STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ERNEST E. FREY
DISTRICT MANAGER

August 12, 1985

Mr. Richard S. DuBose, Chief
Air Compliance Section
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. DuBose:

Nassau County - AP
Container Corporation of America (CCA)
Power Boiler No. 7
Alternative SO_2 Sampling Method

On October 15, 1984 Mr. Clair Fancy, Deputy Chief, Bureau of Air Quality Management, forwarded a request for review and comment on CCA's request for an alternate SO_2 sampling method. Mr. Jesse Baskerville responded in a memo to you on December 13, 1984. In that memo he took exception to the ASTM Method used for determination of gross caloric value.

Enclosed is our correspondence from CCA which indicates that the method which Mr. Baskerville recommended (ASTM D02015) is being used.

Please reevaluate the adequacy of the proposed method upon receipt of this information and advise BAQM/CAPS and this office.

Your assistance is greatly appreciated.

Sincerely,

John Brown, P.E.
Supervisor Air Section

JB:vk

cc: Rick Vail, w/attachments
Clair Fancy, w/attachments
Cynthia Sawyer, CCA

DER
AUG 14 1985
BAQM

Container Corporation of America

Paper Mill Division

P. O. Box 2000
North Eighth Street
Fernandina Beach, Florida 32034

Phone 904 261-5551

August 8, 1985

Mr. John Brown
DER--Northeast District
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Brown:

This letter is in response to the memo from Mr. Jesse Baskerville, in which he stated that our proposed alternate method for showing SO_2 compliance is not acceptable. This was due to the referenced BTU analysis method not being used. I have discussed this deviation with Mr. Edwin Senlling of Commercial Testing, our independent testing laboratory. Mr. Snelling has reviewed the methods, and states that the ASTM method D02015 is used, and was an oversite on his part.

The attached letter confirms this error. The EPA memo states that with this clarification, our procedure for showing sulfur dioxide compliance by coal analysis is acceptable.

If you have any additional comments or questions, please do not hesitate to call.

Sincerely,

CONTAINER CORPORATION OF AMERICA

Cynthia L. Sawyer

Cynthia L. Sawyer
Environmental Group Leader

Enclosure

jrb

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV - ATLANTA, GEORGIA 30365

File pb#7 CCA

DATE: DEC 13 1984

SUBJECT: Request for Technical Assistance in the Review of the Request by Container Corporation of America, (CAA) Jacksonville, Florida for the use of an Alternative SO_2 Sampling Method

FROM: Acting Chief
Air Engineering Section

TO: Richard S. DuBose, Chief
Air Compliance Section

SUMMARY

The American Standard for Testing Materials (ASTM) Methods presently being used by the three (3) laboratories involved in the analysis of the "as shipped" coal for CCA meet the requirements of the proposed (October 21, 1983) Method 19A of 40 CFR 60, Appendix A, with the exception of the analytical technique, ASTM D3286, for Gross Calorific Value (GCV). The ASTM method required by Standard Reference Method 19A for GCV is D2015.

ACTION

Unless Container Corporation of America can provide this office with sufficient reasons for using D3286 instead of D2015, they should be advised to use the required GCV determination procedure.

BACKGROUND

Your memorandum to me dated October 17, 1984, with enclosures.

Jesse Baskerville

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • (312) 953-9300

WEST VIRGINIA DIVISION MANAGER
TOM BRAZEAU

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 808, CHARLESTON, WV 25323
OFFICE TEL. (304) 925-6631

July 10, 1985

Ms. Cindy Sawyer
Container Corporation of America
Mill Division, North 8th Street
Fernandina Beach, Florida 32034

Dear Ms. Sawyer:

In reference to my letter dated February 27, 1984. The ASTM determination of calorific value is done by Method D 2015-77 and not 3286-77 as I had stated. We are currently using the Parr 1730 controller, for the past three years we have used th Preiser model. Both are operated in accordance with D 2015-77 which is the Adiabatic method.(please see enclosed copy).

Both methods are very similar, the Adiabatic method uses a temperature probe to tract the temperature rise electrically where as the Isothermal uses mercury thermometers and temperature rises are recorded by eye.

We are sorry for the error and any inconviencience it may have caused you or your company.

Very truly yours,

COMMERCIAL TESTING & ENGINEERING COMPANY

Edwin B. Snellings, Manager
Charleston Office

EBS/fd

PARR CALORIMETER USERS CAN SELECT ANY OF SEVERAL EXCELLENT TEST METHODS

THE ADIABATIC METHOD

Users who prefer to use the classical adiabatic method will find the 1241 calorimeter ideally suited for this type of operation. Electronic controls developed specifically for this procedure monitor the jacket temperature and make continuous adjustments during a run, always keeping the jacket temperature equal to the temperature in the calorimeter bucket. By maintaining a zero temperature differential between these two zones, no heat leak corrections are required and only the initial and final temperatures are recorded. This continues to be the standard method for those who operate the calorimeter without the microprocessor controls provided by a Series 1700 controller.

A RAPID ADIABATIC/ DYNAMIC METHOD

By adding a Series 1700 controller to a 1241 calorimeter the user can select an Adiabatic/Dynamic method which will shorten the time required for a calorific test by as much as 50 percent or more without sacrificing any of the precision long associated with the 1241 calorimeter. Using this method, the controller not only monitors the temperature in the calorimeter but it also employs a sophisticated curve matching technique to compare the temperature rise with a known thermogram for the system. Using this comparison, the computer can predict the final maximum temperature without waiting for it to develop, making it possible to terminate the test and compute the calorific value of the sample in periods as short as 3½ minutes after firing.

A NEW ISOPERIBOL/ DYNAMIC METHOD

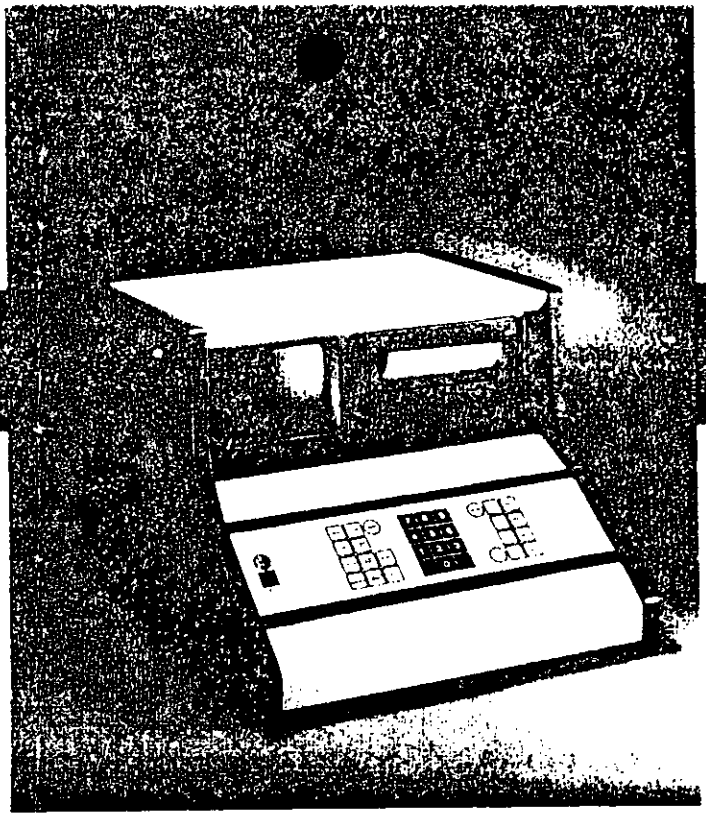
Each Series 1700 controller also provides a new optional Isoperibol/Dynamic test method developed by Parr to shorten the time required for an individual test and to reduce the water and energy needed to operate the calorimeter, while still maintaining the excellent precision attainable with the instrument. Using the Isoperibol/Dynamic method, tests are run with the jacket held at a constant temperature while the controller (1) monitors the temperature rise in the bucket, (2) performs the integration necessary to compute the heat leak based upon the maintenance of a fixed jacket temperature, and (3) applies the necessary heat leak correction to the observed temperature rise. The controller also employs the extrapolation feature described above to shorten the test time to an absolute minimum. This procedure can be supported with a closed circulating system in which the jacket water is recirculated and reused continuously with little or no make-up. Also, there is no waiting period and no water required to recycle the jacket back to the starting temperature at the end of each run.

The precision obtainable with the Isoperibol/Dynamic method is excellent and fully comparable to results obtained with the well established adiabatic method. This fact has been confirmed by extensive comparison tests, including a lengthy series reported by the Staff of Gould Engineering & Environmental Services, Ltd., Thornwood, New York (1). Their results from a series of duplicate tests for coal samples showed a standard deviation of 23.1 Btu for Isoperibol/Dynamic operation and 25.3 Btu for Adiabatic operation which, for all practical purposes, are identical. The average difference between results from Adiabatic and Isoperibol/Dynamic tests was a mere 6 Btu/lb, which again is nearly identical. From these comparisons, the Gould investigators offer the following conclusions:

"We are satisfied that the isoperibol/dynamic method yields results that are directly comparable with those obtained with the conventional adiabatic calorimeter technique for the normal range of heating values most often encountered in our laboratory under normal operating environment. We believe the additional advantages of time saved, reduced water consumption, and easy retrofit to existing equipment makes the Parr Isoperibol/Dynamic Calorimeter Controller a viable route to consider for increasing productivity to keep cost down in many existing laboratory situations as well as for the new laboratory."

(1) This article, titled "Oxygen Bomb Calorimetry Steps Ahead" was published in CQ, The Journal of Coal Quality, Vol. 2 No. 3, Summer 1983. Reprints of the complete article can be obtained from the Parr Instrument Company without charge.

THE 1730 CONTROLLER



An advanced control system for rapid and precise calorific tests in laboratories where many samples must be run daily on a routine basis.

RECOMMENDED FOR

Coal mine, coal preparation plant, commercial inspection, coal burning utility and other industrial laboratories where large test loads must be handled daily. It will be particularly attractive to users making 200 or more tests per week. For those with larger volumes, this capacity can be doubled to 400 or more tests per week by adding a second 1241 calorimeter and operating both calorimeters from a single 1730 controller.

PROVIDES

- **Automatic process control**
- **Precise electronic thermometry**
- **A dedicated microcomputer**
- **A CRT display**
- **Optional dual channel operation**
- **Complete menu driven operation**
- **Complete diagnostics**
- **A 40-column thermal printer**
- **Sealed, touch-panel controls**
- **Battery back-up**
- **Adaptable programming**
- **Selectable precision**
- **Optional memory expansion**
- **Optional interface with digital balance**
- **Optional communication with central computer**
- **Provision for future growth**

The 1730 controller offers all of the features provided in the 1720 model described on page 14, **plus these important additions:**

Dual channel operation. The 1730 controller is readily expandable to operate two 1241 calorimeters at the same time.

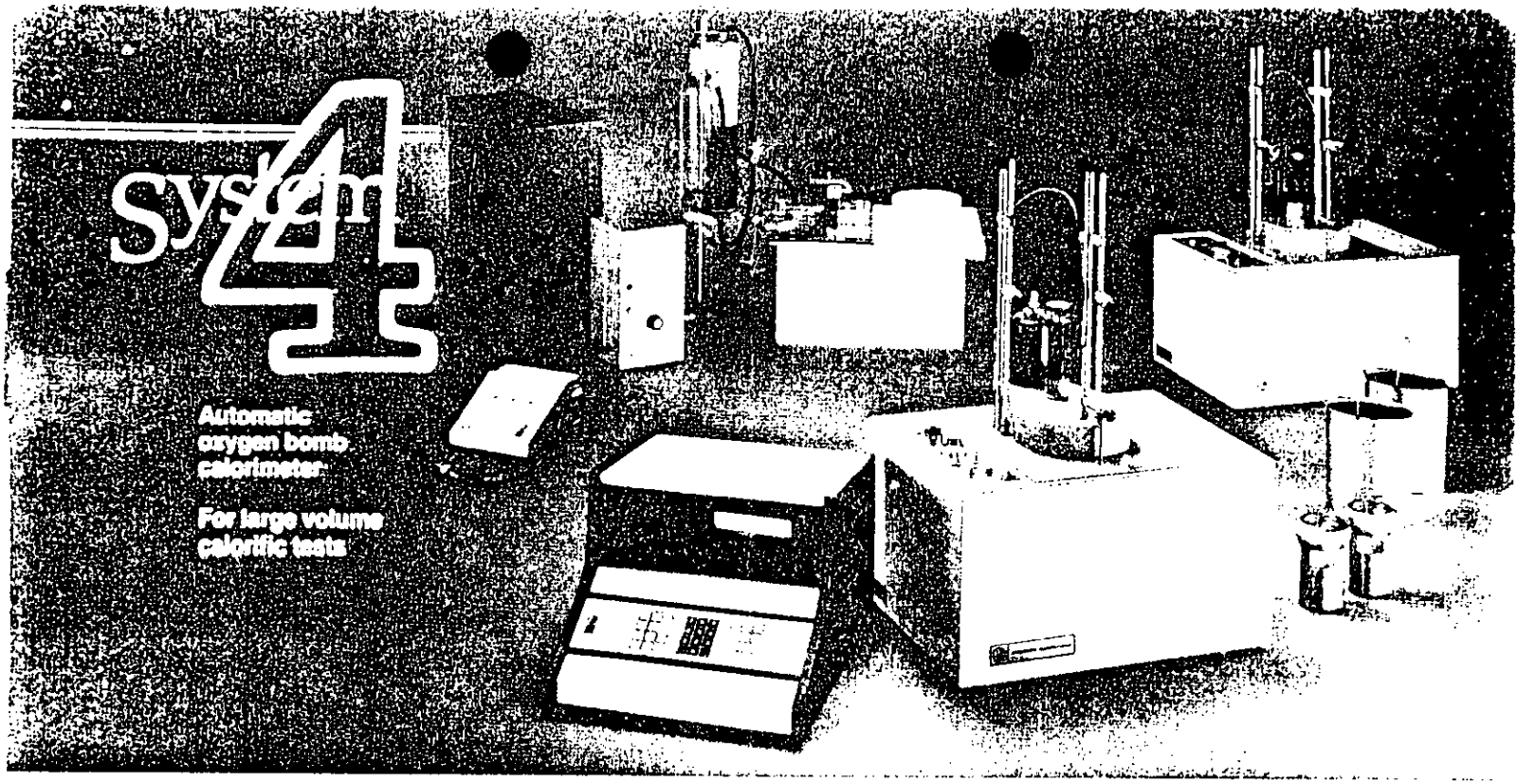
A CRT display. All data entry and verification, report review and system diagnostics in the 1730 controller are shown in a bright, CRT display for easy reading and great flexibility. All operating and system controls are entered through a menu driven program.

A 40-column thermal printer. A larger printer is installed in the 1730 model to accommodate the larger volume of data anticipated with this high capacity system.

Future enhancements. The 1730 controller will accept all accessories and future enhancements being developed by Parr to take advantage of the broad capabilities of this control system and to expand its usefulness in fuel testing laboratories.

ORDERING INFORMATION

1730 **Calorimeter controller with thermistor probe,** 115/230 v 50/60 Hz



System 4 is a complete automatic calorimeter system for users whose daily testing requirements exceed the capacity obtainable from System 3. It has the same components as System 3, with an additional 1241 calorimeter and an extra oxygen bomb and bucket. All of the features provided in System 3 are duplicated in System 4. More than one operator may be required to take full advantage of the maximum output obtainable from this large volume system.

Consists of:

2 **1241 Oxygen Bomb Calorimeters**
1 **1730 Calorimeter Controller**
1 **1732 Dual Channel Kit**
2 **1108 Oxygen Bombs, extra**
2 **A391DD Calorimeter Buckets, extra**
1 **1541 Water Heater**
1 **1551 Water Cooler**
1 **1562 Closed System Bucket Filler**
1 **1841 Autocharger**
1 **1249 Spare Parts Kit**

PROVIDES

- **Two complete oxygen bomb calorimeters**
- **Automatic control of both calorimeters in four selectable modes, plus standardization and a manual option**
- **Precise electronic thermometry**
- **CRT display**
- **Complete menu driven operation**
- **Complete diagnostics**
- **40 column thermal printer**
- **Large memory capacity**
- **Optional memory expansion**
- **Optional interface with a digital balance**
- **Optional communication with a central computer**
- **Two extra oxygen bombs and buckets**
- **Automatic bomb filling system**
- **Automatic bucket filler**
- **Closed circuit jacket temperature control**

RECOMMENDED FOR

Coal mine, coal preparation plant, commercial inspection laboratories, coal burning utilities and other industrial laboratories where large test loads must be handled daily.

ORDERING INFORMATION

When ordering, specify:

1254 Oxygen Bomb Calorimeter System 4

All components in System 4 normally operate from a 115v60Hz line, but they can also be furnished for 115v50Hz or 230v50Hz.