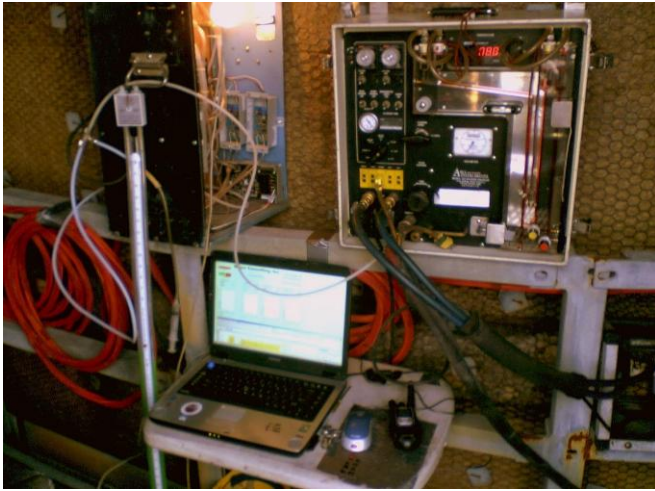


**GRACE CONSULTING, INC.**  
**PRECISION FLOW®**  
**GREATER ACCURACY, SAVES YOU MONEY**



Precision Flow Meter Box and Computer System

**GCI** has developed a multi-probe flow RATA program called **Precision Flow®** that includes the Electronic Flow measurement portions of Methods 2H and 2G. **GCI** uses four probes mounted to the stack ports that allow several readings at each point with Delta P, Temperature and Angle averaged for each reading. This provides greater accuracy and also allows the Flow RATAs to be performed in one hour per load. This method reduces the high bias associated with manual flow methods but does not drastically affect the cost of the testing. **Precision Flow®** follows USEPA Methods 2G and 2H without modifications. **GCI** uses Method 4 for moisture determinations and **Precision Flow®** can be performed on the same day as the gas RATAs. The yaw angle determination described by Method 2G is used for all test runs and the flow RATA can still be completed in one hour per load.

Advantages of **Precision Flow®** over Standard Method 2, 2G or 2F testing.

**Precision Flow®** Probes are mounted to the stack flanges which result in a rigid connection. Hand held probes used in standard Method 2 and 2G tests result in higher flow measurements (As much as 10%) because of misalignment of pitot tubes.

**Precision Flow®** uses calibrated pressure transformers for Delta P readings with 64 readings averaged at each point over 16 seconds. Manual Method 2, 2G and 2F testing uses an inclined draft gauge which can have a high bias unless sufficient time is given for the oil to settle at each test point.

**Precision Flow®** uses proprietary design pitot tubes that meet the requirements of Method 2G. Manual Method 2 and 2G testing is often performed using the default pitot tube coefficient of .84 which results in higher flow measurements.

**Actual Flow Reduction for GCI Client using Precision Flow® Technology**

| Plant        | Unit         | Load Range |     | Hours in Range | % Reduction  | Overall Reduction |  |
|--------------|--------------|------------|-----|----------------|--------------|-------------------|--|
| A            | 1            | 85         | 95  | 160            | 18.93%       | 2.75%             |  |
|              |              | 135        | 145 | 286            | 8.00%        | 2.08%             |  |
|              |              | 185        | 195 | 655            | 5.49%        | 3.27%             |  |
|              | <b>Total</b> |            |     |                |              | <b>8.09%</b>      |  |
|              | 2            | 85         | 90  | 106            | 5.74%        | 0.75%             |  |
|              |              | 139        | 149 | 360            | 0.84%        | 0.37%             |  |
|              |              | 185        | 190 | 340            | 7.03%        | 2.97%             |  |
| <b>Total</b> |              |            |     |                | <b>4.09%</b> |                   |  |
| B            | 1            | 425        | 430 | 43             | 9.52%        | 0.39%             |  |
|              |              | 615        | 625 | 135            | 10.12%       | 1.30%             |  |
|              |              | 770        | 780 | 871            | 11.60%       | 9.63%             |  |
|              | <b>Total</b> |            |     |                |              | <b>11.32%</b>     |  |
| C            | 1,2          | 95         | 100 | 267            | 3.80%        | 1.70%             |  |
|              |              | 135        | 140 | 133            | 9.97%        | 2.21%             |  |
|              |              | 180        | 185 | 199            | 5.70%        | 1.90%             |  |
|              | <b>Total</b> |            |     |                |              | <b>5.08%</b>      |  |
|              | 3            | 195        | 200 | 35             | 6.45%        | 0.84%             |  |
|              |              | 295        | 300 | 53             | 8.20%        | 1.62%             |  |
|              |              | 395        | 400 | 180            | 6.12%        | 4.11%             |  |
| <b>Total</b> |              |            |     |                | <b>6.57%</b> |                   |  |