                |                   |                                  |                                      |               | 16.57    | 1.910      |  |                                     |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>3</sub> H <sub>8</sub>  |        |                |                    | 1.57                      | 0.193          | 8.10              | 0.705                            | 0.705                                | 0.898         | 0.193    | 8.10       | 0.934                                  | 4.32                                | 1.875     | 0.216 | 7.29                   | 0.840         | 6.25   | 1.166 | 0.134 | 93.2 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>4</sub> H <sub>10</sub> |        |                |                    | 0.12                      | 0.014          | 0.62              | 0.052                            | 0.052                                | 0.066         | 0.014    | 0.62       | 0.071                                  | 4.24                                | 0.146     | 0.017 |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>5</sub> H <sub>12</sub> |        |                |                    | 0.88                      | 0.108          | 6.06              | 0.397                            | 0.397                                | 0.505         | 0.108    | 6.06       | 0.699                                  | 5.00                                | 1.212     | 0.140 | 5.76                   | 0.664         | 6.10   | 0.944 | 0.109 | 76.1 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>6</sub> H <sub>14</sub> |        |                |                    | 0.28                      | 0.034          | 1.95              | 0.124                            | 0.124                                | 0.158         | 0.034    | 1.95       | 0.225                                  | 4.86                                | 0.401     | 0.046 | 1.95                   | 0.225         | 4.86   | 0.401 | 0.046 |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>7</sub> H <sub>16</sub> |        |                |                    | 0.40                      | 0.049          | 3.42              | 0.178                            | 0.178                                | 0.227         | 0.049    | 3.42       | 0.394                                  | 5.45                                | 0.628     | 0.072 | 3.42                   | 0.394         | 5.45   | 0.628 | 0.072 | 94.2 |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>8</sub> H <sub>18</sub> |        |                |                    | 0.03                      | 0.003          | 0.26              | 0.012                            | 0.012                                | 0.015         | 0.003    | 0.26       | 0.030                                  | 5.25                                | 0.050     | 0.006 | 0.26                   | 0.030         | 5.25   | 0.050 | 0.006 |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>9</sub> H <sub>20</sub> |        |                |                    | 0.11                      | 0.014          | 1.17              | 0.051                            | 0.051                                | 0.065         | 0.014    | 1.17       | 0.135                                  | 5.54                                | 0.211     | 0.024 | 1.17                   | 0.135         | 5.54   | 0.211 | 0.024 |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| C <sub>3</sub> -C <sub>6</sub> |        |                |                    |                           |                |                   |                                  |                                      |               | 21.58    | 2.488      |  | 4.523                               | 0.521     | 19.95 | 2.288                  |               | 3.400  | 0.391 |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| TOTAL                          |        | 24.372         | 311.41             |                           | 12.296         | 218.91            | 44.981                           | 69.353                               | 60.788        |          |            |  |                                     |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub> +CO             | 93.900 | 22.886         | 8674 S.C.F.H.      |                           | 7.963          |                   | 29.128                           | 52.014                               | 37.091        | -14.923  |            |  |                                     |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| H <sub>2</sub> /CO             |        | 1.60           | 11528              |                           | 2.62           |                   |                                  | 2.09                                 |               | 1.27     |            |  |                                     |           |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| CUMULATIVE TOTALS              |        |                |                    |                           |                |                   |                                  |                                      |               |          |            | RECOVERED OIL                          |                                     | 0.208*    |       | 29.20                  |               | 3.366  |       | 4.440 |      | 0.512 |  | 29.20 |  | 3.366 |  | 4.440 |  | 0.512 |  |       |  |       |  |
| Previous Total                 |        |                |                    |                           |                |                   |                                  |                                      |               |          |            | SHIFT RATIO                            |                                     | TOTAL OIL |       | 50.78                  |               | 5.854  |       | 8.963 |      | 1.033 |  | 49.05 |  | 5.654 |  | 7.840 |  | 0.903 |  |       |  |       |  |
| Current Period                 |        |                |                    |                           |                |                   |                                  |                                      |               |          |            | (H <sub>2</sub> )(CO <sub>2</sub> )    |                                     | 7.76      |       | (H <sub>2</sub> O)(CO) |               | 0.109* |       | 5.76  |      | 0.664 |  | 0.683 |  | 0.079 |  | 5.76  |  | 0.664 |  | 0.683 |  | 0.079 |  |
| New Total                      |        |                |                    |                           |                |                   |                                  |                                      |               |          |            | TOTAL LIQUID PRODUCTS C <sub>1</sub> + |                                     | 56.54     |       | 6.518                  |               | 9.646  |       | 1.112 |      | 54.81 |  | 6.318 |  | 8.523 |  | 0.982 |  |       |  |       |  |       |  |
| FRESH FEED CONVERSION - %      |        |                |                    | TOTAL FEED CONVERSION - % |                |                   |                                  | SELECTIVITY                          |               |          |            | NET WATER                              |                                     | 3.194*    |       | 57.54                  |               | 6.633  |       | 6.907 |      | 0.796 |  |       |  |       |  |       |  |       |  |       |  |       |  |
| Contraction                    | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> +C <sub>4</sub> + | GROSS WATER                          |               |          |            | 63.30                                  |                                     | 7.297     |       | 7.590                  |               | 0.875  |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |
| 49.55                          | 74.96  | 59.13          | 65.21              | 39.12                     | 23.70          | 28.69             | 77.34                            | HYDROCARBON TOTAL - C <sub>1</sub> + |               |          |            | 73.11                                  |                                     | 8.428     |       |                        |               |        |       |       |      |       |  |       |  |       |  |       |  |       |  |       |  |       |  |

\*Included in Reactor Effluent Total

Weight Balance = 90.26%

g/M3 = 16.91 \ \ = MCF  
cc/M3 = 141.3 \ \ gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 Q From Hr. 0700 to Hr. 0700 Hrs. 319-343

| FLOWS        |       | RUN CONDITIONS             |     |            | DISTILLATIONS |  |              |      | CATALYST DATA                 |                             | CATALYST ANALYSIS     |         |                        |
|--------------|-------|----------------------------|-----|------------|---------------|--|--------------|------|-------------------------------|-----------------------------|-----------------------|---------|------------------------|
| SCFH         | %     | Generator Press            | 345 | A S T M    |               |  | Hempel Dist. |      | In Reactor at Start of Period | 576                         | Particle Size         |         |                        |
| Oxygen       | 2158  | O <sub>2</sub> Preheat, °F | 442 | Prod. Naph |               |  | °F           | %    | A.P.I.                        | Fresh Catalyst Charged      | Screen                |         |                        |
| Nat. Gas     | 3402  | Gas Preheat, °F            | 720 | A.P.I.     | 53.7          |  | to 400       | 56.6 | 53.7                          | Catalyst Recharged          | Frac.                 | M       | %                      |
| Total        |       | Reactor Press.             | 300 | I.B.P.     | 104           |  | 400-550      | 19.0 | 38.0                          | Total                       | On 40                 | 420+    | 25.9                   |
| Fresh Feed   | 9200  | Steam Back Press.          | 770 |            |               |  | 550+         | 14.4 |                               | Catalyst Taken Out          | 100                   | 419-150 | 51.9                   |
| F. F. by C   | 9369  | Temperatures, °F           |     | 10%        | 140           |  |              |      |                               | In Reactor at End of Period | 150                   | 149-105 | 9.5                    |
| Avg. F. F.   | 9285  | Heater Outlet              | 575 | 20         | 174           |  |              |      |                               |                             | 200                   | 104-74  | 8.9                    |
| Wet Gas      | 4255  | Catalyst #1                | 652 | 30         | 204           |  | WATER        |      |                               |                             | 250                   | 73-62   | 1.6                    |
| Contraction  |       | #2                         | 652 | 40         | 226           |  | Temp.        | %    | Reactor d-P, H <sub>2</sub> O |                             | 325                   | 61-44   | 0.8                    |
| Recycle      | 16344 | #3                         | 651 | 50         | 248           |  | 200          |      | Pounds in Reactor             | 658.35                      | <325                  | 43-0    | 1.4                    |
| Bleed        | 860   | #4                         | 651 | 60         | 268           |  | 203          |      | Density, lbs./cu. ft.         | 133                         | Density, lbs./cu. ft. |         | Chem. Anal.            |
| Total        | 17204 | #5                         | 651 | 70         | 294           |  | 208          |      | Bed Height, Feet              | 7.5                         | Aerated               | 164     | % Fe                   |
| Total Feed   | 26404 | Average                    | 651 | 80         | 326           |  |              |      | Settled                       | 166                         | % C                   |         |                        |
| Recycle/F.F. | 1.87  | Product Separator          | 40  | 90         | 356           |  |              |      | Compacted                     | 182                         | % Oil                 |         |                        |
| Inlet Vel.   | 1.11  |                            |     | 95         | 386           |  |              |      | Space Vel. SCFH/lb. cat.      |                             | Sp. Grav.             | 4.7     | Specific Surface       |
| Steam Flow   |       |                            |     | E.P.       | 402           |  |              |      | Inventory Figures             | 18.13                       |                       |         | m <sup>2</sup> gm      |
|              |       |                            |     | Rec.       | 98.0          |  |              |      | From d-P Meters               | 14.10                       |                       | 1.8     | ml.NH <sub>2</sub> /gm |
|              |       |                            |     | Res.       | 1.5           |  |              |      |                               |                             |                       |         |                        |
|              |       |                            |     | Loss.      | 0.5           |  |              |      | GENERATOR ELEMENTAL BALANCE   |                             |                       |         |                        |

| NATURAL GAS                    |        | PRODUCT INSPECTION |       |         |         |          |                                | GENERATOR ELEMENTAL BALANCE |      |        |        |                  |          |      |        |        |       |
|--------------------------------|--------|--------------------|-------|---------|---------|----------|--------------------------------|-----------------------------|------|--------|--------|------------------|----------|------|--------|--------|-------|
| %                              |        | Oil                | Water | Product | Pour °F | SUS @ °F | IN                             |                             |      | OUT    |        |                  |          |      |        |        |       |
|                                |        |                    |       |         |         |          | Mol %                          | CCM-m/hr                    | C    | H      | O      | Mol %            | CCM-m/hr | C    | H      | O      |       |
| CO <sub>2</sub>                | 1.31   | Neut. No. 51       | 45    |         |         |          | O <sub>2</sub>                 | 5.716                       |      |        | 11.432 | CO <sub>2</sub>  | 0.399    | 0.40 |        | 0.8    |       |
| CH <sub>4</sub>                | 84.95  | Sap. No. 64        | 52    |         |         |          | CO <sub>2</sub>                | 0.118                       | 0.12 |        | 0.236  | CO               | 8.618    | 8.62 |        | 8.6    |       |
| C <sub>2</sub> H <sub>6</sub>  | 9.56   | Hydrox. No.        |       |         |         |          | CH <sub>4</sub>                | 7.624                       | 7.62 | 50.496 |        | CH <sub>4</sub>  | 1.116    | 1.12 | 4.454  |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 2.85   | Bromine No. 74     |       |         |         |          | C <sub>2</sub> H <sub>6</sub>  | 0.858                       | 1.72 | 5.148  |        | H <sub>2</sub>   | 14.071   |      | 28.142 |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.12   | % Fe               |       |         |         |          | C <sub>3</sub> H <sub>8</sub>  | 0.256                       | 0.77 | 2.048  |        | N <sub>2</sub>   | 0.070    |      |        |        |       |
| N <sub>2</sub>                 | 0.96   | % Alc              | 11.5  |         |         |          | C <sub>4</sub> H <sub>10</sub> | 0.011                       | 0.04 | 0.110  |        | H <sub>2</sub> O |          |      | 4.856  | 2.4    |       |
| O <sub>2</sub>                 | 0.25   | *API               | 47.4  | 10.4    |         |          | N <sub>2</sub>                 | 0.086                       |      |        |        | Total            |          |      | 10.13  | 37.452 | 11.8  |
| MW                             | 18.754 |                    |       |         |         |          | Total                          |                             |      |        |        | Balance          |          |      | 98.87  | 99.07  | 101.5 |

| FRESH FEED                      |        |        |                | WET GAS                 |                 |                |                   | RECYCLE                             | COMBINED FEED | EFFLUENT | NET CHANGE |  | YIELD BASIS H <sub>2</sub> + CO FED |        |         |         |                                    |       |        |         |        |       |  |
|---------------------------------|--------|--------|----------------|-------------------------|-----------------|----------------|-------------------|-------------------------------------|---------------|----------|------------|--|-------------------------------------|--------|---------|---------|------------------------------------|-------|--------|---------|--------|-------|--|
| %                               | m/hr   | #/hr   | %              | At. Wt. Balance         | At. Wt. Balance | m/hr           | m/hr              | m/hr                                | m/hr          | m/hr     | #/hr       | CONDENSATE   |                                     |        |         | POLYMER |                                    |       |        |         |        |       |  |
|                                 |        |        |                | m/hr                    | #/hr            |                |                   |                                     |               |          |            | #/MCF  | #/gal                               | gal/hr | gal/MCF | #/hr    | #/MCF                              | #/gal | gal/hr | gal/MCF | Unsat. |       |  |
| CO                              | 35.503 | 8.618  | 241.39         | 18.30                   | 2.425           | 67.93          | 8.305             | 16.923                              | 10.730        | -6.193   | -173.46    |  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| H <sub>2</sub>                  | 57.966 | 14.071 | 28.37          | 47.14                   | 6.249           | 12.60          | 21.396            | 35.467                              | 27.822        | -7.822   | -15.77     |  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| CO <sub>2</sub>                 | 1.645  | 0.399  | 17.56          | 15.69                   | 2.079           | 91.51          | 7.121             | 7.520                               | 9.200         | 1.680    | 73.95      | 8.600  |                                     |        |         |         |                                    |       |        |         |        | 0.248 |  |
| N <sub>2</sub>                  | 0.288  | 0.070  | 1.96           | 0.99                    | 0.131           | 3.67           | 0.448             | 0.518                               | 0.579         |          |            |  |                                     |        |         |         |                                    |       |        |         |        | 0.070 |  |
| CH <sub>4</sub>                 | 4.598  | 1.116  | 17.90          | 12.47                   | 1.653           | 26.52          | 5.660             | 6.776                               | 7.313         | 0.537    | 8.62       | 1.002  |                                     |        |         |         |                                    |       |        |         |        | 0.054 |  |
| C <sub>2</sub> H <sub>6</sub>   |        |        |                | 1.42                    | 0.188           | 5.27           | 0.644             | 0.644                               | 0.832         | 0.188    | 5.27       | 0.613  |                                     |        |         |         |                                    |       |        |         |        | 0.372 |  |
| C <sub>3</sub> H <sub>8</sub>   |        |        |                | 0.60                    | 0.080           | 2.41           | 0.273             | 0.273                               | 0.353         | 0.080    | 2.41       | 0.280  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| C <sub>4</sub> +C <sub>5</sub>  |        |        |                |                         |                 |                |                   |                                     |               |          | 16.30      | 1.895  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| C <sub>2</sub> H <sub>4</sub>   |        |        |                | 1.55                    | 0.205           | 8.64           | 0.704             | 0.704                               | 0.909         | 0.205    | 8.64       | 1.005  | 4.32                                | 2.000  | 0.233   | 7.78    | 0.905                              | 6.25  | 1.245  | 0.145   | 93.6   |       |  |
| C <sub>3</sub> H <sub>6</sub>   |        |        |                | 0.11                    | 0.014           | 0.63           | 0.050             | 0.050                               | 0.084         | 0.014    | 0.63       | 0.073  | 4.24                                | 0.149  | 0.017   |         |                                    |       |        |         |        |       |  |
| C <sub>4</sub> H <sub>10</sub>  |        |        |                | 0.79                    | 0.104           | 5.83           | 0.357             | 0.357                               | 0.461         | 0.104    | 5.83       | 0.678  | 5.00                                | 1.166  | 0.136   | 5.54    | 0.644                              | 6.10  | 0.908  | 0.106   | 60.5   |       |  |
| C <sub>5</sub> H <sub>12</sub>  |        |        |                | 0.52                    | 0.068           | 3.98           | 0.234             | 0.234                               | 0.302         | 0.068    | 3.98       | 0.463  | 4.86                                | 0.819  | 0.095   | 3.98    | 0.463                              | 4.86  | 0.819  | 0.095   |        |       |  |
| C <sub>6</sub> H <sub>14</sub>  |        |        |                | 0.34                    | 0.045           | 3.14           | 0.152             | 0.152                               | 0.197         | 0.045    | 3.14       | 0.365  | 5.48                                | 0.576  | 0.067   | 3.14    | 0.365                              | 5.48  | 0.576  | 0.067   | 100.0  |       |  |
| C <sub>7</sub> H <sub>16</sub>  |        |        |                |                         |                 |                |                   |                                     |               |          |            |  | 5.25                                |        |         |         |                                    |       |        |         |        |       |  |
| C <sub>8</sub> H <sub>18</sub>  |        |        |                | 0.11                    | 0.014           | 1.19           | 0.048             | 0.048                               | 0.062         | 0.014    | 1.19       | 0.138  | 5.54                                | 0.215  | 0.025   | 1.19    | 0.138                              | 5.54  | 0.215  | 0.025   |        |       |  |
| C <sub>9</sub> +C <sub>10</sub> |        |        |                |                         |                 |                |                   |                                     |               |          | 23.41      | 2.722  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| TOTAL                           |        | 24.274 | 307.18         |                         | 13.258          | 235.33         | 45.392            | 69.666                              | 61.506        |          |            |  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| H <sub>2</sub> +CO              | 93.469 | 22.689 | 8599 SCFH.     |                         | 8.674           |                | 29.701            | 52.390                              | 38.375        | -14.015  |            |  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| H <sub>2</sub> /CO              |        | 1.65   | 11629          |                         | 2.58            |                |                   | 2.10                                |               |          | 1.26       |  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| CUMULATIVE TOTALS               |        |        |                |                         |                 |                |                   |                                     |               |          |            | EFFLUENT   |                                     |        |         |         |                                    |       |        |         |        |       |  |
| Previous Total                  |        |        |                | H <sub>2</sub> +CO, MCF |                 |                |                   | Catalyst #                          |               |          |            | C <sub>3</sub> + gal   |                                     |        |         | gal/MCF |                                    |       |        | gal/#   |        |       |  |
| Current Period                  |        |        |                |                         |                 |                |                   |                                     |               |          |            | SHIFT RATIO  |                                     |        |         |         |                                    |       |        |         |        |       |  |
| New Total                       |        |        |                |                         |                 |                |                   |                                     |               |          |            | (H <sub>2</sub> )(CO) <sub>2</sub> 9.15 (H <sub>2</sub> O)(CO) |                                     |        |         |         |                                    |       |        |         |        |       |  |
| FRESH FEED CONVERSION — %       |        |        |                |                         |                 |                |                   |                                     |               |          |            | TOTAL FEED CONVERSION — %                                      |                                     |        |         |         |                                    |       |        |         |        |       |  |
| Contraction                     |        | CO     | H <sub>2</sub> | H <sub>2</sub> +CO      | CO              | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> + / C <sub>1</sub> + | NET WATER     |          |            |  | GROSS WATER                         |        |         |         | HYDROCARBON TOTAL—C <sub>1</sub> + |       |        |         |        |       |  |
| 45.38                           | 71.86  | 55.59  | 61.77          | 36.60                   | 22.05           | 26.75          | 75.64             |                                     | 2.590*        | 46.66    | 5.426      | 5.602  | 0.651                               | 52.83  | 6.144   | 6.330   | 0.736                              | 66.90 | 7.779  |         |        |       |  |

\*Included in Reactor Effluent Total Weight Balance = 88.37% g/M3 = 16.91 = MCF cc/M3 = 141.3 x gal/MCF.

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number **45 R-1** From **0700** to **0700** Hr. **1200** Hrs. **343-348**

| FLOWS        |       | RUN CONDITIONS             |         |        |              | DISTILLATIONS |                               |        |                               | CATALYST DATA |               |                       |         | CATALYST ANALYSIS  |   |  |  |
|--------------|-------|----------------------------|---------|--------|--------------|---------------|-------------------------------|--------|-------------------------------|---------------|---------------|-----------------------|---------|--------------------|---|--|--|
| SCFH         | %     | Generator Press.           | A S T M |        | Hempel Dist. |               | In Reactor at Start of Period |        | 512                           |               | Particle Size |                       |         |                    |   |  |  |
| Oxygen       | 2176  | O <sub>2</sub> Preheat, °F | 431     | Prod.  | Naph         | °F            | %                             | A.P.I. | Fresh Catalyst Charged        |               | Screen        |                       |         |                    |   |  |  |
| Nat. Gas     | 3450  | Gas Preheat, °F            | 707     | A.P.I. | 53.8         | to 400        | 63.3                          | 53.8   | Catalyst Recharged            |               | Frac.         | M                     | %       | M                  | % |  |  |
| Total        |       | Reactor Press.             | 295     | I.B.P. | 10.4         | 400-550       | 18.0                          | 39.1   | Total                         |               | On 40         | 420+                  |         | 80+                |   |  |  |
| Fresh Feed   | 9464  | Steam Back Press.          | 650     | 5%     |              | 550+          | 18.7                          |        | Catalyst Taken Out            |               | 41            | 100                   | 419-150 | 80-40              |   |  |  |
| F.F. by C    | 10001 | Temperatures, °F           |         | 10%    | 150          |               |                               |        | In Reactor at End of Period   |               | 471           | 150                   | 149-105 | 40-20              |   |  |  |
| Avg. F.F.    | 9732  | Heater Outlet              | 545     | 20     | 186          |               |                               |        |                               |               |               | 200                   | 104-74  | 20-10              |   |  |  |
| Wet Gas      | 3975  | Catalyst #1                | 695     | 30     | 206          | WATER         |                               |        |                               |               | 250           | 73-62                 | 10-0    |                    |   |  |  |
| Contraction  |       | #2                         | 634     | 40     | 236          | Temp.         | %                             |        | Reactor d-P, H <sub>2</sub> O |               |               | 325                   | 61-44   |                    |   |  |  |
| Recycle      | 17314 | #3                         | 642     | 50     | 256          | 200           |                               |        | Pounds in Reactor             |               | 605           | <325                  | 43-0    |                    |   |  |  |
| Bleed        | 914   | #4                         | 642     | 60     | 276          | 203           |                               |        | Density, lbs./cu. ft.         |               | 132           | Density, lbs./cu. ft. |         | Chem. Anal.        |   |  |  |
|              |       | #5                         |         | 70     | 298          | 208           |                               |        | Bed Height, Feet              |               | 6.9           | Aerated               |         | % Fe               |   |  |  |
| Total        | 18228 | Average                    | 639     | 80     | 324          |               |                               |        |                               |               |               | Settled               |         | % C                |   |  |  |
| Total Feed   | 27692 | Product Separator          | 45      | 90     | 344          |               |                               |        |                               |               |               | Compacted             |         | % Oil              |   |  |  |
| Recycle/F.F. | 1.93  |                            |         | 95     | 382          |               |                               |        | Space Vel. SCFH/lb. cat.      |               |               | Sp. Grav.             |         | Specific Surface   |   |  |  |
| Inlet Vel.   | 1.17  |                            |         | E.P.   | 400          |               |                               |        | Inventory Figures             |               | 20.7          |                       |         | m <sup>2</sup> /gm |   |  |  |
| Steam Flow   |       |                            |         | Rec.   | 98           |               |                               |        | From d-P Meters               |               | 16.1          |                       |         |                    |   |  |  |
|              |       |                            |         | Res.   | 1.5          |               |                               |        |                               |               |               |                       |         |                    |   |  |  |
|              |       |                            |         | Loss.  | 0.5          |               |                               |        |                               |               |               |                       |         |                    |   |  |  |

| NATURAL GAS                    |        |             |      |       |  |         |  |         |  | PRODUCT INSPECTION |  |                                |  |           |  |   |  |   |  | IN |                  |       |  |           | OUT |   |  |   |  |   |  |
|--------------------------------|--------|-------------|------|-------|--|---------|--|---------|--|--------------------|--|--------------------------------|--|-----------|--|---|--|---|--|----|------------------|-------|--|-----------|-----|---|--|---|--|---|--|
|                                |        | Oil         |      | Water |  | Product |  | Pour °F |  | SUS @ °F           |  | Mol %                          |  | SCFH m/hr |  | C |  | H |  | O  |                  | Mol % |  | SCFH m/hr |     | C |  | H |  | O |  |
| CO <sub>2</sub>                | 1.33   | Neut. No.   | 49   | 46    |  |         |  |         |  |                    |  | O <sub>2</sub>                 |  |           |  |   |  |   |  |    | CO <sub>2</sub>  |       |  |           |     |   |  |   |  |   |  |
| CH <sub>4</sub>                | 85.33  | Sap. No.    | 66   | 53    |  |         |  |         |  |                    |  | CO <sub>2</sub>                |  |           |  |   |  |   |  |    | CO               |       |  |           |     |   |  |   |  |   |  |
| C <sub>2</sub> H <sub>6</sub>  | 9.67   | Hydrox. No. |      |       |  |         |  |         |  |                    |  | CH <sub>4</sub>                |  |           |  |   |  |   |  |    | CH <sub>4</sub>  |       |  |           |     |   |  |   |  |   |  |
| C <sub>3</sub> H <sub>8</sub>  | 2.31   | Bromine No. | 71   |       |  |         |  |         |  |                    |  | C <sub>2</sub> H <sub>6</sub>  |  |           |  |   |  |   |  |    | H <sub>2</sub>   |       |  |           |     |   |  |   |  |   |  |
| C <sub>4</sub> H <sub>10</sub> | 0.05   | % Fe        |      |       |  |         |  |         |  |                    |  | C <sub>3</sub> H <sub>8</sub>  |  |           |  |   |  |   |  |    | N <sub>2</sub>   |       |  |           |     |   |  |   |  |   |  |
| N <sub>2</sub>                 | 1.07   | % Alc       |      | 10.5  |  |         |  |         |  |                    |  | C <sub>4</sub> H <sub>10</sub> |  |           |  |   |  |   |  |    | H <sub>2</sub> O |       |  |           |     |   |  |   |  |   |  |
| O <sub>2</sub>                 | 0.24   | API         | 47.1 | 10.5  |  |         |  |         |  |                    |  | N <sub>2</sub>                 |  |           |  |   |  |   |  |    | Total            |       |  |           |     |   |  |   |  |   |  |
| MW                             | 18.606 |             |      |       |  |         |  |         |  |                    |  | Total                          |  |           |  |   |  |   |  |    |                  |       |  |           |     |   |  |   |  |   |  |

| FRESH FEED                     |        |                         |                    | WET GAS                   |                |                      |                                  | RECYCLE     |        | COMBINED FEED |         | EFFLUENT      |       | NET CHANGE  |       | YIELD BASIS H <sub>2</sub> + CO FED  |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
|--------------------------------|--------|-------------------------|--------------------|---------------------------|----------------|----------------------|----------------------------------|-------------|--------|---------------|---------|---------------|-------|-------------|-------|--------------------------------------|------|--|------|-----------|---------|-------------|--|--------------------------------------|--|--------|--|---------|--|---|--|--|
|                                |        | m/hr                    |                    | %                         |                | At. Wt. Balance      |                                  | m/hr        |        | m/hr          |         | m/hr          |       | m/hr        |       | CONDENSATE                           |      |  |      |           | POLYMER |             |  |                                      |  |        |  |         |  |   |  |  |
|                                |        | m/hr                    |                    | %                         |                | m/hr                 |                                  | m/hr        |        | m/hr          |         | m/hr          |       | m/hr        |       | #/MCF                                |      | #/gal                                  |      | #/hr      |         | #/MCF       |  | #/gal                                |  | gal/hr |  | gal/MCF |  | % |  |  |
| CO                             | 28.010 | 35.37                   | 8.931              | 247.36                    | 23.09          | 3.920                | 106.99                           | 11.105      | 19.936 | 14.925        | -5.011  | -140.37       |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| H <sub>2</sub>                 | 2.016  | 58.27                   | 14.551             | 29.33                     | 54.79          | 9.063                | 18.27                            | 26.351      | 40.902 | 35.414        | -5.448  | -11.06        |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| CO <sub>2</sub>                | 44.510 | 1.83                    | 0.457              | 20.11                     | 12.05          | 1.993                | 87.70                            | 5.795       | 6.252  | 7.788         | 1.536   | 67.59         | 7.627 |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| N <sub>2</sub>                 | 2.016  | 0.55                    | 0.136              | 3.81                      | 0.67           | 0.111                | 3.10                             | 0.322       | 0.458  | 0.433         |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| CH <sub>4</sub>                | 16.042 | 3.99                    | 0.996              | 15.98                     | 6.37           | 1.053                | 16.90                            | 3.064       | 4.060  | 4.117         | 0.057   | 0.92          | 0.104 |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 26.052 |                         |                    |                           | 0.93           | 0.137                | 3.85                             | 0.399       | 0.399  | 0.536         | 0.137   | 3.85          | 0.434 |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 30.028 |                         |                    |                           | 0.40           | 0.066                | 1.99                             | 0.192       | 0.192  | 0.258         | 0.066   | 1.99          | 0.225 |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>4</sub> +C <sub>5</sub> |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>2</sub> H <sub>4</sub>  | 42.079 |                         |                    |                           | 0.71           | 0.118                | 4.95                             | 0.341       | 0.341  | 0.469         | 0.118   | 4.95          | 0.559 | 4.32        | 1.146 | 0.129                                | 4.46 | 0.503                                  | 6.25 | 0.712     | 0.080   | 100.0       |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 44.094 |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 26.014 |                         |                    |                           | 0.44           | 0.073                | 4.11                             | 0.212       | 0.212  | 0.285         | 0.073   | 4.11          | 0.464 | 5.00        | 0.822 | 0.093                                | 3.90 | 0.440                                  | 6.10 | 0.640     | 0.072   | 67.7        |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>4</sub> H <sub>10</sub> | 58.120 |                         |                    |                           | 0.21           | 0.035                | 2.01                             | 0.101       | 0.101  | 0.136         | 0.035   | 2.01          | 0.227 | 4.86        | 0.414 | 0.047                                | 2.01 | 0.227                                  | 4.86 | 0.414     | 0.047   |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>4</sub> H <sub>12</sub> | 70.130 |                         |                    |                           | 0.25           | 0.042                | 2.91                             | 0.120       | 0.120  | 0.162         | 0.042   | 2.91          | 0.328 | 5.45        | 0.534 | 0.060                                | 2.91 | 0.328                                  | 5.45 | 0.534     | 0.060   | 80.6        |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>5</sub> H <sub>12</sub> | 72.146 |                         |                    |                           | 0.06           | 0.010                | 0.71                             | 0.029       | 0.029  | 0.039         | 0.010   | 0.71          | 0.080 | 5.25        | 0.135 | 0.015                                | 0.71 | 0.080                                  | 5.25 | 0.135     | 0.015   |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>6</sub> H <sub>12</sub> | 84.186 |                         |                    |                           | 0.13           | 0.022                | 1.87                             | 0.063       | 0.063  | 0.085         | 0.022   | 1.87          | 0.211 | 5.54        | 0.338 | 0.038                                | 1.87 | 0.211                                  | 5.54 | 0.338     | 0.038   |             |  |                                      |  |        |  |         |  |   |  |  |
| C <sub>7</sub> +C <sub>8</sub> |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| TOTAL                          |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| H <sub>2</sub> +CO             |        | 93.64                   | 23.382             | 8862 S.C.F.H.             | 12.883         |                      |                                  | 37.456      | 60.838 | 50.339        | -10.499 |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| H <sub>2</sub> /CO             |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| CUMULATIVE TOTALS              |        |                         |                    |                           |                |                      |                                  |             |        | EFFLUENT      |         | RECOVERED OIL |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| Previous Total                 |        | H <sub>2</sub> +CO, MCF |                    | Catalyst #                |                | C <sub>2</sub> + gal |                                  | gal/MCF     |        | gal/#         |         | SHIFT RATIO   |       | TOTAL OIL   |       | WATER SOLUBLE CHEMICALS              |      | TOTAL LIQUID PRODUCTS C <sub>2</sub> + |      | NET WATER |         | GROSS WATER |  | HYDROCARBON TOTAL - C <sub>2</sub> + |  |        |  |         |  |   |  |  |
| Current Period                 |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| New Total                      |        |                         |                    |                           |                |                      |                                  |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| FRESH FEED CONVERSION - %      |        |                         |                    | TOTAL FEED CONVERSION - % |                |                      |                                  | SELECTIVITY |        |               |         | NET WATER     |       | GROSS WATER |       | HYDROCARBON TOTAL - C <sub>2</sub> + |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
| Contraction                    | CO     | H <sub>2</sub>          | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub>    | C <sub>3</sub> +C <sub>4</sub> + |             |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |
|                                | 33.76  | 56.74                   | 37.72              | 44.90                     | 25.14          | 13.32                | 17.26                            | 84.95       |        |               |         |               |       |             |       |                                      |      |  |      |           |         |             |  |                                      |  |        |  |         |  |   |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 77.65%

g/M3 = 16.91 x ±/MCF.  
cc/M3 = 141.3 x gal/MCF.

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 R-2 From \_\_\_\_\_ Hr. 1200 to \_\_\_\_\_ Hr. 2300 Hrs. 348-359

| FLOWS        |       | RUN CONDITIONS             |     |         | DISTILLATIONS |  |  |              | CATALYST DATA |                               | CATALYST ANALYSIS             |               |        |         |               |       |             |                    |
|--------------|-------|----------------------------|-----|---------|---------------|--|--|--------------|---------------|-------------------------------|-------------------------------|---------------|--------|---------|---------------|-------|-------------|--------------------|
| SCFH         | %     | Generator Press.           | 538 | A S T M |               |  |  | Hempel Dist. |               | In Reactor at Start of Period |                               | Particle Size |        |         |               |       |             |                    |
| Oxygen       | 2176  | O <sub>2</sub> Preheat, °F | 431 | Prod.   | Naph.         |  |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged        | 188           | Screen |         | Sedimentation |       |             |                    |
| Nat. Gas     | 3430  | Gas Preheat, °F            | 707 | A.P.I.  | 53.8          |  |  | to 400       | 63.5          | 53.8                          | Catalyst Recharged            |               | Frac.  | M       | %             | M     | %           |                    |
| Total        |       | Reactor Press.             | 295 | I.B.P.  | 10.4          |  |  | 400-550      | 18.0          | 39.1                          | Total                         | 659           | On 40  | 420+    |               | 80+   |             |                    |
| Fresh Feed   | 9195  | Steam Back Press.          | 650 | 5%      |               |  |  | 550+         | 18.7          |                               | Catalyst Taken Out            | 50            | 100    | 419-150 |               | 80-40 |             |                    |
| F. F. by C   |       | Temperatures, °F           |     | 10%     | 150           |  |  |              |               |                               | In Reactor at End of Period   | 609           | 150    | 149-105 |               | 40-20 |             |                    |
| Avg. F. F.   |       | Heater Outlet              | 545 | 20      | 186           |  |  |              |               |                               |                               |               | 200    | 104-74  |               | 20-10 |             |                    |
| Wet Gas      | 4013  | Catalyst #1                | 695 | 30      | 206           |  |  | WATER        |               |                               |                               |               | 325    | 61-44   |               | 10-0  |             |                    |
| Contraction  |       | #2                         | 634 | 40      | 236           |  |  | Temp.        | %             |                               | Reactor d-P, H <sub>2</sub> O |               |        |         |               |       |             |                    |
| Recycle      | 17314 | #3                         | 642 | 50      | 256           |  |  | 200          |               |                               | Pounds in Reactor             | 902           | <325   | 43-0    |               |       |             |                    |
| Bleed        | 914   | #4                         | 642 | 60      | 276           |  |  | 203          |               |                               | Density, lbs./cu. ft.         | 140           |        |         |               |       | Chem. Anal. |                    |
| Total        | 18228 | #5                         |     | 70      | 298           |  |  | 208          |               |                               | Bed Height, Feet              | 9.8           |        |         |               |       | % Fe        |                    |
| Total Feed   | 27423 | Average                    | 639 | 80      | 324           |  |  |              |               |                               |                               |               |        |         |               |       | % C         |                    |
| Recycle/F.F. | 1.98  | Product Separator          | 45  | 90      | 344           |  |  |              |               |                               |                               |               |        |         |               |       | % Oil       |                    |
| Inlet Vel.   | 1.11  |                            |     | 95      | 382           |  |  |              |               |                               | Space Vel. SCFH/lb. cat.      |               |        |         |               |       | Sp. Grav.   | Specific Surface   |
| Steam Flow   |       |                            |     | E.P.    | 400           |  |  |              |               |                               | Inventory Figures             | 15.1          |        |         |               |       |             | m <sup>2</sup> /gm |
|              |       |                            |     | Rec.    | 98            |  |  |              |               |                               | From d-P Meters               | 10.2          |        |         |               |       |             |                    |
|              |       |                            |     | Res.    | 1.5           |  |  |              |               |                               |                               |               |        |         |               |       |             |                    |
|              |       |                            |     | Loss.   | 0.5           |  |  |              |               |                               |                               |               |        |         |               |       |             |                    |

GENERATOR ELEMENTAL BALANCE

| NATURAL GAS                    |        | PRODUCT INSPECTION |      |       |         |         |          | IN |  |                                |           |   |   | OUT |                  |       |           |   |   |   |
|--------------------------------|--------|--------------------|------|-------|---------|---------|----------|----|--|--------------------------------|-----------|---|---|-----|------------------|-------|-----------|---|---|---|
|                                | %      |                    | Oil  | Water | Product | Pour °F | SUS @ °F |    |  | Mol %                          | SCFH m/hr | C | H | O   |                  | Mol % | SCFH m/hr | C | H | O |
| CO <sub>2</sub>                | 1.33   | Neut. No.          | 49   | 46    |         |         |          |    |  | O <sub>2</sub>                 |           |   |   |     | CO <sub>2</sub>  |       |           |   |   |   |
| CH <sub>4</sub>                | 85.33  | Sap No.            | 66   | 53    |         |         |          |    |  | CO <sub>2</sub>                |           |   |   |     | CO               |       |           |   |   |   |
| C <sub>2</sub> H <sub>6</sub>  | 9.67   | Hydrox. No.        |      |       |         |         |          |    |  | CH <sub>4</sub>                |           |   |   |     | CH <sub>4</sub>  |       |           |   |   |   |
| C <sub>3</sub> H <sub>8</sub>  | 2.31   | Bromine No.        | 71   |       |         |         |          |    |  | C <sub>2</sub> H <sub>6</sub>  |           |   |   |     | H <sub>2</sub>   |       |           |   |   |   |
| C <sub>4</sub> H <sub>10</sub> | 0.05   | % Fe               |      |       |         |         |          |    |  | C <sub>3</sub> H <sub>8</sub>  |           |   |   |     | N <sub>2</sub>   |       |           |   |   |   |
| N <sub>2</sub>                 | 1.07   | % Alc              |      | 10.5  |         |         |          |    |  | C <sub>4</sub> H <sub>10</sub> |           |   |   |     | H <sub>2</sub> O |       |           |   |   |   |
| O <sub>2</sub>                 | 0.24   | °API               | 47.1 | 10.5  |         |         |          |    |  | N <sub>2</sub>                 |           |   |   |     | Total            |       |           |   |   |   |
| MW                             | 18.606 |                    |      |       |         |         |          |    |  | Total                          |           |   |   |     |                  |       |           |   |   |   |

| FRESH FEED   |        |                |                    | WET GAS       |                 |                   |                                  | RECYCLE | COMBINED FEED | EFFLUENT    | NET CHANGE | YIELD BASIS H <sub>2</sub> + CO FED                             |       |                         |         |             |       |           |        |         |         |       |  |  |  |
|--|--------|----------------|--------------------|---------------|-----------------|-------------------|----------------------------------|---------|---------------|-------------|------------|---|-------|-------------------------|---------|-------------|-------|-----------|--------|---------|---------|-------|--|--|--|
|  | %      | m/hr           | #/hr               | %             | At. Wt. Balance | m/hr              | #/hr                             | m/hr    | m/hr          | m/hr        | #/hr       | CONDENSATE  |       |                         |         | POLYMER     |       |           |        |         |         |       |  |  |  |
|  |        |                |                    |               | m/hr            | #/hr              |                                  |         |               |             |            | #/MCF   | #/gal | gal/hr                  | gal/MCF | #/hr        | #/MCF | #/gal     | gal/hr | gal/MCF | Unsats. |       |  |  |  |
| CO   | 29.010 | 35.13          | 8.520              | 238.65        | 16.69           | 1.821             | 51.01                            | 7.376   | 15.896        | 9.197       | -6.699     | 187.64  |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| H <sub>2</sub>   | 29.016 | 59.05          | 14.322             | 28.88         | 48.60           | 5.302             | 10.69                            | 21.477  | 35.799        | 28.779      | -9.020     | -18.19  |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| CO <sub>2</sub>  | 44.010 | 1.79           | 0.434              | 19.10         | 16.18           | 1.766             | 77.75                            | 7.150   | 7.584         | 8.916       | 1.332      | 58.65   | 6.772 |                         |         |             |       |           |        |         |         |       |  |  |  |
| N <sub>2</sub>   | 29.016 | 0.51           | 0.124              | 3.47          | 1.10            | 0.120             | 3.36                             | 0.486   | 0.610         | 0.606       |            |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| CH <sub>4</sub>  | 16.042 | 3.52           | 0.854              | 13.70         | 11.76           | 1.283             | 20.58                            | 5.197   | 6.051         | 6.480       | 0.429      | 6.88  | 0.794 |                         |         |             |       |           |        |         |         |       |  |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 28.052 |                |                    |               | 1.42            | 0.155             | 4.35                             | 0.628   | 0.628         | 0.783       | 0.155      | 4.35  | 0.502 |                         |         |             |       |           |        |         |         | 0.563 |  |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 30.069 |                |                    |               | 0.66            | 0.072             | 2.16                             | 0.292   | 0.292         | 0.364       | 0.072      | 2.16  | 0.249 |                         |         |             |       |           |        |         |         | 68.3  |  |  |  |
| C <sub>4</sub> +C <sub>5</sub>   |        |                |                    |               |                 |                   |                                  |         |               |             |            | 13.39   | 1.545 |                         |         |             |       |           |        |         |         |       |  |  |  |
| C <sub>6</sub> H <sub>6</sub>  | 42.078 |                |                    |               | 1.68            | 0.183             | 7.70                             | 0.742   | 0.742         | 0.925       | 0.183      | 7.70  | 0.889 | 4.32                    | 1.782   | 0.206       | 6.93  | 0.800     | 6.25   | 1.109   | 0.128   | 87.6  |  |  |  |
| C <sub>8</sub> H <sub>2</sub>  | 44.094 |                |                    |               | 0.24            | 0.026             | 1.15                             | 0.106   | 0.106         | 0.132       | 0.026      | 1.15  | 0.133 | 4.24                    | 0.271   | 0.031       |       |           |        |         |         |       |  |  |  |
| C <sub>10</sub> H <sub>2</sub>   | 56.104 |                |                    |               | 0.90            | 0.098             | 5.50                             | 0.398   | 0.398         | 0.496       | 0.098      | 5.50  | 0.635 | 5.00                    | 1.100   | 0.127       | 5.23  | 0.604     | 6.10   | 0.857   | 0.099   | 78.4  |  |  |  |
| C <sub>12</sub> H <sub>2</sub>   | 58.120 |                |                    |               | 0.25            | 0.027             | 1.57                             | 0.110   | 0.110         | 0.137       | 0.027      | 1.57  | 0.181 | 4.86                    | 0.323   | 0.037       | 1.57  | 0.181     | 4.86   | 0.323   | 0.037   |       |  |  |  |
| C <sub>14</sub> H <sub>2</sub>   | 70.130 |                |                    |               | 0.37            | 0.040             | 2.81                             | 0.164   | 0.164         | 0.204       | 0.040      | 2.81  | 0.324 | 5.48                    | 0.516   | 0.060       | 2.81  | 0.324     | 5.48   | 0.516   | 0.060   | 93.0  |  |  |  |
| C <sub>16</sub> H <sub>2</sub>   | 72.142 |                |                    |               | 0.03            | 0.003             | 0.22                             | 0.013   | 0.013         | 0.016       | 0.003      | 0.22  | 0.025 | 5.25                    | 0.042   | 0.005       | 0.22  | 0.025     | 5.25   | 0.042   | 0.005   |       |  |  |  |
| C <sub>18</sub> H <sub>2</sub>   | 84.152 |                |                    |               | 0.12            | 0.013             | 1.09                             | 0.053   | 0.053         | 0.066       | 0.013      | 1.09  | 0.126 | 5.54                    | 0.197   | 0.023       | 1.09  | 0.126     | 5.54   | 0.197   | 0.023   |       |  |  |  |
| C <sub>20</sub> -C <sub>22</sub>                                       |        |                |                    |               |                 |                   |                                  |         |               |             |            | 20.04   | 2.313 | 4.231                   | 0.489   | 17.85       | 2.060 | 3.044     | 0.352  |         |         |       |  |  |  |
| TOTAL  |        |                | 24.254             | 303.81        |                 | 10.909            | 189.94                           | 44.192  | 68.446        | 59.562      |            |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| H <sub>2</sub> +CO   |        | 94.18          | 22.842             | 8660 S.C.F.H. |                 | 7.123             |                                  | 28.853  | 51.695        |             | -15.719    |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| H <sub>2</sub> /CO   |        | 1.68           |                    | 11547         |                 | 2.91              |                                  | 2.25    |               | 1.35        |            |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| CUMULATIVE TOTALS  |        |                |                    |               |                 |                   |                                  |         |               |             |            |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| H <sub>2</sub> +CO, MCF Catalyst # C <sub>3</sub> +, gal gal/MCF gal/# |        |                |                    |               |                 |                   |                                  |         |               |             |            |   |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| Previous Total   |        |                |                    |               |                 |                   |                                  |         |               |             |            | EFFLUENT  |       | RECOVERED OIL           |         |             |       |           |        |         |         |       |  |  |  |
| Current Period   |        |                |                    |               |                 |                   |                                  |         |               |             |            | SHIFT RATIO   |       | TOTAL OIL               |         |             |       |           |        |         |         |       |  |  |  |
| New Total  |        |                |                    |               |                 |                   |                                  |         |               |             |            | (H <sub>2</sub> )(CO <sub>2</sub> ) (H <sub>2</sub> O)(CO) 6.37 |       | WATER SOLUBLE CHEMICALS |         |             |       |           |        |         |         |       |  |  |  |
| FRESH FEED CONVERSION - %  |        |                |                    |               |                 |                   |                                  |         |               |             |            | TOTAL FEED CONVERSION - %                                       |       |                         |         | SELECTIVITY |       | NET WATER |        |         |         |       |  |  |  |
| Contraction  | CO     | H <sub>2</sub> | H <sub>2</sub> +CO | CO            | H <sub>2</sub>  | CO+H <sub>2</sub> | C <sub>3</sub> +C <sub>4</sub> + |         |               | GROSS WATER |            | HYDROCARBON TOTAL-(C <sub>1</sub> +                             |       |                         |         |             |       |           |        |         |         |       |  |  |  |
| 55.02  | 78.63  | 62.98          | 68.82              | 42.14         | 25.20           | 30.41             | 81.88                            |         |               | 4.075%      |            | 73.42   |       | 8.478                   |         | 8.814       |       | 1.018     |        |         |         |       |  |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 98.13%

g/M3 = 16.91 x #/MCF  
cc/M3 = 141.3 x gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 S From Hr. 1600 to Hr. 2000 Hrs. 359-364

| FLOWS        |       | RUN CONDITIONS             |     |         | DISTILLATIONS |  |  |              | CATALYST DATA |                               | CATALYST ANALYSIS             |        |             |                  |                   |
|--------------|-------|----------------------------|-----|---------|---------------|--|--|--------------|---------------|-------------------------------|-------------------------------|--------|-------------|------------------|-------------------|
| SCFH         | %     | Generator Press.           | 334 | A S T M |               |  |  | Hempel Dist. |               | In Reactor at Start of Period | Particle Size                 |        |             |                  |                   |
| Oxygen       | 2112  | O <sub>2</sub> Preheat, °F | 490 | Prod.   | Naph          |  |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged        | Screen |             |                  |                   |
| Nat. Gas     | 3353  | Gas Preheat, °F            | 710 | A.P.I.  | 53.6          |  |  | to 400       | 63.3          | 53.6                          | Catalyst Recharged            | Frac.  | M           | %                |                   |
| Total        |       | Reactor Press.             | 300 | I.B.P.  | 10.8          |  |  | 400-550      | 18.3          | 39.0                          | Total                         | On 40  | 420+        | 80+              |                   |
| Fresh Feed   | 9551  | Steam Back Press.          | 690 | 5%      |               |  |  | 550+         | 18.4          |                               | Catalyst Taken Out            | 100    | 419-150     | 80-40            |                   |
| F.F. by C    | 9475  | Temperatures, °F           |     | 10%     | 146           |  |  |              |               |                               | In Reactor at End of Period   | 597    | 150         | 149-105          | 40-20             |
| Avg. F.F.    | 9513  | Heater Outlet              | 680 | 20      | 176           |  |  |              |               |                               |                               | 200    | 104-74      | 20-10            |                   |
| Wet Gas      | 3941  | Catalyst #1                | 632 | 30      | 204           |  |  | WATER        |               |                               |                               | 250    | 73-62       | 10-0             |                   |
| Contraction  |       | #2                         | 658 | 40      | 228           |  |  | Temp.        | %             |                               | Reactor d-P, H <sub>2</sub> O |        | 325         | 61-44            |                   |
| Recycle      | 15724 | #3                         | 685 | 50      | 248           |  |  | 200          |               |                               | Pounds in Reactor             | 1039   | <325        | 43-0             |                   |
| Bleed        | 1063  | #4                         | 631 | 60      | 268           |  |  | 203          |               |                               | Density, lbs./cu. ft.         | 164    | Chem. Anal. |                  |                   |
|              |       | #5                         |     | 70      | 292           |  |  | 208          |               |                               | Bed Height, Feet              | 9.6    | Aerated     | % Fe             |                   |
| Total        | 16787 | Average                    | 651 | 80      | 316           |  |  |              |               |                               |                               |        | Settled     | % C              |                   |
| Total Feed   | 26338 | Product Separator          | 42  | 90      | 350           |  |  |              |               |                               |                               |        | Compacted   | % Oil            |                   |
| Recycle/F.F. | 1.75  |                            |     | 95      | 376           |  |  |              |               |                               | Space Vel. SCFH/lb. cat.      |        | Sp. Grav.   | Specific Surface |                   |
| Inlet Vel.   | 1.11  |                            |     | E.P.    | 400           |  |  |              |               |                               | Inventory Figures             | 15.93  |             |                  | m <sup>2</sup> gm |
| Steam Flow   |       |                            |     | Rec.    | 98            |  |  |              |               |                               | From d-P Meters               | 9.16   |             |                  |                   |
|              |       |                            |     | Res.    | 1.5           |  |  |              |               |                               |                               |        |             |                  |                   |
|              |       |                            |     | Loss    | 0.5           |  |  |              |               |                               |                               |        |             |                  |                   |

| NATURAL GAS                    |        | PRODUCT INSPECTION |       |         |         |          |  |  |  |  |  | GENERATOR ELEMENTAL BALANCE    |       |       |       |        |                  |        |     |        |        |       |
|--------------------------------|--------|--------------------|-------|---------|---------|----------|--|--|--|--|--|--------------------------------|-------|-------|-------|--------|------------------|--------|-----|--------|--------|-------|
| %                              |        | Oil                | Water | Product | Pour °F | SUS @ °F |  |  |  |  |  | IN                             |       |       |       |        | OUT              |        |     |        |        |       |
|                                |        |                    |       |         |         |          |  |  |  |  |  | Mol %                          | SCFH  | C     | H     | O      | Mol %            | SCFH   | C   | H      | O      |       |
| CO <sub>2</sub>                | 1.35   | Neut. No.          | 53    | 43      |         |          |  |  |  |  |  | O <sub>2</sub>                 | 5.614 |       |       | 11.228 | CO <sub>2</sub>  | 0.612  | 0.6 |        | 1.2    |       |
| CH <sub>4</sub>                | 84.50  | Sap. No.           | 66    | 51      |         |          |  |  |  |  |  | CO <sub>2</sub>                | 0.119 | 0.119 |       | 0.238  | CO               | 0.083  | 9.1 |        | 9.1    |       |
| C <sub>2</sub> H <sub>6</sub>  | 9.16   | Hydrox. No.        |       |         |         |          |  |  |  |  |  | CH <sub>4</sub>                | 7.459 | 7.459 | 29.84 |        | CH <sub>4</sub>  | 0.549  | 0.5 | 2.196  |        |       |
| C <sub>3</sub> H <sub>8</sub>  | 2.67   | Bromine No.        | 66    |         |         |          |  |  |  |  |  | C <sub>2</sub> H <sub>6</sub>  | 0.810 | 1.620 | 4.86  |        | H <sub>2</sub>   | 14.781 |     | 29.562 |        |       |
| C <sub>4</sub> H <sub>10</sub> | 0.09   | % Fe               |       |         |         |          |  |  |  |  |  | C <sub>3</sub> H <sub>8</sub>  | 0.256 | 0.708 | 1.89  |        | N <sub>2</sub>   | 0.176  |     |        |        |       |
| N <sub>2</sub>                 | 1.97   | % Alc              |       | 10      |         |          |  |  |  |  |  | C <sub>4</sub> H <sub>10</sub> | 0.008 | 0.032 | 0.08  |        | H <sub>2</sub> O |        |     | 3.612  | 1.9    |       |
| O <sub>2</sub>                 | 0.46   | % API              | 47.1  | 10.4    |         |          |  |  |  |  |  | N <sub>2</sub>                 | 0.174 |       |       |        | Total            |        |     | 10.2   | 35.370 | 12.1  |
| MW                             | 18.801 |                    |       |         |         |          |  |  |  |  |  | Total                          |       |       |       |        | Balance          |        |     | 103.1  | 196.5  | 105.6 |

| FRESH FEED                     |       | WET GAS                   |                    |                 |                | RECYCLE           | COMBINED FEED                      | EFLUENT              | NET CHANGE |             | YIELD BASIS H <sub>2</sub> + CO FED |   |        |                        |         |               |       |           |         |                         |       |  |  |
|--------------------------------|-------|---------------------------|--------------------|-----------------|----------------|-------------------|------------------------------------|----------------------|------------|-------------|-------------------------------------|---|--------|------------------------|---------|---------------|-------|-----------|---------|-------------------------|-------|--|--|
| %                              | m/hr  | #/hr                      | %                  | At. Wt. Balance | #/hr           | m/hr              | m/hr                               | m/hr                 | m/hr       | #/hr        | CONDENSATE                          |   |        |                        | POLYMER |               |       |           |         |                         |       |  |  |
|                                |       |                           |                    | m/hr            | #/hr           |                   |                                    |                      |            |             | #/MCF                               | gal                                     | gal/hr | gal/MCF                | #/hr    | #/MCF         | #/gal | gal/hr    | gal/MCF | Unsat.                  |       |  |  |
| CO                             | 36.04 | 9.083                     | 254.41             | 17.44           | 2.073          | 58.05             | 7.725                              | 16.808               | 9.798      | -7.010      | -196.36                             |   |        |                        |         |               |       |           |         |                         |       |  |  |
| H <sub>2</sub>                 | 58.65 | 14.781                    | 29.80              | 48.15           | 5.724          | 11.53             | 21.327                             | 36.108               | 27.051     | -9.057      | -18.27                              |   |        |                        |         |               |       |           |         |                         |       |  |  |
| CO <sub>2</sub>                | 2.43  | 0.612                     | 26.93              | 17.75           | 2.110          | 92.87             | 7.862                              | 8.474                | 9.972      | 1.498       | 65.94                               | 7.291                                   |        |                        |         |               |       |           |         |                         |       |  |  |
| N <sub>2</sub>                 | 0.70  | 0.176                     | 4.93               | 1.22            | 0.145          | 4.07              | 0.540                              | 0.716                | 0.685      |             |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |
| CH <sub>4</sub>                | 2.18  | 0.549                     | 8.81               | 9.67            | 1.149          | 18.43             | 4.283                              | 4.832                | 5.432      | 0.600       | 9.62                                | 1.064                                   |        |                        |         |               |       |           |         |                         |       |  |  |
| C <sub>2</sub> H <sub>6</sub>  |       |                           |                    | 1.57            | 0.186          | 5.22              | 0.695                              | 0.695                | 0.881      | 0.186       | 5.22                                | 0.577                                   |        |                        |         |               |       |           |         |                         |       |  |  |
| C <sub>3</sub> H <sub>8</sub>  |       |                           |                    | 0.74            | 0.088          | 2.65              | 0.328                              | 0.328                | 0.416      | 0.088       | 2.65                                | 0.293                                   |        |                        |         |               |       |           |         |                         |       |  |  |
| C <sub>4</sub> +C <sub>5</sub> |       |                           |                    |                 |                |                   |                                    |                      |            |             | 17.49                               | 1.934                                   |        |                        |         |               |       |           |         |                         |       |  |  |
| C <sub>2</sub> H <sub>4</sub>  |       |                           |                    | 1.59            | 0.189          | 7.93              | 0.704                              | 0.704                | 0.893      | 0.189       | 7.93                                | 0.877                                   | 4.32   | 1.836                  | 0.203   | 7.14          | 0.789 | 6.25      | 1.142   | 0.126                   | 100.0 |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                           |                    |                 |                |                   |                                    |                      |            |             |                                     |   | 4.24   |                        |         |               |       |           |         |                         |       |  |  |
| C <sub>3</sub> H <sub>6</sub>  |       |                           |                    | 0.79            | 0.094          | 5.26              | 0.350                              | 0.350                | 0.444      | 0.094       | 5.26                                | 0.582                                   | 5.00   | 1.052                  | 0.116   | 5.00          | 0.553 | 6.10      | 0.820   | 0.091                   | 67.6  |  |  |
| C <sub>4</sub> H <sub>10</sub> |       |                           |                    | 0.37            | 0.045          | 2.59              | 0.164                              | 0.164                | 0.209      | 0.045       | 2.59                                | 0.286                                   | 4.86   | 0.533                  | 0.059   | 2.59          | 0.286 | 4.86      | 0.533   | 0.059                   |       |  |  |
| C <sub>4</sub> H <sub>8</sub>  |       |                           |                    | 0.39            | 0.047          | 3.29              | 0.173                              | 0.173                | 0.220      | 0.047       | 3.29                                | 0.364                                   | 5.45   | 0.604                  | 0.067   | 3.29          | 0.364 | 5.45      | 0.604   | 0.067                   | 72.3  |  |  |
| C <sub>4</sub> H <sub>6</sub>  |       |                           |                    | 0.15            | 0.018          | 1.31              | 0.066                              | 0.066                | 0.084      | 0.018       | 1.31                                | 0.145                                   | 5.25   | 0.250                  | 0.028   | 1.31          | 0.145 | 5.25      | 0.250   | 0.028                   |       |  |  |
| C <sub>4</sub> H <sub>2</sub>  |       |                           |                    | 0.17            | 0.021          | 1.73              | 0.075                              | 0.075                | 0.096      | 0.021       | 1.73                                | 0.191                                   | 5.54   | 0.312                  | 0.034   | 1.73          | 0.191 | 5.54      | 0.312   | 0.034                   |       |  |  |
| C <sub>3</sub> -C <sub>4</sub> |       |                           |                    |                 |                |                   |                                    |                      |            |             | 22.11                               | 2.445                                   |        | 4.587                  | 0.507   | 21.06         | 2.328 |           | 3.661   | 0.405                   |       |  |  |
| TOTAL                          |       | 25.201                    | 324.88             |                 | 11.887         | 214.95            | 44.293                             | 69.494               | 60.323     |             |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |
| H <sub>2</sub> +CO             | 94.69 | 23.864                    | 9044 SCFH.         |                 | 7.797          |                   | 29.052                             | 52.916               | 36.849     | -16.067     |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |
| H <sub>2</sub> /CO             |       | 1.63                      | 11057              |                 | 2.76           |                   |                                    | 2.15                 |            | 1.29        |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |
| CUMULATIVE TOTALS              |       |                           |                    |                 |                |                   |                                    |                      |            |             |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |
| Previous Total                 |       | H <sub>2</sub> +CO, MCF   |                    |                 |                | Catalyst #        |                                    | C <sub>3</sub> + gal |            | gal/MCF     |                                     | gal/#                                   |        | EFFLUENT               |         | RECOVERED OIL |       | TOTAL OIL |         | WATER SOLUBLE CHEMICALS |       | TOTAL LIQUID PRODUCTS C <sub>3</sub> + |  |
| Current Period                 |       |                           |                    |                 |                |                   |                                    |                      |            |             |                                     | (H <sub>2</sub> )(CO) <sub>2</sub> 7.34 |        | (H <sub>2</sub> O)(CO) |         | 0.247*        |       | 34.70     |         | 3.837                   |       | 5.260                                  |  |
| New Total                      |       |                           |                    |                 |                |                   |                                    |                      |            |             |                                     | 0.143*                                  |        | 7.61                   |         | 0.841         |       | 0.902     |         | 0.100                   |       | 7.61                                   |  |
| FRESH FEED CONVERSION - %      |       | TOTAL FEED CONVERSION - % |                    |                 |                | SELECTIVITY       |                                    | NET WATER            |            | GROSS WATER |                                     | HYDROCARBON TOTAL - C <sub>3</sub> +    |        | 8.118                  |         | 0.898         |       | 75.23     |         | 8.319                   |       | 9.020                                  |  |
| Contraction                    | CO    | H <sub>2</sub>            | H <sub>2</sub> +CO | CO              | H <sub>2</sub> | CO+H <sub>2</sub> | C <sub>3</sub> + /C <sub>1</sub> + | 3.753*               |            | 67.62       |                                     | 7.478                                   |        | 8.118                  |         | 0.898         |       | 75.23     |         | 8.319                   |       | 9.020                                  |  |
| 52.83                          | 77.18 | 61.27                     | 67.33              | 41.71           | 25.08          | 30.36             | 78.65                              | 81.91                |            | 9.057       |                                     |   |        |                        |         |               |       |           |         |                         |       |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 91.52%

g/M3 = 16.91 x MCF  
cc/M3 = 141.3 x gal/MCF

THE TEXAS COMPANY — MONTEBELLO LABORATORY

DATA SUMMARY SHEET

Synthesis Run Number 45 T From Hr. 2000 to Hr. 1100 Drs. 364-379

| FLOWS        |       | RUN CONDITIONS             |     |         | DISTILLATIONS |  |              | CATALYST DATA |                               | CATALYST ANALYSIS             |               |           |      |       |                            |
|--------------|-------|----------------------------|-----|---------|---------------|--|--------------|---------------|-------------------------------|-------------------------------|---------------|-----------|------|-------|----------------------------|
| SCFH         | %     | Generator Press.           | 335 | A S T M |               |  | Hempel Dist. |               | In Reactor at Start of Period |                               | Particle Size |           |      |       |                            |
| Oxygen       | 2317  | O <sub>2</sub> Preheat, °F | 415 | Prod.   | Naph          |  | °F           | %             | A.P.I.                        | Fresh Catalyst Charged        | Screen        |           |      |       |                            |
| Nat. Gas     | 3344  | Gas Preheat, °F            | 701 | A.P.I.  | 52.0          |  | to 400       | 86.0          | 52.0                          | Catalyst Recharged            | Frac.         | M         | %    | M     | %                          |
| Total        |       | Reactor Press.             | 300 | I.B.P.  | 110           |  | 400-550      | 23.0          | 37.8                          | Total                         | On 40         | 420+      | 24.2 | 80+   |                            |
| Fresh Feed   | 9511  | Steam Back Press.          | 690 | 5%      |               |  | 550+         | 21            |                               | Catalyst Taken Out            | 100           | 419-150   | 52.2 | 80-40 |                            |
| F.F. by C    | 9544  | Temperatures, °F           |     | 10%     | 130           |  |              |               |                               | In Reactor at End of Period   | 150           | 149-105   | 11.8 | 40-20 |                            |
| Avg. F.F.    | 9528  | Heater Outlet              | 612 | 20      | 184           |  |              |               |                               |                               | 200           | 104-74    | 9.6  | 20-10 |                            |
| Wet Gas      | 4155  | Catalyst #1                | 638 | 30      | 208           |  | WATER        |               |                               |                               | 250           | 73-62     | 1.4  | 10-0  |                            |
| Contraction  |       | #2                         | 651 | 40      | 238           |  | Temp.        | %             |                               | Reactor d-P, H <sub>2</sub> O | 325           | 61-44     | 0.0  |       |                            |
| Recycle      | 15855 | #3                         | 655 | 50      | 262           |  | 200          |               |                               | Pounds in Reactor             | 865.9         | <325      | 43-0 | 0.8   |                            |
| Bleed        | 1050  | #4                         | 646 | 60      | 288           |  | 203          |               |                               | Density, lbs./cu. ft.         | 1.64          |           |      |       | Chem. Anal.                |
|              |       | #5                         |     | 70      | 312           |  | 208          |               |                               | Bed Height, Feet              | 8             |           |      |       | % Fe                       |
| Total        | 16905 | Average                    | 647 | 80      | 336           |  |              |               |                               |                               |               |           |      |       | % C                        |
| Total Feed   | 26416 | Product Separator          | 43  | 90      | 366           |  |              |               |                               |                               |               |           |      |       | % Oil                      |
| Recycle/F.F. | 1.78  |                            |     | 95      | 392           |  |              |               |                               | Space Vel. SCFH/lb. cat.      |               | Sp. Grav. | 4.07 |       | Specific Surface           |
| Inlet Vel.   | 1.11  |                            |     | E.P.    | 418           |  |              |               |                               | Inventory Figures             | 17.9          |           |      |       | m <sup>2</sup> /gm         |
| Steam Flow   |       |                            |     | Rec.    | 98            |  |              |               |                               | From d-P Meters               | 11            |           |      |       | 2.3 ml.NH <sub>3</sub> /gm |
|              |       |                            |     | Res.    | 1.5           |  |              |               |                               |                               |               |           |      |       |                            |
|              |       |                            |     | Loss    | 0.5           |  |              |               |                               |                               |               |           |      |       |                            |

| NATURAL GAS                    |        |             |      |       |  |         |  |         |  | PRODUCT INSPECTION |                                |       |      |        |       |        |        |         |                  | GENERATOR ELEMENTAL BALANCE |     |       |        |       |  |   |  |   |  |  |  |
|--------------------------------|--------|-------------|------|-------|--|---------|--|---------|--|--------------------|--------------------------------|-------|------|--------|-------|--------|--------|---------|------------------|-----------------------------|-----|-------|--------|-------|--|---|--|---|--|--|--|
|                                |        | Oil         |      | Water |  | Product |  | Pour °F |  | SUS @ °F           |                                | IN    |      | C      |       | H      |        | O       |                  | OUT                         |     | Mol % |        | C     |  | H |  | O |  |  |  |
| CO <sub>2</sub>                | 1.79   | Neut. No.   | 50   | 47    |  |         |  |         |  |                    | O <sub>2</sub>                 | 6.149 |      |        |       |        |        |         | CO <sub>2</sub>  | 0.515                       | 0.5 | 1.03  |        |       |  |   |  |   |  |  |  |
| CH <sub>4</sub>                | 83.98  | Sap. No.    | 68   | 60    |  |         |  |         |  |                    | CO <sub>2</sub>                | 0.168 | 0.16 |        |       |        |        | 0.316   | CO               | 0.058                       | 9.1 | 9.06  |        |       |  |   |  |   |  |  |  |
| C <sub>2</sub> H <sub>6</sub>  | 8.26   | Hydrox. No. |      |       |  |         |  |         |  |                    | CH <sub>4</sub>                | 7.410 | 7.41 | 29.640 |       |        |        |         | CH <sub>4</sub>  | 0.787                       | 0.8 | 3.07  |        |       |  |   |  |   |  |  |  |
| C <sub>3</sub> H <sub>8</sub>  | 3.80   | Bromine No. | 63   |       |  |         |  |         |  |                    | C <sub>2</sub> H <sub>6</sub>  | 0.729 | 1.46 | 2.187  |       |        |        |         | H <sub>2</sub>   | 14.571                      |     | 29.14 |        |       |  |   |  |   |  |  |  |
| C <sub>4</sub> H <sub>10</sub> | 0.13   | % Fe        |      |       |  |         |  |         |  |                    | C <sub>3</sub> H <sub>8</sub>  | 0.335 | 1.01 | 2.680  |       |        |        |         | N <sub>2</sub>   | 0.182                       |     |       |        |       |  |   |  |   |  |  |  |
| N <sub>2</sub>                 | 1.63   | % Alc       |      | 10    |  |         |  |         |  |                    | C <sub>4</sub> H <sub>10</sub> | 0.011 | 0.04 | 0.110  |       |        |        |         | H <sub>2</sub> O |                             |     | 3.73  | 1.87   |       |  |   |  |   |  |  |  |
| O <sub>2</sub>                 | 0.41   | API         |      |       |  |         |  |         |  |                    | N <sub>2</sub>                 | 0.144 |      |        |       |        |        |         | Total            |                             |     | 10.3  | 35.94  | 11.95 |  |   |  |   |  |  |  |
| MW                             | 19.082 |             | 46.4 | 10.5  |  |         |  |         |  |                    | Total                          |       |      |        | 10.08 | 54.617 | 12.614 | Balance |                  |                             |     | 102.6 | 103.82 | 94.75 |  |   |  |   |  |  |  |

| FRESH FEED                     |       |                         |                    | WET GAS                   |                |                       |                                     | RECYCLE     | COMBINED FEED | EFFLUENT | NET CHANGE |  | YIELD BASIS H <sub>2</sub> + CO FED |                        |         |             |       |                         |        |  |         |  |  |
|--------------------------------|-------|-------------------------|--------------------|---------------------------|----------------|-----------------------|-------------------------------------|-------------|---------------|----------|------------|--|-------------------------------------|------------------------|---------|-------------|-------|-------------------------|--------|--|---------|--|--|
| %                              | m/hr  | #/hr                    | %                  | At. Wt.                   | Balance        | m/hr                  | m/hr                                | m/hr        | m/hr          | m/hr     | m/hr       | #/MCF                                    | #/gal                               | gal/hr                 | gal/MCF | #/hr        | #/MCF | #/gal                   | gal/hr | gal/MCF                                | Unsats. |  |  |
| CO                             | 36.10 | 9.058                   | 255.71             | 18.29                     | 2.318          | 64.92                 | 7.976                               | 17.034      | 10.294        | -6.740   | -188.79    |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| H <sub>2</sub>                 | 58.07 | 14.571                  | 29.38              | 47.87                     | 6.067          | 12.23                 | 20.871                              | 33.442      | 26.938        | -8.504   | -17.15     |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| CO <sub>2</sub>                | 2.05  | 0.515                   | 22.66              | 17.01                     | 2.155          | 94.83                 | 7.415                               | 7.930       | 9.570         | 1.640    | 72.17      | 8.058                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| N <sub>2</sub>                 | 0.73  | 0.182                   | 5.10               | 1.34                      | 0.170          | 4.76                  | 0.584                               | 0.766       | 0.754         |          |            |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| CH <sub>4</sub>                | 3.06  | 0.767                   | 12.30              | 10.23                     | 1.296          | 20.78                 | 4.459                               | 5.226       | 5.755         | 0.529    | 8.48       | 0.947                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| C <sub>2</sub> H <sub>6</sub>  |       |                         |                    | 1.46                      | 0.185          | 5.19                  | 0.635                               | 0.635       | 0.820         | 0.185    | 5.19       | 0.579                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| C <sub>3</sub> H <sub>8</sub>  |       |                         |                    | 0.64                      | 0.081          | 2.43                  | 0.278                               | 0.278       | 0.359         | 0.081    | 2.43       | 0.271                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| C <sub>4</sub> +C <sub>5</sub> |       |                         |                    |                           |                |                       |                                     |             |               |          | 16.10      | 1.797                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| C <sub>2</sub> H <sub>4</sub>  |       |                         |                    | 1.44                      | 0.183          | 7.69                  | 0.629                               | 0.629       | 0.812         | 0.183    | 7.69       | 0.859                                    | 4.32                                | 1.780                  | 0.199   | 6.92        | 0.773 | 6.25                    | 1.107  | 0.124                                  | 100.0   |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    |                           |                |                       |                                     |             |               |          |            |  | 4.24                                |                        |         |             |       |                         |        |  |         |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.80                      | 0.102          | 5.71                  | 0.349                               | 0.349       | 0.451         | 0.102    | 5.71       | 0.638                                    | 5.00                                | 1.142                  | 0.128   | 5.42        | 0.605 | 6.10                    | 0.889  | 0.099                                  | 80.3    |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.20                      | 0.025          | 1.48                  | 0.086                               | 0.086       | 0.111         | 0.025    | 1.48       | 0.165                                    | 4.88                                | 0.305                  | 0.034   | 1.48        | 0.165 | 4.86                    | 0.305  | 0.034                                  |         |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.42                      | 0.053          | 3.75                  | 0.182                               | 0.182       | 0.235         | 0.053    | 3.75       | 0.416                                    | 5.45                                | 0.684                  | 0.076   | 3.75        | 0.416 | 5.45                    | 0.684  | 0.076                                  | 80.3    |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.10                      | 0.013          | 0.91                  | 0.044                               | 0.044       | 0.057         | 0.013    | 0.91       | 0.102                                    | 5.25                                | 0.173                  | 0.019   | 0.91        | 0.102 | 5.25                    | 0.173  | 0.019                                  |         |  |  |
| C <sub>2</sub> H <sub>2</sub>  |       |                         |                    | 0.17                      | 0.021          | 1.75                  | 0.073                               | 0.073       | 0.094         | 0.021    | 1.75       | 0.195                                    | 5.54                                | 0.316                  | 0.035   | 1.75        | 0.195 | 5.54                    | 0.316  | 0.035                                  |         |  |  |
| C <sub>3</sub> -C <sub>6</sub> |       |                         |                    |                           |                |                       |                                     |             |               |          | 21.27      | 2.375                                    |                                     |                        |         |             |       |                         |        |  |         |  |  |
| TOTAL                          |       | 25.094                  | 323.15             |                           | 12.674         | 226.42                | 43.603                              | 66.674      | 60.085        |          |            |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| H <sub>2</sub> +CO             | 94.17 | 23.629                  | 8957 S.C.F.H.      |                           | 8.385          |                       | 28.847                              | 50.476      | 37.232        | -15.244  |            |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| H <sub>2</sub> /CO             |       | 1.61                    | 11165              |                           | 2.62           |                       |                                     | 1.96        |               | 1.26     |            |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| CUMULATIVE TOTALS              |       |                         |                    |                           |                |                       |                                     |             |               |          |            |  |                                     |                        |         |             |       |                         |        |  |         |  |  |
| Previous Total                 |       | H <sub>2</sub> +CO, MCF |                    | Catalyst #                |                | C <sub>3</sub> +, gal |                                     | gal/MCF     |               | gal/#    |            | EFFLUENT                                 |                                     | RECOVERED OIL          |         | TOTAL OIL   |       | WATER SOLUBLE CHEMICALS |        | TOTAL LIQUID PRODUCTS C <sub>3</sub> + |         |  |  |
| Current Period                 |       |                         |                    |                           |                |                       |                                     |             |               |          |            | SHIFT RATIO                              |                                     |                        |         |             |       |                         |        |  |         |  |  |
| New Total                      |       |                         |                    |                           |                |                       |                                     |             |               |          |            | (H <sub>2</sub> )(CO <sub>2</sub> ) 7.19 |                                     | (H <sub>2</sub> O)(CO) |         |             |       |                         |        |  |         |  |  |
| FRESH FEED CONVERSION - %      |       |                         |                    | TOTAL FEED CONVERSION - % |                |                       |                                     | SELECTIVITY |               |          |            | NET WATER                                |                                     |                        |         | GROSS WATER |       |                         |        |  |         |  |  |
| Contraction                    | CO    | H <sub>2</sub>          | H <sub>2</sub> +CO | CO                        | H <sub>2</sub> | CO+H <sub>2</sub>     | C <sub>3</sub> + / C <sub>1</sub> + |             |               |          |            | HYDROCARBON TOTAL - C <sub>1</sub> +     |                                     |                        |         |             |       |                         |        |  |         |  |  |
| 49.49                          | 74.41 | 58.36                   | 64.51              | 39.57                     | 25.43          | 30.20                 | 77.44                               |             |               |          |            | 3.4834                                   |                                     |                        |         | 62.75       |       |                         |        |  |         |  |  |

\*Included in Reactor Effluent Total

Weight Balance = 90.54%

g/M3 = 16.91 x ± MCF

cc/M3 = 141.3 x gal/MCF